Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

October 31, 2013

SUBJECT: FAI Route 90/94/290
Project ACNHPP-0005(947)
Section 2013-008R
Cook County
Contract No. 60W26
Item No. 72, November 8, 2013 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

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

1. Replaced the Schedule of Prices.
2. Revised the Table of Contents to the Special Provisions.
3. Revised pages 1, 3, 11-45, 47-62, 66, 67, 86, 98, 102, 103, 107, 118-123, 136-139, 146-148, 150-159, 163, 164, 186-189, 247, 248, 520-564, 746-762 and 874-879 of the Special Provisions.
4. Added pages 923-960 to the Special Provisions.
5. Revised sheets1, 2,4-27, 271A-27C, 27E, 30, 34-40, 40A, 41-43, 52, 53, 55, 56, 60-64, 64A, 65, 65A, 70A, 71-73, 75-77, 79-81, 83-85, 87-89, 91-93, 95-97, 99-101, 105, 107, 111, 112, 115, 117, 119, 121-128, 130, 132, 134-136, 138, 139, 139A, 140-143, 144, 145, 146A, 147, 148, 148A, 149, 153A, 156-158, 163, 166, 184A, 185, 202, 203, 226-228, 230, 231, 237, 247, 250, 251, 253, 254, 256, 257, 261, 268, 270, 274-276, 278, 281, 284-289, 295, 361, 362, 364, 365, 369, 370, 372, 373, 378, 381, 384, 389, 392, 393, 395, 398, 402, 412-414, 416, 418, 419, 422, 424, 425, 428, 431, 434, 442, 444, 445, 453-457, 491, 518, 547-549, and 551 of the Plans.
6. Added sheets 86A-86C, 94A-94F, 143A, 185A, 247A, 247B, 298A-298C and 441A-441C 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

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

cc: John Fortmann, Region 1, District 1; Tim Kell; D. Carl Puzey; Estimates

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES

CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0300249	REMOV EX GATE	EACH	1.000				
X0322024	TRENCH DRAIN	EACH	1.000				
*ADD X0322141	REM TEMP WOOD POLE	EACH	3.000				
X0322400	PILE EXTRACTION	EACH	133.000				
X0322446	CAB HOUSING EQU TY 3	EACH	2.000				
X0322587	CONSTRUCTION ACCESS	EACH	1.000				
X0322689	P S AB 10 7G 34'-6"	EACH	4.000				
X0322690	P S AB 10 3G 34'-6"	EACH	2.000				
X0323553	ORN FENCE WRT IRON	FOOT	118.000				
X0324198	REMOV ASB CEM CONDUIT	FOOT	5,280.000				
X0324345	COMB SEW REM 24	FOOT	87.000				
X0324571	MAINT ST LTG SYS CHGO	L SUM	1.000				
*ADD X0324752	STORM SEWER FILLED	CU YD	1.900				
X0325003	REM EX VALVE & VAULT	EACH	11.000				
*REV X0325207	TV INSPECT OF SEWER	FOOT	2,278.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

County Name - COOK- -
Code - 31 - -
District - 1 - -
Section Number - 2013-008R

Project Number
ACNHPP-000S/947/

*** REVISED: OCTOBER 30, 2013**

Route
FAI 90
FAI 94
FAI 290

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV X0325279	CLASS SI CONC (MISC)	CU YD	208.000				
*REV X0325349	TEMP CON BAR (PERM)	FOOT	175.000				
X0325476	RADAR VEH DETECT SYST	EACH	6.000				
*REV X0326326	CC TPX 2-1/C6 1-1/CG	FOOT	3,740.000				
X0326382	CONC BARRIER BASE SPL	FOOT	553.000				
X0326486	DECORATIVE RAIL PR MT	FOOT	1,600.000				
X0326801	COMBND SEWR TO BE CLN	FOOT	404.000				
X0326935	CROSSHOLE SONIC LOG	EACH	11.000				
X0326968	JUN BOX POLE/POST MTD	EACH	8.000				
*REV X0327004	TEMP WP 60 CL 4	EACH	7.000				
X0327357	CONSTRN VBRN MONITRNG	L SUM	1.000				
X0327371	PLUG EXISTING PIPE	CU YD	0.500				
*REV X0327391	WOOD POLE 45 CL 5	EACH	15.000				
*REV X0327615	COMB SEW REM 8	FOOT	296.000				
X0327616	MAINT ITS DURG CONSTR	CAL MO	12.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0327644	TEMP BRIDGE	L SUM	1.000				
*DEL ~~X0327645~~	~~TEMP SOIL RET SYS SPL~~	~~SQ FT~~	~~303.000~~				
X0327646	REMOVE GATE POSTS	EACH	3.000				
X0327647	REM EX VALV VAULT SPL	EACH	1.000				
X0327648	COMB SEW REM 60	FOOT	202.000				
X0327649	SOIL RETENTION SYSTEM	SQ FT	4,403.000				
X0327650	TEMP DRAINAGE SYS N1	L SUM	1.000				
*ADD X0327681	EXC RESTOR WM ABANDON	EACH	3.000				
*ADD X0327682	CDWM ENG SERVICES	L SUM	1.000		227,500.000		227,500.000
X0370013	CON FDN TPBM TSC CDOT	EACH	2.000				
X0370015	CF30 1.50A16.50B CDOT	EACH	2.000				
X0370017	DRILL HNDHL/MNHL CHGO	EACH	47.000				
X0370018	ELCBL C #14 19C CDOT	FOOT	1,447.000				
X0370021	EL HH 30 24 F&L CDOT	EACH	1.000				
X0370022	EL HHHD 36 24F&L CDOT	EACH	2.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

	Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
	X0370023	EL MH 3X4X4 24FL CDOT	EACH	6.000				
	X0370028	HRNS CBL 16 8/C CDOT	FOOT	643.000				
	X0370031	PS AB12.5 3G34.5 CDOT	EACH	2.000				
	X0370047	INST LP MA & LUM CHGO	EACH	22.000				
*REV	X0370049	UGRD C PVC2SCH80 CDOT	FOOT	995.000				
	X0370050	ATC TRAF 16LB PC CDOT	EACH	2.000				
	X0370052	ELCBL C # 4 2C CDOT	FOOT	272.000				
	X0370058	MA STL MONO 26 CDOT	EACH	2.000				
	X0370060	MA STL MONO 35 CDOT	EACH	2.000				
	X0370063	SERV INST 100AMP CDOT	EACH	1.000				
	X0370064	UGRD C PVC3SCH80 CDOT	FOOT	1,038.000				
	X0370068	CF24 1.25A15B CDOT	EACH	2.000				
*REV	X0370069	COMB SEW ESVCP 8 CDOT	FOOT	379.000				
*REV	X0370070	COMB SEW WMR 8 CDOT	FOOT	46.000				
	X0370073	REM/REIN MST/LUM CDOT	EACH	8.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0370075	UGRD C PVC4SCH80 CDOT	FOOT	3,340.000				
X0370076	ROD/CL DCT COND CDOT	FOOT	94.000				
X0370077	LOCATE TUNNEL CHICAGO	EACH	4.000				
X0370078	BULKHD TUNNEL CHICAGO	EACH	1.000				
X0370080	COMB C&G B V.12(CDOT)	FOOT	856.500				
X0370081	SAND CUSHION 4 (CDOT)	SQ FT	8,984.000				
X0370114	RACKING CBLS MH OR HH	EACH	10.000				
X0370135	CONC CURB TB SPL CDOT	FOOT	86.000				
X0370162	WM RELOCATION 54 CDWM	L SUM	1.000				
X0370163	CB A 4D T1F CL CHGO	EACH	1.000				
X0370164	MAN TA 4D T1F CL CHGO	EACH	3.000				
X0370165	RC PIPE ELBOW 60 CDWM	EACH	3.000				
X0370166	PREC TUMBL BASIN CDWM	EACH	1.000				
*REV X0370167	SS T4 12 ESVCP CDOT	FOOT	39.000				
X0370168	COMB SEW A T3 60 CDWM	FOOT	180.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0370169	TRANS CANOPY ROOF CTA	SQ FT	1,662.000				
X0370170	ELECT WORK CANOPY CTA	L SUM	1.000				
X0370171	FLASH GUT SH MET CTA	L SUM	1.000				
X0370172	LED LIGHT FIXTURE CTA	EACH	36.000				
X0370173	PLUMBG DOWNSPOUTS CTA	L SUM	1.000				
X0370174	STRUCTURAL STEEL CTA	L SUM	1.000				
X0370175	CF28 1.25A15B CDOT	EACH	5.000				
X0370176	CF24 1.25A15B 9' CDOT	EACH	2.000				
X0370177	CF24 1.25A15B 7' CDOT	EACH	4.000				
X0370178	WIRELESS DET PKG CDOT	EACH	2.000				
X0370179	FM WIRELESS SENS CDOT	EACH	15.000				
X0370180	C5 CBL WIREL DET CDOT	FOOT	811.000				
X0370181	CONNECTORS C5CBL CDOT	EACH	5.000				
X0370182	ELCBL #12 2/C SH CDOT	FOOT	799.000				
X0370183	SH P LED 1F3S SM CDOT	EACH	6.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0370184	PED SHPLED1FSMCT CDOT	EACH	2.000				
X2090215	SELECT GRAN BACK SPEC	CU YD	120.000				
X2130010	EXPLOR TRENCH SPL	FOOT	100.000				
X4240800	DETECTABLE WARN SPL	SQ FT	160.000				
X5012502	CONC REM SPEC	CU YD	65.000				
X5091730	BRIDGE FENCE RAIL SP	FOOT	145.000				
*DEL ~~X5537700~~	~~SS CLEANED 10~~	~~FOOT~~	~~175.000~~				
*REV X5537800	SS CLEANED 12	FOOT	539.000				
X5538100	SS CLEANED 21	FOOT	35.000				
X5610651	ABAN EX WM FILL CLSM	FOOT	280.000				
*REV X5610708	WATER MAIN REMOV 8	FOOT	44.000				
*REV X5610712	WATER MAIN REMOV 12	FOOT	112.000				
X5610724	WATER MAIN REMOV 24	FOOT	32.000				
X5610736	WATER MAIN REMOV 36	FOOT	82.000				
X5610739	WATER MAIN REMOV 48	FOOT	166.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV X5610741	WATER MAIN REMOV 54	FOOT	141.000				
X5860110	GRANULAR BACKFILL STR	CU YD	1,006.000				
*REV X6011705	PIPE DRAINS 6 SPL	FOOT	13.000				
X6020083	INLET TA T1FOL (CHGO)	EACH	3.000				
*REV X6020270	MAN TB 4D T1F CL CHGO	EACH	2.000				
X6022505	CB TA 4D T1FOL (CHGO)	EACH	7.000				
*REV X6022712	CB TA 4 DIA W/SPL F&G	EACH	3.000				
*REV X6022900	CB RECONST SPL	EACH	3.000				
*REV X6023212	INLETS TA SPL F&G SPL	EACH	1.000				
X6028000	MAN RECONST SPL	EACH	3.000				
*REV X6030310	FR & LIDS ADJUST SPL	EACH	17.000				
X6060714	CONC MEDIAN SPL	SQ FT	252.000				
X6331110	STEEL POSTS SPECIAL	EACH	4.000				
X6370050	CONC BAR WALL SPL	FOOT	448.000				
X6370700	CONC BAR TRANS SPL	FOOT	105.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

County Name - COOK- -
Code - 31 - -
District - 1 - -
Section Number - 2013-008R

Project Number
ACNHPP-000S/947/

*** REVISED: OCTOBER 30, 2013**

Route
FAI 90
FAI 94
FAI 290

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X6430120	REM IMP ATTEN NO SALV	EACH	1.000				
*ADD X6640200	TEMP CH LK FENCE	FOOT	310.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	12.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7011015	TR C-PROT EXPRESSWAYS	L SUM	1.000				
X7013820	TR CONT SURVEIL EXPWY	CAL DA	115.000				
*REV X7035100	TEMP EPOXY PVT MK L&S	SQ FT	269.000				
*REV X7035104	TEMP EPOXY PVT MK L4	FOOT	53,382.000				
*REV X7035105	TEMP EPOXY PVT MK L5	FOOT	4,582.000				
*REV X7035106	TEMP EPOXY PVT MK L6	FOOT	2,049.000				
*REV X7035108	TEMP EPOXY PVT MK L8	FOOT	17,432.000				
*REV X7035112	TEMP EPOXY PVT MK L12	FOOT	2,938.000				
*REV X7035124	TEMP EPOXY PVT MK L24	FOOT	358.000				
X7040010	TEMP CONC BARRIER SPL	FOOT	737.500				
X7200105	SIGN PANEL T1 SPL	SQ FT	46.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X7360300	REM OH SIN STR-WLKWAY	FOOT	69.000				
X8510250	PT EX POLE/POST/CONTR	EACH	7.000				
X8730465	ELCBL AS COMM 19 100P	FOOT	5,000.000				
*ADD X8738550	EC AS COM 19 100PR MO	FOOT	5,000.000				
X8800101	PED PUSH-BUTTON SPL	EACH	2.000				
X8950425	REMOV TRAF SURV EQUIP	L SUM	1.000				
Z0004552	APPROACH SLAB REM	SQ YD	1,203.000				
Z0012754	STR REP CON DP = < 5	SQ FT	154.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018002	DRAINAGE SCUPPR DS-11	EACH	2.000				
Z0018800	DRAINAGE SYSTEM	L SUM	1.000				
*REV Z0022800	FENCE REMOVAL	FOOT	409.000				
*REV Z0030850	TEMP INFO SIGNING	SQ FT	147.000				
Z0033028	MAINTAIN LIGHTING SYS	CAL MO	12.000				
*REV Z0046304	P UNDR FOR STRUCT 4	FOOT	772.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0048665	RR PROT LIABILITY INS	L SUM	1.000				
*REV Z0056608	STORM SEW WM REQ 12	FOOT	68.000				
*REV Z0062456	TEMP PAVEMENT	SQ YD	3,117.000				
*REV Z0073002	TEMP SOIL RETEN SYSTM	SQ FT	20,125.000				
Z0073100	TEMP SHORING	EACH	3.000				
Z0076600	TRAINEES	HOUR	1,500.000		0.800		
Z0076604	TRAINEES TPG	HOUR	1,500.000		10.000		
20100110	TREE REMOV 6-15	UNIT	522.000				
20100210	TREE REMOV OVER 15	UNIT	82.000				
20100500	TREE REMOV ACRES	ACRE	0.500				
20101100	TREE TRUNK PROTECTION	EACH	11.000				
20101200	TREE ROOT PRUNING	EACH	11.000				
20101300	TREE PRUN 1-10	EACH	5.000				
20101350	TREE PRUN OVER 10	EACH	6.000				
*REV 20200100	EARTH EXCAVATION	CU YD	11,055.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV 20201200	REM & DISP UNS MATL	CU YD	1,875.000				
*REV 20400800	FURNISHED EXCAVATION	CU YD	2,995.000				
*REV 20800150	TRENCH BACKFILL	CU YD	1,507.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	3,777.000				
21101615	TOPSOIL F & P 4	SQ YD	9,078.000				
25000210	SEEDING CL 2A	ACRE	1.250				
25000400	NITROGEN FERT NUTR	POUND	272.000				
25000600	POTASSIUM FERT NUTR	POUND	272.000				
25000750	MOWING	ACRE	1.250				
25100115	MULCH METHOD 2	ACRE	3.250				
25100135	MULCH METHOD 4	ACRE	4.500				
25100630	EROSION CONTR BLANKET	SQ YD	6,030.000				
25200110	SODDING SALT TOLERANT	SQ YD	2,048.000				
25200200	SUPPLE WATERING	UNIT	20.500				
28000250	TEMP EROS CONTR SEED	POUND	610.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
28000400	PERIMETER EROS BAR	FOOT	10,038.000				
*REV 28000510	INLET FILTERS	EACH	97.000				
30300001	AGG SUBGRADE IMPROVE	CU YD	175.000				
*REV 31101200	SUB GRAN MAT B 4	SQ YD	3,367.000				
31101400	SUB GRAN MAT B 6	SQ YD	3,605.000				
35300400	PCC BSE CSE 9	SQ YD	2,991.000				
35301200	HES PCC BSE CSE 9	SQ YD	305.000				
40201000	AGGREGATE-TEMP ACCESS	TON	250.000				
*REV 40600200	BIT MATLS PR CT	TON	1.600				
*REV 40600300	AGG PR CT	TON	8.300				
40600982	HMA SURF REM BUTT JT	SQ YD	197.000				
40603085	HMA BC IL-19.0 N70	TON	416.000				
40603340	HMA SC "D" N70	TON	339.000				
42001200	PAVEMENT FABRIC	SQ YD	3,296.000				
*REV 42001300	PROTECTIVE COAT	SQ YD	1,986.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
42001430	BR APPR PVT CON (FLX)	SQ YD	110.000				
42300400	PCC DRIVEWAY PAVT 8	SQ YD	141.000				
42400200	PC CONC SIDEWALK 5	SQ FT	7,150.500				
42400410	PC CONC SIDEWALK 8	SQ FT	1,832.500				
*REV 44000100	PAVEMENT REM	SQ YD	5,533.000				
44000156	HMA SURF REM 1 3/4	SQ YD	55.000				
44000200	DRIVE PAVEMENT REM	SQ YD	140.000				
44000300	CURB REM	FOOT	74.000				
44000400	GUTTER REM	FOOT	392.000				
44000500	COMB CURB GUTTER REM	FOOT	1,393.000				
44000600	SIDEWALK REM	SQ FT	9,293.000				
44001980	CONC BARRIER REMOV	FOOT	1,685.000				
44003100	MEDIAN REMOVAL	SQ FT	430.000				
44004250	PAVED SHLD REMOVAL	SQ YD	1,218.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50100400	REM EXIST STRUCT N2	EACH	1.000				
50157300	PROTECTIVE SHIELD	SQ YD	4,909.000				
50200100	STRUCTURE EXCAVATION	CU YD	5,695.000				
*REV 50300225	CONC STRUCT	CU YD	2,777.900				
50300255	CONC SUP-STR	CU YD	2,811.800				
50300260	BR DECK GROOVING	SQ YD	5,122.000				
50300285	FORM LINER TEX SURF	SQ FT	4,224.000				
50300300	PROTECTIVE COAT	SQ YD	8,251.000				
50500105	F & E STRUCT STEEL	L SUM	1.000				
50500505	STUD SHEAR CONNECTORS	EACH	38,001.000				
*REV 50800105	REINFORCEMENT BARS	POUND	1,569,250.000				
*REV 50800205	REINF BARS, EPOXY CTD	POUND	1,009,290.000				
50800515	BAR SPLICERS	EACH	2,275.000				
*REV 50800530	MECHANICAL SPLICERS	EACH	1,000.000				
51100100	SLOPE WALL 4	SQ YD	50.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

County Name - COOK- -
Code - 31 - -
District - 1 - -
Section Number - 2013-008R

Project Number
ACNHPP-000S/947/

* REVISED: OCTOBER 30, 2013

Route
FAI 90
FAI 94
FAI 290

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
51500100	NAME PLATES	EACH	3.000				
*REV 51602000	PERMANENT CASING	FOOT	2,374.000				
*REV 51603000	DRILLED SHAFT IN SOIL	CU YD	5,274.700				
51604000	DRILLED SHAFT IN ROCK	CU YD	76.500				
52000110	PREF JT STRIP SEAL	FOOT	356.000				
52100010	ELAST BEARING ASSY T1	EACH	54.000				
52100020	ELAST BEARING ASSY T2	EACH	45.000				
52100505	ANCHOR BOLTS 5/8	EACH	30.000				
52100520	ANCHOR BOLTS 1	EACH	90.000				
52100530	ANCHOR BOLTS 1 1/4	EACH	138.000				
52100540	ANCHOR BOLTS 1 1/2	EACH	24.000				
550A0050	STORM SEW CL A 1 12	FOOT	61.000				
550A0120	STORM SEW CL A 1 24	FOOT	77.000				
550A0340	STORM SEW CL A 2 12	FOOT	53.000				
*REV 550A0940	STORM SEW CL A 4 12	FOOT	72.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*DEL ~~55100400~~	~~STORM SEWER REM 10~~	~~FOOT~~	~~38.000~~				
*REV 55100500	STORM SEWER REM 12	FOOT	222.000				
55101100	STORM SEWER REM 21	FOOT	90.000				
56400500	FIRE HYDNTS TO BE REM	EACH	3.000				
*REV 58700300	CONCRETE SEALER	SQ FT	37,841.000				
59000200	EPOXY CRACK INJECTION	FOOT	14.000				
*REV 59100100	GEOCOMPOSITE WALL DR	SQ YD	608.000				
59300100	CONTR LOW-STRENG MATL	CU YD	845.000				
60107700	PIPE UNDERDRAINS 6	FOOT	37.000				
60108200	PIPE UNDERDRAIN 6 SP	FOOT	6.000				
60200105	CB TA 4 DIA T1F OL	EACH	2.000				
*REV 60201310	CB TA 4 DIA T20F&G	EACH	3.000				
60203905	CB TA 5 DIA T1F CL	EACH	1.000				
*ADD 60207005	CB TC T1F CL	EACH	1.000				
60221100	MAN TA 5 DIA T1F CL	EACH	2.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60234200	INLETS TA T1F OL	EACH	1.000				
60236200	INLETS TA T8G	EACH	1.000				
*REV 60237420	INLETS TA T20F&G	EACH	1.000				
*REV 60250200	CB ADJUST	EACH	6.000				
*REV 60255500	MAN ADJUST	EACH	12.000				
*DEL ~~60257900~~	~~MAN RECONST~~	~~EACH~~	~~1.000~~				
60260100	INLETS ADJUST	EACH	7.000				
60500040	REMOV MANHOLES	EACH	5.000				
*REV 60500050	REMOV CATCH BAS	EACH	10.000				
60500060	REMOV INLETS	EACH	12.000				
60500405	FILL VALVE VLTS	EACH	2.000				
60605000	COMB CC&G TB6.24	FOOT	273.000				
60618300	CONC MEDIAN SURF 4	SQ FT	770.000				
63700175	CONC BAR 1F 42HT	FOOT	530.000				
63700805	CONC BAR TRANS	FOOT	210.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
63700900	CONC BARRIER BASE	FOOT	740.000				
*DEL ~~64300900~~	~~IMP ATTEN SU WID TL2~~	~~EACH~~	~~2.000~~				
*ADD 64300260	IMP ATTEN FRD NAR TL3	EACH	2.000				
66400105	CH LK FENCE 4	FOOT	230.000				
66400305	CH LK FENCE 6	FOOT	117.000				
66400505	CH LK FENCE 8	FOOT	14.000				
*DEL ~~66405500~~	~~CH LK GATE 8X12 SINGL~~	~~EACH~~	~~1.000~~				
66407400	CH LK GATES 6X8 DBL	EACH	1.000				
*ADD 66409300	CH LK GATES 8X10 DBL	EACH	1.000				
*ADD 66900200	NON SPL WASTE DISPOSL	CU YD	9,800.000				
*ADD 66900210	HAZARD WASTE DISPOSAL	CU YD	200.000				
*ADD 66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
*ADD 66900530	SOIL DISPOSAL ANALY	EACH	5.000				
67100100	MOBILIZATION	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	115.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV 70300100	SHORT TERM PAVT MKING	FOOT	92,838.000				
*REV 70301000	WORK ZONE PAVT MK REM	SQ FT	25,279.000				
*REV 70400100	TEMP CONC BARRIER	FOOT	6,487.500				
*REV 70400200	REL TEMP CONC BARRIER	FOOT	6,275.000				
*DEL ~~70600255~~	~~IMP ATTN TEMP FRN TL2~~	~~EACH~~	~~1.000~~				
*REV 70600260	IMP ATTN TEMP FRN TL3	EACH	13.000				
*ADD 70600290	IMP ATTN TEMP SUW TL3	EACH	1.000				
*DEL ~~70600322~~	~~IMP ATTN REL FRN TL2~~	~~EACH~~	~~2.000~~				
*REV 70600332	IMP ATTN REL FRN TL3	EACH	10.000				
*ADD 70600360	IMP ATTN REL S U TL3	EACH	6.000				
72000100	SIGN PANEL T1	SQ FT	59.000				
72000200	SIGN PANEL T2	SQ FT	84.000				
*REV 72000300	SIGN PANEL T3	SQ FT	703.500				
72400100	REMOV SIN PAN ASSY TA	EACH	1.000				
72400310	REMOV SIGN PANEL T1	SQ FT	85.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
72400320	REMOV SIGN PANEL T2	SQ FT	82.000				
72400330	REMOV SIGN PANEL T3	SQ FT	108.000				
72400730	RELOC SIGN PANEL T3	SQ FT	290.000				
*REV 72700100	STR STL SIN SUP BA	POUND	2,314.000				
72800100	TELES STL SIN SUPPORT	FOOT	151.000				
73000100	WOOD SIN SUPPORT	FOOT	36.000				
73300100	OVHD SIN STR-SPAN T1A	FOOT	68.000				
*REV 73400100	CONC FOUNDATION	CU YD	5.400				
73400200	DRILL SHAFT CONC FDN	CU YD	22.700				
73600100	REMOV OH SIN STR-SPAN	EACH	1.000				
73700100	REM GR MT SIN SUPPORT	EACH	5.000				
73700200	REM CONC FDN-GR MT	EACH	2.000				
73700300	REM CONC FDN-OVHD	EACH	2.000				
78000100	THPL PVT MK LTR & SYM	SQ FT	354.000				
78000200	THPL PVT MK LINE 4	FOOT	2,855.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78000400	THPL PVT MK LINE 6	FOOT	2,452.000				
78000600	THPL PVT MK LINE 12	FOOT	101.000				
78000650	THPL PVT MK LINE 24	FOOT	704.000				
78005110	EPOXY PVT MK LINE 4	FOOT	10,175.000				
78005120	EPOXY PVT MK LINE 5	FOOT	2,244.000				
78005140	EPOXY PVT MK LINE 8	FOOT	1,434.000				
78005150	EPOXY PVT MK LINE 12	FOOT	676.000				
78006100	PREF THPL PM LTR-SYM	SQ FT	303.000				
78008200	POLYUREA PM T1 LTR-SY	SQ FT	62.000				
78008210	POLYUREA PM T1 LN 4	FOOT	1,825.000				
78008230	POLYUREA PM T1 LN 6	FOOT	2,602.000				
78008250	POLYUREA PM T1 LN 12	FOOT	34.000				
78008270	POLYUREA PM T1 LN 24	FOOT	155.000				
78100100	RAISED REFL PAVT MKR	EACH	238.000				
*REV 78200530	BAR WALL MKR TYPE C	EACH	39.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*REV 78300100	PAVT MARKING REMOVAL	SQ FT	10,348.000				
78300200	RAISED REF PVT MK REM	EACH	230.000				
80400100	ELECT SERV INSTALL	EACH	1.000				
80400200	ELECT UTIL SERV CONN	L SUM	1.000		15,000.000		15,000.000
81028200	UNDRGRD C GALVS 2	FOOT	383.000				
81028220	UNDRGRD C GALVS 3	FOOT	480.000				
81028350	UNDRGRD C PVC 2	FOOT	1,075.000				
81028370	UNDRGRD C PVC 3	FOOT	591.000				
81100300	CON AT ST 1 GALVS	FOOT	113.000				
81100320	CON AT ST 1 PVC GS	FOOT	2,420.000				
81100600	CON AT ST 2 GALVS	FOOT	70.000				
*REV 81100605	CON AT ST 2 PVC GALVS	FOOT	1,858.000				
81100805	CON AT ST 3 PVC GALVS	FOOT	550.000				
81101005	CON AT ST 4 PVC GALVS	FOOT	7,040.000				
81200230	CON EMB STR 2 PVC	FOOT	3,005.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
81200270	CON EMB STR 4 PVC	FOOT	205.000				
81300100	JUN BX SS AS 4X4X3	EACH	6.000				
81300220	JUN BX SS AS 6X6X4	EACH	28.000				
81300310	JUN BX SS AS 8X6X4	EACH	3.000				
81300410	JUN BX SS AS 10X8X4	EACH	4.000				
*REV 81300530	JUN BX SS AS 12X10X6	EACH	28.000				
81300830	JUN BX SS AS 18X18X8	EACH	16.000				
81400200	HD HANDHOLE	EACH	2.000				
81603081	UD 3#2#4GXLPUSE 1.5 P	FOOT	1,165.000				
81702110	EC C XLP USE 1C 10	FOOT	7,700.000				
81702140	EC C XLP USE 1C 4	FOOT	670.000				
81702400	EC C XLP USE 3-1C 2	FOOT	220.000				
81702460	EC C XLP USE 3-1C 3/0	FOOT	450.000				
81800150	A CBL 3-1C3/0 MES W	FOOT	150.000				
*REV 81800330	A CBL 3-1C6 MESS WIRE	FOOT	900.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

County Name - COOK- -
Code - 31 - -
District - 1 - -
Section Number - 2013-008R

Project Number
ACNHPP-000S/947/

* REVISED: OCTOBER 30, 2013

Route
FAI 90
FAI 94
FAI 290

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
82107100	UNDERPAS LUM 70W HPS	EACH	6.000				
82107200	UNDERPAS LUM 100W HPS	EACH	34.000				
84200500	REM LT UNIT SALV	EACH	68.000				
84200804	REM POLE FDN	EACH	9.000				
84500120	REMOV ELECT SERV INST	EACH	1.000				
85000200	MAIN EX TR SIG INSTAL	EACH	1.000				
87602000	PED PUSHBUTTON POST	EACH	2.000				
87800200	CONC FDN TY D	FOOT	7.000				
87900200	DRILL EX HANDHOLE	EACH	2.000				
88040070	SH P LED 1F 3S BM	EACH	6.000				
88040090	SH P LED 1F 3S MAM	EACH	8.000				
88040150	SH P LED 1F 5S BM	EACH	5.000				
88040160	SH P LED 1F 5S MAM	EACH	5.000				
88102825	PED SH P LED 1F BM CT	EACH	16.000				
89000100	TEMP TR SIG INSTALL	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60W26

State Job # - C-91-228-13

		Project Number	Route
County Name -	COOK- -	ACNHPP-000S/947/	FAI 90
Code -	31 - -		FAI 94
District -	1 - -	* REVISED: OCTOBER 30, 2013	FAI 290
Section Number -	2013-008R		

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
89502375	REMOV EX TS EQUIP	EACH	2.000				
89502380	REMOV EX HANDHOLE	EACH	14.000				
89502385	REMOV EX CONC FDN	EACH	9.000				

LOCATION OF PROJECT 1
DESCRIPTION OF PROJECT 1
SOILS INFORMATION 2
CONTRACTOR COOPERATION 3
PROGRESS SCHEDULE 3
WINTER WORK 9
RESTRICTION ON WORKING DAYS AFTER A COMPLETION DATE 9
FAILURE TO COMPLETE THE WORK ON TIME 10
COMPLETION DATE PLUS WORKING DAYS 11
SUBMITTALS 11
STATUS OF UTILITIES TO BE ADJUSTED- 12
CTA FLAGGING AND COORDINATION 19
AGGREGATE FOR CONCRETE BARRIER (D-1) 36
AGGREGATE SUBGRADE IMPROVEMENT (D-1) 37
COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1) 39
DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1) 39
EMBANKMENT I 40
BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) (D-1) 42
FINE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1) 42
FRICTION SURFACE AGGREGATE (D1) 42
GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1) 45
HMA MIXTURE DESIGN REQUIREMENTS (D-1) REVISED 10/31/13 47
PUBLIC CONVENIENCE AND SAFETY (D-1) 50
RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1) 51
ADJUSTMENTS AND RECONSTRUCTIONS 61
STAGING AND INTERCHANGE RESTRICTIONS 62
LANE AND RAMP CLOSURES 62
TRAFFIC STAGING 63
MAINTENANCE OF ROADWAYS 66
TRAFFIC CONTROL AND PROTECTION (ARTERIALS) 66
TRAFFIC CONTROL PLAN 67
KEEPING THE EXPRESSWAY OPEN TO TRAFFIC 68
ADDITIONAL INSURED 70

FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC 71
TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS 71
TEMPORARY INFORMATION SIGNING 72
TRAFFIC CONTROL FOR WORK ZONE AREAS 75
TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS) 75
ROAD CONSTRUCTION REPORTING AND SIGNING FOR VEHICLE WIDTH RESTRICTIONS 79
ENGINEER'S FIELD OFFICE TYPE A (SPECIAL) 81
STORM SEWERS & SEWER CONNECTIONS TO CITY OF CHICAGO SEWERS 83
TEMPORARY PAVEMENT 83
SAND CUSHION, 4 INCH, (CDOT) 84
EXPLORATION TRENCH (SPECIAL) 84
SELECT GRANULAR BACKFILL, SPECIAL 85
REMOVE AND REPLACE SIGN AND SUPPORTS 86
CONSTRUCTION ACCESS 86
DETECTABLE WARNINGS (SPECIAL) 87
CONCRETE BARRIER WALL (SPECIAL) 88
CONCRETE BARRIER TRANSITION (SPECIAL) 88
CONCRETE BARRIER BASE (SPECIAL) 89
TEMPORARY CONCRETE BARRIER (SPECIAL) 89
TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY) 90
REMOVE IMPACT ATTENUATORS, NO SALVAGE 90
REMOVE OVERHEAD SIGN STRUCTURE - WALKWAY 91
SIGN PANEL - TYPE 1 (SPECIAL) 91
STEEL POSTS, SPECIAL 92
TEMPORARY EPOXY PAVEMENT MARKING 95
CONCRETE MEDIAN (SPECIAL) 96
COMBINATION CURB AND GUTTER TYPE B V.12 (CDOT) 96
ORNAMENTAL FENCE, WROUGHT IRON 97
APPROACH SLAB REMOVAL 97
FENCE REMOVAL 98
REMOVE GATE POSTS 98
REMOVE EXISTING GATE 99
CONCRETE BARRIER REMOVAL 99

COMBINED SEWER REMOVAL 100
REMOVE EXISTING VALVE AND VAULT 100
REMOVE EXISTING VALVE AND VAULT (SPECIAL) 102
FILLING VALVE VAULTS 103
FIRE HYDRANTS TO BE REMOVED 104
WATER MAIN REMOVAL 104
CONCRETE REMOVAL (SPECIAL) 105
TELEVISION INSPECTION OF SEWER 106
CLEANING EXISTING DRAINAGE STRUCTURES 107
COMBINED SEWER (EXTRA STRENGTH VITRIFIED CLAY PIPE) (CDOT) 107
STORM SEWERS, EXTRA STRENGTH VITRIFIED CLAY PIPE (CDOT) 107
COMBINED SEWERS (CDWM) 109
COMBINED SEWER ADJACENT TO OR CROSSING WATER MAIN 110
STORM SEWER ADJACENT TO OR CROSSING WATER MAIN 110
PIPE DRAINS (SPECIAL) 110
REINFORCED CONCRETE PIPE ELBOW (CDWM) 111
PLUG EXISTING PIPE 111
MANHOLES (CITY OF CHICAGO) 112
PRECAST TUMBLING BASIN (CDWM) 112
INLETS (CITY OF CHICAGO) 113
CATCH BASINS (CITY OF CHICAGO) 114
CATCH BASINS, TYPE A, 4'-DIAMETER, WITH SPECIAL FRAME AND GRATE 115
INLETS, TYPE A, WITH SPECIAL FRAME AND GRATE 115
TRENCH DRAIN 116
DRAINAGE STRUCTURES TO BE RECONSTRUCTED (SPECIAL) 117
TEMPORARY DRAINAGE SYSTEM NO. 1 118
TEMPORARY SHORING 119
TEMPORARY SOIL RETENTION SYSTEM 119
SOIL RETENTION SYSTEM 123
STRUCTURAL STEEL (CTA) 125
TRANSLUCENT CANOPY ROOF (CTA) 125
FLASHING, GUTTERS AND SHEET METAL (CTA) 126
PLUMBING - DOWNSPOUTS (CTA) 126

CROSSHOLE SONIC LOGGING 127
HOT DIP GALVANIZING FOR STRUCTURAL STEEL 132
TEMPORARY BRIDGE 136
CLASS SI CONCRETE MISCELLANEOUS 138
FORM LINER TEXTURED SURFACE 140
DECORATIVE RAILING (PARAPET MOUNTED) 141
BRIDGE FENCE RAILING (SPECIAL) 143
PILE EXTRACTION 145
REMOVAL OF EXISTING STRUCTURES NO. 1 146
REMOVAL OF EXISTING STRUCTURES NO. 2 148
CONSTRUCTION VIBRATION MONITORING 150
REMOVAL OF ASBESTOS CEMENT CONDUIT 153
LOCATE TUNNEL, CHICAGO 159
BULKHEAD TUNNEL, CHICAGO 160
WATER MAIN RELOCATION 54” (CDWM) 163
GENERAL ELECTRICAL REQUIREMENTS 164
ELECTRIC UTILITY SERVICE CONNECTION (COMED) 168
ELECTRIC SERVICE INSTALLATION 169
UNDERPASS LUMINAIRE, HPS, STAINLESS STEEL HOUSING 170
MAINTENANCE OF LIGHTING SYSTEMS 186
MAINTENANCE OF STREET LIGHTING SYSTEM (CITY OF CHICAGO) 189
ELECTRICAL WORK FOR CANOPY LIGHTING AND HEAT TRACE (CTA) 194
LED LIGHT SOURCE FIXTURE FOR CANOPY LIGHTING (CTA) 194
EXPOSED RACEWAYS 195
UNDERGROUND RACEWAYS 198
UNIT DUCT 199
WIRE AND CABLE 201
INSTALL LIGHT POLE, MAST ARM AND LUMINAIRE (CHICAGO) 202
REMOVE EXISTING MAST ARM AND LUMINAIRE (CDOT) 203
INSTALL MAST ARM AND LUMINAIRE (CHICAGO) 204
TEMPORARY WOOD POLE, 60 FT., CLASS 4 205
RACKING CABLES IN MANHOLE OR HANDHOLE (CDOT) 206
DRILL MANHOLE OR HANDHOLE, CHICAGO 206

REMOVAL OF LIGHTING UNIT, SALVAGE 207
GROUND ROD, 3/4” DIA. X 10.0’-0” LENGTH (CDOT) 207
CABLE IN CONDUIT, TRIPLEX 2-1/C NO. 6 AND 1-1/C NO. 8 GROUND 208
ELECTRIC CABLE AERIAL SUSPENDED, COMMUNICATION, NO. 19 100 PAIR 209
CONCRETE FOUNDATION, 24" DIAMETER, 1 1/4" ANCHOR RODS, 15" BOLT CIRCLE, 7 FEET (CDOT) 211
CONCRETE FOUNDATION, 28" DIAMETER, 1 1/4" ANCHOR RODS, 15" BOLT CIRCLE, 7 FEET (CDOT) 211
CDOT TRAFFIC SIGNAL SPECIFICATIONS 212
TEMPORARY TRAFFIC SIGNAL INSTALLATION 212
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION 214
SIGNAL HEAD, POLYCARBONATE, LED, 1 FACE, 3-SECTION, BRACKET MOUNTED 215
SIGNAL HEAD, POLYCARBONATE, LED, 1 FACE, 5-SECTION, BRACKET MOUNTED 215
SIGNAL HEAD, POLYCARBONATE, LED, 1 FACE, 3-SECTION, MAST ARM MOUNTED 216
SIGNAL HEAD, POLYCARBONATE, LED, 1 FACE, 5-SECTION, MAST ARM MOUNTED 216
PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER 218
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT 219
REMOVE EXISTING HANDHOLE 220
REMOVE EXISTING CONCRETE FOUNDATION 221
POLE STEEL, ANCHOR BASE, 10” DIAMETER, 7 GAUGE, 34'-6" (CDOT) 221
POLE STEEL, ANCHOR BASE, 10” DIAMETER, 3 GAUGE, 34'-6" (CDOT) 221
POLE STEEL, ANCHOR BASE, 12.5" DIAMETER, 3 GAUGE, 34'-6" (CDOT) 221
JUNCTION BOX, POLE OR POST MOUNTED 222
CONCRETE FOUNDATION, 24" DIAMETER, 1 1/4" ANCHOR RODS, 15" BOLT CIRCLE, 9 FEET (CDOT) 224
CONCRETE FOUNDATION, 24" DIAMETER, 1 1/4" ANCHOR RODS, 15" BOLT CIRCLE, 7 FEET (CDOT) 224
CONCRETE FOUNDATION, 30" DIAMETER, 1 1/2" ANCHOR RODS, 16 1/2" BOLT CIRCLE (CDOT) 224
ELECTRIC CABLE IN CONDUIT NO. 14, 19/C (CDOT) 225
ELECTRICAL MANHOLE, 3'X4'X4', 24" FRAME AND LID (CDOT) 226
HARNESS CABLE, #16, 8/C (CDOT) 228

ADVANCED TRANSPORTATION CONTROLLER, TRAFFIC, 16 LOAD BAY, P CABINET (CDOT) 228
ELECTRIC CABLE IN CONDUIT NO. 4, 2/C (CDOT) 230
MAST ARM, STEEL, MONOTUBE, 26 FOOT (CDOT) 231
MAST ARM, STEEL, MONOTUBE, 35 FOOT (CDOT) 231
SERVICE INSTALLLATION, 100 AMPERE (CDOT) 232
UNDERGROUND CONDUIT, PVC, 2” DIA. SCHEDULE 80 (CDOT) 233
UNDERGROUND CONDUIT, PVC, 3” DIA. SCHEDULE 80 (CDOT) 233
UNDERGROUND CONDUIT, PVC, 4” DIA. SCHEDULE 80 (CDOT) 233
PAINT EXISTING POLE, POST OR CONTROLLER, COMPLETE 234
PEDESTRIAN PUSH-BUTTON, SPECIAL 236
ELECTRICAL HANDHOLE, 30”, 24” FRAME AND LID (CDOT) 237
ELECTRICAL HANDHOLE, HEAVY DUTY, 36”, 24” FRAME AND LID (CDOT) 237
ROD AND CLEAN DUCT IN EXISTING CONDUIT SYSTEM (CDOT) 238
WIRELESS DETECTOR PACKAGE (CDOT) 239
FLUSH MOUNTED WIRELESS SENSOR (CDOT) 240
CAT 5 CABLE FOR WIRELESS DETECTOR (CDOT) 240
CONNECTORS FOR CAT 5 CABLE (CDOT) 241
PEDESTRIAN PUSH BUTTON SIGNAL POST 241
ELECTRIC CABLE NO. 12, 2/C (SHIELDED) (CDOT) 242
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, STRUCTURE MOUNTED (CDOT) 243
PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, L.E.D., COUNTDOWN, STRUCTURE MOUNTED (CDOT) 244
REMOVE EXISTING TRAFFIC SURVEILLANCE EQUIPMENT 245
WOOD POLE, 45 FT., CLASS 5 246
MAINTAINING ITS DURING CONSTRUCTION 247
TRAFFIC SURVEILLANCE. – GENERAL (TSC T 400#02) 248
OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT STATIONS 255
RADAR VEHICLE SENSING DEVICE (TSC T 418#3A) 256
GROUND ROD (TSC T 420#6) 262
GROUNDING OF ITS SUBSYSTEMS (TSC T 420#8) 263
ELECTRIC CABLE NO. 19 - 6 CONDUCTORS OR 12 CONDUCTORS (TSC T 421#2) 264

HANDHOLE (TSC T 428#1)..... 266
CABINET HOUSING EQUIPMENT, MOUNTING AND SIZE AS SPECIFIED (TSC T 637#2)..... 267
APPENDIX A – CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION DIVISION OF ELECTRICAL OPERATIONS..... 270
REVISED JUNE 7, 2006..... 273
WIRE: SINGLE CONDUCTOR NO. 12 COPPER WITH CROSS LINKED POLYETHYLENE INSULATION..... 273
ANODIZED FINISH..... 279
POLE MOUNTED CAST ALUMINUM JUNCTION BOX FOR TRAFFIC SIGNALS..... 280
SELF-SUPPORTING SECONDARY CABLE..... 283
SECONDARY RACK, 2 OR 3 WIRE, WITH INSULATORS..... 289
POLE: ANCHOR BASE, 3 AND 7 GAUGE, TAPERED TUBULAR STEEL, WITH HANDHOLE ENTRY..... 291
MAST ARMS: 4-, 8-, 12-, AND 15-FOOT: STEEL..... 301
MAST ARM: TRAFFIC SIGNAL MONO-TUBE..... 307
CABLE: SERVICE ENTRANCE, THREE INSULATED CONDUCTORS IN ONE OVERALL JACKET, 600 VOLT..... 314
ELECTRICAL MANHOLE FRAMES AND COVERS 24 INCH AND 30 INCH DIAMETER..... 320
REVISED AUGUST 3, 2006..... 322
RIGID STEEL CONDUIT (HOT DIPPED GALVANIZED)..... 322
TRAFFIC SIGNAL MOUNTING BRACKETS FOR MONOTUBE ARMS..... 330
GROUND RODS..... 333
ROD: ANCHOR, STEEL, WITH HARDWARE..... 335
CORD: TRAFFIC SIGNAL, EIGHT CONDUCTOR NO. 16 AWG, 600 VOLT..... 337
TRAFFIC SIGNAL: VEHICULAR, TWELVE-INCH SINGLE FACE, SINGLE OR MULTIPLE-SECTION, POLYCARBONATE, LED OR INCANDESCENT..... 342
PEDESTRIAN TRAFFIC SIGNAL, 16 INCH WITH SYMBOLIC LED WALK/DON'T WALK LENSES POLYCARBONATE HOUSING..... 351
LED OPTICAL UNIT..... 354
TRAFFIC SIGNAL MOUNTING BRACKET POLYCARBONATE, SIDE OF POLE..... 358
TEARDROP LUMINAIRE, HORIZONTAL LAMP, FOR CHICAGO 2000 POLE; 250/310 WATT HIGH PRESSURE SODIUM LAMP; I.E.S. TYPE III DISTRIBUTION..... 362

CHICAGO 2000 LIGHT POLE: ANCHOR BASE, 32'-6", 7 GAUGE FLUTED, TAPERED STEEL FOR 15" BOLT CIRCLE 380
SPLIT PEDESTAL BASE: FOR CHICAGO 2000 LIGHT POLE 393
CHICAGO 2000 MAST ARM: 8-FOOT, STEEL 404
PEDESTRIAN PUSH BUTTON 416
LAMPS: HIGH PRESSURE SODIUM FOR STREET LIGHTING 419
PRECAST CONCRETE STRUCTURES 421
NON-METALLIC CONDUIT 424
CABLE: SINGLE-CONDUCTOR, COPPER 600 VOLT 426
CABLE: TRAFFIC SIGNAL, MULTIPLE CONDUCTOR, COPPER WIRE, 600 VOLT 432
PEDESTRIAN COUNTDOWN TRAFFIC SIGNAL LED, 16 INCH WITH SYMBOLIC WALK/DON'T WALK LENSES 439
ORNAMENTAL BRACKET ARMS FOR MID-MOUNT RESIDENTIAL AND ARTERIAL LUMINAIRES 446
TEARDROP LUMINAIRE, HORIZONTAL LAMP, FOR CHICAGO 2000 POLE; 250 WATT PULSE-START METAL HALIDE LAMP; I.E.S. TYPE III DISTRIBUTION 449
ADVANCED TRANSPORTATION CONTROLLER AND CABINET(CONTRACTOR INSTALLED) 465
TEARDROP LUMINAIRE, CHICAGO 2000, ELECTRONIC BALLAST 210/315 WATT CERAMIC METAL HALIDE LAMP; I.E.S. CUTOFF TYPE III DISTRIBUTION 503
WIRELESS VEHICULAR DETECTION SYSTEM 517
DRAINAGE SYSTEM 763
PIPE UNDERDRAINS FOR STRUCTURES 764
STRUCTURAL REPAIR OF CONCRETE 765
WEEP HOLE DRAINS FOR ABUTMENTS, WINGWALLS, RETAINING WALLS AND CULVERTS 777
ABOVE GRADE INLET PROTECTION (BDE) 777
ANCHOR BOLTS (BDE) 779
COARSE AGGREGATE IN BRIDGE APPROACH SLABS/FOOTINGS (BDE) 780
CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE) 781
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE) 783
GRANULAR MATERIALS (BDE) 793
HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE) 793
LIQUIDATED DAMAGES (BDE) 795

LRFD STORM SEWER BURIAL TABLES (BDE) 796
PAVEMENT MARKING REMOVAL (BDE) 805
PAVEMENT REMOVAL (BDE) 806
PAYMENTS TO SUBCONTRACTORS (BDE) 806
PLACING AND CONSOLIDATING CONCRETE (BDE) 807
POLYUREA PAVEMENT MARKINGS (BDE) 810
PORTLAND CEMENT CONCRETE (BDE) 811
PORTLAND CEMENT CONCRETE EQUIPMENT (BDE) 853
PROGRESS PAYMENTS (BDE) 854
QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE) 855
REINFORCEMENT BARS (BDE) 872
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES 874
REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE) 880
SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE) 881
TEMPORARY EROSION AND SEDIMENT CONTROL (BDE) 881
TRACKING THE USE OF PESTICIDES (BDE) 882
TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE) 882
TRAINING SPECIAL PROVISIONS (BDE) 882
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG) 885
UTILITY COORDINATION AND CONFLICTS (BDE) 887
WARM MIX ASPHALT (BDE) 893
WEEKLY DBE TRUCKING REPORTS (BDE) 898
BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID) 899
STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID) 902
PROJECT LABOR AGREEMENT - QUARTERLY EMPLOYMENT REPORT 906
PROJECT LABOR AGREEMENT 907
TEMPORARY CHAIN LINK FENCE 923
STORM SEWER TO BE FILLED 924
CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT ENGINEERING SERVICES 925
EXCAVATION AND RESTORATION FOR WATER MAIN ABANDONMENT 926
RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE) 927
REMOVE TEMPORARY WOOD POLE 928

PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, STRUCTURE MOUNTED WITH COUNT DOWN TIMER (CDOT) 929
ELECTRIC CABLE AERIAL SUSPENDED, COMMUNICATION, NO. 19 100 PAIR (MATERIALS ONLY) 930
IEPA FORM 663 931

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction" adopted January 1, 2012, the latest edition of the "Manual of Uniform Traffic Control Devices for Streets and Highways, the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheets included herein which apply to and govern the construction of FAI 90/94/290(I-90/94/290), Project ACNHPP-005(947), Section 2013-008R, in Cook County, Contract 60W26, and in case of conflict with any part or parts of said specifications, the said special provisions shall take precedence and shall govern.

LOCATION OF PROJECT

The project is located along Harrison Street from west of Halsted Street to east of SB 90/94 and along Halsted Street from south of Harrison Street to Van Buren Street. The gross and net length of the project is 1,695.04 Feet (0.321 miles).

DESCRIPTION OF PROJECT

The work consists of the reconstruction of the Harrison Street Bridge (SN 016-1713) over southbound interstate 90/94 from Halsted Street to east of SB 90/94, Halsted Street Bridge (SN 016-1716) over interstate 290 and the CTA from south of Harrison Street to Van Buren Street and proposed retaining wall 13 (SN 016-1802) at the southwest quadrant connecting to the proposed west abutment of Harrison Street. Also included in the work is the intersection at Halsted Street and Harrison Street and widening of Ramp ES to replace the existing pavement section once the proposed pier is built within the existing ramp. The work also includes erection of a canopy spanning the center of the Halsted Street. Bridge and integrated with the entrance to the UIC – Halsted Street Blue line CTA Station.

Work includes bridge reconstruction, roadway reconstruction, erosion control and protection, utility relocation of existing storm sewers and existing water main, special waste excavation, temporary ramp pavement for the ramp and I-90/94, earth excavation and embankment, removal of existing improvements, new storm and combined sewers, curb and gutters, pavements, sidewalks, pavement marking and signage, roadway lighting, retaining wall, concrete abutments, steel furnishing and erection, bridge deck and railings, fabrication, installation and painting of the canopy, traffic control and protection, traffic signals, urban enhancements and all incidental and collateral work necessary to complete the improvements as shown on the Plans and as described herein.

Revised 10/31/13

CONTRACTOR COOPERATION

The Contractor's attention is directed to the fact that other separate contracts may be under construction during the duration of this Contract. Adjacent contracts may consist of, but are not limited to projects near:

- Contract 60X27 – Halsted/Harrison St Watermain Materials Procurement (Circle Interchange)
- Contract 60F63 - FAI 90/94 (Kennedy Expressway) at Ohio Street
- Contract 60W25 – Morgan Street Bridge at I-290 / Congress Pkwy (Circle Interchange)
- Contract 60W28 – Northwest Flyover Bridge at I-90/94a and I-290 / Congress Pkwy (Circle Interchange)
- Contract 60W29 – Peoria Street Bridge at I-290 / Congress Pkwy (Circle Interchange)
- Contract 60W36 – Tunnel Bulkheading (Circle Interchange)
- Contract 60W71 – Harrison Street Bridge (East) at I-90/94 (Circle Interchange)
- And others.

The Contractor will be governed by Article 105.08 of the Standard Specifications.

The Contractor will coordinate proposed project start dates and sequence of construction with the Engineer and other Contractors to present an effective and timely schedule for successful completion of the project.

The work included within 60W36 to bulkhead and fill water tunnels below Halsted Street and Harrison Street is required to be complete prior to the start of foundation work for new substructure elements of both the Harrison Street Bridge and the West Harrison Street Bridge. Contractor cannot begin foundation work prior to written authorization from the Engineer that the work under 60W36 has been completed and accepted by the Department. The contract completion date for Contract 60W36 is March 31, 2014.

PROGRESS SCHEDULE

Description. Time is of the essence in this Contract. It may be necessary for the Contractor to work longer hours, use additional crews, and work during weekends in order to complete the work within the required time limit. The Contractor shall submit a Critical Path Method (CPM) Progress Schedule as described below for the Engineer's approval before the work can be started.

The Contractor will not be allowed any compensation for working longer hours or using extra shifts; and working on weekends or during Holidays; working during winter months, etc. to meet the specified Completion Date.

This work shall consist of preparing, revising and updating a detailed progress scheduled based upon the Critical Path Method (CPM). This work shall also consist of performing time impact analysis of the progress schedule based upon the various revisions and updates as they occur.

COMPLETION DATE PLUS WORKING DAYS

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 May 31, 2015 except as specified herein.

"All the work consisting of tunnel bulkheading must be completed on or before March 31, 2014."

"All the work consisting of water main relocation must be completed and operational on or before May 1, 2014."

"All the work consisting of West Harrison Bridge (SN 016-1713) construction must be completed and safely open to traffic accessing the Cermak Pumping Station on or before **September 1, 2014. However, the Contractor must maintain the Harrison Street detour until the Contract Completion Date of May 31, 2015.**

The Contractor will be allowed to complete all clean-up work and punch list items within 10 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 cleanup work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer."

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.

SUBMITTALS

There are elements of construction that may require long lead times between order and delivery to the project site for installation. The Contractor must prioritize timely submittals of shop drawings to minimize any delays in project execution.

Shop drawings for structural steel that is required to be galvanized must be submitted within one (1) week of the award. The submittal must be complete and include information on the steel as well as materials and processes proposed for galvanization. No additional compensation and no extension of calendar days will be made due to delays in receiving structural steel to the project area because of incomplete or delayed shop drawing submittals.

Shop drawings for structures, thrust restraints and other items for the construction of the the 54" water main relocation, 60" combined sewer relocation and sewer items along Harrison Street in front of the Cermak Pumping Station must be be provided in a timely fashion due to limited period of time to perform work during the shutdown period of the Cermak Pumping Station or portions of the feeder water mains exiting the Cermak Pumping Station.

The Contractor shall provide notice to the Engineer concerning shop drawing submittal schedules and when shop drawing submittal deadlines may be delayed.

Revised 10/31/13

STATUS OF UTILITIES TO BE ADJUSTED-REVISED 10/31/13 PAGES 12-18
Effective: January 30, 1987
Revised: January 24, 2013

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

NAME OF UTILITY	TYPE	LOCATION	Estimated Duration of Time for the Completion of Relocation or Adjustments
ComEd	Electric	Currently located along east portion of Halsted Street to pier to north of I-290	The ComEd Line(s) appears only to serve the IDOT ITS Hub, which will require a temporary feed to be installed as part of this contract. The existing utility cannot be terminated and the demolition of the east portion of the Halsted Street bridge cannot begin until the temporary service is established.
ComEd	Electric	Currently located along east portion of Halsted Street between Van Buren Street and South of Harrison Street	ComEd has identified that ComEd will move existing lines temporarily into AT&T ducts on west portion of the bridge in advance of bridge reconstruction. The interim relocation will is anticipated to be in service no later than November 15, 2013. The existing ducts will be removed as described in REMOVAL OF EXISTING STRUCTURE NO. 2. After the completion of the east portion of the reconstructed bridge and after the proposed ComEd ducts are installed and connected along the east portion of the reconstructed bridge, ComEd will move lines from their temporary location along the west portion of Halsted Street to the proposed ducts. ComEd has indicated that the relocation of lines from the temporary location on the west to the permanent location on the east will take approximately one to two (1-2) weeks. During that period, the existing AT&T ducts on the west portion of the bridge must remain. No demolition of the west portion of the bridge will be allowed until ComEd has vacated the AT&T ducts.
ComEd	Electric	Currently located along south portion of Harrison Street	ComEd has indicated that all conduits will be vacated prior to construction with work anticipated to be complete no later than December

			1, 2013. Lines will be relocated into the large duct package to the north of Harrison Street. The existing ducts will be removed as described in REMOVAL OF EXISTING STRUCTURE NO. 1. Electrical service to Cermak Pumping Station will be made from east during construction. ComEd will construct new ducts in a similar area for future use. ComEd will construct new ducts in pavement leading to the bridge crossing, intercepting the existing ducts. ComEd is expected to begin cable placement after the Contractor has completed the proposed Harrison Street bridge, but before the Contractor has completed all work.
ComEd	Electric	Duct package north of Harrison	ComEd maintains a large package of major feeds that must not be disturbed during construction without ComEd involvement. Retaining wall Structure 016-1802 will be constructed over/around the ductbank. The exact location and depth of the duct has not been determined. Exploration to this date has only included methods that have not included physical location of the concrete encased duct. ComEd may utilize exploratory excavation to identify the exact location or other methods of investigation of the duct prior to construction. If the location conflicts with proposed current or future improvements, ComEd is expected to lower the portion of the ductbank to avoid any redesigned portions of the retaining wall. If ComEd has not located the ductbank prior to construction, the Contractor must install drilled shaft foundations based upon available information. After the construction of drilled shafts, the Contractor must expose the top of the ductbank as part of retaining wall construction. At that time, the Engineer will determine if ComEd needs to perform a relocation of the ductbank to a lower elevation. Regardless, the Contractor should exercise extreme caution during all construction activities in the vicinity of the ComEd ductbank.

ComEd	Electric	Vaults/Manholes – various locations <u>Harrison Street</u> 7806+78.15 - 5.76 RT 7811+24.39 - 16.92 RT <u>Halsted Street</u> 3831+24.70 - 15.57 RT 3830+36.13 - 55.21 LT 3830+25.99 - 17.58 RT	ComEd will adjust manholes to final grade. The structure adjustments must be coordinated with ComEd.
AT&T	Telephone / Fiber Optic	Currently located in west portion of Halsted Street	AT&T intends to relocate all lines to a duct package under I-290 to the west of Halsted in advance of demolition of the west portion of the existing Halsted Street bridge. The relocation is anticipated to be completed prior to July 1, 2014.ComEd intends to relocate existing lines from east portion of bridge to the AT&T conduits. After ComEd has relocated lines to new east portion of Halsted Street bridge, the AT&T duct package in the west portion of the existing bridge can be demolished. AT&T has indicated that ducts do not contain asbestos based upon record information. The existing ducts will be removed as described in REMOVAL OF EXISTING STRUCTURE NO. 2. The removal of the existing ducts shall also include any manhole/vault structures within proposed excavations and bridge construction.
AT&T	Telephone / Fiber Optic	Vaults/Manholes – various locations <u>Harrison Street</u> 7805+39.64 – 12.99 LT 7807+06.82 – 15.25RT 7807+11.91 - 15.42 RT <u>Halsted Street</u> 3830+47.04 - 13.79 LT 3830+52.91 - 11.65 LT 3831+39.95 – 9.02 LT 3831+45.45 - 15.69 LT <u>Halsted Street</u> 3836+69.45 – 28.19 LT 3834+39.28 – 28.35 LT	AT&T will adjust manholes to final grade. The structure adjustments must be coordinated with AT&T. These structures will be abandoned by AT&T and removed as part of the demolition of the Halsted Street Bridge. AT&T intends to abandon this structure. The structure removal or

		Halsted Street 3839+17.00 - 15.00 LT	abandonment must be coordinated with AT&T after all facilities have been relocated.
AT&T	Telephone / Fiber Optic	Duct package north of Harrison	AT&T maintains a large package of major copper and fiber optic lines that must not be disturbed during construction without AT&T involvement. Bridge Structure 016-1713 and Retaining wall Structure 016-1802 will be constructed over/around the ductbank. The exact location and depth of the duct has not been determined. Exploration to this date has only included methods that have not included physical location of the concrete encased duct. AT&T may utilize exploratory excavation to identify the exact location of the duct or other methods of investigation prior to construction. If that location conflicts with proposed current or future improvements, AT&T is expected to lower the portion of the ductbank to avoid any portions of the bridge and retaining wall. If AT&T has not located the ductbank prior to construction, the Contractor must install drilled shaft foundations based upon available information. After the construction of drilled shafts, the Contractor must expose the top of the ductbank as part of bridge and retaining wall construction. At that time, the Engineer will determine if AT&T needs to perform a relocation of the ductbank to a lower elevation. Regardless, the Contractor should exercise extreme caution during all construction activities in the vicinity of the AT&T ductbank.
City of Chicago	Communications	Current package in west portion of Halsted Street	A majority of existing copper lines are not active and will be removed prior to bridge reconstruction. Existing fiber optic lines will relocated prior to the reconstruction of the west portion of the Halsted Street Bridge, currently anticipated to be prior to January 1, 2014. Contractor will install new duct package along west portion of Halsted Street Bridge and roadway reconstruction as shown in the Plans. All work must be coordinated with the City.
	Electric	Roadway lighting along	Roadway lighting will

City of Chicago		Halsted Street	demolished/reconstructed by the Contractor. Existing lighting must be maintained along west portion of Halsted Street during reconstruction of east portion of Halsted Street and as shown on the Plans. This will include aerial cable. After lighting is installed along east portion of Halsted Street, it must be fully operational during the reconstruction of the west portion of Halsted Street.
City of Chicago	Communications	Current package in north portion of Harrison Street Bridge	Existing OEMC facilities will be temporarily rerouted outside of the existing bridge as part of this Contract. The temporary relocation will utilize poles and aerial cable with connections into existing structures. This relocation will include work by both the Contractor and OEMC staff. OEMC staff will make all connections between proposed temporary cable and existing facilities within existing City manholes. OEMC has estimated that the time to splice the new connections will be three to four (3 to 4) weeks. The temporary poles and aerial cable will remain after the completion of construction due to the future contract to reconstruct the Harrison Street bridge over northbound I-90/94. The temporary poles and aerial cable will be located to the south of the existing and proposed bridge, but within the work zone and must be protected.
City of Chicago	Electric	Roadway lighting along Harrison Street	Roadway lighting will demolished/reconstructed by the Contractor.
City of Chicago	Water	Halsted Street	Water main pipe, structures, fire hydrants and other items must be maintained and adjusted or removed as defined in the Plans and specifications. Close coordination with the City of Chicago Department of Water Management must be maintained at all times. This includes the work related to the partial removal of 12” water main as shown on the Plans. The partial removal of the 12” water main must occur after the CDWM abandons the main as described.
City of Chicago	Water	Harrison Street	Water main pipe, structures, fire hydrants and other items must be maintained and adjusted or removed

			as defined in the Plans and specifications. Close coordination with the City of Chicago Department of Water Management must be maintained at all times.
City of Chicago	Water	54” Feeder Main	Relocation/Removal included in Plans to be executed by Contractor. Close coordination with the City of Chicago Department of Water Management must be maintained at all times.
City of Chicago	Water	7’ Water Supply Tunnel in Harrison Street and 8’ Water Supply Tunnel in Halsted Street	The water tunnels are to be abandoned using concrete bulkheads and grouting of the tunnels under contract 60W36. This work must be complete and accepted prior to the start of any foundation work for the reconstruction of the bridges. The contract completion date for Contract 60W36 is March 31, 2014.
City of Chicago	Water	8” Water Main to Fire Hydrant near Cermak Pumping Station	Fire hydrant, valve and 8” lead water main are to be abandoned and removed as part of the Contract. The City of Chicago Department of Water Management must perform work to close off the 48” water main ring from the lead to the valve to be removed.
City of Chicago	Water	4” Service for Irrigation	Line is to be abandoned in place after the abandonment of the 12” water main in Halsted Street. Valve at 3832+34.01 to be removed by the Contractor.
City of Chicago	Traffic	Harrison Street and Halsted Street Intersection Traffic Signals	Removal of existing system and Installation of proposed manholes, controller, cables, conduits, poles and signals will be completed by Contractor as shown on the Plans. Close coordination with the City of Chicago Department of Water Management must be maintained at all times.
City of Chicago	Traffic	Van Buren Street and Halsted Street Intersection Traffic Signals	Temporary improvements and restoration as shown on the Plans will be completed by Contractor.
City of Chicago	Traffic	Des Plaines Street and Harrison Street Intersection Traffic Signals	The traffic signals will be retimed by CDOT as required for the established detour and the temporary closure of Harrison Street.
Chicago Transit Authority	Traction Power Supply Rail	Within median of I-290	CTA has indicated that they may remove or relocate the electrified third rail within the bridge and barrier wall reconstruction limits. Contractor must coordinate with Chicago Transit

			Authority.
Chicago Transit Authority	Communications	Within median of I-290	CTA has indicated there are signal and other communication cable utilities within the CTA ROW. Locations of existing facilities are to be provided. Contractor is expected to coordinate with Chicago Transit Authority and avoid any and all impacts to all communication systems.

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.

In accordance with 605 ILCS 5/9-113 of the Illinois Compiled Statutes, utility companies have 90 days to complete the relocation of their facilities after receipt of written notice from the Department. The 90-day written notice will be sent to the utility companies after the following occurs:

1) Proposed right of way is clear for contract award.
2) Final plans have been sent to and received by the utility company.
3) Utility permit is received by the Department and the Department is ready to issue said permit.
4) If a permit has not been submitted, a 15 day letter is sent to the utility company notifying them they have 15 days to provide their permit application. After allowing 15 days for submission of the permit the 90 day notice is sent to the utility company.
5) Any time within the 90 day relocation period the utility company may request a waiver for additional time to complete their relocation. The Department has 10 days to review and respond to a waiver request.

Revised 10/31/13

CTA FLAGGING AND COORDINATION

All work to be done by the Contractor on, over, or in close proximity of the CTA (Chicago Transit Authority) right-of-way shall be performed according to Article 107.12 of the Standard Specifications and this specification. This specification generally conforms to CTA Master Specification Section 01 35 15, "Special Project Procedures for Adjacent Construction." No interruption to CTA service will be allowed unless approved in writing by the CTA.

The CTA's Representative for this project will be:

Mr. Rick Herndobler
Manager, Capital Construction
(312) 681-3921

1.01 SUMMARY

A. This section includes the requirements for safe construction operations on, above, below and adjacent to operating tracks of the CTA rail system. The Contractor shall be responsible for compliance with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System in effect at such time.

B. After the letting of the contract and prior to performing any work, the CTA Representative shall be notified by the Department to attend the preconstruction meeting. In this meeting, the Contractor shall confer with the CTA's Representative regarding the CTA's requirements for the protection of clearances, operations and safety.

C. Prior to the start of any work on or over the CTA's right-of-way, the Contractor shall meet with the CTA Representative to determine his requirements for flagmen and all other necessary items related to the work activities on, over and next to the CTA facilities and to receive CTA's approval for the Contractor's proposed operations.

D. The Contractor shall notify the CTA Representative 72-hours in advance of the time he intends to enter upon the CTA right-of-way for the performance of any work.

1.02 PROJECT CONDITIONS

A. The Chicago Transit Authority (CTA) is an operating transportation agency and must maintain rail operations at all scheduled times for the benefit of the public. The Contractor shall conduct his operations in such a manner as not to cause damage to the CTA equipment, put the public or the CTA personnel in danger, cause inconvenience to the customers, interrupt train service (except as permitted herein) or cause avoidable inconvenience to the public and the surrounding communities.

B. The CTA will be operating trains during the construction of this project. The rail operations are 24 hours per day, seven days per week.

C. Certain portions of the project may be performed on, above or adjacent to sections of track where rail service is suspended in order to facilitate the work. For any work occurring within, above or adjacent to a section of track to be taken out of service, the Contractor shall confirm with the CTA that track within the work limits has been taken out of service and the third rail de-energized, as required, prior to beginning the work.

D. If the CTA deems any of the Contractor's work or operations hazardous to the CTA's operations or to the public, the CTA shall contact the Engineer. The Engineer may elect to order the Contractor to immediately suspend work until reasonable remedial measures are taken satisfactory to the CTA.

E. The CTA's may review of any of the Contractor's procedures, methods, temporary structures, tools or equipment that will be utilized within the CTA Right-of-Way. These reviews do not relieve the Contractor of responsibility for the safety, maintenance, and repairs of any temporary structure or work, or for the safety, construction, and maintenance of the work, or from any liability whatsoever on account of any procedure or method employed, or due to any failure or movement of any temporary structure, tools or equipment furnished as necessary to execute work on CTA Right-of-Way.

F. At least five (5) weeks prior to the start of any work on, above or adjacent to the CTA right-of-way, the Contractor will be required to attend weekly coordination meetings with CTA Operations and other CTA departments to review and coordinate proposed work activities of the Contractor(s). The Contractor will be required to provide a five week look-ahead schedule, in a format acceptable to CTA, reflecting proposed work activities within the CTA Right-of-Way.

G. The Contractor, through the Engineer, shall submit a Rail Service Bulletin Request form to the CTA at least twenty-one (21) calendar days in advance of the Contractor's proposed scheduled time to enter upon the CTA Right-of-Way for the performance of any work under this Contract. Bulletin requests will be required when performing work which impacts rail operations such as prior to each phase of staged station construction, Track Access Occurrences, track survey, etc.

H. CTA generally permits only one Track Access Occurrence at a time on any given route. Other work on CTA's system, including required operations and/or maintenance by CTA, or work by other contractors elsewhere on the route, may limit the available dates of track access occurrences for this project. The Contractor is strongly encouraged to submit Rail Service Bulletin requests with more than the twenty-one (21) day minimum required advance notice. The CTA has indicated that they typically will not grant Track Access Occurrences on consecutive weekend periods in order to provide scheduled service to customers.

Revised 10/31/13

I. The Contractor shall at all times observe all rules, safety regulations and other requirements of the CTA, including, but not limited to, the following Standard Operating Procedures (SOP's).

1. No. 7037, "Flagging on the Right-of-Way".
2. No. 7038, "Train Operation Through Slow Zones".
3. No. 7041, "Slow Zones".
4. No. 8111, "Workers Ahead Warning System".
5. No. 8130, "Safety on Rapid Transit Tracks".
6. No. 8212, "Test Train Procedures"
7. Sketch 2000-SZ-1, Slow Zone Equipment

1.03 REIMBURSEMENT OF COSTS

A. The cost of all flagmen, infrastructure crews, engineering inspection, switchmen, and other workmen furnished by the CTA and authorized by the Engineer shall be paid for directly to the CTA by the Contractor.

B. The costs associated with Track Access Occurrences granted and established by the CTA shall be paid for directly to the CTA by the Contractor.

C. The amount paid to the Contractor shall be the amount charged to the Contractor for all authorized CTA charges including CTA additive rates audited and accepted by the Department, according to Article 107.12 and Article 109.05 of the Standard Specifications.

D. Following approval of the CTA invoices by the Department, the Contractor shall pay all monies to the CTA as invoiced and shall submit to the Department certified and notarized evidence of the amount of payments. No overhead or profit will be allowed on these payments.

E. There are maximum amounts of flagger shifts identified within this specification. If Contractor operations require flagger shifts that are granted by the CTA beyond these limits, the Contractor shall pay for the services, but will receive no reimbursement.

F. The Department will not be liable for any delays by the CTA in providing flagmen, establishing track closures or other service provided by the CTA and identified within this special provision.

1.04 RAIL SAFETY TRAINING

A. All Contractor and Subcontractor employees assigned to work on, over or near the CTA Right-of-Way shall be required to attend an all-day Rail Right-of-Way Safety Training Session in accordance with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System. The cost of this training is currently $200.00 per employee, paid by the Contractor in advance. The certification is good for one calendar year from the date of issuance. The Contractor shall coordinate rail safety training with the Engineer. The cost of training shall be paid directly to the CTA by the Contractor.

B. Rail Right-of-Way Safety Training for Contractor and subcontractor personnel will be scheduled by CTA as training slots become available. The Contractor is advised that the Contractor's failure to request training sufficiently in advance of when the employee is required on the work site shall not be cause for relaxing the requirement for Rail Right-of-Way Safety Training.

C. The $200.00 fee is non-refundable. If any individual fails to report for training or is rejected for training and must be rescheduled, an additional $200.00 will be required. No additional compensation will be made for the rescheduling of any training.

D. Upon successful completion of CTA Rail Safety Training, each trainee will be issued a non-transferable Rail Safety Tour Identification Card with the trainee's photo and a decal with pressure sensitive adhesive to be affixed on the hard hat. The Rail Safety Tour Identification Card and the decal are valid for one (1) year from the date of issue. The validity of the Card and the decal are in no way related to the length of this Contract.

E. Contractor and Subcontractor personnel must renew their Rail Safety Tour Identification Cards annually by successfully completing Rail Safety Training again. Contractor or Subcontractor personnel who fail to maintain a valid Rail Safety Tour Identification Card are not permitted to work on, above or adjacent to the CTA Rail Right of Way and CTA reserves the right to remove such personnel from the work site.

F. The costs incurred by the Contractor for CTA Rail Safety Training will not be reimbursed.

1.05 MANDATORY ITEMS FOR EMPLOYEES ON CTA RIGHT-OF-WAY

A. Contractor's and Subcontractor's employees assigned to work on the CTA Right-of-Way:

1. Contractor's and Subcontractor's employees will be given individual property permits. These permits shall be carried by each employee at all times while on CTA property. All permits issued shall be returned to CTA at the completion of the project, if the employee no longer works on this project, or on the date of expiration.

2. Each employee shall carry a valid Rail Safety Tour Identification Card at all times while on CTA right-of-way in accordance with Article 2-2 of the CTA Safety Manual.

3. All employees shall wear an undamaged hard hat with current rail safety sticker affixed, CTA standard safety vest and eye protection at all times while on CTA right-of-way. Noise protection shall be used when necessary. The Contractor must also comply with all OSHA requirements as required for the work. The CTA shall provide the rail safety sticker to each Contractor employee upon successful completion of the Rail Right-of-Way Safety Training.

4. Contractor personnel shall wear suitable work shoes with defined heel and non-slip soles. Steel toes or metal cleats on the sole or heel of shoes are prohibited. Shoelaces are to be kept short so they do not pose a tripping hazard. Athletic shoes, sandals, open-toed shoes, moccasins and/or shoes with heels higher than 1" are not permitted.

5. Contractor personnel shall have a non-metallic, working flashlight after dark or when working in the subway.

B. Contractor and Subcontractor employees assigned to work adjacent to or above the CTA right-of-way shall wear a CTA standard safety vest at all times. Personnel without current Rail Safety Training and a valid property permit shall not enter onto any CTA Right-of-Way.

1.06 WORK AREA AVAILABILITY

A. DEFINITIONS

1. RIGHT-OF-WAY WORK: Any work performed at, above, or below track level within the CTA Right-of-Way.

2. IN-SERVICE TRACK: All CTA tracks are in service seven days a week, 24 hours a day, unless specifically removed from service for specific times by a Rail Service Bulletin issued by the Vice President, Rail Operations. Copies of the CTA's current train schedule for the lines affected by this project is available on the CTA's website and are subject to changes at any time, before or during, the Contract.

3. OUT-OF-SERVICE TRACK: The CTA tracks within limits defined by CTA that are temporarily removed from service for the purpose of completing specific work. Traction power will remain on at all times unless power removal is requested by the Contractor and approved by the CTA. In such cases, traction power must be removed and restored by CTA personnel. The Contractor may request the CTA to de-energize portions of the CTA right-of-way to perform work on, or near an Out-of-Service Track when no revenue service is scheduled, or as specified under a Rail Service Bulletin. Upon completion of the Out-of-Service Work, the Contractor shall maintain sufficient personnel on-site to correct any deficiencies in the Contractor's Work discovered by the CTA during power and service restoration and testing.

4. TRACK ACCESS OCCURRENCE: A condition(s) which provides a modification to the normal operation of CTA service to facilitate access for a Contractor(s) to perform work on or near the CTA Right-of-Way as defined and limited herein.

5. RE-ROUTE: Modification to the normal routing of trains in order to remove rail traffic from a section of track to facilitate access for a Contractor(s) to perform work on or near the CTA Right-of-Way as defined and limited herein.

6. LINE CUT: A temporary cessation of all service on a transit line; meaning total stoppage of transit service on all tracks and at all stations within the closure zone to facilitate access for a contractor(s) to perform work on or near the CTA Right-of-Way as defined and limited herein.

7. SINGLE-TRACK: A temporary operation established by operating trains bi-directionally on one track while the adjacent track is taken out-of-service as defined in paragraph 1.05.a.4, above. Only one single-track at a time can be set up on a line and only for very limited time periods. If CTA or a separate contractor(s) request single track operations along the same line concurrently with the Contractor for this contract, CTA shall have the exclusive authority to determine which request shall be granted.

8. RUSH HOURS: Monday through Friday, from 0500 to 0900 hours and from 1500 to 1900 hours.

9. FLAGGER SHIFT: A flagger shift is defined as the services of a CTA Flagman up to, but no more than eight (8) hours including travel and required breaks. For example:

a. A Contractor five hour work shift which requires 3 flaggers will use 3 flagger shifts.
b. A Contractor eight hour work shift requiring 3 flaggers shall use 6 flagger shifts (because travel & break time will increase the flaggers work hours beyond eight).
c. A Contractor ten hour work shift requiring 3 flaggers will use 6 flagger shifts.

10. INFRASTRUCTURE SHIFT: An infrastructure shift is defined as up to, but no more than eight (8) hours worked per CTA Infrastructure employee. For example:

a. A Contractor five hour work shift requiring 2 signal maintainers will use 2 infrastructure shifts.
b. A Contractor eight hour work shift requiring 2 towermen shall use 2 infrastructure shifts.
c. A ten hour work shift requiring 2 lineman will use 4 infrastructure shifts.

11. PERSON-IN-CHARGE (PIC): A person or persons, specified in a CTA Rail Service Bulletin, who is solely in charge of a work zone and is the single point contact between CTA and all persons (Contractor's, CTA and others) working in a work zone. The Rail Service Bulletin may identify the PIC by name or by radio call number. The Engineer or the Engineer's designee shall serve as PIC.

12. POWER & WAY SERVICE BULLETIN (PWS Bulletin): A document authorized by the CTA Infrastructure Division intended to supplement a CTA Rail Service Bulletin by defining power/signal removal and restoration procedures and other work zone protection measures required to safely perform construction and/or maintenance work on or adjacent to the CTA Right-of-Way (ROW).

B. No service disruptions will be allowed for the completion of this work, except as noted herein. If the CTA deems it necessary, the CTA will impact operations to avoid a hazardous condition to either the passengers or employees and charge the Contractor for all associated costs and damages incurred. No compensation will be made for CTA charges to the Contractor due to unauthorized Contractor access or other unapproved impacts to CTA operations.

1.07 CTA OPERATING REQUIREMENTS

1. Strictly comply with operating requirements of the Chicago Transit Authority while construction work is in progress, specifically as follows:

1. All work performed on the CTA Right-of-Way will be allowed during the Construction Period only in accordance with the Article 1.07 "ALLOWABLE HOURS OF CONSTRUCTION". During most periods of construction, a "slow zone" shall be established at the work site and flagging personnel shall be deployed to facilitate safe and continuous train operations and to protect Contractor, CTA employees, passengers, the general public and property in the vicinity.

2. No one is permitted to enter the CTA Right-of-Way during Rush Hours. Access to the underside of the existing or proposed bridge structure within the limits of the CTA Right-of-Way will not be permitted.

2. As much work as possible is to be done under normal CTA operating conditions (under traffic) without disruption of train movements. A maximum interruption of service to the CTA traffic of 15 minutes or as agreed upon with the CTA will be allowed. No interruption to CTA service will be allowed unless approved in writing by the CTA. The CTA has indicated during overnight periods, train headways are between fifteen (15) and thirty (30) minutes.

3. Pedestrian traffic to the CTA facility entrance at Halsted Street shall be maintained at all times. Barricades and signage for sidewalk closures as well as all details for pedestrian crossings of Halsted Street at the entrance of the station must be coordinated with the CTA at least twenty-eight (28) days prior to modifications to staging.

4. Access control of the CTA Right-of-Way must be maintained at all times. This includes eliminating openings directly to the Right-of-Way where existing median barriers are to be removed. All planned removals of existing access control must be coordinated with the CTA, with plans for counter measures provided to the CTA at least three (3) weeks prior to removals.

1.08 ALLOWABLE HOURS OF CONSTRUCTION

A. Construction activities within CTA Right-of-Way are not permitted during Rush Hours. Access to the underside of the existing or proposed bridge structure within the limits of the CTA Right-of-Way will not be permitted during Rush Hours.

B. Construction activities within CTA Right-of-Way may be permitted during non-Rush Hour periods under flagging protection with the advance concurrence of the CTA as follows:

1. Monday thru Friday: From 1900 hours to 0500 hours the next day (the power shall remain on for these hours unless allowed via specific Track Access Occurrence).

2. Weekends: 1900 hours Friday to 0500 hours Monday

C. Track Access Occurrences:

1. The total number of Track Access Occurrences shall be as specified below:

   a. Overnight Single Tracks: A maximum of thirty (30) Overnight Single-Track Track Access Occurrences will be permitted. Construction activities within the CTA Right-of-Way may be permitted between the hours of 22:00 and 04:00 the following morning, including any time required for test trains stipulated in the Rail Service Bulletin.

   b. Weekend Single Tracks: A maximum of eight (8) Weekend Single-Track Track Access Occurrences will be permitted. Construction activities within the CTA Right-of-Way may be permitted between the hours of 22:00 Friday night and 04:00 the following Monday morning, including any time required for test trains stipulated in the Rail Service Bulletin.

2. The exact dates and hours for all Track Access Occurrences are subject to change by the CTA depending on the nature of the work, access requirements of CTA personnel, work performed under separate contract or operational requirements of the CTA. The approval of specific dates and times for Track Access Occurrences on this Contract may be affected by major events or by a Track Access Occurrence scheduled elsewhere on that route or the CTA System. The CTA has indicated that they typically will not grant Track Access Occurrences on consecutive weekend periods in order to provide scheduled service to customers.

3. The Department has identified the following windows to the CTA for completing proposed work adjacent to the eastbound track. The majority of requested Track Access Occurrences should be for weekend and weeknight periods during the following windows:

   a. Stage 1 – March 17, 2014 through August 4, 2014
   b. Stage 2 – October 1, 2014 through March 2, 2015

   The CTA may grant access outside of the above window(s) depending on Contractor progress and Contractor needs.

4. Contractors completing other Department projects may also request Track Access Occurrences along the same section of track as described herein. These projects are identified in CONTRACTOR COOPERATION. Provided these Track Access Occurrences are approved, scheduled and initiated by the CTA, the Contractor shall be able to access CTA Right-of-Way with no impact to the total count of Track Access Occurrences attributed to this Contract.

D. The CTA reserves the right to modify the allowable dates or hours of track access occurrences based on service requirements for the subject route and manpower availability for the date and location requested.

E. The CTA reserves the right to deny or to cancel a previously approved request for a Track Access Occurrence based on service requirements for the time period requested. The CTA may notify the Contractor of such denial or cancellation no later than 1 day prior to a Track Access Occurrence. Service requirements may be affected by major events (e.g., festivals, White Sox and Cubs games, concerts), or by a Track Access Occurrence scheduled elsewhere on that route or the CTA System.

F. The Contractor will not be permitted to perform work requiring a Track Access Occurrence or Flagging during the following special events:

1. Taste of Chicago
2. Independence Day
3. Chicago Air and Water Show
4. Chicago Marathon
5. Chicago Jazz Festival
6. Chicago Blues Festival
7. Chicago St. Patrick's Day Parade
8. The Saturday before Thanksgiving Day through the Monday following Thanksgiving
9. New Year’s Eve and New Year’s Day
10. Easter Sunday
11. Gospel Fest
12. Chicago White Sox Home Games
13. Chicago Cubs Home Games
14. Chicago Bears Home Games
15. Lollapalooza
16. Pride Parade

In addition, CTA reserves the right to limit or deny access to the system during other major special events that may develop and that may impact service needs, during emergencies, and during severe weather conditions.

The CTA, at their discretion, may provide a Track Access Occurrence or Flagging during a time period identified above provided the request is made in conformance with this specification and is properly scheduled with the CTA as required.

Revised 10/31/13

1.09 CONSTRUCTION PROCESS PLAN

A. CTA will require the Contractor to submit a Construction Process Plan whenever any work, in the opinion of the CTA, affects the safety or causes disruption of service or inconvenience to transit users, CTA Operations or impacts CTA Right-of-Way including, but not limited to: protection of CTA tracks/ CTA Right-of-Way, demolition, temporary shoring installation, drilled shaft installation, pier construction, structural steel erection over CTA tracks/ CTA Right-of-Way, temporary pedestrian bridge to CTA's station entrance, and any other necessary temporary construction related to the above listed items. At a minimum, an individual Construction Process Plan shall be required for each instance the Contractor requests a Track Access Occurrence from CTA and for any work that requires flagging protection from CTA. The Contractor shall also refer to the following special provisions for submittal requirements to the CTA: Temporary Soil Retention System and Temporary Bridge.

B. A draft Construction Process Plan must be submitted to CTA by such method as the CTA may direct, at least twenty-one (21) calendar days in advance of work and at least fourteen (14) calendar days prior to a pre-activity meeting. The plan shall include/address the following:

3. Applicable Contract Documents
4. Options
5. Possible conflicts
6. Compatibility problems
7. Time schedules
8. Weather limitations
9. Temporary facilities & signage
10. Space and access limitations
11. Governing regulations
12. Safe Work Plans (including Hazard Analysis)
13. CTA Operations Impact
14. Proposed Traffic Control & Staging Areas
15. Lift Plan

C. The draft plan must also include reference to all Contractor Requests for Information (RFI's) and submittals that pertain to work identified in the plan.

D. In addition, for any work to be performed during a Track Access Occurrence, the Contractor shall provide the following to the CTA:

1. A track access plan submitted to and approved by the CTA specifically identifying the area(s) of power removal and work zone protection methods being requested by the Contractor.
2. Work zone protection methods to be performed by the Contractor
3. Name, title, contact information, and work hours for Contractor's on-site supervision
4. Work zone protection requested by the Contractor for implementation by the CTA (subject to CTA approval).
5. Pre-approved Safety and Quality Control Checklists, applicable to the work elements being performed during the specific track(s) outage request for completion by the Contractor and submission to the Person-In-Charge during Track Access Occurrence.
6. A general schedule reflecting proposed work to be performed within the requested Track Access Occurrence.

E. After pre-activity meeting minutes have been agreed to, all comments from the meeting must be incorporated into a final Construction Process Plan. This plan must be submitted and approved by the Engineer and CTA prior to the start of related work.

F. Prior to the CTA implementing an authorized Track Access Occurrence, the Contractor must provide, at least 48 hours in advance, an hourly schedule broken into tasks with a defined critical path that clearly establishes milestones that may be monitored. The hourly schedule shall also include, but not be limited to:

1. Name, title, contact information, and work hours for Contractor's on-site supervision.

2. Power removal (min 1 hour)

3. Proposed work activities.

4. Activities for inspection and completion of safety & quality checklists by Contractor.

5. Submission of safety & quality checklists to the CTA's Person-In-Charge (PIC) during Track Access Occurrence. The checklists shall be submitted to the PIC prior to commencing power restoration activities.

6. Power, Signal Restoration (min 1 hour).

7. Test train (min ½ hour).

G. The CTA intends to issue Power & Way Service Bulletins to supplement CTA Rail Service Bulletins. The Power & Way Service Bulletins are intended to provide procedural guidelines for safely removing and restoring the CTA's power & way systems (primarily traction power & signal) within the limits defined by the contract and Contractors specific track outage plan(s).

H. CTA labor shall be required to de-energize and re-energize traction power and perform such other work as may be deemed by the CTA to be required pursuant to the Contractor's work activities and authorized Track Access Occurrences, etc. CTA Signal Maintainer shall also be required to observe and witness the Contractor disconnection and reconnection of temporary signal work at each location where modifications are performed to support construction activities. One Signal Maintainer will be required to witness testing at each location or housing where it is taking place. CTA Signal Maintainer shall also be required to witness the Contractor restoration safety testing, prior to the line being returned to the CTA.

I. Two Linemen will be required at each location where traction power is energized or de-energized. The Contractor's schedule must include travel time for the CTA Electrician's (min ½ hour) if they are to energize or de-energize traction power at more than one location.

J. Failure of the Contractor to provide the CTA the minimum specified time required for the removal and restoration of all Power & Way systems within an authorized Track Access Occurrence will result in specified liquidated damages for failure to return track(s) to service in accordance with the contract requirements. There will be no reimbursement for liquidated damages charged to the Contractor by CTA. The following schedule for liquidated damages has been established by the CTA:

From 1 minute through 29 minutes delay - $5,000.00

From 30 minutes through 59 minutes delay – an additional $5,000.00

For each additional hour or fraction thereof - $30,000.00 per hour

1.10 HAZARDOUS WORKING CONDITIONS

A. The Contractor shall caution all employees of the presence of electric third rail (600 volts DC), live cables and moving trains on CTA tracks. The Contractor shall take all necessary precautions to prevent damage to life or property through contact with the electrical or operations systems. The Contractor shall caution all employees that any contact with live electric third rail or "live" portions of train undercarriage may result in a severe burn or death.

Revised 10/31/13

B. The Contractor shall establish third-rail safety precautions in accordance with CTA regulations, such as using insulating hoods or covers for live third rail or cables adjacent to the work. On every day and at every work site where a live third rail hazard exists, the Contractor shall instruct all employees of the emergency procedures. Knowledge of the disconnect switch locations or manner of disconnection shall be available at all times to the personnel on the job. Unless otherwise noted, only CTA Electricians are allowed to disconnect power.

C. The third rail may be de-energized during authorized Track Access Occurrences. The planning and implementation of the de-energizing shall be listed in the Contractor's process plan and include documenting checklist requirements.

1.11 TRACK SAFETY

A. The Contractor shall, at all times, take special care to conduct operations over, on, under, adjacent to, or adjoining, the CTA Right-of-Way in such a manner as not to cause damage, settlement or displacement of any structures, tracks or any portion thereof. The Contractor shall suspend such work until reasonable remedial measures, satisfactory to the Engineer and CTA , have been taken.

B. Any damages to the CTA tracks, supporting structures or other existing facilities and properties caused by the Contractor's operations shall be replaced or repaired by the Contractor to the satisfaction of the CTA without reimbursement. Contractor shall obtain photo documentation of damaged property to the CTA prior to performing any repair or replacement work.

C. The CTA shall have the right to perform any work it deems to be of an emergency nature and/or necessary to permit normal train operations during construction operations by the Contractor. The work to be completed by the CTA may impact the ongoing Contractor operations. If the emergency work is required due to Contractor actions, the cost of such service or emergency work provided by the CTA shall be borne by the Contractor with no reimbursement by the Department.

D. All work shall comply with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System and CTA Standard Operating Procedures.

Revised 10/31/13

E. The Contractor shall take such precautions as are necessary to ensure the safety and continuity of the CTA operations and passengers. The Contractor shall provide a minimum horizontal clearance of 7'-2" from the centerline of the nearest tangent track to any falsework, bracing and forms or other temporary obstruction during the work under this Contract. The clearance requirements for curved track sections must be calculated by the Contractor to ensure encroachment into the clearance envelope will not occur. Prepare, submit and obtain approval of detailed drawings prepared and sealed by a licensed structural engineer in the state of Illinois for all falsework, sheeting and construction procedures adjacent to and under the tracks before doing any work on same. After obtaining approval of such plans, said falsework, sheeting and construction procedures shall be constructed strictly in accordance with the approved drawings and specifications. All submittals must be submitted to the Engineer to be provided to the CTA In case of any settlement or displacement of structures or tracks, the Contractor shall immediately proceed with all shoring or other work necessary to maintain the CTA property in a safe condition for the operation of train service. If the Contractor fails to undertake this work within 24 hours after notice by the Engineer in writing, the CTA may proceed to repair or shore any such structure or tracks; and the cost thereof shall be billed to the Contractor with no compensation. If the settlement or displacement is severe enough to limit train service, the repairs shall be made immediately. All costs of any disruption to the CTA service due to the Contractor's operations or negligence shall be at the Contractor's expense with no compensation.

F. In limited cases and with advance authorization by the CTA, a minimum horizontal clearance of 6’-1” between the centerline of the nearest tangent track and an obstruction may be allowed. This clearance does not allow CTA or Contractor personnel to safely stand between the obstruction and an operating train. In addition, an obstruction at this clearance is a hazard to motormen with a cab window open. Any required flagging by the CTA will need to be requested as described herein.

G. A minimum vertical clearance of 14′-6″ (4.42 m) above the high running rail the CTA tracks must be provided at all times.

H. Protective Shield

1. The Contractor shall furnish, install, and later remover a protective shield to protect the CTA traffic from damage due to falling material and objects during construction.

2. Protective shield will be necessary for any demolition activities during the removal of the existing structure as well as superstructure construction of the proposed structure.

3. The protective shield may be a platform, a net, or any other Department approved structure.

4. Any protective shield required, as indicated on the plans and the supporting members shall be designed to sustain a load of 200 pounds per square foot in addition to its own weight.

5. Drawings and design calculations for the protective shield shall be stamped by an Illinois Licensed Structural Engineer and shall be submitted to the Department for approval. The protective shield shall be constructed only after the Department has approved the drawings and the design.

1.12 TRACK FLAGGING OPERATIONS

A. Temporary Track Flagging slow zones per CTA SOP 7041 and “CTA Safety Manual for Contract Construction on or Near the CTA Rail System” are restricted in the following manner:

1. Temporary track flagging slow zones can only be mobilized, utilized and demobilized in non-rush hour time periods and no more than one (1) Track Flagging Operation zone will be permitted at any given time. The CTA will be the responsible party responsible to furnish and install the required slow zone signage and equipment. A Track Flagging Operation zone is defined as a contiguous work zone, of no more than 600 feet in length, regardless of the number of tracks fouled. The costs for all manpower, signage and equipment for flagging operations will be billed by the CTA to the Contractor with reimbursement as defined herein.

2. Current Standard Operating Procedures require Slow Zone with flagging protection whenever three or more workers are scheduled to work on, across or near a section of track for one half hour or more. Flagging protection shall be ordered and assigned according to the CTA Flagmen Requirements Manual. These standards must be adhered to and the number of flagmen assigned to a work location shall be as required by the CTA Flagmen Requirements Manual that is available for public viewing at CTA Headquarters upon request.

3. Temporary Track Flagging slow zone signs will be placed, removed or turned by the CTA so the sign cannot be read from the motor cab or hooded to cover the sign so it may not be read from the motor cab when the work crew clears the Right-of-Way.

4. The Contractor shall provide the Engineer with a written request for flagmen and other personnel at least seventy two (72) hours (two normal working days and before noon) prior to the date, and time the work will be performed and the CTA personnel are requested. The Engineer or the Engineer’s designee will coordinate all flagmen requests with the CTA.

5. A maximum of Sixty (60) flagger shifts will be reimbursed as part of the Contract. The costs for additional flagger shifts required for the Contractor’s operations that are requested and granted by the CTA will not be reimbursed.

B. The providing of such personnel and any other safety precautions taken by the CTA shall not relieve the Contractor of any liability for death, injury or damage arising in connection with the construction operations. See CTA SOP No. 7037, "Flagging on the right-of-way", for a description of flagging personnel duties.

Revised 10/31/13

C. To minimize flagmen usage, the Contractor shall use approved barricades, barricaded scaffolds and/or safety railings. Barricades and safety railing arrangements shall be in accordance with Section 4-5.3 of the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System.

D. The CTA does not guarantee that flagging or other personnel will always be available when requested. The Contractor shall be advised that requests for flagging manpower must conform to the CTA Flagman Requirements Manual, and certain work locations require multiple flagging personnel when only one track is fouled by the work.

E. The Contractor shall pay for all flagging and other personnel costs incurred and charged by the CTA. The cost for the each flagger shift shall be $900.00 per flagger shift. The Contractor shall also be responsible to reimburse the CTA for all costs associated with the use of other personnel for infrastructure shifts throughout the duration of the contract. The cost for any other CTA personnel (signalmen, linemen, towermen, etc.) shall be $1,100.00 per infrastructure shift.

F. By labor contract, CTA flagging personnel are entitled to a 30-minute break after a continuous 5-1/2 hour work period, including report and travel time. The 5-1/2 hour period begins when the person reports to work at his or her home terminal. Additionally, flagging personnel are entitled to occasional personal breaks (to use the washroom facilities) during the normal course of work. When flagging personnel leave the work site, work must cease unless provision is made for a relief flagger. The Contractor shall coordinate the Project work schedule with the flagging personnel break periods.

G. All employees of the Contractor and subcontractors shall report any actions of perceived CTA employee misconduct, or if any CTA employee does not provide a full level of cooperation in support of the contract; immediately and directly to the Engineer. The Engineer will provide written correspondence to the CTA Project Manager, as well as CTA Operations. Only with timely, written documentation will CTA be enabled to resolve work site personnel issues and take appropriate disciplinary action, when necessary.

H. If the Contractor, Engineer, CTA Construction or Safety Inspector believes that the Flagman is unable to perform his/her duties responsibly, work shall be stopped immediately, ensure that the Right-of-Way is safe for train operations, and the Work Crew shall exit, without delay, the Rail System Right-of-Way. The Contractor must contribute incident information to the Engineer to that a written report can be submitted to the CTA prior to the end of the workday.

1. In addition, all employees of the Contractor and subcontractors must report any actions of perceived CTA employee misconduct, or if any CTA employee does not provide a full level of cooperation in support of the contract immediately to the Engineer. The Engineer will then contact the CTA's Control Center and/or CTA Rail Operations Route Manager. Within 24 hours of alleged incident, the Engineer must provide a written report to the CTA including detailed explanation of incident, employee badge numbers, location of incident, etc. The Contractor must contribute incident information to the Engineer.

2. Failure to make the proper notification in writing may adversely affect any claim that the Department may file with respect to CTA employee performance or lack thereof.

Revised 10/31/13

I. CTA Flaggers only provide flagging protection for the CTA Right-of-Way, and only CTA Flaggers are permitted to provide flagging protection for the CTA Right-of-Way. Flaggers for streets, highways or other railroads are solely the responsibility of the Contractor, and will not be permitted to provide flagging protection for the CTA Right-of-Way. Any additional flagging required by other agencies or railroads is the responsibility of the Contractor.

1.13 TRACK ACCESS OCCURRENCES

A. The entire system must be fully operational when the tracks are put back into service after a Track Access Occurrence. The track where work was conducted must be returned to the CTA in revenue condition; all stations must be open, fully functional and properly cleaned. The Contractor shall be immediately available with sufficient staff for up to one hour after revenue operation begins to ensure that all systems are functioning properly.

B. The Contractor shall allow enough time prior to putting the tracks back into service to make sure the line can be fully operational. A test train shall be required after any construction activity, determined by the Engineer or CTA, to require a test train. The scheduling of test trains must include travel time to and from the location being tested. Additional time should also be allowed for any possible remedial work required before the system can be made fully operational.

C. All components of the system, including, but not limited to, tracks, signals, stations, entrances, etc. must be fully and properly operational prior to putting the tracks and facilities back into service. Any facilities under demolition or construction and any temporary facilities must be safe and secure so they do not impact revenue service operations.

D. The Contractor shall be subject to fines if any station, facility, yard, structure, track, or component is not fully operational and useable at the prescribed predetermined time; including all planned staging of construction sites. The CTA will identify appropriate fines at the time of the incident. No compensation will be made for fines levied by the CTA due to Contractor actions or delays in providing CTA facilities at prescribed times.

E. The Contractor shall clean all debris and equipment from the work or staging areas after work has been completed after each work day. In the event the Contractor fails to so clean to the CTA's satisfaction, the CTA may perform any necessary cleaning and fine the Contractor the cost of such cleaning. No compensation will be made for fines levied by the CTA due to delays and cleaning costs.

AGGREGATE FOR CONCRETE BARRIER (D-1)
Effective: March 11, 2004
Revised: January 24, 2008

Add the following paragraph to Article 637.02 of the Standard Specifications:

"The coarse aggregate to be used in the concrete barrier walls shall conform to the requirement for coarse aggregate used in Class BS concrete according to Article 1004.01(b), paragraph 2."

Revised 10/31/13

AGGREGATE SUBGRADE IMPROVEMENT (D-1)

Effective: February 22, 2012
Revised: November 1, 2013

Add the following Section to the Standard Specifications:

"**SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT**

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradations CS 01 or CS 02 but shall not exceed 40 percent of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in. (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradations CS 01 or CS 02 are used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

303.03 Equipment. The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer.

303.04 Soil Preparation. The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

303.05 Placing Aggregate. The maximum nominal lift thickness of aggregate gradations CS 01 or CS 02 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

Revised 10/31/13

303.07 Compaction. All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.09 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.10 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

"**1004.06 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01 or CS 02.

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric) Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

(2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

(3) Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight. Revised 10/31/13

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)
Effective: November 1, 2011
Revised: November 1, 2013

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 used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". 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. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)
Effective: April 1, 2011
Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

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

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

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

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

Revise Article 603.07 of the Standard Specifications to read:

" **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.

Revised 10/31/13

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

(a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.

(b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting $\pm$ 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03."

EMBANKMENT I
Effective: March 1, 2011
Revised: November 1, 2013

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

Material. 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.

1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.

2) A plasticity index (PI) of less than 12.

3) A liquid limit (LL) in excess of 50.

d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.

e) The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

CONSTRUCTION REQUIREMENTS

Samples. Embankment material shall be sampled, tested, and approved before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement cannot begin until tests are completed and approval given.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the engineer.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.

b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

Stability. The requirement for embankment stability in Article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

Revised 10/31/13

BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) (D-1)
Effective: May 01, 2007

Revise Article 407.06(b) of the Standard Specifications to read:

"A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b) at a rate of 0.02 to 0.05 gal/sq yd (0.1 to 0.2 L/sq m), the exact rate to be determined by the Engineer."

Revise the second paragraph of Article 407.12 of the Standard Specifications to read:

"Prime Coat will be paid for at the contract unit price per gallon (liter) or per ton (metric ton) for BITUMINOUS MATERIALS (PRIME COAT)."

FINE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)
Effective: May 01, 2007
Revised: January 1, 2012

Revise Article 1003.03 (c) of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation for all HMA shall be FA1, FA 2, FA 20, FA 21 or FA 22. When Reclaimed Asphalt Pavement (RAP) is incorporated in the HMA design, the use of FA 21 Gradation will not be permitted.

FRICTION SURFACE AGGREGATE (D1)

Effective: January 1, 2011
Revised: November 1, 2013

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

"(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).

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

Revised 10/31/13

Revised 10/31/13 Pages 43-45

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

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Allowed Alone or in Combination: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Shoulders	Allowed Alone or in Combination: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) 1/ Crushed Steel Slag 1/ Crushed Concrete
HMA High ESAL Low ESAL	C Surface IL-12.5,IL-9.5, or IL-9.5L	Allowed Alone or in Combination: Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) 1/ Crushed Steel Slag 1/ Crushed Concrete

<table>
<tr><th>Use</th><th>Mixture</th><th colspan="2">Aggregates Allowed</th></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">D Surface
IL-12.5 or
IL-9.5</td><td colspan="2"><u>Allowed Alone or in Combination:</u>

Crushed Gravel
Carbonate Crushed Stone (other than Limestone)
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF) [1/]
Crushed Steel Slag[1/]
Crushed Concrete</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed:</u></td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>25% Limestone</td><td>Dolomite</td></tr>
<tr><td>50% Limestone</td><td>Any Mixture D aggregate other than Dolomite</td></tr>
<tr><td>75% Limestone</td><td>Crushed Slag (ACBF)[1/] or Crushed Sandstone</td></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">F Surface
IL-12.5 or
IL-9.5</td><td colspan="2"><u>Allowed Alone or in Combination:</u>

Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)[1/]
Crushed Steel Slag[1/]

No Limestone or no Crushed Gravel alone.</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed:</u></td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>50% Crushed Gravel, or Dolomite</td><td>Crushed Sandstone, Crushed Slag (ACBF)[1/], Crushed Steel Slag[1/], or Crystalline Crushed Stone</td></tr>
</table>

Use	Mixture	Aggregates Allowed
HMA High ESAL	SMA Ndesign 80 Surface	Crystalline Crushed Stone Crushed Sandstone Crushed Steel Slag

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

Add the following to Article 1004.03 (b):

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

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)
Effective: June 29, 2006
Revised: January 01, 2013

Add the following to the end of article 1032.05 of the Standard Specifications:

"(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Revised 10/31/13

HMA MIXTURE DESIGN REQUIREMENTS (D-1) REVISED 10/31/13

Effective: January 1, 2013
Revised: November 1, 2013

Revise Article 406.14(b) of the Standard Specifications to read.

"(b) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within 2.0 to 6.0 percent air voids or within the individual control limits of the JMF, the mixture and test strip will not be paid for and the mixture shall be removed at the Contractor's expense. An additional test strip and mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF."

Revise Article 406.14(c) of the Standard Specifications to read.

"(c) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF, the mixture shall be removed. Removal will be paid in accordance to Article 109.04 of the Standard Specifications. This initial mixture and test strip will be paid for at the contract unit prices. The additional mixture will be paid for at the contract unit price, and any additional test strips will be paid for at one half the unit price of each test strip."

1) Design Composition and Volumetric Requirements

Revise the following table in Article 1030.01 of the Standard Specifications to read.

High ESAL	IL-25.0 binder; IL-19.0 binder; IL-12.5 surface; IL-9.5 surface; IL-4.75, SMA

Revise the following table in Article 1030.04(a)(1):

"(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) [1/]														
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm		IL-9.5 mm		IL-4.75 mm		SMA [4/] IL-12.5 mm		SMA [4/] IL-9.5 mm	
	Min	max	min	max	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)		100												
1 in. (25 mm)	90	100		100										
3/4 in. (19 mm)		90	82	100		100						100		
1/2 in. (12.5 mm)	45	75	50	85	90	100		100		100	80	100		100
3/8 in. (9.5 mm)						89	90	100		100		65	90	100
#4 (4.75 mm)	24	42 [2/]	24	50 [2/]	28	65	32	69	90	100	20	30	36	50
#8 (2.36 mm)	16	31	20	36	28	48 [3/]	32	52 [3/]	70	90	16	24 [5/]	16	32
#16 (1.18 mm)	10	22	10	25	10	32	10	32	50	65				
#30 (600 μm)											12	16	12	18
#50 (300 μm)	4	12	4	12	4	15	4	15	15	30				
#100 (150 μm)	3	9	3	9	3	10	3	10	10	18				
#200 (75 μm)	3	6	3	6	4	6	4	6	7	9 [6/]	7.0	9.0 [6/]	7.5	9.5 [6/]

Ratio Dust/Asphalt Binder		1.0		1.0		1.0		1.0		1.0		1.5		1.5

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 40 percent passing the #4 (4.75 mm) sieve for binder courses with Ndesign ≥ 90.

3/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign ≥ 90.

4/ The maximum percent passing the 20 μm sieve shall be ≤ 3 percent.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the #8 (2.36mm) sieve shall not be adjusted above 24 percent.

6/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer."

Delete Article 1030.04(a)(4) of the Standard Specifications.

Revise Article 1030.04(b)(1) of the Standard Specifications to read.

"(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL						
	Voids in the Mineral Aggregate (VMA), % minimum					Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-25.0	IL-19.0	IL-12.5	IL-9.5	IL-4.75 1/	
50	12.0	13.0	14.0	15.0	18.5	65 – 78 2/
70						65 - 75
90						
105						

1/ Maximum Draindown for IL-4.75 shall be 0.3%

2/ VFA for IL-4.75 shall be 72-85%"

Delete Article 1030.04(b) (4) of the Standard Specifications.

Revise table in Article 1030.04(b)(5) as follows:

"(5) SMA Mixtures.

Volumetric Requirements SMA 1/			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 4/	3.5	17 2/ 16 3/	75 - 83

1/ Maximum Draindown shall be 0.3%.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

3/ Applies when specific gravity of coarse aggregate is < 2.760.

Revised 10/31/13

4/ For surface course, coarse aggregate shall be Class B Quality; the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone.*****
For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.*****

*Blending of different types of aggregate will not be permitted.

2) Design Verification and Production

Description. The following states the requirements for Hamburg Wheel and Tensile Strength testing for High ESAL, IL-4.75, and Stone Matrix Asphalt (SMA) hot-mix asphalt (HMA) mixes during mix design verification and production.

When the options of Warm Mix Asphalt, Reclaimed Asphalt Shingles, or Reclaimed Asphalt Pavement are used by the Contractor, the Hamburg Wheel and tensile strength requirements in this special provision will be superseded by the special provisions for Warm Mix Asphalt and/or by the District special provision for Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles as applicable.

Mix Design Testing. Add the following to Article 1030.04 of the Standard Specifications:

"(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department's verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification meeting the following requirements:

(1)Hamburg Wheel Test criteria.

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

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

(2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 415 kPa (60 psi) for non-polymer modified performance graded (PG) asphalt binder and 550 kPa (80 psi) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 1380 kPa (200 psi)."

Production Testing.

Revise first paragraph of Article 1030.06(a) to read:

"(a) High ESAL and IL-4.75 Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for IL -4.75 it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture with a quantity of 3000 tons (2750 metric tons) or more according to the Manual of Test Procedures for Materials "Hot Mix Asphalt Test Strip Procedures"."

Delete second paragraph of Article 1030.06 (a).

Revise first sentence in fourth paragraph of Article 1030.06 (a) to read:

"Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable."

Mixture sampled to represent the test strip shall include additional material sufficient for the Department to conduct Hamburg Wheel testing according to Illinois Modified AASHTO T324 (approximately 60 lb (27 kg) total).

Revised 10/31/13

Add the following to Article 1030.06 of the Standard Specifications:

" (c) Hamburg Wheel Test. All HMA mixtures shall be sampled within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day's production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.
The Department may conduct additional Hamburg Wheel Tests on production material as determined by the Engineer. If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria"

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria are being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

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

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

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

PUBLIC CONVENIENCE AND SAFETY (D-1)

Effective: May 1, 2012
Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

"If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply."

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

"The length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday after"

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

"On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical."

Revised 10/31/13

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

Effective: November 1, 2012
Revise: November 1, 2013

Revise Section 1031 of the Standard Specifications to read:

"**SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

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

(a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

(b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve . RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

(1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.

(2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

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

(a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc…).

(1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.

(2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 inch single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.

(3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(4) Conglomerate “D” Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as “Non-Quality”.

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

Revised 10/31/13

(b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.
However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of type 1 RAS with type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

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

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

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

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

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

Revised 10/31/13

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

(2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

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

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

(a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm}. A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.3 %
G_{mm}	± 0.03 [1/]

Revised 10/31/13

1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

(b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

(c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Revised 10/31/13

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
% Passing:[1/]	FRAP	RAS
1 / 2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	3.0%
No. 200	2.2%	2.5%
Asphalt Binder Content	0.3%	1.0%
G_{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

(d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

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

(1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from Superpave/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.

(3) RAP from Class I, Superpave/HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

(4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

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

Revised 10/31/13

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

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

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

(1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.

(3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.

(4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.

(5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

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

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

Revised 10/31/13

When FRAP, RAS or FRAP in conjunction with RAS is used, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

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

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

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

3/ When the ABR for SMA or IL-4.75 is 15 percent or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.

4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10%.

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

(a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

Revised 10/31/13

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.500 shall be used for mix design purposes.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

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

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

(a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

(b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)

i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.

j. Accumulated mixture tonnage.

k. Dust Removed (accumulated to the nearest 0.1 ton)

(2) Batch Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).

d. Mineral filler weight to the nearest pound (kilogram).

f. RAS and FRAP weight to the nearest pound (kilogram).

g. Virgin asphalt binder weight to the nearest pound (kilogram).

h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

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

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

(a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except “Non-Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research’s Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”

Revised 10/31/13

(b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders."

ADJUSTMENTS AND RECONSTRUCTIONS
Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

"**602.04 Concrete.** Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020."

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.05 to read:

"**603.05 Replacement of Existing Flexible Pavement.** After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.06 to read:

"**603.06 Replacement of Existing Rigid Pavement.** After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface."

Revised 10/31/13

Revise the first sentence of Article 603.07 to read:

"**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."

STAGING AND INTERCHANGE RESTRICTIONS

Prior to the actual beginning and completion of the various stages of construction and traffic protection, the Contractor will be required to provide lane closures and barricade systems, for preparation work such as pavement marking removal, temporary lane marking, placing temporary concrete barrier, relocating existing guardrail, etc. These lane closures and barricade systems, including barricades, drums, cones, lights, signs, flaggers etc. shall be provided in accordance with details in the plans and these Special Provisions and as approved by the Engineer. The cost of this work will not be paid for separately but shall be considered included in the contract lump sum price for **TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).**

LANE AND RAMP CLOSURES

Prior to and after stage construction, temporary closures of I-290 will only be permitted at night during the allowable hours as listed in the Special Provision "Keeping the Expressway Open to Traffic".

For all ramp closures the Contractor shall furnish and install signage per District Detail TC-08, as directed by the Engineer.

The Contractor shall coordinate the work such that no two (2) adjacent entrance or exit ramps in one direction of the expressway are closed at the same time. The closing of ramps, which are used as the detour route for other roadways or ramps, is prohibited. Should the Contractor fail to completely open, and keep open, the ramps to traffic in accordance with the above limitations, the Contractor shall be liable to the Department for liquidated damages as noted under the Special Provision, "Failure to Open Traffic Lanes to Traffic".

The Contractor shall submit to the Department two (2) weeks ahead of time, in writing, the starting date for each of the extended ramp and/or lane closures. Approval from the Department is required prior to closing the ramp and/or lanes. Should the Contractor fail to complete the work and reopen the ramp to traffic within the allowable time limit, the Contractor shall be liable to the Department for liquidated damages as noted under FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC

Revised 10/31/13

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.

TRAFFIC CONTROL AND PROTECTION (ARTERIALS)
Effective: February 1, 1996
Revised: March 1, 2011

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

Method of Measurement: All traffic control (except "Traffic Control and Protection (Expressways)" and temporary pavement markings) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

Basis of Payment: All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Temporary pavement markings will be paid for separately unless shown on a Standard.

Revised 10/31/13

TRAFFIC CONTROL PLAN

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS: 701101, 701106, 701301, 701311, 701400, 701401, 701402, 701406, 701411, 701446, 701601, 701602, 701701, 701801, 701901, 704001

DETAILS: Maintenance of Traffic – General Notes, Narrative, Typical Sections, Stages 1A, 1B, 2A, 2B, 3A, 3B and 3C, TC-09, TC-10, TC-12, TC-17, TC-18,TC-21, TC-24, TC-27 and MUTCD TA-36.

SPECIAL PROVISIONS:

Traffic Control Plan,
Traffic Control and Protection (Arterials),
Public Convenience and Safety,
Keeping the Expressway Open to Traffic,
Failure to Open Traffic Lanes to Traffic
Traffic Control Surveillance (Expressways),
Temporary Information Signing,
Traffic Control for Work Zone Areas,
Traffic Control and Protection Expressways,
Staging and Interchange Restrictions,
Pavement Marking Removal (BDE),
Traffic Control Deficiency Deduction (BDE)

Revised 10/31/13

REMOVE AND REPLACE SIGN AND SUPPORTS

Description. Work under these items consists of removing existing Sign Panels from barrier and retaining walls and removal of existing Sign Panel Assemblies which consist of mountings on barrier and retaining walls, mounted sign panels, sleeves, wedges, bases and other associated hardware. The Contractor must store and save all sign panels and sign pole assemblies, and associated materials designated on the Plans for REMOVE AND REPLACE SIGN AND SUPPORTS for later reinstallation on the project.

The Contractor will tag removed signs with the inventory number from the sign removal schedule of each sign panel or associated sign assembly. The Contractor must provide storage for the sign panels and sign panel assemblies until such time in the project that they can be reinstalled at the designated location on the proposed sign installation plan and schedule. Reinstallation of the sign panels and sign assemblies shall be in accordance with the specifications for sign panel installation contained within the Standard Specifications. The unit price for sign panel and sign pole assembly reinstallation shall include new hardware.

Method of Measurement. REMOVE AND REPLACE SIGN AND SUPPORTS will be measured for payment on the basis of each item (sign or sign panel assembly) removed and reinstalled.

Basis of Payment. REMOVE AND REPLACE SIGN AND SUPPORTS will be paid for at the contract unit price per each.

CONSTRUCTION ACCESS

Description. Work under this item includes the placement, maintenance and removal of temporary materials to serve as a transition along Harrison Street between the pavement placed as proposed and existing pavement at the location shown on the Plans or as directed by the Engineer. This temporary work is expected to remain in place for a short duration, as the future work for the reconstruction of the bridge carrying Harrison Street over northbound I-90//94 is anticipated to begin almost immediately to the completion of the Harrison Street bridge reconstruction under this contract.

This temporary construction access ramp must be prepared in a way that completed pavement is not affected. The ramp must stay in use by CDWM personnel throughout a substantial portion of the future contract.

All work must conform to Section 416 and the removal shall conform to Section 440 of the IDOT Standard Specifications for Road and Bridge Construction.

Method of Measurement. CONSTRUCTION ACCESS will be measured for payment on the basis of each item constructed.

Basis of Payment. CONSTRUCTION ACCESS will be paid for at the contract unit price per each for which said price shall include all labor, materials, equipment, furnishing, installing, maintaining and incidentals necessary for removal and disposal of the CONSTRUCTION ACCESS.

Revised 10/31/13

FENCE REMOVAL

Description. This work shall consist of removing and disposing the existing fence of all kinds as shown in the Plans or otherwise directed by the Engineer.

Construction Requirements. No removal work shall be completed without the approval of the Engineer. All associated hardware and appurtenances of the existing fence including but not limited to post foundations, fittings, gates, post, and accessories, shall be removed off-site and disposed of by the Contractor in a legal disposal site. All postholes shall be backfilled and compacted to the satisfaction of the Engineer. Any part of the fence that is damaged that is not called out for to be removed shall be replaced at the Contractor's expense.

Method of Measurement. Fence removal shall be measured for payment in feet of FENCE REMOVAL and measured along the top of the fence from center to center of end post, including the length occupied by gates.

Basis of Payment. This work will be paid for at the contract unit price per foot for FENCE REMOVAL, which price shall include all equipment, labor, and materials necessary to remove and dispose of the fence, associated hardware, and appurtenances.

REMOVE GATE POSTS

Description: This work shall consist of removing and disposing the existing gate posts at west driveway entrance of the Cermak Pumping Station.

Construction Requirements: No removal work shall be completed without the approval of the Engineer. All associated hardware and appurtenances of the existing posts shall be removed off-site and disposed of by the Contractor in a legal disposal site. All postholes shall be backfilled and compacted to the satisfaction of the Engineer.

Prior to commencing work under this Item, the Contractor shall verify the location of all existing utilities in the area. All work under this Item shall be executed in such a manner so as not to disturb or damage the existing utilities.

The removal of the gate post adjacent to and abutting the Cermak Pumping Station should occur in a manner as to minimize damage to the existing building. The gate post shall be carefully removed using hand methods. Any foundation of the gate post should remain unless required for removal due to proposed improvements.

All materials removed under this Item shall become the property of the Contractor and shall be disposed of by the Contractor off the site and in a lawful manner meeting all IDOT Policies and Procedures.

Method of Measurement. Gate posts removal shall be measured for payment by each of the post removed.

Basis of Payment. The work under this Item will be paid for at the Contract unit price each for REMOVE GATE POSTS, as indicated on the Plans and as specified herein.

Revised 10/31/13

REMOVE EXISTING VALVE AND VAULT (SPECIAL)

Description. Work under this item will include the complete removal of the existing City of Chicago Water Main vault structure located adjacent to and partially beneath the shoulder pavement of ramps leading to I-90/94 as indicated on the Plans. This work is part of the relocation and reconstruction of the existing 54" water main from the Cermak Pumping Station. The existing structure is identified in record drawings included in the Plans. After the removal of all pipe, valves, electromechanical operators, fittings, taps, drains and other water main components, the vault structure must be broken down with all foundation elements cut off a minimum of one foot below the bottom of the existing structure. The proposed water main will be constructed in the same area of the existing structure. Trench backfill must be utilized to bring the excavation to subgrade with pavement restoration included in separate items. Topsoil and landscape restoration is considered included with the removal of the existing structure.

Construction Requirements. No work shall proceed prior to the shutdown of the 54" water main passing through the vault structure to be removed. The details of the existing vault structure are providing in record drawings included in the Plans. The top of the existing vault is assumed to be buried below existing shoulder, barrier wall and side slope with no evidence of the structure visible from the surface. The work will consist of all necessary pavement and wall removal, excavating a distance around the structure to provide access for the removal of all components of the vault structure with braced excavation or temporary earth retention as necessary, The removal of any buried frame and cover and collar structure, the removal of the top slab, collar structure, disconnection of any electric connections to the Cermak Pumping Station with coordination of the City of Chicago Department of Water Management, removal of valves, electromechanical operators, fittings, taps, drains and other elements of the water system, breaking down the structure walls, removing large debris and removal of foundation elements to a minimum of one foot below the existing bottom slab. The portion of the excavation backfilled with bedding and backfill for the proposed water main is considered part of that item. All trench backfill under proposed future pavement as indicated in the Plans will be paid for separately. All other backfill to subgrade is included in this item. Proposed pavement reconstruction to repair the excavation is included under separate items. Topsoil and landscape restoration outside of paved areas will not be paid for separately.

The work required under this item may need to be performed at different times depending on the schedule established for the 54" water main relocation and the staging of traffic along the ramp immediately adjacent to this location. A portion of the structure removal may occur when two lanes of traffic are present. The completed structure removal may need to occur when only one lane is available to traffic on the eastbound to southbound ramp.

Any frames, lids, valves, electromechanical operators, fittings, taps or other water main elements that are salvaged in reasonable condition in the opinion of the Engineer may be offered to the City of Chicago Department of Water Management. Any debris, including frames, lids, valves, electromechanical operators, fittings, taps, drains or other items must be disposed of off-site in an approved manner. The Contractor will pay for all disposal fees.

All braced excavations, temporary earth retention system, temporary shoring and deep excavations required to execute the work shall be designed by the Contractor to retain, at a minimum, the exposed surface area required for the selected installation methods.

The design calculations and details for the systems proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavations. Additionally, excavations that exceed twelve (12) feet in depth will need to be submitted to the City of Chicago Office of Underground Coordination (OUC) for issuance of permits for construction under the "Existing Facility Protection" process.

Method of Measurement. This work will be paid for per each vault excavated and removed including all existing water main pipe, frames, lids, valves, electromechanical operators, fittings, taps or other water main items. Trench backfill under proposed future pavement as indicated in the Plans or under pavement to be restored will be measured separately unless included within the 54" WATER MAIN RELOCATION item to be installed within the area of the removed structure. All other backfill will be considered as part of the vault removal unless otherwise included within items that are placed within the area of the removed structure.

Trench backfill will be measured for according to Article 208.03.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING VALVE AND VAULT (SPECIAL) which price will be payment in full for all labor and materials necessary to complete the work as described. Salvaging of any materials will be considered incidental to this item.

Trench backfill will be paid for according to Article 208.04.

Revised 10/31/13

FILLING VALVE VAULTS

Description. Work under this item will include the abandonment of existing City of Chicago Water Main vault structures as part of the relocation and reconstruction of the existing 54" water main from the Cermak Pumping Station and the abandonment of 12" water main along Halsted Street, Peoria Street and along I--290. Any existing structure along water main pipe to be abandoned or removed that does not conflict with proposed utility, sewer, bridge or roadway items may be abandoned per this specification. After the optional removal of all pipe, valves, fittings, taps and other water main elements, the brick or concrete structure must filled in conformance with Section 605 of the IDOT Standard Specifications for Road and Bridge Construction and City of Chicago Department of Water Management Standards.

Filling. No work shall proceed prior to the shutdown of any water main passing through or adjacent to the vault structure to be removed. This work will consist of removing the frame and cover of an existing vault structure, removal of valves, fittings, taps and other elements of the water system, partial removal of the structure to a minimum depth of 36 inches below proposed grade and filling the structure with either sand or controlled low strength material (CLSM). The Contractor may elect to avoid salvaging any elements of the vault structure. If this occurs, the existing elements of the structure must be removed to a minimum depth of 36 inches below proposed grade and then filled in as described. Sand must be compacted. CLSM must meet the requirements of Section 593 of the IDOT Standard Specifications for Road and Bridge Construction.

Any frames, lids, valves, fittings, taps or other water main elements that are salvaged in reasonable condition in the opinion of the Engineer may be offered to the City of Chicago Department of Water Management. Any debris, including the frame, lid, valves, fittings, taps or other items must be disposed of off-site in an approved manner. The Contractor will pay for all disposal fees.

Method of Measurement. This work will be paid for per each vault filled using methods as described. No separate measurement for materials used for the purposes of filling structures will be made.

Basis of Payment. This work will be paid for at the contract unit price per each for FILLING VALVE VAULTS which price will be payment in full for all labor and materials necessary to complete the work as described. Salvaging of any materials will be considered incidental to this item.

Revised 10/31/13

Include location maps, legends and descriptions on all videotape submittals. 2 copies of each submittal are required.

Method of Measurement. This work will be measured for payment in sewer televising per foot for the videotaping of the sewer before construction and prior to placement of the final wearing surface.

Basis of Payment. This work will be paid for at the contract unit price per foot for the TELEVISION INSPECTION OF SEWER.

The cleaning of sewers prior to videotaping before construction shall be paid for as STORM SEWERS TO BE CLEANED OR COMBINED SEWERS TO BE CLEANED.

CLEANING EXISTING DRAINAGE STRUCTURES
Effective: September 30, 1985
Revised: December 1, 2011

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned according to Article 602.15 of the Standard Specifications. This work will be paid for according to accordance with Article 602.16 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned according to Article 602.15 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED, of the diameter specified.

COMBINED SEWER (EXTRA STRENGTH VITRIFIED CLAY PIPE) (CDOT)
STORM SEWERS, EXTRA STRENGTH VITRIFIED CLAY PIPE (CDOT)

Description. Work under these items shall be performed according to Section 550 of the IDOT Standard Specifications and the current City of Chicago Department of Water Management (DWM) Regulations for Sewer Construction and Stormwater Management and DWM Standard Specifications for Water and Sewer Main Construction, except as herein modified.

This work shall consist of constructing combined and storm sewers at locations designated by the Engineer, including any dewatering, sheeting and/or shoring required to perform the work as specified.

Revised 10/31/13

TEMPORARY DRAINAGE SYSTEM NO. 1

Description. This work shall consist of furnishing all formwork, material, equipment and labor to install a temporary drainage system for the Halsted Street Bridge during Stage II of Maintenance of Traffic as herein specified and as directed by the Engineer. The drainage system is to be installed to intercept the runoff from the newly constructed eastern half of the Halsted Street Bridge. The runoff from the bridge shall be intercepted in the formwork that will be installed for the construction of eastern half of the bridge deck. This formwork runs along the western edge of the newly constructed eastern half of the bridge deck. This design is to be performed by the contractor.

The formwork (and drainage system) shall remain in place for drainage purposes until the contractor constructs the Stage II western portion of the bridge deck. The contractor is responsible for intercepting the bridge deck drainage during all stages of construction to ensure that water does not fall down onto the I-290 roadway below. The water collected in the formwork drains from the crest of the bridge to both the north and south ends of the bridge. The water collected in the formwork will connect to an 8" pipe. The 8" pipes run along the top of the temporary soil retention system and down the face of the temporary soil retention system. The Contractor shall be responsible for securing the pipe to the top and to the face of the temporary soil retention systems. At the bottom of the temporary soil retention system the Contractor shall be required to direct the flow from the pipe into to a sump pit or a sedimentation basin before it enters the drainage system along I-290 as per the Illinois Urban Manual. If the Contractor uses a sump pit and is pumping the water out of the pit, a filter bag shall be required at the end of the pump discharge hose to ensure that sediment does not enter the storm sewer systems along I-290.

Design. The temporary drainage system shall be designed by the Contractor. The formwork shall be designed to carry the additional load caused by the water and shall be waterproofed. The formwork must provide, at a minimum, 0.56 square feet of waterway opening to convey the flow and shall not be less than 9 inches in depth from the flow line to the top of the formwork.

Construction Requirements: The Contractor shall submit, for approval by the Engineer, details and calculations prepared and sealed by an Illinois Licensed Structural Engineer and an Illinois Professional Licensed Civil Engineer of the temporary drainage system he/she proposes to use, prior to ordering of material and implementation. Such approval shall in no way relieve the Contractor of responsibility for the safety of the structure or the I-290 Interstate below. Any damage to the Halsted Street Bridge, Interstate 290, the existing formwork, or the temporary soil retention systems caused by the installation of the temporary drainage system shall be repaired at the Contractor's own expense and to the satisfaction of the Engineer. Any modifications to existing formwork required to install the temporary drainage system shall be included in the price for TEMPORARY DRAINAGE SYSTEM NO. 1. All dewatering, pumping, formwork, labor, equipment and materials required for this work is included in the price for TEMPORARY DRAINAGE SYSTEM NO. 1.

Method of Measurement: This work shall be measured by the contract lump sum for TEMPORARY DRAINAGE SYSTEM NO. 1 as indicated on the Plans and specified herein.

Basis of Payment. This work will be paid for at the contract lump sum price for TEMPORARY DRAINAGE SYSTEM NO. 1.

Revised 10/31/13

TEMPORARY SHORING

Description: This item shall consist of furnishing all material, equipment and labor to support the existing piercap during stage construction as shown on the Plans, as herein specified and as directed by the Engineer.

Construction Requirements: The Contractor shall submit details and calculations, prepared and sealed by an Illinois Licensed Structural Engineer, of the support system he/she proposes to use for approval of the Engineer prior to ordering of material and implementation. Such approval shall in no way relieve the Contractor of responsibility for the safety of the structure. The supports used shall be such that vertical adjustments may be made in order to maintain the existing deck profile.

Method of Measurement. Temporary Shoring will be measured for payment by each.

Basis of Payment: The work specified herein, as shown on the Plans and as directed by the Engineer, shall be paid for at the contract unit price each for TEMPORARY SHORING.

TEMPORARY SOIL RETENTION SYSTEM

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and subsequent removal of the temporary soil retention system according to the dimensions and details shown on the Plans and in the approved design submittal, subject to the construction restrictions listed herein and on the drawings.

General. The temporary soil retention system shall be designed by the Contractor to retain, at a minimum, the exposed surface area specified in the Plans or as directed by the Engineer, including all loads as dictated by the site conditions. The design calculations and details for the temporary soil retention system proposed by the Contractor shall be submitted to the Engineer for approval. Design calculations and details for the temporary soil retention systems adjacent to the CTA tracks and/or CTA Right of Way proposed by Contractor must also be submitted to the CTA for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

The design shall consider the restrictions on the installation of all components of the temporary soil retention system. These installation restrictions are listed in the next section of this special provision and in the “CONSTRUCTION VIBRATION MONITORING” special provision.

The proposed Temporary Soil Retention System shown on the plans for the Harrison Street structure (016-1713) East abutment is in close proximity to an existing 48 inch diameter water main ring and its support structure. This main is subject to thrust forces resisted by 54 inch diameter caissons. Each of the four caissons near the work area for this item was designed to resist a radial thrust force of 70,000 lbs. The centerline of this water main is approximately eight feet below existing ground. The main is located on the plans based on the best available information.

Revised 10/31/13

The Contractor should account for the radial forces from the water main as required in the design. Existing drawings are available to the Contractor. The dimensions, sizes and loads referenced here were taken from existing drawings and are not guaranteed to be accurate or adequate. The design shall consider additional loading and the surcharge of construction equipment as required in order to maintain the integrity of the water main and its support structure at all times.

Construction. The Contractor shall verify locations of all underground utilities before installing any of the soil retention system components or commencing any excavation. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. Utility information shown on the drawings was collected from information available at the time of the design. There is no guarantee of complete accuracy with the utility locations.

The soil retention system must be installed without the use impact-type pile drivers. The location of the temporary soil retention system as shown on the drawings is in a highly sensitive populated area with the potential for damage to adjacent older structures. The proposed equipment and procedures used for installation of sheet piles or other underground support components must be submitted to the Engineer for approval prior to their use. It is anticipated that vibratory equipment may be utilized in performing the work, subject to requirements of other sections of this specification. Contractor shall also submit any documentation available regarding the operating noise levels and operating vibration characteristics of the equipment proposed, prior to approval of the Engineer.

The approval of the equipment and procedure by the Engineer does not guarantee the performance in the field of the equipment will be acceptable. If, in the judgment of the Engineer, the noise and/or vibration effects exceed those required by the local residents, then the Contractor must halt production and find a remedy suitable to the Engineer. Threshold values for vibration monitoring are included in the special provision "CONSTRUCTION VIBRATION MONITORING." The costs incurred finding suitable equipment and procedures shall be included in the cost of this item. No additional costs shall be paid for this effort.

The temporary soil retention system shall be installed according to the Contractor's approved design, or as directed by the Engineer, prior to commencing any related excavation. If unable to install the temporary soil retention system as specified in the approved design, the Contractor shall have the adequacy of the design re-evaluated. Any reevaluation shall be submitted to the Engineer for approval prior to commencing the excavation adjacent to the area in question. The Contractor shall not excavate below the maximum excavation line shown in the approved design without the prior permission of the Engineer. The temporary soil retention system shall remain in place until the Engineer determines it is no longer required.

The temporary soil retention system shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed by the Engineer, the Contractor may elect to cut off a portion of the temporary soil retention system leaving the remainder in place. The remaining temporary soil retention system shall be removed to a depth which will not interfere with the new construction, and as a minimum, to a depth of 12 in. below the finished grade, or as directed by the Engineer. Removed system components shall become the property of the Contractor.

Revised 10/31/13

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the Plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Portions of the existing roadway barriers must be removed in order to install the temporary soil retention system as shown on the drawings. This work shall be included in this pay item, and the barrier treated as an obstruction. The approval of the Engineer is required for the limits and method of removal, so that the barrier to remain can continue to function as intended.

As stated earlier, the proposed Temporary Soil Retention System shown on the plans for the Harrison Street structure (016-1713) East abutment is in close proximity to an existing 48 inch diameter water main ring and its support structure. The centerline of this water main is approximately eight feet below existing ground. The Contractor shall at all times protect the water main from loads induced by construction activities. The main is located on the plans based on the best available information, it is the responsibility of the Contractor to locate the water main in the field.

Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in square feet. The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system. Portions of the temporary soil retention system left in place for reuse in later stages of construction shall only be measured for payment once.

Any temporary soil retention system installed beyond dimensions shown on the Plans or the approved Contractor's design without the written permission of the Engineer, shall not be measured for payment but shall be done at the Contractor's own expense.

Basis of Payment. This work will be paid for at the contract unit price per square foot for TEMPORARY SOIL RETENTION SYSTEM.

Payment for any excavation, related solely to the installation and removal of the temporary soil retention system and/or its components, shall not be paid for separately but shall be included in the unit bid price for TEMPORARY SOIL RETENTION SYSTEM. Other excavation, performed in conjunction with this work, will not be included in this item but shall be paid for as specified elsewhere in this contract.

Payment for additional work required in design or construction to adequately protect the water main ring at the East abutment of the Harrison Street structure is included in the bid price for TEMPORARY SOIL RETENTION SYSTEM.

Obstruction mitigation for other than the known tunnel obstruction shall be paid for according to Article 109.04 of the Standard Specifications.

Revised 10/31/13

Intentionally Left Blank

Revised 10/31/13

SOIL RETENTION SYSTEM

Description. This work shall consist of designing, furnishing, installing and adjusting for stage construction where required the soil retention system according to the dimensions and details as shown on the Plans and in the approved design submittal. The system shall remain in place at the end of the contract.

General Requirements. The soil retention system shall be designed by the Contractor to retain the exposed surface area and all expected surcharge loads thereon as specified in the Plans or as directed by the Engineer.

The design calculations and details for the soil retention system proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Revised 10/31/13

Special Instructions. Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge and the paint type code from the Structure Information and Procedure Manual for the system used according to Article 506.10(i). The code designation for galvanizing is "V". If painting of the structural steel is not specified then the word "PAINTED" may be omitted, the month and year shall then correspond to the date the stencil is applied.

Basis of Payment. The cost of all surface preparation, galvanizing, painting and all other work described herein shall be considered as included in the unit price bid for the applicable pay items to be galvanized and painted, according to the Standard Specifications.

TEMPORARY BRIDGE

Description. This work shall consist of furnishing all labor, tools, equipment, and materials required to design, furnish and install a temporary bridge to provide pedestrians access to the CTA UIC-Halsted Blue Line station at Halsted Street as shown in the plans and as described herein. The work shall be done in accordance with the applicable portions of Section 513 of the Standard Specifications and the details in the plans.

The temporary bridge shall be considered a system. The system shall be complete in all details and intended functions. The bridge system shall provide pedestrian and emergency access to the building entrances along the limits of the project during demolition and reconstruction of Halsted Street Bridge. The bridge shall allow for ingress and egress from the CTA station entrance and exit at all times except as herein noted. Stairs or ramps required for the temporary bridge shall meet all ADA and City of Chicago requirements. The costs for removing, relocating and reinstalling the bridge or portions thereof to allow for the various stages of construction of the Halsted Street Bridge are included with this item.

The temporary bridge is to be kept clean and free of debris at all times. The temporary bridge is to be durable and withstand the changing climate. The cost of snow removal and ice removal from the temporary bridge and salting of the bridge is included with this item. Snow and ice shall be removed immediately between the hours of 6:00 AM and 7:00 PM. Snow and ice that accumulates at other times shall be removed prior to 6:00 AM. De-icing salts shall be applied as required to keep the bridge ice-free. The cost of de-icing salts and snow removal equipment and labor is included with this item. Damage to the bridge or graffiti on the bridge shall be repaired or removed immediately and the cost is included with this item.

General Requirements. The temporary bridge shall be designed and integrated with the approved demolition and construction schedule and deck and sidewalk construction sequencing. Temporary bridge less than 10'-0" wide shall not be used unless approved by the Engineer. Upon completion of the work, the temporary bridge shall be removed and disposed of by the Contractor. The cost of the removal and disposal is included with this item. The temporary bridge shall include chain link fence, with proper screening, approved by the Engineer. The temporary bridge shall be painted with a minimum of two coats of paint. The color shall be submitted to the Engineer for approval. The paint shall be a primer and topcoat compatible with each other and the substrate. Paint shall be applied in accordance with manufacturer's recommendations and shall be suitable for exterior applications. Unpainted weathering steel is acceptable as an alternative to painted steel. Flooring system shall not be constructed of plywood.

Revised 10/31/13

The temporary bridge shall be designed in accordance with 2012 AASHTO LFRD Bridge Design Specifications 6th Edition, with 2013 Interim Revisions and 2009 AASHTO LFRD Guide Specifications for the Design of Pedestrian Bridges. The live load shall be 100 psf (full temporary bridge area) in lieu of the 90 psf specified in AASHTO Guide Specification. The longitudinal load shall be 10% of the live load and applied in accordance with AASHTO. The cost of obtaining the required geotechnical information for the design of the bridge and their corresponding foundations is included in this item. The bridge shall meet all ADA requirements with regard to longitudinal and transverse grades as well as skid resistance and all other applicable criteria (i.e. fire rating).

The temporary bridge shall be continuously open to pedestrian and emergency access at all times unless the closure is coordinated and approved by the Engineer and the CTA. Notice of thirty (30) calendar days must be provided to the CTA for entrance closure. CTA will provide detour signs during the time of the entrance closures. Closures will include demolition of the existing bridge, erection of new girders, installation of shear connectors, forming of the deck, and concrete deck pour.

Lighting Requirements. The temporary bridge shall include lighting. Lighting units shall be a wall pack type to provide a minimum of 3 foot-candles of illumination on the temporary bridge. All wiring for the lights shall be in steel conduit. All such lighting and wiring shall be in accordance with the City of Chicago Electrical Code. The Contractor shall maintain the lighting system. Cost for labor and material to maintain and replace the lighting system and its components are included with this pay item. All damaged or burned out bulbs or fixtures shall be replaced immediately. All damaged wiring or connections shall be repaired immediately. The lighting system shall operate between dusk and dawn.

Submittals. The Contractor shall submit shop drawings of the proposed temporary bridge system to the Engineer and CTA for review. The shop drawings shall consist of the minimum information:

1. Layout of the temporary bridge including dimensions, elevations, and framing.
2. Foundation locations, loads, allowable foundation load information and designs.
3. Design calculations and details for the temporary bridge framing and connections along with material specifications.
4. Installation, removal and reinstallation methods and details.
5. Lighting details including fixtures and schematics.

Additional information may be requested to complete the review of the submittal by the Engineer. No additional compensation will be made for the additional requested information. The submittal and design calculations shall be sealed by an Illinois Licensed Structural Engineer and a licensed PE/AIA (for ADA requirements). The cost of preparing the submittals for approval is included with this item.

Method of Measurement. Temporary bridge shall be measured in lump sum. No additional payment will be made for the removal and re-installation of the temporary bridge in order to accommodate the Contractor's staging of construction operations. Payment for Temporary Bridge will be made after the final sidewalk is installed.

Basis of Payment. This work will be paid for at the lump sum price for TEMPORARY BRIDGE. The price shall be payment in full for all work, equipment, labor, and materials necessary for designing, furnishing, installing, removing, reinstalling, and disposing of the temporary bridge and including power and lighting and snow and ice removal and all other maintenance. The cost for stairs and ramps shall be included with the unit cost as measured above. No separate payments will be made for stairs and ramps.

Revised 10/31/13

Basis of Payment. This work will be paid for at the lump sum price for TEMPORARY BRIDGE. The price shall be payment in full for all work, equipment, labor, and materials necessary for designing, furnishing, installing, removing, reinstalling, and disposing of the temporary bridge and including power and lighting and snow and ice removal and all other maintenance. The cost for stairs and ramps shall be included with the unit cost as measured above. No separate payments will be made for stairs and ramps.

CLASS SI CONCRETE MISCELLANEOUS

Description. This work shall consist of providing equipment, materials and labor required to install a cast-in-place concrete fascia wall with concrete reveals at locations shown on the drawings and/or designated by the Engineer. It includes all reinforcing bars, timber lagging waterproofing and drainage-related elements required for the construction of the complete wall as shown on the drawings

General Requirements. Contractor shall construct completely the fascia wall as shown on the drawings and in conformance with Standard Specifications. The Contractor shall construct the timber lagging and all connections to the drilled shaft (henceforth referred to as the lagging system). The Contractor shall submit calculations and details of the connections to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This task is included in CLASS SI CONCRETE, MISCELLANEOUS.

Construction Requirements.
Construction requirements for elements of the fascia wall complete shall conform to the following:

a) Falsework……Section 503.05
b) Forms……...Section 503.06
c) Placing and Consolidating……...Section 503.07
d) Construction Joints……Section 503.09
e) Expansion Joints……..…..Section 503.10
f) Drainage Openings……..…..Section 503.11
g) Non-Metallic Water Seals……..…Section 503.12
h) Surface Finish……Section 503.15
i) Curing……...Section 503.17
j) Waterproofing……..…Section 503.18
k) Protective Coat Application……..…Section 503.19
l) Timber Structures……Section 507
m) Reinforcing Bars ……Section 508

Fascia Wall shall be constructed in accordance with the requirements of Section 503-Concrete Structures.

After installation of the drilled shafts and after excavation has exposed the shafts to plan dimensions, inspect the shafts for quality of concrete and suitability of surface for installation of dowel bars. Patch all honeycombed or voided areas in order to provide sound surface for installation of dowel bars and drainage materials. Concrete repair materials and installation methods shall be submitted for approval to the Engineer. This work is considered included in this pay item.

Where timber lagging is called for in the drawings and /or the approved design, the Contractor shall furnish lagging materials and all connections to drilled shafts as required. Remove loose soil from and between caissons. Install lagging from the top down as excavation proceeds. Minimize over-excavation and backfill voids created using dry loose sand. Nominal thickness of the lagging shall not be less than 3 inches. The Contractor shall be responsible for the performance of the lagging system until the facing is installed. Alternative equivalent systems may be submitted for approval by the Engineer.

Revised 10/31/13

Furnish and install reinforcing bars and dowel bars. Furnish and install drainage structures as shown on the drawings. Alternative equivalent systems shall account for drainage.

Contractor shall provide calculations and drawings for the concrete fascia formwork support during installation and curing. The calculations shall be stamped by an Illinois Licensed Structural Engineer. The formwork support system shall be reinforced against bulging and shall maintain the plumb and line of the wall as described in the contract documents.

Place expansion and/or control joints as described on the drawings and standard specifications. Horizontal construction joints are not allowed.

Formwork shall become the property of the contractor after use.

Materials. Materials shall be as designated in Section 503.02 of the Standard Specifications except as modified herein.

Concrete shall conform to Section 1020, and shall conform to Class SI concrete mix.

Furnishing and installing dowels into drilled shafts that support or reinforce the wall as shown on drawings or is needed in lagging design is included in this pay item.

Drainage related items as shown on the drawings are included in this pay item, including drainage board, geo-composite wall drains, water-stops, vapor barrier and other separator sheets. Wall drainage-related items shall conform to Standard Specification 1040. Installation of geo-composite wall drain materials shall conform to Standard Specifications section 591, except that the drains shall be fastened to the caissons with wall nails or other suitable method as directed by the Engineer.

Untreated timber lagging shall meet the requirements of Section 1007.03 and the inspection requirements of Section 1007.01. Timber fastenings shall meet the requirements of Section 1006.17. Minimum design strength of the structural timber shall be 1000 PSI.

Method of Measurement. The work included in CLASS SI CONCRETE MISCELLANEOUS shall be measured in place and the volume computed in cubic yards of fascia wall from base of wall to the top of the poured wall. The width of the wall varies from point of tangency to caissons to maximum thickness between caissons as shown on the drawings. Concrete reveals will not be measured, but shall be considered included in the pay item. Additional concrete required due to out of alignment of the drilled shafts shall not be included in the measurement.

Dowel bars, reinforcing bars drainage board, additional backfill for voids created during construction, geo-composite wall drains or any other appurtenances required for the completed wall will not be measured but shall be included in this pay item.

Untreated Timber Lagging shall not be measured or paid for separately but shall be included in this pay item.

Basis of Payment. The work will be paid for at the contract unit price per furnished and installed CUBIC YARD of concrete for CLASS SI CONCRETE MISCELLANEOUS.

Revised 10/31/13

All materials removed under this Item shall become the property of the Contractor and shall be disposed of by the Contractor off the site and in a lawful manner meeting all IDOT Policies and Procedures.

Construction Requirements. The Contractor shall submit drawings, complete with a list of equipment and methods the Contractor proposes to use for the removal and disposal of all existing timber pile to the Engineer for review. Further, the Contractor shall submit copies of all approvals and permits for the work under this Item to the Engineer. All work under this Item shall be performed so as not to disturb adjacent facilities or construction. The removal shall include all timber piles and related materials encountered at each existing timber pile. If an existing timber pile breaks during removal operations, the Contractor is required to remove the remaining remnants of the existing timber pile prior to installation of any Drilled Shaft.

Method of Measurement. Removal of existing pile shall be measured for payment by the number (each) of the complete pile. No other or separate measurement will be made for this Item.

Basis of Payment. The work under this Item will be paid for at the Contract unit price each for PILE EXTRACTION, as indicated on the Plans and as specified herein.

REMOVAL OF EXISTING STRUCTURES NO. 1

Description. This item shall consist of furnishing all labor, equipment and materials necessary for the removal and disposal of the existing Harrison Street Bridge over Southbound I-90/94 and Ramp ES. The work shall be done in accordance with the applicable portions of Section 501 of the Standard Specifications.

Structure elements of the Harrison Street Bridge over Southbound I-90/94 and Ramp ES including, but not limited to, abutments, abutment footings, approach slabs, piers, pier footings, beams, bearings, diaphragms, deck, sidewalk railing and fence, piles (to a depth of 1 foot below excavation limit unless shown otherwise on the drawings) shall be included in Removal of Existing Structures, No. 1.

Included in the Removal of Existing Structures, No. 1 shall be partial removal of the east abutment, to limits noted on the Plans. Contractor is cautioned that the east abutment counterforts and stem are to remain, to the limits shown on the drawings. Also included is complete removal of existing piers and west abutment, all to a minimum of one foot below the excavation limit as shown on the Plans.

Included in the Removal of Existing Structures, No. 1 shall be the complete or partial removal (to a minimum depth of 1 foot from proposed structure) of any abandoned structure elements that may interfere with the construction with the new bridge.

Included in the Removal of Existing Structures, No. 1 shall be the removal of items and appurtenances located on, attached or adjacent to the bridge including, but not limited to, bicycle racks, fence and fence railing, light pole support structures, newspaper stands, signs and highway sign structures attached to the fascia of the bridge, and slopewalls.

Revised 10/31/13

The Contractor is required to coordinate the removal of ComEd conduits. Existing conduits and wires owned by ComEd will be removed by ComEd. Existing City of Chicago conduits and wire will be removed by the Contractor after the successful establishment of temporary services as identified in the Plans. The Contractor shall remove all embedded City of Chicago conduits and hand or manholes. The Contractor shall remove all City of Chicago conduits attached to the existing structure using supports and hangers. The City of Chicago has identified that records are unclear if asbestos concrete is present in the existing conduits. The City of Chicago may remove cables and wire in advance of the conduit removal or will confirm that the cables and wire are not live and can be removed by the Contractor.

Contractor shall coordinate with utilities and the City of Chicago to remove and/or relocate existing utilities within the work zone prior to structure removal activities. Where utilities were identified during design they are shown on the drawings. The final location of utilities is the responsibility of the Contractor and is included in Removal of Existing Structures, No. 1.

The existing bridge is adjacent to the Cermak Pumping Station. All removal activities must be performed while protecting Pumping Station property. Additionally there are several utilities identified in the Plans that the Contractor shall protect while performing removal activities. Any damage to Pump Station property must be restored to the satisfaction of the Engineer at the Contractor's expense.

The work shall conform in every respect to all environmental, state and local regulations regarding construction requirements, the protection of adjacent properties, as well as dust and noise control.

Prior to commencing work under this Item, the Contractor shall verify the location of all existing utilities in the area. The Contractor shall submit drawings and written documentation to the Engineer of such verification. All work under this Item shall be executed in such a manner so as not to disturb or damage the existing utilities.

All materials removed under this Item shall become the property of the Contractor and shall be disposed of by the Contractor off the site and in a lawful manner meeting all IDOT Policies and Procedures.

Included the Removal of Existing Structures No. 1, prior to any removal of conduit material, the existing conduits must be tested for the presence of asbestos content by qualified personal and/or qualified testing firm. Tests shall be comprehensive, and include detail visual inspection, sampling as determined by qualified testing firm or personnel and laboratory testing for samples in order to determine if conduits included asbestos cement. Each of the existing conduits should be independently reviewed due to unknown installation or maintenance improvement records. All testing records and results shall be provided to the Engineer prior to any removal of existing City of Chicago conduits. If test identify that the conduits do contain asbestos, the removal of those conduits shall follow the specification for REMOVAL OF ASBESTOS CEMENT CONDUIT. Otherwise, the conduits shall be removed under the requirements of this section and will not be paid for separately.

Revised 10/31/13

Traffic Operations
The traffic using Interstate I-90/94 must remain open to all lanes of traffic during demolition activities unless the Contractor has secured the necessary permits from the Illinois Department of Transportation to allow for temporary closure of lanes.

Method of Measurement. Removal of Existing Structures, No. 1 shall be measured for payment by each of the structure removed including additional elements noted above.

Basis of Payment. The work under this Item will be paid for at the Contract unit price each for REMOVAL OF EXISTING STRUCTURES, NO. 1, as indicated on the Plans and as specified herein.

Method of Measurement. Removal of Existing Structures, No. 1 shall be measured for payment by each of the structure removed including additional elements noted above.

Basis of Payment. The work under this Item will be paid for at the Contract unit price each for REMOVAL OF EXISTING STRUCTURES, NO. 1, as indicated on the Plans and as specified herein.

REMOVAL OF EXISTING STRUCTURES NO. 2

Description. This item shall consist of furnishing all labor, equipment and materials necessary for the removal and disposal of the existing Halsted Street Bridge (S.N. 016-2081) over Interstate 290 and CTA. The work shall be done in accordance with the applicable portions of Section 501 of the Standard Specifications.

All structure elements of the Halsted Street Bridge over I-290 including, but not limited to, abutments, abutments' footings, piers, piers' footing, wingwalls, beams, bearings, diaphragms, deck, sidewalk railing and fence, piles (to a depth of 1 foot below proposed structures or as noted on the Plans or directed by the Engineer) shall be included in Removal of Existing Structures No. 2.

Included in the Removal of Existing Structures No. 2 shall be the removal of items and appurtenances located on, attached or adjacent to the bridge including, but not limited to, bicycle racks, CTA appurtenances and newspaper stands and highway sign structures attached to the fascia of the bridge.

The Contractor shall remove all embedded City of Chicago conduits and hand or manholes. Conduits for other utilities attached to the existing structure using supports and hangers are anticipated to be removed by others prior to the beginning of work under this item for each section under the staged construction of the structure. The City of Chicago has identified that records are unclear if asbestos concrete is present in the existing conduits. The City of Chicago will remove cables and wire in advance of the conduit removal unless the City of Chicago determines that cables are not live and can be removed as part of the bridge demolition.

Included in the Removal of Existing Structures No. 2, the Contractor shall coordinate with ComEd, AT&T, City of Chicago Office of Emergency Management and Communications (OEMC 911) and City of Chicago Department of Electric Operations. The Contractor is required to coordinate the removal of ComEd, AT&T and City conduits. Existing conduits and wires owned by ComEd and AT&T will be removed by ComEd and AT&T. The removal of the bridge shall be staged and the limits of removal and schedule of removal shall be coordinated with ComEd, AT&T and the City of Chicago. AT&T will ultimately be removing service from the bridge and ComEd and the City of Chicago will be maintaining the existing or modified service that is presently attached to the existing bridge.

The existing bridge is adjacent to the existing entrance to the CTA Blue Line station and over the CTA rail lines. All demolition activity must protect CTA property. Any damage to CTA property must be restored to the satisfaction of the CTA at the Contractor's expense.

Revised 10/31/13

Existing piles that are determined and noted in the Plans to be completely removed will be paid for separately as PILE EXTRACTION.

Traffic Operations
The traffic using Interstate I-290 must remain open to all lanes of traffic during demolition activities unless the Contractor has secured the necessary permits from the Illinois Department of Transportation to allow for temporary closure of lanes.

Rail Operations
The CTA rail traffic must remain operational at all times during demolition activities unless the Contractor has secured the necessary permits from CTA to allow for temporary halting of rail traffic.

Method of Measurement. Removal of Existing Structures no. 2 and testing for asbestos content shall be measured for payment by each of the structure removed including additional elements noted above.

Basis of Payment. The work under this Item will be paid for at the Contract unit price each for REMOVAL OF EXISTING STRUCTURES NO. 2, as indicated on the Plans and as specified herein.

CONSTRUCTION VIBRATION MONITORING

Description. This work consists of monitoring buildings and other locations susceptible to movement. Additional monitoring of facilities may be required and these will be determined by the Engineer during the work. This additional monitoring is included in this item. The Contractor shall monitor adjacent buildings for both vibration and displacement. The Contractor shall designate a minimum of two monitoring point locations for each of the structures located at 400 South Green Street (Green Street Lofts), 815 West Van Buren Street (Rice Building), 333 South Halsted Street (National Hellenic Museum), 700 South Halsted Street (UIC Courtyard Residence Hall) and 735 West Harrison Street (Cermak Pumping Station). The monitoring point locations shall be spaced as evenly as possible along the building edge at the interface between the bridge and the building properties. The monitoring points for vibration and displacement do not have to be at the same location. The Contractor shall coordinate with the Engineer and building owners to ensure the proposed monitoring locations are acceptable to the building and accessible to both the Contractor and the Engineer. Proposed locations of building vibration and displacement monitoring points are to be submitted to the Engineer for approval prior to construction.

Revised 10/31/13

CTA Track Monitoring; The Contractor will include monitoring of the eastbound and westbound CTA tracks below and adjacent to a portion of construction in the contract. The Contractor will monitor CTA tracks for vertical and horizontal movements. As a minimum, monitor daily from start of demolition through completion of new bridge structure installation, then weekly through project completion. Submit copies of reports to CTA for review. The reports shall identify monitoring instrumentation utilized, measurement data, stop work periods, corrective measures and other associated information. Maximum allowable horizontal and vertical movements are ¼ inch. If movements in excess of ¼ inch are detected, the Contractor will discontinue construction operations immediately and notify the CTA. CTA will evaluate the track condition and determine what restorative work is required. The Contractor will perform this restorative work at the Contractor's expense prior to continuing remaining contract work. If track repairs are required, the Contractor shall hire a Contractor experienced in CTA track work and approved by the CTA to perform the corrective repairs to the satisfaction of the CTA.

Vibration Monitoring: The Contractor shall employ the services of a seismic monitoring consultant as approved by the Engineer. Monitoring point locations and frequency of data collection shall be as determined by the Contractor's Consultant and are subject to the approval of the Engineer. All vibration monitoring devices (seismographs) shall be attached to the floor of the buildings they are monitoring. The limit of acceptable vibration (Limiting Value) at structure shall be 0.5 in/s (inches per second) peak particle velocity. The Contractor's consultant may propose a Threshold Value of vibration for Engineer's review. When the Threshold Value is reached, the Contractor must stop the work and meets with the Engineer to determine the best course of action to reduce the vibrations (or minimize further displacement). Once the Limiting Value is reached, the work is stopped and a more formal response plan is submitted for approval before work can proceed. All seismographs on the project shall be programmed to actuate an alarm when the Threshold Value is exceeded. The alarm notification protocol shall consist of immediate dialing of mobile telephone numbers of the Engineer and the Contractor.

If the Limiting Value is exceeded, all vibration inducing work within 100 feet of the existing building shall be stopped. Work may resume at the direction of the Engineer with the Contractor continuing to closely monitor vibration in the area of the alarm. If the work is stopped because the Limiting Value is exceeded there will be no additional compensation nor any additional time extensions granted. Any change in construction methods to avoid exceeding Limiting Value will not be grounds for additional compensation.

Displacement Monitoring: The Contractor shall provide the exact horizontal and vertical location of the displacement monitoring points to the Engineer prior to the commencement of any construction activities. The data shall be presented in a tabular format and shall include horizontal positions (stations and offsets or Northing and Easting) as well as vertical elevation (Chicago City Datum) to a minimum of one hundredth of a foot (0.01').

Monitoring Frequency: During the beginning phase of each stage of demolition and construction, displacement monitoring shall be performed at the beginning and end of each work day at a minimum. These surveying intervals are the minimum required, and more frequent monitoring may be required by the Engineer as field conditions warrant.

Revised 10/31/13

If after a period of time resulting in movements that are small in magnitude, monitoring frequency can be reduced to a frequency as established by the Engineer. If resulting movements become random in nature and/or large in magnitude, the frequency shall be increased as directed by the Engineer. The frequency of readings will be dictated by the phase of current construction but must be sufficient to detect serious movements so that corrective measures can be initiated immediately.

Monitoring readings for displacement shall be dated, recorded, and reported to the Engineer the same day the readings are taken.

Vibration monitoring shall be a continuous and uninterrupted process. During demolition within 50 feet of a vibration monitoring point location, the Contractor shall report the results of the largest amplitude of vibration to the Engineer on the same day. At all other times the vibration report shall be submitted weekly.

Construction Requirements**.** Before the start of construction, the Contractor will complete a preconstruction inspection of 400 South Green Street (Green Street Lofts), 815 West Van Buren Street (Rice Building), 333 South Halsted Street (National Hellenic Museum), 700 South Halsted Street (UIC Courtyard Residence Hall) and 735 West Harrison Street (Cermak Pumping Station). Before the start of construction, the Contractor will complete a preconstruction inspection of the existing buildings listed above. Readily visible conditions and distress such as unusual cracks in concrete or masonry, obvious signs of leakage, settlement, etc. will be photographically recorded and documented. The Contractor will also make a DVD survey to provide a more complete general record of conditions in those areas. The interior survey shall include the first floor and basement (if existing) within 30 feet of the exterior wall closest to the project site. The exterior survey will include the exterior wall closest to the project site and the two adjacent walls. The survey will be performed from grade without the use of magnification devices. At the conclusion of the pre-construction field work, a report shall be prepared by the Contractor presenting the observed existing conditions and shall include written, videotaped and photographic documentation. This record shall then be used by the Contractor as a basis for comparison to distresses that may occur after the survey. The locations of the displacement monitoring points shall be included in the Report.

The Contractor will use the preconstruction report to aid in the selection of the displacement monitoring points. The Contractor must devise means and methods of construction that will not exceed the specified vibration limits. The Contractor is advised that particularly careful demolition requirements will be required at the edges of the bridge where the property line is immediately adjacent to the area of construction.

Corrective Measures. If at any time resulting movements are serious in nature or cause damage to facilities or property, the Contractor shall stop work immediately and the necessary corrective measures shall be initiated as directed by the Engineer. Damage as a result of the work activity of the Contractor will be corrected by the Contractor as determined by the Engineer. No additional compensation will be due the Contractor for repairing these facilities. The Contractor will not be entitled to any claim of delay for stopping of working to make correct measures.

Revised 10/31/13

Submittals. The Contractor must submit a Vibration and Displacement Control Plan to the Engineer for Approval. The Plan must be approved prior to the commencement of work. The plan must include, but is not limited to the following:

- Locations of all monitoring points (Vibration and displacement).
- Procedure and outline for how the data will be provided to the Engineer.
- Type of seismograph to be used (Submit to Engineer for Approval).
- List of pneumatic equipment to be used during demolition operations.
- Contact information for the Seismic Monitoring consultant.
- Timetable that outlines the duration that each monitoring point will be maintained and checked.

A "Response Plan" to detail how the Contractor will address any concerns with vibration or displacement.

Additional Submittals include:

- Daily reports of all displacement monitoring
- Weekly reports of all vibration monitoring

Method of Measurement. The work under this item as described herein will not be measured separately. It will be paid for as lump sum.

Basis of Payment. This work will be paid at the contract unit price per lump sum for CONSTRUCTION VIBRATION MONITORING which payment shall be full compensation for the work described herein and as directed by the Engineer.

REMOVAL OF ASBESTOS CEMENT CONDUIT

Description: This work consists of the removal and disposal of friable asbestos cement electrical conduits owned by the City of Chicago. The conduits shall be demolished including conduit supports and hangers. All work shall be done in accordance with the requirements of the U.S. Environmental Protection Agency (USEPA), the Illinois Environmental Protection Agency (IEPA), the Occupational Safety and Health Administration (OSHA), and as outlined herein.

Under the Halsted Street Bridge structure, the City of Chicago has a 9 duct package, a 6 duct package and a 6 duct package that provides connections for their Office of Emergency Management and Communications (OEMC) and CDOT Department of Electrical Operations across I-290. There are active facilities in the ducts that will be temporarily rerouted during construction. Additional ducts are located within the existing hollow piers. Portions of the existing ducts are concrete encased. The ducts were installed as part of the original bridge construction, which occurred in two different stages in the 1950's.

Revised 10/31/13

Under the Harrison Street bridge structure, the City of Chicago has an 8 duct package that provides connections for their Office of Emergency Management and Communications across SB I90/94. There are active facilities in the ducts that will be temporarily rerouted during construction. The ducts provide connections into the Cermak Pumping Station. The ducts were installed as part of the bridge reconstruction, which occurred in the 1980's.

The City of Chicago has identified that records are unclear if asbestos concrete is present in the existing conduits, though the chance for asbestos in the ducts along Harrison Street remains low. Prior to any removal of any conduit material, the existing conduits must be tested for the presence of asbestos content by qualified personnel and/or qualified testing firm. Tests should be comprehensive, and include detailed visual inspection, sampling as determined by qualified testing firm or personnel and laboratory testing of samples in order to determine if conduits include asbestos cement. Each of the existing conduits should be independently reviewed due to unknown installation or maintenance improvement records. No separate payment for testing of the existing conduits will be made. The testing of existing conduits shall be included as part of REMOVAL OF EXISTING STRUCTURES NO. 1 or REMOVAL OF EXISTING STRUCTURES NO. 2. All testing records and results shall be provided to the Engineer prior to any removal of existing City of Chicago conduits.

If testing identifies that asbestos cement is not present in the existing conduits, the conduits shall be demolished as part of REMOVAL OF EXISTING STRUCTURES NO. 1 or REMOVAL OF EXISTING STRUCTURES NO. 2. If testing identifies that asbestos cement is present in the existing conduits, the removal of the conduits shall follow the procedures identified within this specification.

The City of Chicago conduits attached to the Halsted Street Bridge are concrete encased for a portion of the bridge length. The concrete encased ducts shall be carefully removed in sections in order to properly segregate the ducts from the concrete encasement in a safe and secure area.

The work involved in the removal and disposal of friable or non-friable asbestos done prior to demolition of the Halsted Street Bridge structure or Harrison Street bridge structure shall be performed by a qualified Contractor or Sub-Contractor.

The Contractor shall provide a shipping manifest to the Engineer for the disposal of all asbestos containing material wastes.

The Contractor shall coordinate with the City of Chicago for the replacement of their ducts under this contract. The Contractor shall coordinate with ComEd and AT&T for the removal of their ducts by others. Existing ComEd and AT&T ducts parallel to the City of Chicago ducts may contain asbestos.

Permits: The Contractor shall apply for permit(s) in compliance with applicable regulations of the Illinois Environmental Protection Agency. Any and all other permits required by other federal, state, or local agencies for carrying on the work will be the responsibility of the Contractor. Copies of these permits must be sent to the district office and the Engineer.

Revised 10/31/13

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the agencies listed below at least 10 days prior to commencement of any asbestos removal or demolition activity.

A. Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

B. U. S. Environmental Protection Agency
Air Compliance Branch
77 W. Jackson Blvd.
Chicago, Illinois 60604
Attention: Asbestos Coordinator

Notices must be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent

Submittals

A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.

B. Submittals that shall be made prior to start of work:

1. Submittals required under Asbestos Abatement Experience.

2. Submit documentation indicating that all employees have had medical examinations and instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures as specified in Worker Protection Procedures.

3. Submit manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.

4. Submit to the Engineer the brand name, manufacturer, and specification of all sealants or surfactants to be used. Testing under existing conditions will be required at the direction of the Engineer.

5. Submit proof that all required permits, site locations, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials, supplies, and the like have been obtained (i.e., a letter of authorization to utilize designated landfill).

- Information about vehicles and equipment utilized for transport of material designated for disposal shall be submitted. This should include methods for restricting loose fibers from being released during travel.

6. Submit a list of penalties, including liquidated damages, incurred through non-compliance with asbestos abatement project specifications.

7. Submit a project specific Health and Safety plan for the removal operations. The Health and Safety Plan must be approved and signed by sub-contractor and Contractor personnel, and shall be provided to the Engineer prior to commencing site work activities. The Contractor shall be and remain liable for compliance by its employees, agents and subcontractors with the Contractor's Health and Safety Plan and procedures for the site and shall hold Engineer and Department harmless from all claims, damages, suits, losses and expenses in any way arising from non-compliance with the Health and Safety Plan.

    i. In particular, the Health and Safety Plan shall address personal protection from asbestos fiber releases during asbestos abatement.

8. Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination units, the sequencing of work, the respiratory protection plan to be used during this work, a site safety plan, a disposal plan including the location of an approved disposal site, and a detailed description of the methods to be used to control pollution. The plan must be submitted to the Engineer prior to the start of work.

9. Submit proof of written notification and compliance with Paragraph "Notifications."

C. Submittals that shall be made upon completion of abatement work:

1. Submit copies of all waste chain-of-custodies, trip tickets, and disposal receipts for all asbestos waste materials removed from the work area;

2. Submit daily copies of work site entry logbooks with information on worker and visitor access;

3. Submit logs documenting filter changes on respirators. HEPA vacuums, negative pressure ventilation units, and other engineering controls; and

4. Submit results of any bulk material analysis and air sampling data collected during the course of the abatement including results of any on-site testing by any federal, state, or local agency.

Revised 10/31/13

Certificate of Insurance:

A. The Contractor shall document general liability insurance for personal injury, occupational disease and sickness or death, and property damage.

B. The Contractor shall document current Workmen's Compensation Insurance coverage.

C. The Contractor shall supply insurance certificates as specified by the Department.

Asbestos Abatement Experience:

A. Company Experience:

1. Prior to start of work, the Contractor shall supply:

a. Evidence that he/she has been qualified with the State of Illinois and he/she has been included on the Illinois Department of Public Health's list of approved Contractors.

B. Personnel Experience:

1. For Superintendent, the Contractor shall supply:

a. Evidence of knowledge of applicable regulations in safety and environmental protection is required as well as training in asbestos abatement as evidenced by the successful completion of a training course in supervision of asbestos abatement as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion must be provided to the Engineer prior to the start of work.

b. Documentation of experience with abatement work in a supervisory position as evidenced through supervising at least two asbestos abatement projects; provide names, contact, phone number, and locations of two projects in which the individual(s) has worked in a supervisory capacity.

c. The superintendent shall be thoroughly familiar with and experienced at asbestos abatement, characterization, bulking, transportation, and disposal activities and other related work, and shall be familiar with and shall enforce the use of all applicable safety procedures and equipment. The Supervisor shall be knowledgeable of, and enforce, all applicable, USEPA, IEPA, and OSHA requirements and guidelines.

2. For Workers involved in the Removal of Friable and Nonfriable Asbestos the Contractor shall provide:

a. Training as evidenced by the participation and successful completion of an accredited training course for asbestos abatement workers as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion must be provided to all employees who will be working on this project.

b. Workers shall be familiar with and experienced at asbestos abatement, characterization, bulking, transportation, and disposal activities and other related work; and Asbestos Workers shall be familiar with the use of applicable safety procedures and equipment.

Abatement Air Monitoring:

The Contractor shall comply with the following:

A. Personal Monitoring:

All personal monitoring shall be conducted per specifications listed in OSHA regulation, Title 29, Code of Federal Regulation 1926.58. All area sampling shall be conducted in accordance with 40 CFR Part 763.90. All air monitoring equipment shall be calibrated and maintained in proper operating condition. Excursion limits will be monitored daily. Personal monitoring is the responsibility of the Contractor. Additional personal samples may be required by the Engineer at any time during the project.

B. Contained Work Areas for Removal of Friable Asbestos

1. Area samples shall be collected for the department within the work area daily. A minimum of one sample shall be taken outside of the abatement area removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

C. Air Monitoring Professional

1. All air sampling will be conducted by a qualified Air Sampling Professional supplied by the Contractor. The Air Sampling Professional must submit documentation of successful completion of the National Institute for Occupational Safety and Health (NIOSH) course #582 – “Sampling and Evaluating Airborne Asbestos Dust”.

2. Air Sampling will be conducted in accordance with NIOSH Method 7400. The results of these tests will be provided to the Engineer within 24 hours of the collection of air samples.

Method of Measurement: This work will be measured for payment per foot for REMOVAL OF ASBESTOS CEMENT CONDUIT, as shown for each individual conduit, which price shall include furnishing all labor, materials, equipment and services required to remove and dispose of the friable asbestos cement conduits, hangers, and conduit supports. No separate payment will be made for any testing of existing conduits for the presence of asbestos cement prior to the removal of any conduit material. Removal of concrete encasement is to be included in REMOVAL OF EXISTING STRUCTURES NO. 1 and REMOVAL OF EXISTING STRUCTURES NO. 2.

Basis of Payment: This work will be paid for at the contract unit price per foot for REMOVAL OF ASBESTOS CEMENT CONDUIT for all conduits identified to contain asbestos and removed in conformance with this specification and all current laws and regulations.

LOCATE TUNNEL, CHICAGO

Description. Work under this item shall consist of furnishing all labor, equipment, tools, excavation, backfill and items required to create and maintain the shaft excavations, all materials, and incidentals necessary to locate the existing water tunnel within the project limits. This work shall be performed in accordance with the applicable portions of Sections 501, 502, and 516 of the Standard Specifications, except as herein modified.

The Contractor shall field locate the tunnel within the limits specified on the Plans.

General Requirements. All work shall be performed as shown on the Plans and as directed by the Engineer. The procedures described herein are consistent with tunnel location procedures developed and utilized by the Chicago Department of Water Management (CDWM).

Construction Requirements. Procedure for Locating the Existing Water Tunnel:

1. The exact location of the tunnel is unknown and documentation of the tunnel location is restricted to designations on bridge and expressway record drawings.
2. At a minimum of four locations along the estimated alignment, accurately locate center of tunnel cross-section with probes. This is necessary as the exact location of the tunnel is not documented. If the alignment of the tunnel is not considered to be on a consistent and expected bearing, additional locations should be considered. The initial identified locations for the tunnel to be located are shown on the Plans.
3. The foundation drawing showing the tunnel location submitted for review must show the probe locations and the locations that “hit” the tunnel to confirm the Contractor has accurately located the tunnel.
4. Drill hole to top of tunnel with 12” drill and note exact elevation of top of tunnel. Install casing to maintain opening. A casing must be installed in all cases - no exceptions will be allowed.
5. Drill through top of tunnel; determine elevation of invert of tunnel. **Note if a substantial amount of water comes out of the hole notify the Engineer immediately.**
6. A video or sonar survey must be performed after the completion of the cased holes into the tunnel at each location. The survey must be done to:
    a. Verify the location of the tunnel

WATER MAIN RELOCATION 54" (CDWM)

Description. This work under this item consists of installing ductile iron water main, fittings, hydrants, valves and other appurtenances for the relocation of the 54" water main in Harrison Street, Halsted Street and along the west right-of-way of the southbound I-90/94. The work shall be performed as detailed on the Plans, specified herein and directed by the Engineer and the Chicago Department of Water Management Commissioner or his representative.

A portion of required the ductile water main, fittings, valves and other appurtenances will be available to the Contractor as part of a separate contract, Contract 60X27. These items will be stored at an IDOT owned and operated facility after a delivery date anticipated to be no later than February 14, 2014. A delivery schedule will be provided to the Contractor after award. Provided the Contractor has established a secure work site, the Contractor may elect to receive the ductile water main, fittings, valves and other appurtenances directly from the delivery by the Contractor under Contract 60X27. Any discrepancies between the received items and expected materials, condition, sizes or other qualities for identified items must be communicated to the Engineer immediately. The items procured under 60X27 are identified in the Plans. Additional pipe, fittings, valves and other items shown on the Plans and as required to execute the work are included within this item and will not be paid for separately. All valve vaults, basins, inspection manholes and other structures shown on the Plans are included within this item and will not be paid for separately.

The Contractor is advised that the work will be performed on a potable water system owned and operated by the Chicago Department of Water Management (CDWM). As such, all operations shall be performed in such a way as to avoid contamination of the water system through the introduction of contaminants or the process of the work. All work will require the review and approval of the CDWM prior to the commencement of work operations.

The water main shutdown required to perform the Work will only be allowed between October 1st and May 1st. The Work must be substantially complete in order to place the water main back into service on or before May 1, 2014. The construction schedule must clearly indicate when testing of the new water main items will be made and for the water main to be inspected by CDWM.

Construction Requirements. The furnishing and installation of ductile iron water main, fittings, hydrants, line valves, inspection manholes, taps, vaults, casing pipes and other appurtenances for the relocation of the 54" water main shall conform to the Contract and the applicable sections of the Chicago Department of Water Management's Technical Specifications for Water Main Construction shown below and included as part of this special provision (See Appendix B):

Ductile Iron Pipe and Fittings	Section 33 11 13
Water Main Control Valves	Section 33 12 16
Fire Hydrants	Section 33 12 19
Water Main Valve Basins & Meter Vaults	Section 33 12 20
Hydrostatic Testing and Disinfecting Water Mains	Section 33 13 00

Any part or item of work, which is implied and normally required to make the water main installation satisfactorily and completely operable, is deemed to be included in the Work Item and Contract price. All miscellaneous appurtenances and/or items of Work considered incidental to meeting the intent of the Contract Documents is also deemed to be included in the Work Item and Contract price, even though such appurtenances may not be specifically shown or specified.

The 54" water main relocation includes a portion of 48" water main pipe installed within a 72" steel casing. The steel casing is to be installed below a future 60" combined sewer, a future retaining wall, an existing 60" combined sewer and an existing 54" concrete water main. The casing shall be installed using jack and bore methods in accordance with the construction requirements of Section 552, with the 72" steel casing serving as referenced metal liner. Any temporary earth retention systems required to construct jacking and receiving pits, along with pipe bends and inspection manholes with deep inverts are considered included within the work under this item. The construction limits to the west of the proposed water main alignment must stay east of the temporary fence identifying the limits of construction access in the Plans. Notes within the Plans and references with the Specifications include necessary information for the installation of water main pipe within the casing, including spacer material requirements.

All temporary earth retention systems, braced excavations, temporary shoring, jacking pits, receiving pits and other deep excavations required to execute the work shall be designed by the Contractor to retain, at a minimum, the exposed surface area required for the selected installation methods.

The design calculations and details for the systems proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavations. Additionally, excavations that exceed twelve (12) feet in depth will need to be submitted to the City of Chicago Office of Underground Coordination (OUC) for issuance of permits for construction under the "Existing Facility Protection" process.

The design shall consider the restrictions on the installation of all components of the braced excavation listed in the "CONSTRUCTION VIBRATION MONITORING" special provision.

Thrust restraints as described in the Plans will be paid for separately.

Trench backfill shall be constructed in accordance with Articles 208.01 and 208.02.

Revised 10/31/13

The work near Ramp ES may require construction at different times based upon the staging of ramp traffic. Partial work can be completed while the ramp has two (2) lanes of traffic and other work may need to be completed only when the ramp has been reduced to one (1) lane.

Method of Measurement. WATER MAIN RELOCATION 54" (CDWM) will not be measured for payment.

Basis of Payment. The Work under this Item shall be paid for at the Contract lump sum cost for WATER MAIN RELOCATION 54" (CDWM). Unless otherwise noted, the cost of all labor, equipment and materials, including pipe, fittings, valves, valve basins, test taps, inspection manholes, polyethylene encasement, joint restraints, shut down, dewatering, filling, flushing, pressure testing and disinfection, excavation including all necessary bracing, pipe jacking supports, protection and support of existing sewers and utilities, removal and proper disposal offsite of excavated material, trench and stockpile protection (fencing), bedding and granular trench backfill for water main trench, restoration and all necessary work required for a complete and operational installation shall be included in the cost of item.

Pre-Purchased Material

A portion of required the ductile water main, fittings, valves and other appurtenances will be available to the Contractor as part of a separate contract, Contract 60X27. The items procured under 60X27 include the following:

- 140 Feet of DUCTILE IRON WATER PIPE RESTRAINED JOINT - 24"
- 420 Feet of DUCTILE IRON WATER PIPE RESTRAINED JOINT - 48"
- 50 Feet of STEEL CASINGS 72"
- 3 Each of DUCTILE IRON WATER PIPE FITTINGS-48"X24" 3 BELL MECHANICAL JOINT TEE
- 2 Each of DUCTILE IRON WATER PIPE FITTINGS-48" 2 BELL MECHANICAL JOINT 1/4 BEND
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS-48" MECHANICAL JOINT SLEEVE
- 5 Each of DUCTILE IRON WATER PIPE FITTINGS-48" 2 BELL MECHANICAL JOINT 1/8 BEND
- 2 Each of DUCTILE IRON WATER PIPE FITTINGS-48" 2 BELL MECHANICAL JOINT 1/16 BEND
- 1 Each of 54" R&S X MECHANICAL JOINT TRANSITION COUPLING
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS - 54"X48" 2 BELL MECHANICAL JOINT REDUCER
- 7 Each of DUCTILE IRON WATER PIPE FITTINGS-24" 2 BELL MECHANICAL JOINT 1/8 BEND
- 2 Each of WATER MAIN CONTROL VALVE-48 INCH BUTTERFLY VALVE
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS-48"X12" 3 BELL MECHANICAL JOINT TEE
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS-24" MECHANICAL JOINT TRANSITION SLEEVE
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS-48" MECHANICAL JOINT TRANSITION SLEEVE
- 2 Each of DUCTILE IRON WATER PIPE FITTINGS - 24"X16" 2 BELL MECHANICAL JOINT REDUCER
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS - 48" RESTRAINED JOINT PLUG
- 1 Each of DUCTILE IRON WATER PIPE FITTINGS - 48" RESTRAINED JOINT CAP
- 1 Each of WATER MAIN CONTROL VALVE-16 INCH MECHANICAL JOINT GATE VALVE

Restrained joint pipe and fittings will be furnished complete with all necessary gaskets, locking segments and accessories required for a complete and fully operational assembly. Mechanical joint fittings will be furnished complete with all necessary gaskets, restraint glands, nuts, bolts and accessories required for a complete and fully operational assembly.

Do not include these materials in your bid price for this item.

GENERAL ELECTRICAL REQUIREMENTS

Effective: January 1, 2012

Add the following to Article 801 of the Standard Specifications:

"Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Revised 10/31/13

Method of Measurement. Luminaires shall be counted, each.

Basis of Payment. This item shall be paid at the contract unit price each for UNDERPASS LUMINAIRE, of the wattage specified, HIGH PRESSURE SODIUM VAPOR, which shall be payment in full for the material and work described herein.

MAINTENANCE OF LIGHTING SYSTEMS
Effective: January 1, 2012

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

The Contractor shall be responsible for the proper operation and maintenance of the following existing and proposed lighting systems under this contract:

- Existing IDOT Lighting Controller ‘D’; Circuits G and H.
- Existing IDOT Lighting Controller ‘Z’; Circuits A, B, C, D, M and N.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. The request for the maintenance preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained.

Maintenance of Existing Lighting Systems

Existing lighting systems. Existing lighting systems shall be defined as any lighting system or part of a lighting system in service at the time of contract Letting. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

Revised 10/31/13

Extent of Maintenance.

Partial Maintenance. Unless otherwise ‘indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer.

Full Maintenance. If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits.

Maintenance of Proposed Lighting Systems

Proposed Lighting Systems. Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the contractor within the time limits specified herein.

If the equipment damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

Revised 10/31/13

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- Service Response Time -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.

- Service Restoration Time – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)

- Permanent Repair Time – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of $500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in the State's Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Revised 10/31/13

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

Method of Measurement.

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid for. Payment shall not be made retroactively for months in which lighting systems were not operational.

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for MAINTENANCE OF LIGHTING SYSTEM, which shall include all work as described herein.

MAINTENANCE OF STREET LIGHTING SYSTEM (CITY OF CHICAGO)

Description. This item consists of furnishing all labor, equipment, and incidental materials for maintaining existing street lighting and underpass lighting systems until the proposed new equipment is installed, energized, tested, and accepted for operation by the Commissioner.

The work must include any necessary temporary devices to maintain existing illumination. The location and protection devices necessary to comply with these requirements will be subject to the approval of the Commissioner.

Any temporary wire or cable which may be required to be installed overhead between existing poles, existing underpass luminaires, or temporary devices must be furnished, installed, terminated, and maintained in service until the proposed lighting equipment is installed, tested, and accepted for operation by the Commissioner.

Materials. Materials must be according to the applicable Department of Electrical Operations (DEO) Specifications and Articles of Standard Specifications Section 1000 - Materials as noted elsewhere in these Specifications.

MAINTAINING ITS DURING CONSTRUCTION

Description. Intelligent Transportation Systems (ITS) references IDOT traffic surveillance infrastructure. These elements include, but are not limited to, the following: induction loops, ramp meters, closed circuit television cameras, dynamic message signs, highway advisory radios, Radar Vehicle Sensing Devices (RVSDs), copper and fiber optic communication cables, power cables, cabinets, and communication equipment.

General Requirements. Effective the date the Contractor's activities (ITS or otherwise) begin at the job site, the Contractor shall be responsible for the proper operation and maintenance of ITS elements that are part of, or that may be affected by, the work until final acceptance by the Engineer or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (ITS or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any ITS systems that may be affected by the work. The request for the maintenance preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date.

Existing ITS elements, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition and location of the ITS components and systems to be maintained and installed.

Existing ITS components shall be defined as any ITS component or device in service at the time of the commencement of construction activities. The contract drawings indicate the general extent of any existing ITS elements, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications, and failure to do so will not be justification for extra payment or reduced responsibilities.

Maintaining ITS During Construction - The Contractor's responsibility shall include protection or removal and storage of any ITS/Communication cabinets and protecting in place any cables, conduits and ITS devices in or adjacent to the work zone.

Rerouting ITS Communication Cables - The contractor is responsible for the disconnection, rerouting and reconnection of all fiber and copper communication cables currently located in the barrier walls as indicated in the plans. This disconnection and reconnection must be made at an existing splice point or communication cabinet where a connection is made, or as otherwise indicated in the plans. This existing communication and infrastructure must be properly maintained for the duration of construction activities and the Contractor must coordinate the disconnection and reconnection activities with the Engineer.

All work required to maintain and relocate ITS infrastructure as depicted in the plans or otherwise necessary and as provided for in this special provision shall be paid for under the Maintaining ITS During Construction pay item. No component items germane to this work shall be paid for separately.

Revised 10/31/13

Once construction activities are complete, all final locations and installations of ITS devices, communication cabinets, junction boxes, conduit, fiber optic and copper cable and associated infrastructure shall be protected and secured and have the Engineer's approval.

The proposed plan for this work must be presented to the Engineer for approval prior to the commencement of the work.

Method of Measurement. The contractor shall demonstrate to the satisfaction of the Engineer that the ITS components, devices and infrastructure have been properly protected prior to submitting a pay request. In order for final payment to be released the contractor must demonstrate that the equipment is working as intended following inspection by the Engineer. Failure to do so will be grounds for denying the pay request.

Basis of Payment. Maintaining ITS During Construction and Rerouting ITS Communication Cables shall be paid for at the contract unit price per calendar month (Cal Mo) for **MAINTAINING ITS DURING CONSTRUCTION**, which shall include all work as described herein.

TRAFFIC SURVEILLANCE. – GENERAL (TSC T 400#02)

Effective: June 1, 1994 Revised: July 21, 2011

1.0 The following supplements applicable sections of Section 800 of the Standard Specifications for Road and Bridge Construction.

The intent of this Special Provision is to prescribe the materials and construction methods commonly used in traffic surveillance installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

When the road is open to traffic, except as otherwise provided, the Contractor may request a turn on and inspection of all complete traffic surveillance installations system. This request must be made to the Engineer a minimum of seven (7) working days prior to the time of the requested inspection. Upon demonstration that all surveillance is operational and all work is completed in accordance with the contract and to the satisfaction of the Bureau of Traffic Operations Electrical Engineer, The Bureau of Traffic Operations Electrical Engineer will then allow all of the surveillance to be placed in continuous operation. The Agency that is responsible for the maintenance of the traffic surveillance installations will assume the maintenance upon successful completion of this inspection.

Projects which call for the storage and re-use of existing traffic surveillance equipment shall have a 30 day test period prior to project acceptance.

Revised 10/31/13

APPENDIX B – CHICAGO DEPARTMENT OF WATER MANAGEMENT (CDWM) TECHNICAL SPECIFICATIONS FOR WATER MAIN CONSTRUCTION

This specification amends the Chicago Department of Water Management (CDWM) Technical Specifications for Water Main Construction included in Appendix B and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the Contract:

1. Revise all references to the Commissioner to the Engineer.

2. Section 33 11 13
   a) Delete Articles 1.2 A, B, C.
   b) Delete Articles 1.6 A, B, C, D.
   c) Modify Article 1.6 E to “All existing valves must be operated only be personnel of the Department of Water Management. Notify the Department of Water Management seventy-two (72) hours prior to the need for operation of the valve.”
   d) Modify Article 2.2 B to “Pipe joints must be restrained joints noted on the Drawings, specified here, or as directed by the Engineer.”
   e) Delete Article 2.2 E.
   f) Delete Article 2.7.
   g) Modify Article 3.4 B to delete “specified in Section 33 11 15 Thrust Restraint,”.
   h) Modify Article 3.4 C to delete “as per Section 33 23 19 Dewatering Excavations”.
   i) Modify Article 3.4 D to delete “in accordance with Section 31 23 10 Excavation, Trenching and Backfilling”.
   j) Delete Article 3.5.
   k) Delete Article 3.7.
   l) Modify Article 3.13 to delete “CLSM flowable material must meet standards specified in Section 31 23 10, “Excavation, Trenching and Backfilling”, paragraph 2.3, C of these specifications.”
   m) Modify Article 3.14 A to delete “as specified in Section 31 23 10, “Excavation, Trenching and Backfilling”.

Revised 10/31/13

3. Section 33 12 20
   a) Modify Article 1.1 A to “This Section includes requirements for construction and/or adjustment of water main valve basins using precast concrete structures.”
   b) Delete Article 1.2.
   c) Delete Article 1.4 A.
   d) Modify Article 1.4 B to “Shop Drawings: Submit detailed drawings of precast utility structures and related metal work.”
   e) Modify Article 2.1 A to delete “Non-circular pre-cast concrete monolithic and sectional structures for meter vaults, riser manholes and other structures must conform to ASTM C858.”
   f) Delete Articles 2.6, 2.7, 2.8, and 2.9.
   g) Delete Articles 3.1, 3.3, 3.5.

4. Section 33 12 16
   a) Modify Article 1.1 A to delete “resilient wedge valves”.
   b) Modify Article 1.4 A to delete “butterfly”.
   c) Modify Article 1.5 C to delete “Gate”.
   d) Modify Article 2.1 M to replace “Department” with “Engineer”.
   e) Modify Article 2.1 N to replace all instances of “Department” with “Engineer”.
   f) Delete Article 2.2.
   g) Delete Article 2.4.
   h) Delete Article 3.3.

5. Section 33 12 19 – No deletions or modifications to this section.

6. Section 33 13 00
   a) Modify Article 3.11 to “For all types of flushing, the Contractor must prepare and submit a flushing plan to the Engineer that indicates the City sewers to which discharges are planned and the flow rates. Flushing must be performed in accordance with the flow rates on the plan approved by the Engineer.

Revised 10/31/13

SECTION 33 11 13

DUCTILE IRON WATER PIPE AND FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This section includes requirements for the installation of ductile iron water pipe and fittings as shown on the drawings and specified here.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

A. Section 31 23 19 - Dewatering Excavations.
B. Section 31 23 10 - Excavation, Trenching and Backfilling.
C. Section 33 11 15 - Thrust Restraint.
D. Section 33 13 00 - Disinfection and Testing of Water Mains.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM), latest edition:

1. AWWA C104 - Cement Mortar Lining for Ductile Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber Rubber-Gasket Joints for Ductile-Iron Pressure pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray- Iron Threaded Flanges.
6. AWWA C116 - Protective Fusion-Bonded Epoxy Coatings Int. and Ext. Surf. Ductile-Iron/Gray-Iron Fittings.
7. AWWA C150 - Thickness Design of Ductile-Iron Pipe.
8. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast.
9. AWWA C153 - Ductile Iron Compact Fittings for Water Service.
10. ASME/ANSI B16.1 - Flanges and Flanged Fittings.
11. ANSI B16.21 - Metallic Gaskets for Pipe Flanges.
12. ASME B18.2.1 - Square and Hex Bolts and Screws.
13. ASME B18.2.2 - Square and Hex Nuts.
14. ASTM A123 - Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.

15. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel.
16. ASTM A240 - Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip, for Pressure Vessels and for General Applications.
17. ASTM A307 - Carbon Steel Bolts and Studs.
18. ASTM A536 - Ductile Iron Castings.
19. ASTM A767 - Zinc Coated (galvanized) Steel.
20. ASTM A775 - Epoxy Coated Steel.
21. ASTM A780-93 - Repair of Zinc Coated (Galvanized) Steel.
22. ASTM B308 – Stainless Steel Alloy Standard Structural Shapes, Rolled, or Extruded.
23. ASTM C564 - Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
24. ANSI A21.5/AWWA C105 - Polyethylene Encasement.

1.4 SUBMITTALS

A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.

B. The Contractor must give notice in writing to the Commissioner, sufficiently in advance of his intention to purchase or place a special order for any pipe required to be installed under this contract. Fully dimensioned drawings and/or manufactures catalog cuts are to be submitted for review.

C. The Contractor must submit to the Commissioner certified copies of all test reports for test conducted on the pipe by the manufacture when so requested by the Commissioner.

D. The Contractor must provide the Commissioner with a notarized statement that all tests have been made and met as specified.

1.5 QUALITY ASSURANCE

A. Each manufacturer supplying pipe for water mains under this contract must furnish all facilities, personnel, and materials to conduct tests required as applicable to the type of pipe being supplied, when requested by the Commissioner. The cost of all plant tests required as proof of the acceptability of the water main pipe will be considered incidental to the Work and no additional payment will be allowed.

Revised 10/31/13

B. **The Work performed on joining all pipe and fittings, must be performed by a plumber licensed in the State of Illinois or the City. This Work must include, but not be limited to, joining all pipe and fittings, installing joint gaskets, assembling all joints, installing continuity wedges, and tightening all gland nuts and bolts, as applicable for the installation.**

1.6 NOTIFICATION AND LIMITATIONS OF WATER MAIN SHUT DOWNS

A. **Whenever an existing water main or a section thereof is to be shut down during the course of construction, every individual consumer**
must be notified at least seventy-two (72) hours prior to the shut down. The Contractor must never operate, under any circumstances, an existing valve for a shut down or other purpose without first notifying and obtaining approval from the Commissioner.

B. **The time for a consumer shut down must not exceed eight (8) hours.**
Absolutely no shut downs will be permitted before 8:00 AM without approval from the Commissioner.

C. In case of emergency shut downs, the Contractor must notify customers immediately. Notification may be verbal on a door-to-door basis. However, if a consumer cannot be contacted, a written notice must be placed at the property site showing all pertinent information regarding the shut down. The notice must show a telephone number the consumer may call for information or to express any problem that the consumer may have with the shut down.

D. If a consumer cannot withstand a planned shut down due to a dialysis machine being present or other medical reason, the Commissioner must be notified immediately.

E. All valves 16-Inches in diameter and larger must be operated only by personnel of the Department. Notify the Commissioner seventy-two (72) hours prior to the need for operation of the valve.

Revised 10/31/13

PART 2 - PRODUCTS

2.1 DUCTILE IRON PIPE

A. Ductile iron pipe must conform to the requirements of AWWA C151 and with the additions or substitutions specified in this Section.

B. Pipe bells must be designed to provide a watertight joint without leakage and must be capable of withstanding pressures exceeding those that will rupture pipe of this class and thickness without requiring additional jointing material.

C. Electrical conductivity must be provided at each joint on all push-on and mechanical jointed pipe 16-Inches in diameter and smaller, to facilitate thawing of frozen pipe and building water services. It must also be provided on pipe 24-inches in diameter and larger when building services are directly connected to the water main. Conductivity is to be accomplished by installing serrated silicon wedges as recommended or supplied by the pipe manufacture. **The use of lead tip gaskets will not be allowed.** Wedges are to be installed in accordance with the requirements of paragraph C in Articles 3.6 and 3.7 of this specification.

D. All pipes must be manufactured so that where a cut is made at any point along the barrel, the cut end will fit properly into a standard mechanical joint bell and be drip tight at hydrostatic test pressure.

E. Exterior of pipe must be coated with a petroleum asphaltic material in conformance with AWWA C110, Section 10-10. Interior of pipe must be cement lined in accordance with AWWA C104.

F. Pipe thickness and classes must conform to standards shown in Table A.

Revised 10/31/13

TABLE A PIPE THICKNESS AND CLASS

Pipe Size	Nominal Wall Thickness	Thickness Class
3-inch	0.34-inch	54
4-inch	0.38-inch	55
6-inch	0.40-inch	55
8-inch	0.45-inch	56
10-inch	0.47-inch	56
12-inch	0.49-inch	56
14-inch	0.48-inch	55
16-inch	0.46-inch	54
18-inch	0.44-inch	53
20-inch	0.45-inch	53
24-inch	0.50-inch	54
30-inch	0.47-inch	52
36-inch	0.53-inch	52
42-inch	0.59-inch	52
48-inch	0.65-inch	52
54-inch	0.73-inch	52
60-inch	0.77-inch	52

2.2 JOINTS

A. **LEAD JOINTS ARE NOT TO BE USED UNDER ANY CIRCUMSTANCES.**

B. Pipe joints must be push-on type joints unless otherwise noted on the drawings, specified here, or directed by the Commissioner. Push-on type joints must conform to AWWA C111.

C. Restrained joints when specified are to meet the following requirements:

1. Mechanical joint pipe with mechanical joint restraint glands. Mechanical joints must conform to AWWA C110. Gaskets must conform to Section 2.4 of this specification.

Revised 10/31/13

2. Restrained joint pipe with manufactured weldment, field weldments or manufactured locking rings, locking segments and runner retainers and appurtenances conforming to AWWA C110. Acceptable products are Super-Lock Pipe manufactured by Clow Water Systems Company; FlexRing Pipe or Lok-Ring Pipe manufactured by American Ductile Iron Pipe; or TRFLEX manufactured by United States Pipe and Foundry Company.

D. Mechanical Joint Restraint Glands.

1. Provide restraint glands at all mechanical joints.

2. Restraint glands must be designed for use with the standardized mechanical joint bell pipe conforming to AWWA C110 and AWWA C153. Restraint is to be incorporated into the design of the gland. Acceptable products for this use are Mega Lugs manufactured by EBAA Iron Works; Uniflange manufactured by Ford Meter Box; or Star Grip manufactured by Star Pipe Products.

3. Restraint is to be accomplished by the use of multiple, wedge style restraints. Proper actuation of the wedges is to be ensured with torque limiting twist off nuts.

4. Glands 3-Inches through 16-Inches are to be pressure rated at 350-psi; glands 18-Inch through 48-Inch are to be rated at 250 psi.

5. The gland body and restraint components are to be made from ductile iron conforming to ASTM A536, 65-45-12. Ductile iron wedges are to be heat-treated within a range of 370 to 470 BHN.

6. The joint is to be capable of full deflection during assembly and joint deflection after assembly

7. Provide glands with minimum weights and number of wedges as shown in Table B.

8. Retainer glands are not acceptable.

Revised 10/31/13

TABLE B – MINIMUM WEIGHT & NUMBER OF WEDGES PER RESTRAINED JOINT

Pipe Size.	Number of Wedges	Minimum Weight
3-inch	2	6.0-lbs
4-inch	2	7.0-lbs
6-inch	3	11.0-lbs
8-inch	4	14.5-lbs
10-inch	6	23.0-lbs
12-inch	8	28.5-lbs
14-inch	10	46.0-lbs
16-inch	12	52.0-lbs
18-inch	12	63.6-lbs
20-inch	14	71.0-lbs
24-inch	16	90.0-lbs
30-inch	20	190.7-lbs
36-inch	24	226.5-lbs
42-inch	28	400.0-lbs
48-inch	32	488.0-lbs

E. Flanged joints, when shown on the Drawings, specified, or directed by the Commissioner, must conform to the following:

1. Flanged joints must conform to AWWA C115. Flanges must be the long hub type, screwed on the threaded end of the pipe in the shop. There must be no leakage through the pipe threads. The flanges must be designed to prevent corrosion of the threads from the outside.

2. Flanges must be drilled according to the requirements of ANSI/ASME B16.1, Class 125 unless special drilling is called for on the Drawings, specified, or directed by the Commissioner. Bolt holes must be equally spaced, drilled smooth and true. When stud bolts are used flanges must be drilled and tapped to accommodate the studs.

Revised 10/31/13

3. The face of the screwed-on flange and plain-end of the pipe must be accurately refaced together, at right angles to the pipe axis. After facing and drilling, the face of the screwed-on flange must immediately be covered with an appropriate rust-preventive coating.

4.

5. Flanged joints must be secured with either bolts and nuts, or stud bolts with a nuts. Bolts, stud bolts, and nuts must meet the requirements of ASTM A307, Grade B. Bolts and stud bolts must conform to ANSI/ASME B18.2.1. Nuts must conform to ANSI/ASME B18.2.2. All bolts, stud bolts, and nuts must be primed with bitumastic paint after the bolts and nuts have been installed and tightened.

6. Gaskets must conform to Section 2.4 of this specification.

2.3 FITTINGS

A. Fittings to be furnished and installed as specified or shown on the Drawings must be mechanical joint, ductile iron in accordance with AWWA C110. Laying length of mechanical joint castings must be as shown in AWWA C110. Wall thickness and allowable variation in the thickness of mechanical joint castings must conform to AWWA C110 and have a 250-psi pressure rating.

B. Compact fittings may not be used unless otherwise approved by the Commissioner.

C. Plain ends of mechanical joint fittings must be beveled and gauged to properly seat in push-on joint bells.

D. The fittings must be smooth and free from defects of every nature that would make them unfit for the use that they were intended. Plugging of fittings is not allowed. Repairing of defects by welding will be allowed if such repairs will not adversely affect the serviceability of the fittings or their ability to meet the strength requirements of the referenced AWWA standards.

E. All castings must be coated with a petroleum asphaltic material in conformance with AWWA C110, Section 10-10. Interior of pipe must be cement lined in accordance with AWWA C104.

F. Flanged fittings must conform to AWWA C110, and have a 150-pound per square inch pressure rating.

Revised 10/31/13

2.4 GASKETS

A. All gaskets for pipe, fittings and appurtenances must be vulcanized natural or vulcanized synthetic rubber, non-porous, free of foreign materials and visible defects. Recycled rubber may not be used.

B. When soil conditions do not permit the use of natural or synthetic rubber gaskets and when directed by the Commissioner, all gaskets for pipe, fittings and appurtenances must be Nitrile (acrylonitrile butadiene), nonporous, free of foreign materials and visible defects.

C. Gaskets for flanged joints must be of the ring type, 1/16-Inch thick, and meet the requirements of ANSI Standard B16.21. Acceptable manufactures for gaskets type as manufactured by the Crane Company; Garlock Packing Company; or U.S. Rubber Company.

D. Gaskets must be stored in a cool place and protected from light, heat, oil, or grease until installed. Any gasket showing signs of cracking, weathering, abrasion or other deterioration will be rejected.

2.5 POLYETHYLENE ENCASEMENT

A. Polyethylene encasement material must be either 8-mil, low density or 4-mil, cross-laminated, high-density polyethylene tubing in accordance with AWWA C105.

2.6 TRANSITION SLEEVES

A. Transition sleeves for pipe 16-inches in diameter and smaller must be of type as manufactured by Dresser, Style 253 Modular Cast Couplings; Smith Blair, Type 441 Cast Transition Couplings; Ford, Style FC2A Transition Couplings; Power Seal, Model 3501 Transition Couplings; or JCM Industries Model 212 Transition Couplings. Transition sleeves for pipe diameter greater than 16-inches must be of type as manufactured by Ford, Style FC2A or Style FC5 Transition Couplings; Romac Industries, Style 501 Transition Couplings; Dresser Style 38, Style 62, or Style 138 Transition Couplings; or Power Seal, Model 3501 Transition Couplings.

Revised 10/31/13

B. Transition sleeves must be designed to join class "B" pit cast iron pipe to AWWA C111/C151 standard ductile iron pipe. They must provide for pipe misalignment and settlement deflection and make a leak proof non-soldered joint, which allows for limited line movement due to expansion and contraction. Design couplings for a minimum rated working pressure of 150-pounds per square inch.

C. Transition sleeves pipe 16-Inches in diameter and smaller must be constructed of ductile iron conforming to ASTM A536. Transition sleeves for pipe diameters greater than 16-Inches must be constructed of ductile iron conforming to ASTM A536 or carbon steel conforming to ASTM A36. Ends must have a smooth inside taper for uniform gasket seating. The follower flanges must be ductile iron conforming to ASTM A536 or carbon steel conforming to ASTM A36.

D. Transition sleeves must be shop coated inside and outside with fusion bonded epoxy coating conforming to AWWA C-213.

E. Gaskets must be of molded rubber conforming to ASTM C564 for potable water service.

F. Bolts and nuts must be 5/8-Inch in size and must be Grade 304L stainless steel, annealed. Nuts must be Teflon coated to prevent galling during storage.

G. Each transition sleeve must be supplied with four electrical continuity brackets electrical continuity across the sleeve. The angle bracket must be made from ASTM A240-T304 stainless steel with a stainless steel set screw.

H. Contractor must field measure the existing cast iron water main for exact size of outer dimension and degree of out-of-roundness at the location to install the transition sleeve prior to ordering and installing the transition sleeve for that location.

2.7 PIPE SUPPORT SYSTEMS AND HANGERS (INTENDED FOR PERMANENT INSTALLATIONS)

A. Manufactured pipe support systems, fasteners, and miscellaneous hardware must be fabricated from high strength stainless steel conforming to ASTM B308, or hot-dipped galvanized steel conforming to ASTM 123 and ASTM 153. Pipe support systems must be designed to have a minimum load safety factor of three (3) times the anticipated loading.

Revised 10/31/13

B. Field fabricated pipe support systems, fasteners, and miscellaneous hardware must be cold-galvanized by painting metal surfaces with a 2-mil thick coating of ethyl silicate in-organic zinc-rich paint primer per manufacture's directions. Galvanized primer must be completely dry before backfilling the excavation. Field fabricated pipe support systems must be designed to have a minimum load safety factor of three (3) times the anticipated loading.

C. Repair damaged galvanized coated surfaces in accordance with ASTM A780-93. Apply 2-mil thick coating of ethyl silicate in-organic zinc-rich paint primer per manufacturer's directions. Zinc primer must be allowed to completely dry before backfilling the excavation.

D. Cold-galvanizing zinc primer paint must be of the inorganic, ethyl silicate type, containing at least 60% zinc dust and 40% adhesive binders, and conform to ASTM 780-93, type as manufactured by Tnemec Products, Kansas City, MO., Brite Products, Detroit, Mich., or Valspar Coatings, Minneapolis, MN.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All ductile iron pipe, fittings, and appurtenances must be installed in accordance with the manufacturer's recommendations and requirements.

B. All pipe, fittings, and accessories must be delivered, unloaded, strung, and laid as specified here.

C. The water mains must be laid with depths of cover as indicated under Article 3.12 of this specification, unless otherwise shown on the drawings, or directed by the Commissioner. The pipes must be laid true to line and grade.

D. Fittings as specified must be used where shown on the drawings and where grade or alignment changes require offsets greater than those recommended by the pipe manufacturer.

Revised 10/31/13

3.2 TRANSPORTATION, DELIVERY AND STORAGE

A. Every precaution must be taken to prevent damage to the pipe during transportation and delivery. Pipe ends, fittings, valves and hydrants must be sealed with caps or by another suitable method upon transportation from the supplier. Caps or end seals must be sturdy, secure, and wind- resistant so as to protect the pipe at all times prior to installation. Extreme care must be taken in loading and unloading the pipe and fittings. Such work must be done slowly with skids or suitable power equipment and the pipe must be under complete control at all times. Under no conditions may the pipe be dropped, bumped, dragged, pushed, or moved in any way that will cause damage to the pipe. When handling the pipe with a crane, a suitable pipe hook or rope sling around the pipe must be used. Under no condition may the sling be allowed to pass through the pipe unless adequate measures are taken to prevent damage to the pipe ends and lining.

B. If in the process of transportation, handling, or installation, any pipe or fitting is damaged, such pipe or fitting must be replaced by the Contractor and be considered incidental to the construction and no additional payment will be allowed.

C. The Contractor must store pipe in a manner that will prevent damage.
Pipe must be placed on wooden timbers or another suitable support on level ground. The Contractor must prevent the pipe from rolling. The procedures used to prevent rolling must be approved by the Commissioner

3.3 PREPARATION FOR LAYING PIPE

A. Materials, coatings, and linings must be as specified herein, shown on drawings, or directed by the Commissioner. Water mains and services must be installed where shown on the drawings. Installation must be in accordance with standards as recommended by the pipe manufacturer, and as specified herein.

B. Proper and suitable tools and appliances for the safe and convenient cutting, handling, and laying of the pipe and fittings must be used.

Revise 10/31/13

C. Before lying, all pipe and fittings must be thoroughly examined for defects and no piece may be installed which is known to be defective. If defects are discovered after pipe or fittings have been installed, the Contractor must remove the defective pipe and/or fitting and replace it with a sound one at his expense and to the satisfaction of the Commissioner.

D. The pipe and fittings must be thoroughly cleaned before they are laid and must be kept clean until they are accepted in the finished work. Care must be exercised to avoid leaving bits of wood, dirt, rock and other foreign particles in the pipe. If any such materials are discovered before the final acceptance of the work, they must be removed and the pipe and fittings replaced, if necessary. All pipes must be kept absolutely clean during construction and must be stopped off with night plugs at the end of each day's work. Exposed ends of uncompleted lines and existing water mains and services cut and not abandoned must be capped or otherwise temporarily sealed at all times when pipe laying is not in progress.

E. When cutting ductile iron pipe, it must be neatly cut perpendicular to the longitudinal axis of the pipe without damaging the pipes lining or coating or jointing surface area.

3.4 LAYING WATER MAIN PIPE

A. All pipelines must be laid in trench excavations on bedding or other foundations, as shown on the drawings, specified herein, or ordered by the Commissioner. The pipe must be properly secured against movement and pipe joints must be made in the excavation as required. Pipes must have solid bearing throughout their entire length.

B. At locations where pipe thrust is anticipated to occur, pipe and fittings must be anchored or restrained as shown on the drawings, specified in Section
33 11 15 – Thrust Restraint, or as directed by the Commissioner. **Polyethylene encasement is to be installed on all new water main pipe and fittings before pipe is installed and braced against movement**. Care must be taken so as not to damage the polyethylene encasement during the installation or blocking of the pipe and fittings. If damage occurs, the Contractor must repair or replace the polyethylene encasement at his expense to the satisfaction of the Commissioner.

Revised 10/31/13

C. Pipe lying will be permitted only in dry trenches having a stable bottom.
Groundwater or water from other sources must be removed as per Section 31 23 19 – Dewatering Excavations. If the trench bottom is unsuitable for the pipes foundation, the kind of stabilization to be utilized will be ordered in writing.

D. If, in the opinion of the Commissioner, the Contractor has failed to obtain an acceptably dry trench bottom using conventional methods of dewatering, the Commissioner may order the Contractor to excavate below the intended grade and to place sufficient sub-grade material as may be suitable over the trench bottom in accordance with Section 31 23 10 – Excavation, Trenching and Backfilling.

E. The Contractor must also take such required precautions to prevent flotation of the new pipeline.

3.5 ASSEMBLY OF FLANGED JOINTS

A. Flanged joints must be made with bolts or bolt studs with nuts as specified in Section 2.2 of this specification.

B. Tighten flange bolts as recommended by the gasket manufacturer to ensure an evenly compressed gasket and leak tight joint.

C. After the bolts and nuts have been properly installed, tightened, and cleaned, prime them with bitumastic paint.

3.6 ASSEMBLY OF MECHANICAL JOINTS

A. Thoroughly brush the surfaces with which the rubber gasket comes in contact with a wire brush just prior to assembly of the joint. Brush lubricant over the gasket and the plain end just prior to installation. In making up mechanical joints, the spigot must be centered in the bell.

B. The gasket and gland must be placed in position, the bolts inserted, and the nuts tightened finger tight. The nuts must be tightened by means of a torque wrench in such a manner that the gland must be brought up evenly into the joint.

C. Joints are to be made up to allow electrical continuity from one pipe to another by installing wedges as specified in Article 2.1, paragraph C of this specification and are to be installed in the following manner:

1. Use two (2) wedges per joint for 3-Inch to 12-Inch diameter pipes.
   Wedges must be placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.

2. Use four (4) wedges per joint for 16-inch to 24-inch diameter pipes. Wedges must be installed side by side in pairs placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.
3. Use six (6) wedges per joint for pipes larger than 24-inches in diameter only if building services are directly connected to the main. Wedges must be installed side by side in pairs 120 degrees apart at the 12, 4, and 8 o'clock positions around the joint.

D. The following range of bolt torques must be applied as specified in Table C. If sealing is not obtained at the maximum torque requirements listed in Table C, the joint must be disassembled, thoroughly cleaned, and reassembled.

TABLE C – BOLT TORQUE REQUIREMENTS

Bolt Size	Torque Range
5/8-inch	45-60 ft-lbs
¾-inch	75-90 ft-lbs
1-inch	85-100 ft-lbs
1 1/4inches	105-120 ft-lbs

3.7 ASSEMBLY OF PUSH-ON RUBBER GASKET JOINTS

A. Thoroughly brush the gasket seat in the bell with a wire brush and wipe the gasket and gasket seat with a cloth. Place the gasket in the socket with the large round end entering first so that the groove fits over the bead in the seat. Apply a thin film of NSF 61 approved joint lubricant to the inside surface of the gasket that will come into contact with the entering pipe.

Revised 10/31/13

B. Thoroughly brush the plain end of the pipe with a wire brush and placed it in alignment with the bell of the pipe to which it is to be joined. Make up the joint by exerting sufficient force on the entering pipe so that its plain end is moved past the gasket until it makes contact with the base of the socket.

C. Joints are to be made up to provide electrical continuity from one pipe to another by installing wedges as specified in Article 2.1, paragraph C of this specification and are to be installed in the following manner:

1. Use two (2) wedges per joint for 3-Inch to 12-Inch diameter pipes.
   Wedges must be placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.

2. Use four (4) wedges per joint for 16-Inch to 24-Inch diameter pipes.
   Wedges must be installed side by side in pairs placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.

3. Use six (6) wedges per joint for pipes larger than 24-Inches in diameter only if building services are directly connected to the main. Wedges must be installed side by side in pairs 120 degrees apart at the 12, 4, and 8 o'clock positions around the joint.

D. Assemble restrained joint pipe in accordance with manufacture's instructions.

3.8 TEMPORARY BULKHEADS

A. At ends of constructed sections where adjoining water mains or structures have not been completed and are not ready to be connected, temporary bulkheads must be used.

3.9 SHORT TUNNEL CONSTRUCTION

A. Pipes to be placed in short tunnels must be jointed prior to being pulled into position. Pipe must be pushed or pulled into position in a manner arranged to keep joints tight and to prevent deflection.

Revised 10/31/13

3.10 ENCASING DUCTILE IRON PIPE IN POLYETHYLENE

A. All cast and ductile iron pipe and fittings must be encased in polyethylene tubing before being installed, blocked, or braced.

3.11 USE OF DAMAGED, DEFECTIVE, OR NON-SPECIFIED CASTINGS AND FITTINGS

A. All construction castings and pipe fittings that are determined to be damaged, defective or do not meet these specifications and are stored within the Work area must be marked for non-use and removed and replaced with fittings that conform to these Specifications.

3.12 DEPTH OF PIPE COVER

A. Unless otherwise shown on the Plans or directed by the Commissioner, all water mains and services must be installed so a minimum pipe cover is achieved as shown in Table D.

TABLE D – MINIMUM DEPTH OF COVER FOR WATER MAINS

Size of Pipe	Depth of Cover
3/4 to 3-inches	5-ft 6-inches ± 3-inches
4-inch	5-ft 6-inches ± 3-inches
6-inch	5-ft 6-inches ± 3-inches
8-inch	5-ft 3-inches ± 3-inches
12-inch	5-ft ± 2-inches
16-inch	4-ft 6-inches ± 2-inches
24-inch	4-ft ± 1-inch
30 to 42-inches	3-ft 6-inches (min) or as detailed on drawings
48-inches & Larger	3-ft (min) or as detailed on drawings

3.13 ABANDONMENT OF EXISTING WATER MAINS

A. All openings on abandoned pipe or conduit are to be sealed with a concrete mortar plug of a minimum of one (1) foot in length within the pipe. Pipe 16-Inches in diameter and larger must be filled with fine graded aggregate or controlled low strength material (CLSM) flowable fill, as appropriate, or directed by the Commissioner. CLSM flowable material must meet standards specified in Section 31 23 10, "Excavation, Trenching and Backfilling", paragraph 2.3, C of these specifications.

Revised 10/31/13

3.14 DISINFECTION OF PIPE AND FITTINGS

A. Protect new and existing pipe and fittings from water, debris and foreign materials as specified in Section 31 23 10 – “Excavation, Trenching and Backfilling”.

B. All new pipe, fittings, and valves must be disinfected in accordance with Section 33 13 00 – “Disinfection and Testing of Water Mains”, and the requirements of the Bureau of Water Quality which may be contacted at 312.744.8190.

C. Swab all pipe and fittings that will not be pressure tested or chlorinated with a chlorine solution during installation. Extra precautions must be taken to prevent debris or ground water from entering the section of water main to be swabbed. Incorporate untested section of water main into the flushing routine when the work is necessitated, or part of, a water main replacement project. When connecting pipes to the existing city water system use normal operating pressure to visually inspect for leaks. If feasible, inspect for leaks prior to backfilling the excavation. Comply with all standards and requirements of the Bureau of Water Quality.

3.15 WATER MAIN SUPPORT SYSTEMS

A. Support and anchor all piping in proper position and alignment with due allowance for expansion and contraction.

B. The type, location, and arrangement of hangers and supports must be as shown on the drawings, or as directed by the Commissioner. Pipe supports and hardware must be appropriate to meet installation conditions, anticipated loading, and fabricated from corrosion resistant materials described in paragraph 2.7 - Pipe Support and Hangers, of this specification. All support systems whether pre-manufactured or field fabricated must have a minimum load safety factor of three (3) times the anticipated loading. Corrosion protective coatings damaged during installation of the pipe support system must be repaired per the manufactures requirements, or as directed by the Commissioner to maintain corrosion protection.

Revised 10/31/13

3.16 SEPARATION BETWEEN WATER AND SEWER MAINS

A. When a water main crosses above a sewer main and the vertical separation is between 18 and 6-linches, as measured between the bottom of the water main and crown of sewer pipe, the sewer must be constructed of ductile iron pipe with rubber gasketed joints to a distance one foot beyond the wall of the trench excavation. Flexible transition coupling must be used to join the ductile iron pipe to the sewer pipe and be encased in betonite as shown on the drawings.

B. When a water main crosses below a sewer main, the sewer pipe must be constructed of ductile iron pipe with rubber gasket joints for a perpendicular distance of 10 feet on either side of the center line of the water main, and an 18-Inch vertical separation must be maintained. Flexible transition couplings must be used to join the ductile iron pipe to the sewer pipe.

END OF SECTION 33 11 13

SECTION 33 12 16

WATER MAIN CONTROL VALVES

PART 1 - GENERAL

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This section includes requirements for the installation of gate valves, resilient wedge valves, and butterfly valves.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

A. Section 33 13 00 - Disinfection and Testing of Water Mains.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM), latest edition:

1. ASTM A48 - Gray Iron Castings.
2 ASTM A126 - Gray Iron Castings for Valves, Flanges.
3. ASTM A436 - Austenitic Gray Iron Castings.
4. ASTM A439 - Austenitic Ductile Iron Castings.
5. ASTM B584 - Copper Alloy Sand Castings for General Application.

B. AWWA C110 - Ductile Iron and Gray Iron Fittings, latest edition.

C. AWWA C111 - Rubber Gasket Joints for Ductile Iron, latest edition.

D. AWWA C500 - Metal-seated Gate Valves for Water Supply Service, latest edition.

E. AWWA C504 - Rubber Seated Butterfly Valves, latest edition.

F. AWWA C509 - Resilient Seated Gate Valves, latest edition.

G. AWWA C550 - Standard for Protective Epoxy Interior Coatings for Valves and Hydrants, latest edition.

H. Federal Specification FF-B-575C - Bolts; Hex and Square, latest edition.

I. Federal Specification FF-N-836E - Nut; Square, Hex, Cap, latest edition.

1.4 SUBMITTALS

A. Contractor must provide an affidavit stating that all Butterfly Valves, valve operators, and torque overload protectors comply with all applicable provisions shown on the drawings and as specified in this specification.

B. Provide manufactures catalog cuts and/or certified drawings of all valves, valve operators, and torque overload protectors to be furnished. The manufactures catalog cuts and/or certified drawings must provide all necessary information regarding dimensions and materials used and conformance to requirements stated in these specifications.

C. All submittals must be reviewed and approved by the Commissioner prior to installation.

1.5 QUALITY ASSURANCE

A. Each valve must be hydrostatically tested at the manufacturer's shops and proven hydraulically tight at all pressures up to 200-pounds per square inch.

B. For gate valves, the following tests are required:

1. The first test consists of applying a 200-pound per square inch hydrostatic pressure between the discs through an opening in the bonnet casting.

2. The second test consists of applying a 200-pound per square inch hydrostatic pressure against the outside of each disc in the manner prescribed below:

a. The valves must be plugged or capped on both ends. The caps or plugs must be drilled and tapped to accept the pressure test piping.

b. With the pressure test piping in place, open the gates of the valve, the test-piping valve, and remove the plug in the bonnet. Fill the valve with water. When a discharge occurs at the outlet side, close the water supply line and insert the bonnet plug.

c. Close the gates of the valves, open test-piping valve, and apply a 200-pound per square inch hydrostatic pressure on the inlet side.

Revised 10/31/13

d. Hold test pressure for one (1) minute. During this time no water should discharge from the outlet end of the test piping. If no leak occurs, release pressure, reverse the test piping, and repeat the test procedures for the other gate. If a leak occurs,repairand / or replace the valve as directed by the Commissioner. Repeat the test procedures.

3. An affidavit must be furnished from the manufacturer to attest to the fact that each of the valves furnished under this Contract were proven hydrostatically tight in accordance with the specified test procedures.

C. Valves that do not meet the requirements of this Section will be rejected and removed by the Contractor, and replaced with valves that conform to this Section, within the time period allowed by the Commissioner. Gate valve removal and replacement will be considered incidental to the installation of the valves and no additional payment will be allowed.

D. **The Work performed for installing valves must be performed by a plumber licensed in the State of Illinois or the City. The Work may include, but not be limited to, setting the valve; cutting and joining all pipe; installing test taps, fittings, adapters, joint gaskets, and continuity wedges; and tightening all gland nuts and bolts, as applicable for the installation.**

PART 2 - PRODUCTS

2.1 GATE VALVES

A. All gate valves are to be Chicago Standard Gate Valves of the size shown on the drawings that are designed, manufactured, tested, and inspected in accordance with AWWA C500, and in accordance with the exceptions noted here. All valves are to be delivered fully assembled.

B. The following characters must be cast in ½-inch letters on the bonnet of each valve:

- Chicago
- Year of Manufacture
- Manufacture’s Name

C. Gate valves must be of mechanical joint type double disk and in the following sizes: 4-Inch, 6-Inch, 8-Inch, 12-Inch, and 16-Inch. Larger size valves must be of a butterfly style.

D. Material used must meet the requirements as to physical and chemical properties, as specified in this Section.

E. Valves found to contain defects such as blowholes, shrinkage or slag holes, cold shuts, or cracks will be rejected.

F. The thickness of metal in castings, whose standard thickness is less than 0.8-Inch, must not be more than 0.08-inch less than the standard thickness. The deficiency in thickness of castings, whose standard thickness is 0.8- inch or more, must not exceed 10% of the standard thickness. The above allowable deficiencies in thickness, however, must not extend over more than one-half of the area of the casting.

G. After being cleaned and tested, every assembled valve and all metallic parts must be coated inside and outside with coal tar pitch varnish. It must produce a smooth and non-tacky coating tough and tenacious when cold and not brittle nor with any tendency to scale off.

H. The brass castings must comply with ASTM B584, Copper Alloy UNS No. C83600.

I. The bronze in the valve stem and in the stem nut must be manganese bronze, complying with ASTM B584, Copper Alloy UNS No. C86700. Stem seals are to be double o-rings complying with ASTM D2000 and ASTM 568A

J. The gaskets used between the flanges must be fully faced, 1/32-inch thick and made of heavy-duty, asbestos-free, fiber composition, suitable for water service.

K. Bolts and nuts must be made of cast iron or steel. Heads of seal plate bolts must conform to the dimensions shown on the Drawings (an alternate of hex or square head bolt is acceptable) while all other requirements of seal plate bolts must conform to Federal Specification FF-B-575C and nuts must conform to FF-N-836E. Heads of bolts must be unfinished and nuts must be semi-finished. Both bolts and nuts must be hot dipped galvanized as specified in the applicable Federal Specification.

L. The valves herein specified must be furnished complete with mechanical joint accessories. The mechanical joint accessories must consist of mechanical joint thrust restraint glands, rubber gaskets, and tee head bolts and hex nuts, all conforming to AWWA C110. Dimensions and tolerances for mechanical joints must conform to table 1of AWWA C110.

M. It will be the manufacturer's responsibility to provide the patterns and gauges necessary to perform the work to be done hereunder. The Department will not furnish these items.

Revised 10/31/13

N. The Department reserves the right to make at any time such tests as it may deem proper to determine that the materials used are proper for the Work and that the valves are of good mechanical construction. The manufacturer must give the authorized inspectors of the Department free access to all places where valves are being made. At the Department's request, the manufacturer must furnish properly prepared standard test specimens of the materials used and must provide facilities for testing them.

O. All valves must open by turning the operating stem clockwise.

P. Operating nuts must be 2 ½-Inches square at the base of the nut.

2.2 RESILIENT SEATED WEDGE GATE VALVES

A. The Contractor must furnish and install resilient-seated gate valves that are designed, manufactured, tested, and inspected in accordance with AWWA C509, with following exceptions, deletions, or additions:

1. Exceptions for Section 4.4.7. Valves are to be supplied with 2 ½-inch square operating stem wrench nuts.

2. Exception for Section 4.4.7.2. All valves must open by turning the operating stem clockwise as viewed from top of the valve.

B. Resilient seated wedge gate valves must be of the mechanical joint type supplied complete with joint thrust restraint glands, vulcanized natural or synthetic rubber gaskets, and tee head bolts and hex nuts, all conforming to AWWA C110. Dimensions and tolerances for mechanical joints must conform to Table 1of AWWA C110.

C. All valves must provide an unobstructed waterway of full size when open. Gates or stems must not extend into the waterway. Valves are to be supplied in sizes between 4 and 12-Inches as noted on the drawings.

1. The bronze in the valve stem and in the stem nut must be manganese bronze, complying with ASTM B584, Copper Alloy UNS No. C86700. Stem seals are to be double o-rings complying with ASTM D2000 and ASTM 568A.

2. After being cleaned and tested, every assembled valve and all metallic parts must be coated inside and outside with coal tar pitch varnish. It must produce a smooth and non-tacky coating tough and tenacious when cold and not brittle nor with any tendency to scale off.

2.3 BUTTERFLY VALVES

A. Butterfly valves, as specified here, must be designed, manufactured, tested, and inspected in accordance with AWWA C504, Class 150Band with the requirements of this Section as listed hereafter:

1. Body Type: Short bodied mechanical joint, as specified.
2. Maximum Non-shock Shut-off Pressure: 100psi.
3. All valves must have flow through discs.
4. Each valve furnished must be subjected to the performance, leakage and hydrostatic tests described in Section 5.2 of AWWA C504.
5. A minimum of two (2) weeks prior to the test dates, the manufacturer must notify the Commissioner in writing when the shop testing of the valve will occur. Failure to notify the Commissioner will not be grounds for rejection.
6. The manufacturer must submit to the Commissioner records of all tests performed under Sections 2.3, 3.8.5, and 5.2 of AWWA C504.
7. Shaft seals must be either split V type packing or "0" ring seals. Shaft seals consisting of a stuffing box with pull down packing are not acceptable.
8. The shaft seal area must not be exposed to the environment. Should the valve design utilize an open packing bonnet area, that area must be enclosed with a 304 series type 18-8 stainless steel, minimum 1/4-Inch thick removable shroud. The shroud must be fully sealed and rated for buried service. An access cover must be provided on the shroud with a minimum opening of 6-Inches x 8-Inches.
9. The valve shaft must be 304 or 316 stainless steel.

10. The valve body must be made of cast iron conforming to ASTM A126, Class B or ASTM A48, Class 40 alloy cast iron ASTM A436, Type 1 and 2 or ASTM A439, type D2 with maximum of 0.003% lead. The valve disc must be ductile iron conforming to ASTM A536, and it must have a seating edge of 304 or 316 stainless steel. The seating edge may be installed in the valve body if the rubber seat is applied to the valve disc. The valve seats for 24-inch and larger butterfly valves must be capable of adjustment or replacement at the installation site.

11. Valve discs must be secured to shafts by means of solid, smooth-sided stainless steel or monel taper pins or dowel pins having a circular cross section. Each taper pin or dowel pin must be extended through the shaft and mechanically secured in place. The use of bolts, setscrews, knurled or fluted dowel pins, flat sided taper pins, expansion pins, roll pins, tension pins, spring pins, or other devices in lieu of the pins specified herein will not be acceptable.

12. The valves and valve operators must be rated for buried service, except electric actuators.

13. Valve operators must conform to AWWA C504 for Class 150B. Manual operators must be Limitorque worm gear, self-locking type designed to hold the valve in any intermediate position without creeping or fluttering. Operators must be equipped with torque overload protection to prevent over travel of the disc in the open and closed position. Spur gear must be furnished with an operator to increase the number of turns and reduce operating torque. A separate limit stop device must also be installed in accordance with “Torque Overload Protection”, described below. Operators must provide position indication on the housing of the operator. Valves must open with a clockwise rotation of the nut. The valve and valve operator must be rated for bi-directional flow.

14. Valve operators must be equipped with a Chicago standard style hub nut. The hub nut must be attached to the input shaft of the operator by means of a shear pin. The shear pin must be sized such that it fails when 350 foot-pounds of input torque is applied to the hub nut. Three (3) additional shear pins must be furnished as replacement part for each valve ordered.

15. Corrosion resistant nameplates, as described in Section 6.1 of AWWA C504, must be permanently attached to both the valve and valve operator. There must be two (2) valve nameplates. One must be affixed to the valve body and the other must be affixed to the valve operator in a prominent location. In addition to the normal valve data, the plate must also include the number of turns required to operate the valve and the direction to open (clockwise to open). There must be one (1) operator nameplate affixed to the valve operator. The minimum number of turns to close the valve must be no less than 2 turns per inch (5 turns per centimeter) of valve size in order to minimize water hammer.

16. The manufacturer must provide all nuts, bolts, gaskets, and glands required to make connections.

B. Torque Overload Protection

1. Contractor must furnish torque overload protection devices. The device must be installed on top of the Chicago standard hub nut on butterfly valve operators and in conformance to the following requirements.

2. Purpose: The over torque protector must prevent butterfly valve and operator from damage due to excessive operating torque.

3. Operation: The device must transmit applied torque in either direction only up to a preset amount and automatically disengage if greater torque is applied. It must automatically reset if the applied torque is below the preset amount.

4. Description: The device must be of overall rugged and of durable construction suitable for long-term reliable operation and suitable for buried service.

5. The upper end must have an integral 2 ½-Inch square operating nut and the lower end must have a matching socket. The socket must have one (1) 2-Inch square head set screw in each of two (2) adjacent faces.

6. The operating mechanism must employ spring-loaded tapered rollers engaged in matching tapered detents. A ball bearing type design will not be accepted.

7. The manufacturer’s identification must be cast in 3/8-inch or larger letters on an upper surface.

8. Corrosion Protection and Lubrication: The entire housing must be coated inside and outside with two-part epoxy. The outside must have a topcoat of two-part polyurethane similar in color to U.S. Paint #G9337 “Sun Yellow”.

9. The operating mechanism must be permanently lubricated and sealed to withstand 50-feet of water head.

10. There must be no water-retaining external cavities.

11. Service Life: The device must have a minimum life of one-thousand (1000) trips from rated capacity.

12. Trip Torque Set Point: The device must be factory set to trip at 200 foot-pounds of applied torque.

13. Trip Torque Adjustment: Trip torque must be adjustable from 10% to 100% of rated capacity without dissembling the unit. The adjustment means must be sealed and concealed to prevent tampering.

2.4 QUARTER TURN AWWA ELECTRIC VALVE ACTUATORS (OPEN-CLOSE SERVICE)

A. When shown on the Plans, specified, or as directed by the Commissioner, the Contractor must furnish electric valve actuators in conformance with the following requirements.

1. The electric valve actuator must include the motor, actuator unit gearing, position limit switches, torque switches, declutch lever, and hand wheel, as self-contained unit. The actuator must meet the latest revision of the applicable AWWA specification. The actuator must be of sufficient capacity to operate the attached butterfly valve in a modulating action against 100-pounds per square inch pressure.

2. The motor must be rated for continuous duty, specifically designed for valve actuator service, and must be of high starting torque, totally enclosed, non-ventilated construction. Motor insulation must be a minimum NEMA Class F, with a maximum continuous temperature rating of 311º Farenheit (rise plus ambient) for the duty cycle specified. Provide optional insulation classes where specified or where service conditions warrant.

3. The motor must be of sufficient size to open or close the valve at the maximum torque. The motor must be capable of operating at plus or minus 10% of specified voltage. The motor duty rating must be sufficient for one (1) complete cycle (open-close-open, or reverse) without exceeding its temperature rating. Motor bearings must be of the anti-friction type, and permanently lubricated.

4. The motor must be an independent sub-assembly such that the power gearing must not be an integral part of the motor assembly, to allow for motor or gear changes dictated by system operation changes. The motor must be equipped with internal thermal contact, to protect against motor overload, and 120-volt heaters. The motor must be designed to operate on 230/460 VAC.

5. The actuator must be a multiple reduction unit with power gearing consisting of spur or helical and worm gearing. There must be a self-locking worm gear set in the drive train to maintain valve position. The spur or helical gearing and worm gear must be of hardened alloy steel, and the worm gear must be alloy bronze. All power gearing must be accurately cut; non-metallic, aluminum, or cast gearing must not be allowed. Anti-friction bearings with caged balls or rollers must be used throughout.

6. All rotating power train components must be immersed in grease with provisions for inspection and re-lubrication without disassembly. Lubricants must be suitable for ambient conditions between 20º F and 150º F. Adequate seals must be provided on all shafting.

7. The actuator must have a built-in device, which allows the motor to reach full speed before engaging the valve load when required by unseating applications.

8. A metallic hand wheel must be provided for manual operation, with an arrow to indicate "open" rotation. The hand wheel must not rotate during motor operation. A fused motor must not prevent manual operation. When in manual operating mode, the actuator must remain in this mode until the motor is energized, at which time the actuator will automatically return to electric operation. Changing from motor operation to manual operation must be accomplished by a positive, padlockable declutching lever, which mechanically disengages the motor and related gearing. It must be impossible for simultaneous manual and motor operation to occur. Friction type declutching mechanisms are not acceptable.

Revised 10/31/13

9. Position limit switches and associated gearing must be an integral part of the valve actuator. Limit switch gearing must be of the intermittent type, made of bronze or stainless steel, lubricated, and totally enclosed to prevent dirt and foreign matter from entering the gear train. Limit switch contacts must be heavy duty and silver-plated with wiping action. Where specified, the actuator must have sixteen (16) contacts, four (4) contact/four (4) rotor types, all of the same basic design. As an alternative, a limit switch assembly may be directly coupled to the valve stem, eliminating the need for intermittent gearing, and eight (8) single pole, double throw (SPDT) or eight (8) double pole, double throw, (DPDT) contacts. Contacts must be convertible from normally open, to normally closed, or reverse.

10. Switches must be adjustable, allowing for trip points from fully open to fully closed positions of valve travel. They must not be subject to breakage or slippage due to over-travel.

11. Switch design must permit visible verification of switch position without disassembly.

12. Each valve actuator must be equipped with a switch that will interrupt the control circuit in both the opening and closing directions when valve torque overload occurs. Contacts must be silver-plated. The torque switch must have graduated dials for both open and close directions of travel, and each must be independently adjustable. The torque switch must include a positive means to limit adjustability so as not to exceed the actuator output torque capability. The activating spring back must be of the Belleville spring design.

13. The position limit switch and torque switch contact must be rated 600 volts per NEMA standard ICS 2-125, heavy duty.

14. The control compartment must be provided with a 120-volt space heater.

15. The valve and operator must be aligned in such a manner that when installed, the manual hand wheel is in a horizontal plane.

16. The operating time must be two (2) minutes for 90 º- valve travels.

Revised 10/31/13

PART 3 - EXECUTION

3.1 FIELD TESTING

A. All valves will be tested as specified in Section 33 13 00 - Disinfection and Testing of Water Mains.

3.2 SETTING OF VALVES

A. Valves must be carefully installed in their proper positions, free from all distortion and strain, with mechanical or flanged joints, and must be packed and left in satisfactory operating condition.

3.3 SETTING OF VALVE BOXES

A. Valve boxes must be installed where shown on the drawings, or where ordered by the Commissioner, and must be set vertical and concentric with the valve box. Any valve box which has been moved from its original position by direct or indirect actions of the Contractor, so as to prevent the operation of the valve key extension, must be reset and/or replaced as applicable, by the Contractor. This work will be considered incidental to the construction and not considered for additional payment. Any valve key extension or stem, which has been damaged so that it is inoperable, must also be replaced, and will also be considered incidental to the construction and no additional payment will be allowed.

END OF SECTION 33 12 16

Revised 10/31/13

SECTION 33 12 19

FIRE HYDRANTS

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

A. This section includes requirements for supplying materials for and the installation of fire hydrants, as shown on the drawings and specified here.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM), latest edition:
   1. ASTM A108 - Standard Quality Carbon Steel Bars.
   2. ASTM A126 - Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
   3. ASTM A153 - Hot Dip Zinc Coating for Iron and Steel Hardware.
   4. ASTM A307 - Carbon Steel Bolts and Studs.
   5. ASTM A536 - Ductile Iron Castings.
   6. ASTM B62 - Composition Bronze or Ounce Metal Castings.
   7. ASTM B584 - Copper Alloy Sand Castings.
   8. ASTM B633 - Electrodeposited Zinc Coatings on Iron and Steel.
   9. ASTM C700 - Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated.
   10. ASTM D395 - Test Methods for Rubber Property Compression Set.
   11. ASTM D412 - Test Methods for Rubber and Elastomers.
   12. ASTM D2000 - Classification of Rubber Products in Automotive Applications.
   13. ASTM D2240 - Durometer Test for Rubber Hardness.

B. AWWA C502 - Dry Barrel Fire Hydrants, latest edition.

C. Federal Specification FF-B-575C - Bolts; Hexagon and Square, latest edition.

D. Federal Specification RR-C 271D - Chains and Attachments, latest edition.

1.3 SUBMITTALS

A. Provide an affidavit from the manufacturer to attest to the fact that all hydrants furnished under this Contract were tested and proven hydrostatically tight and mechanically sound in accordance with the specified test procedures.

1.4 QUALITY ASSURANCE

A. After each hydrant is completely assembled, it must be mechanically and hydrostatically tested in conformance with AWWA C502, Sec 5.1.

B. The Work performed for the hydrant installation must be performed by a plumber licensed in the State of Illinois or the City. The Work may include, but not be limited to, setting hydrants; joining all pipe, fittings, and valves; installation of joint gaskets and continuity wedges; and tightening of all gland nuts and bolts, as applicable for the installation.

PART 2 - PRODUCTS

2.1 GENERAL

A. The hydrants must be of the City of Chicago standard design with mechanical joint bottom. The completed hydrants must be delivered finished, painted, and fully assembled.

2.2 FIRE HYDRANTS

A. The standpipe must include the manufacturer’s name, year of manufacturing, and the letters "C.W.W." in letters 1-Inch high. This lettering must be positioned approximately 1 foot below the top flange.

B. Materials from which the various parts of the hydrants are constructed must be of the kind designated on the details. Each kind of material used must meet the requirements as to physical and chemical properties hereafter specified. Test bars required to established quality grade or strength under the ASTM standards must be made and machined by the manufacturer as part of the work.

C. 3/4-Inch x 2-3/4-Inch unfinished hex head machine bolts and 3/4-Inch American Standard regular hot press hex nuts must conform to Federal Specification FF-B-575C, Class B Steel, Class 1 fit or, hex head bolts and hex nuts must conform to ASTM A307 Grade A. All nuts and bolts to be hot dipped galvanized conforming to ASTM A153 or must be coated by the rust proof electrozinc process ASTM B633, Type G.S., or SS Type 18-8SS, ANSI Type 302, 303, or 304.

D. Iron castings must conform to ASTM A126 Class B. The thickness of metal castings, whose standard thickness is less than 0.8-Inch, must not be more than 0.08-Inch less than the standard thickness. The deficiency in thickness of castings, whose standard thickness is 0.8-Inch or more, must not exceed 10% of the standard thickness. The above allowable deficiencies in thickness must not extend over more than one-half of the area of any casting. The diameter of the castings must not vary from the standard dimensions by more than 08-Inch.

E. All bronze castings, with the exception of the stem nut, stem screw, and valve seats must conform to ASTM B62 for Leaded Red Brass Copper Alloy UNS No. C83600. The valve seat must conform to ASTM B584 for Leaded Manganese Bronze, Copper Alloy UNS No. C86700. The stem nut and stem screw must conform to ASTM B584 for Silicon Brass, Copper Alloy UNS No. C87600 with the following mechanical properties:

1. Minimum Tensile Strength - 45,000-psi

2. Minimum Yield Strength - 25,000 psi

3. Minimum Elongation - 16% of length

4. Brinell Hardness - 110

F. The stem nut and stem screw must be stamped SI for identification purposes.

G. Wrench nuts made of ductile iron must be marked “D.I.” on the flange portion opposite the arrow indicating the direction of turn to open.

H. Ductile iron castings must comply with compositions and physical properties in accordance with ASTM A536 Grade 65-45-12.

I. The City will furnish neoprene-seating valves if requested by the Contractor. The Contractor’s charges for transporting the neoprene seating valves must be considered incidental to the construction and no additional payment will be allowed.

J. Full face gasket of suitable material, 1/16-inch thick, 8 ½-inches X 13 ½-inches, with eight (8) 7/8-inch diameter holes on an 11 3/4-inch bolt circle must be provided for the hydrant flange gaskets.

K. Steel hydrant chain must comply with Federal Specification RR-C-271D (1), Type II, Class 2, with an approximate weight of 25-pounds per 100 feet, and have a hot galvanized coating. This chain, approximately 26-Inches long, must be connected to hydrant cap hooks and fastened at its center to the hydrant by means of the ½-Inch X 1-Inch cap screw with chain angle and "S" hook of ½-Inch mild steel stock "S" hook and cap hooks which engage the chain, must be securely welded in the closed position or fastened in a suitable manner to hold the hooks securely in a closed position. Revised 10/31/13

L. Where the Plans call for finish and drilling, all such work must accurately comply with the dimensions shown, so that all parts are interchangeable from one hydrant to another. It will be the manufacturer's responsibility to provide the patterns and gauges necessary to perform the work specified.

M. Where machining tolerances are not indicated on the drawings, the following must be used where applicable:

1. If dimension is in decimals, tolerance is ± 0.005-Inch.
2. If dimension is in inches, tolerance is ± 1/64-Inch.

N. Appropriate lubricant must be applied to threads on hydrant bottom, ½-Inch X 1-Inch cap screw and valve seat before assembly.

O. Operating stem must be of cold rolled steel, ASTM A108 Grade 1018. Stem must be coated, excluding bottom 3-7/8-Inch of the section below shoulder including threads, with a bituminous coating.

P. Rubber Gaskets must comply with ASTM D2000; Type SC-715B, as follows:

1. Shore A Durometer Hardness - 70 + 5 ASTM D2240.
2. Tensile Strength - 1500-psi minimum ASTM D412.
3. Compression Set - 35% maximum ASTM D395.

Q. The City reserves the right to make at any time such tests as it may deem proper to determine that the materials used are proper for the work and that the hydrants are of good mechanical construction. The contractor must give the authorized inspectors of the City free access to all places where hydrants are being made. At the City's request the manufacturer must furnish properly prepared standard test specimens of the materials used and must provide facilities for testing them.

Revised 10/31/13

R. Fire Hydrants that do not meet the requirements of this Specification will be rejected and, when so ordered by the City, the Contractor must remove all inferior hydrants not meeting the Specification and replace rejected items within the time limits as specified. The removal and replacement of the hydrants will be considered incidental to the construction and no additional payment will be allowed.

2.3 PAINT

A. All ferrous metal parts of the hydrant, inside and outside, must be thoroughly cleaned before coating. Coatings used on interior surfaces of the hydrant that are in contact with potable water must be suitable for contact with drinking water. Prepare hydrant surfaces and apply paint in accordance with paint manufacturer's recommendations. Do not paint exposed hydrant nozzle threads or other useable threads.

B. Primer must be red oxide primer; acceptable products are W. C. Richards Metal primer #WRFA-13-127; or Benjamin Moore Universal Metal Primer # M07.

C. Top coat must be alkyd high-gloss enamel; acceptable produces are Benjamin Moore Impervo #C13320 (Brilliant Red), or Sherwin Williams Industrial Enamel Safety Red #617-4064.

D. Paint for color coding flange must be as follows:

1. White colored pigment; acceptable products are Seymour Stripe #16-652 Spray (White), Rustoleum High Performance Acrylic 5200 System (#5292 Gloss White), or Sherwin Williams PM 200 AES Pure White #5178-99993.

2. Yellow colored pigment; acceptable products are Benjamin Moore Impervo #C133 Alkyd High-Gloss Metal and Wood Enamel (Safety Yellow), or Sherwin Williams Industrial Enamel Safety Yellow #617-4072, #617-8000, or #617-50320.

3. Blue colored pigment: accept products are Seymour Stripe #16-653 Spray (Precaution Blue), or Rustoleum High Performance Acrylic 5200 System (#5225 Safety Blue), or equal.

E. Shop Coating of Fire Hydrants.

1. Exterior ferrous surfaces of the hydrant must be painted with a coat of primer to two feet below the top flange.

2. Exterior ferrous surfaces of the hydrant must be given a topcoat of alkyd high-gloss enamel to two feet below the top flange.

3. All exterior ferrous surfaces below the ground line not coated with primer and topcoat must be shop coated with two (2) coats of asphaltic coating, each a minimum of 1 mil thick. The first coat must be allowed to dry thoroughly before applying the second coat.

2.4 HYDRANT DRAIN

A. Hydrant drains must be constructed of 6-Inch diameter, extra strength, perforated clay pipe, conforming to ASTM C700, with mortared bell and spigot type joints.

PART 3 - EXECUTION

3.1 GENERAL

A. Install fire hydrants and hydrant drain with drainage bedding, and connect to hydrant drain outlet as detailed on the drawings.
B. Securely connect fire hydrant to the water main using mechanical joint thrust restraint glands or other restrained joint fittings as shown on the drawings.
C. Pressure test the fire hydrant installation with full line pressure to the fire hydrant without blocking behind the fire hydrant.
D. Hydrant leads must be 8-Inches in diameter, or as otherwise specified or shown on the Plans.
E. Spool pieces are not allowed for the vertical adjustment of hydrants. If a vertical adjustment is required due to the depth of the water main, an offset must be utilized prior to installing the hydrant.

3.2 COLOR CODING HYDRANT FLANGES

A. Contractor must color code the vertical edge of the hydrants top flange, (located approximately 6-Inches from the centerline of the nozzle cap), on all installed hydrants in accordance with the Department's "Color Code for Fire Hydrants".

END OF SECTION 33 12 19

Revised 10/31/13

SECTION 33 12 20

WATER MAIN VALVE BASINS & METER VAULTS

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

A. This Section includes requirements for construction and/or adjustment of water main valve basins and meter vaults using precast concrete or masonry structures.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

A. Section 31 23 10 - Excavation, Trenching and Backfilling.
B. Section 03 20 00 – Concrete Reinforcing.
C. Section 03 30 00 – Cast-In-Place Concrete.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM), latest edition:

1. ASTM A48 - Standard Specification for Gray Iron Castings.
2. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete Reinforcement.
3. ASTM A197 - Standard Specification for Cupola Malleable Iron.
4. ASTM A536 - Standard Specification for Ductile Iron Castings.
5. ASTM A615 - Standard Specification for Deformed and Plain Billet- Steel Bars for Concrete Reinforcement.
6. ASTM C32 - Standard Specification for Sewer and Manhole Brick.
7. ASTM C55 - Standard Specification for Concrete Building Brick.
8. ASTM C139 - Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes
9. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes Using Rubber Gaskets
10. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections

Revised 10/31/13

11. ASTM C857 - Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
12. ASTM C858 - Standard Specification for Underground Precast Concrete Utility Structures.
13. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants.

B. IDOT Standard Specification for Road and Bridge Construction (SSRBC), latest edition.

C. American Association of State Highway Transportation Officials, Standard Specifications for Highway (AASHTO), latest edition.

1.4 SUBMITTALS

A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.

B. Shop Drawings: When not indicated on the Contract Drawings in sufficient detail or definition, submit detailed drawings of cast-in-place and precast concrete utility structures and related metal work.

C. Product Data: Submit manufacturers' product data for standard manufactured precast concrete sections and structures, for metal gratings and covers, and for other, related miscellaneous metal items.

D. Certification: Submit certification or other acceptable evidence that covers and grates to be provided for roadways and parking areas meet proof-testing requirements for AASHTO H2O traffic loading.

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE STRUCTURES

A. Fabrication standards - Circular precast concrete base and riser sections furnished for manholes, valve basins and other structures must conform to ASTM C478. Non-circular precast concrete monolithic and sectional structures for meter vaults, riser manholes and other structures must conform to ASTM C858.

Revised 10/31/13

B. Furnish riser sections in various heights, including an offset tapered section, as detailed on the Drawings, or as directed by the Commissioner.

C. Precast reinforced concrete flat slab tops for manholes must conform to ASTM C857, and be designed to accommodate a minimum AASHTO loading of H 20, unless directed otherwise by the Commissioner.

2.2 JOINT SEALANTS

A. Rubber gaskets must conform to ASTM C443.

B. Preformed butyl rubber flexible rope type gaskets must conform to ASTM C990.

2.3 ADJUSTING RINGS

A. Adjusting rings are to be precast concrete in conformance with ASTM C478.

B. Mating Faces:

1. Smooth

2. Parallel

3. Free from cracks, chips, spalls or casting irregularities interfering with watertight mating to structure top or casting.

4. Provide grooves in faces to contain extrudible preformed gasket material when possible.

2.4 CASTINGS

A. Iron castings are to be ductile iron castings conforming to ASTM A536, Grade 60-40-18, or gray iron conforming to ASTM A48, free from blowholes, shrinkage, cracks and other defects.

B. Allowance for shrinkage must be made in the patterns to meet the specified thickness. Frames and lids are to seat at all points.

C. Malleable castings are to conform to ASTM A197.

D. All castings are to be made accurately to dimensions shown on the plans, and planed, filed, or ground where otherwise necessary to secure flat and true surfaces.

2.5 STEPS

A. Steps are to be polypropylene plastic encased Grade 60 steel reinforcement conforming to ASTM C478.

2.6 CAST-IN-PLACE CONCRETE

A. Concrete in accordance with Section 03 30 00 – Cast-In-Place Concrete.

B. Concrete reinforcing in accordance with Section 03 20 00 – Concrete Reinforcing.

2.7 CONCRETE AND MASONRY BLOCKS AND BRICKS

A. Precast concrete brick must conform to ASTM C55 quality designated Grade N-1.

B. Clay brick must be best quality sewer brick conforming to the qualifications of ASTM C32, except where modified here.

1. Brick must be uniform, sound, hard burned, of compact texture, free from lime and cracks with a clear ringing sound when struck, whole and with edges full and square, and of standard dimensions.

2. Brick, when thoroughly dried and immersed in water for twenty-four (24) hours, must not absorb more than 15% by weight of water.

3. If in any load of brick more than 10% are inferior, the whole load is rejected.

4. If in any load of brick less than 10% are inferior, the brick is accepted provided the Contractor pulls out all inferior bricks, and immediately removes them from the Site of the Work.

2.8 MORTAR

A. Mortar for brickwork is to be composed of one (1) part Portland cement and two (2) parts screened sand.

Revised 10/31/13

1. Portland cement must conform to the requirements of Section 1001 of the SSRBC.

2. Sand must be class A quality and gradation FA-9 as specified in Article 1003.02 of the SSRBC.

B. The cement and sand must be proportioned by volume and thoroughly mixed in a tight box.

C. After the initial mixing, water is to be added gradually and the ingredients mixed until the mortar is of proper consistency. The amount of water must be no more than necessary to produce a workable, plastic mortar.

D. Prepare only a sufficient amount of mortar for immediate use and any mortar that has begun to set must not be retempered or used in any way in the Work

2.9 REINFORCING STEEL

A. Reinforcing steel in accordance with Section 03 30 00 – Cast-In-Place Concrete.

PART 3 - EXECUTION

3.1 GENERAL

A. Excavate, backfill and compact in accordance with Section 31 23 10 - Excavation, Trenching and Backfilling.

B. All brick must be thoroughly wetted immediately before being laid.

C. Old brickwork must be thoroughly cleaned and wetted before new work is jointed thereto.

D. No masonry work is to be done when the temperature is below 33º Farenheit unless otherwise approved, and then only under conditions for protecting it from frost.

3.2 PRE-CAST STRUCTURE INSTALLATION

A. Carefully place precast sections for all structures on prepared bedding so as to fully and uniformly support the structure and allow pipes to be laid to proper grade.

B. All lift holes on precast sections must be completely filled with mortar, smoothed on both inside and outside surfaces.

C. Seal joints between riser sections with approved mastic sealant or rubber gaskets, or as directed by the Commissioner.

D. Place one adjusting ring (only) on manhole top. Select thickness of adjusting ring to bring completed structure to required elevation.

E. Seal joints between adjusting rings and frames with approved mastic sealant before backfilling structures.

F. Install manhole frame and cover.

3.3 MASONRY STRUCTURE INSTALLATION

A. Install precast concrete or cast in place base as shown on the Drawings.

B. Lay brick courses to the line, straight and parallel, breaking joints with those in adjacent courses.

C. Lay brick radially as headers in a full bed of mortar with joints not exceeding 3/8-Inch in thickness.

D. Fill joints with mortar. Interior joints must be trowel-struck.

E. Fresh masonry must be plastered inside and outside and must be protected from damage of all kinds.

F. New work, unless immediately covered with earth or brick backing, or an approved form of curing compound, must be kept moist until the mortar has hardened.

G. Install manhole frame and cover.

3.4 FINAL ADJUSTMENT OF STRUCTURES

A. After the base course and binder course have been placed, and prior to placing the surface course, the structures must be adjusted to match the final pavement elevation.

B. Remove the binder and base course adjacent to and for a distance not exceeding 12-Inches outside the base of the castings.

C. Adjust the castings to final pavement elevation with adjusting rings set in mortar.

D. Fill the space around the casting with Class SI concrete to the elevation of the surface of the binder course.

3.5 ABANDONMENT OF VALVE BASINS AND OTHER STRUCTURES.

A. Valve basins and other structures being abandoned, the Contractor must remove the existing frame and lid and return it the City as requested by the Commissioner. The remaining parts of the structure are to be remove to a depth of 36-linch below grade and filled with fine graded aggregate or controlled low strength material (CLSM) flowable fill, as appropriate, or directed by the Commissioner. CLSM flowable material must meet standards specified in Section 31 23 10, “Excavation, Trenching and Backfilling”, paragraph 2.3, C of these specifications.

END OF SECTION 33 12 20

Revised 10/31/13

APPENDIX D – STORM WATER POLLUTION PREVENTION PLAN

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	F.A.I. 90/94/290	Marked	Harrison and Halsted Streets
Section	2013-008R	Project No.	
County	Cook County	Contract No.	60W26

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Fortmann, PE
Print Name

Deputy Director of Highways, Region One Engineer
Title

Illinois Department of Transportation
Agency

Signature

9-23-13
Date

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

Halsted Street over I-290 and the CTA Blue Line and Harrison Street Bridges over SB I-90/94 in the City of Chicago, Cook County, Illinois.

Latitude: 41° 52' 27.51" N
Longitude: 87° 38' 49.56" W

B. Provide a description of the construction activity which is the subject of this plan:

The project is located along Harrison Street from west of Halsted Street to east of SB 90/94 and along Halsted Street from south of Harrison Street to Van Buren Street. The gross and net length of the project is 1,674.04 Feet (0.319 miles).

The work consists of the reconstruction of the Harrison Street Bridge (SN 016-1713) over southbound Interstate 90/94 from Halsted Street to east of SB 90/94, Halsted Street Bridge (SN 016-1716) over

Interstate 290 and the CTA from south of Harrison Street to Van Buren Street and proposed retaining wall 13 (SN 016-1802) at the northeast quadrant of the intersection of Halsted Street and Harrison Street. Also included in the work is the intersection at Halsted Street and Harrison Street and widening of Ramp ES to replace the existing pavement section once the proposed pier is built within the existing ramp.

Work includes bridge reconstruction, retaining wall, roadway reconstruction, erosion control and protection, utility relocation of existing storm sewers and existing water main, special waste excavation, earth excavation and embankment, removal of existing improvements, new storm and combined sewers, curb and gutters, pavements, sidewalks, pavement marking and signage, roadway lighting, traffic control and protection, traffic signals, ITS, urban enhancements and all incidental and collateral work necessary to complete the improvements as shown on the plans and as described herein.

C. Provide the estimated duration of this project:

12 months

D. The total area of the construction site is estimated to be 4.36 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 2.00 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

1.40 AC (0.3 PERVIOUS) + 2.96 AC (0.9 IMPERVIOUS) / 4.36 AC = 0.71

The C-value will not change from before to after this contract, due to the existing impervious surfaces remaining before and after this project.

F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

Along Halsted Street, the soil stratigraphy consists generally of, in descending order, the general lithological succession encountered beneath the pavement structure includes (1) man-made ground (fill); (2) very soft to medium stiff clay; (3) stiff to hard silty clay; (4) dense to very dense silty loam and sandy gravel; and (5) strong, good rock quality dolostone.

Along Harrison Street, the soil stratigraphy consists generally of, in descending order, the general lithological succession encountered beneath the pavement and topsoil includes (1) man-made ground (fill); (2) very soft to medium stiff clay to silty clay; (3) stiff to hard silty clay and silty loam; (4) very dense gravelly sandy loam; and (5) strong, good quality dolostone bedrock.

G. Provide an aerial extent of wetland acreage at the site:

No wetlands were identified on site

H. Provide a description of potentially erosive areas associated with this project:

Potentially erosive areas are along the embankments adjacent to I-290 and SB I-90/94 expressways - where there are no retaining walls from the local road to the expressway.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

Stage 1A will consist of the following:

- Tree removal and protection
- Install the appropriate erosion control and sediment control items as listed in the ESC plans
- Relocate and install 60" combined sewer and water main
- Remove existing Harrison Street Bridge approaches, superstructure, piers and abutments
- Begin reconstruction of the Harrison Street Bridge pier and abutments
- Install drainage along mainline and local road
- Remove east half of the existing Halsted Street Bridge superstructure with the exception of Pier 1 and approaches
- Construct all of the east half substructures except Pier 1
- Install drainage on east half of Halsted Street and along mainline
- Remove portions of the existing bridge abutment and foundation to allow for temporary drainage pipes to be installed
- Install temporary drainage under the Halsted Street Bridge along the ES ramp
- Provide pavement replacement at locations along Ramps ES and SW
- Remove existing island and install temporary pavement at the NW corner of the Halsted/Harrison intersection
- Install temporary pavement at locations specified in the plans
- Begin construction of the retaining wall

Stage 1B will consist of the following:

- Continue work on Harrison Street Bridge
- Install drainage at the Cermak Pumping Station
- Construct the substructure of Pier 1
- Erect the superstructure on the east half of the Halsted Street Bridge upon completion of Pier 1
- Construct deck and all other superstructure components except the east sidewalk and parapet
- Install portions of the proposed and temporary drainage systems on both the north and south side of the Halsted Street Bridge
- Continue construction of the retaining wall

Stage 2A will consist of the following:

- Remove and construct the gates, gate posts, and west driveway at the Cermak Pumping Station
- Construct the west driveway to the tie in with the east approach slab and abutment of Harrison Street Bridge
- Complete the reconstruction of the Harrison Street Bridge pier and abutments
- Begin reconstruction of the Harrison Street Bridge superstructure and approaches
- Install trench drain at the west driveway of the Cermak Pumping Station
- Remove and reconstruct the outside lanes of the west approach to the Halsted/Harrison Street

intersection

- Remove the west half of the existing substructures, superstructures, and approaches of the Halsted Street Bridge
- Install temporary drainage systems on both the north and south side of the Halsted Street Bridge
- Install temporary bridge for pedestrian access to the Halsted Street CTA station
- Install temporary pavement along the ES ramp
- Reconstruct Pier 1 and south abutments
- Continue construction of the retaining wall

Stage 2B will consist of the following:

- Complete the reconstruction of the Harrison Street Bridge superstructure and approaches
- Remove temporary bridge for pedestrian access
- Complete the reconstruction of the west half of the Halsted Street bridge including all piers, abutments, superstructure and approaches
- Construct remaining portion of the proposed drainage system on the west side of Halsted Street Bridge
- Complete the construction of the retaining wall
- Re-grade the embankment between the back of concrete barrier and retaining wall

Stage 3 will consist of the following:

- Construct the east sidewalk and parapet along the east half of the Halsted Street Bridge
- Erect CTA canopy
- Remove existing erosion and sediment control measures
- Stabilize the final soil condition with the necessary permanent erosion and sediment control measures

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

City of Chicago / IDOT

L. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

The Harrison and Halsted Street Bridges area drains to Pump Station 5, which then pumps to the South Branch Chicago River. The South Branch Chicago River is impaired for the designated use of fish consumption due to the PCBs. PCBs are not expected to be a pollutant associated with this contract.

The South Branch Chicago River is not a Biologically Significant Stream.

M. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

None. Embankment slopes to be regraded and vegetation to be re-established.

N. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- ☐ Floodplain
- ☐ Wetland Riparian
- ☐ Threatened and Endangered Species
- ☐ Historic Preservation
- ☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- ☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation
- ☐ Applicable Federal, Tribal, State or Local Programs
- ☐ Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

   a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

   b. Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

   c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

   d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

   a. The name(s) of the listed water body:

   b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

   c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

O. The following pollutants of concern will be associated with this construction project:

☒	Soil Sediment	☒	Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
☒	Concrete	☒	Antifreeze / Coolants
☒	Concrete Truck Waste	☒	Waste water from cleaning construction equipment
☒	Concrete Curing Compounds	☒	Other (specify) Drilling mud for jacking
☒	Solid Waste Debris	☐	Other (specify)
☒	Paints	☐	Other (specify)
☒	Solvents	☐	Other (specify)
☒	Fertilizers / Pesticides	☐	Other (specify)

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls

1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

   Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

   The following stabilization practices will be used for this project:

☒	Preservation of Mature Vegetation	☒	Erosion Control Blanket / Mulching
☐	Vegetated Buffer Strips	☒	Sodding
☒	Protection of Trees	☐	Geotextiles
☒	Temporary Erosion Control Seeding	☐	Other (specify)
☐	Temporary Turf (Seeding, Class 7)	☐	Other (specify)
☒	Temporary Mulching	☐	Other (specify)
☒	Permanent Seeding	☐	Other (specify)

   Describe how the stabilization practices listed above will be utilized during construction:

   Refer to the Erosion and Sedimentation Control plan sheets for the contract for the specific

stabilization practices called out for temporary and permanent conditions.

1. Preservation of Mature Vegetation: Mature vegetation shall be preserved as specified in the contract and at the direction of the Engineer.

2. Protection of Trees: Trees shall be protected as specified in the contract and at the direction of the Engineer.

3. Temporary Erosion Control Seeding: This item will be applied to all bare areas every seven days to minimize the amount of exposed surface areas. Earth stockpiles shall be temporarily seeded if they are to remain unused for more than 14 days. Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway to prevent unnecessary soil erosion. Bare and sparsely vegetated ground in highly erodible areas as determined by the Engineer shall be temporarily seeded at the beginning of construction where no construction activities are expected within seven days.

4. Temporary Mulching: Mulch is applied to temporary erosion control seeding to allow for the seeding to take hold in the ground and grow. Without the mulching, the seeding will be displaced by wind and rain and therefore would not be able to grow. Mulch Method 4 (Compost) and surface roughing shall be used for temporary stabilization when temporary seed will not germinate. Mulch will be paid separately and shall conform to Section 251 of the Standard Specifications.

5. Permanent Seeding: Used at locations where there will be no more disturbances. The seeding will keep the soil from eroding due to natural conditions (wind, rain, etc.)

6. Erosion Control Blanket / Mulching: Erosion control blankets will be installed over fill slopes and in high velocity areas (i.e. ditches) and seeded to protect slopes from erosion and allow seeds to germinate. It will be installed over the permanent seeding to allow for the seeding to take hold in the ground and grow. Without the protection, the seeding will be displaced by wind and rain. Mulch will be applied in relatively flat areas to protect the disturbed areas and prevent further erosion.

7. Sodding: Sod is installed on slopes greater than 1V:2H or in areas of concentrated flows, sod shall be staked to prevent movement. Irrigate sod according to Article 252.08. Sod provides instant cover of soil for immediate erosion control. It also provides soil stabilization and acts as a filter for runoff.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Permanent Stabilization – All areas disturbed by construction will be stabilized with permanent seeding immediately following the finished grading. Erosion control blankets will be installed over slopes 3:1 (H:V) or steeper which have been brought to final grade, topsoiled, and have been seeded to protect the slopes from rill and gully erosion and allow seed to germinate properly. Mulch will be used on relatively flat areas.

Permanent Seeding: Seeding, Class 2A will be installed per IDOT specifications.

Sodding: This shall be applied as specified in the contract and at the direction of the Engineer.

Temporary or permanent stabilization shall be completed on the current stage prior to switching traffic to the next stage.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following structural practices will be used for this project:

☒	Perimeter Erosion Barrier	☐	Rock Outlet Protection
☐	Temporary Ditch Check	☐	Riprap
☒	Storm Drain Inlet Protection	☐	Gabions
☐	Sediment Trap	☐	Slope Mattress
☐	Temporary Pipe Slope Drain	☒	Retaining Walls
☒	Temporary Sediment Basin	☒	Slope Walls
☐	Temporary Stream Crossing	☐	Concrete Revetment Mats
☒	Stabilized Construction Exits	☐	Level Spreaders
☐	Turf Reinforcement Mats	☒	Other (specify) Sump Pit
☐	Permanent Check Dams	☒	Other (specify) Stabilized Flow Line
☐	Permanent Sediment Basin	☐	Other (specify)
☐	Aggregate Ditch	☐	Other (specify)
☐	Paved Ditch	☐	Other (specify)

Describe how the structural practices listed above will be utilized during construction:

Refer to the Erosion and Sedimentation Control plan sheets for the contract for the specific stabilization practices called out for temporary and permanent conditions.

As soon as reasonable access is available to all locations where water drains away from the project, perimeter erosion barrier shall be installed as called out in this plan and directed by the Engineer.

1. Perimeter Erosion Barrier: Silt fences shall be placed along the contour at the limits in an effort to contain silt and runoff from leaving the site. Silt fence shall not be installed in areas of concentrated flow such as across ditches. The barrier will be constructed at the beginning of construction. Damage to silt fence by traffic or snow plowing should be considered in making the direction to the Contractor.

2. Storm Drain Inlet Protection: Sediment filters will be placed in all open lid inlets, catch basins

and manholes during construction and will be cleaned on a regular basis.

3. Temporary Sediment Basin/Sump Pit: A temporary sediment basin or sump pit will be used to temporarily collect runoff during construction. Water will be pumped out of the basin as needed. A filter bag will be required at the end of the discharge pipe.

4. Stabilized Construction Exits: Stabilized Construction Exits or Entrances will be provided by the Contractor. The entrance shall be maintained in a condition which shall prevent tracking or flowing of sediment onto Public-Right-Of-Way. Periodic Inspection and needed maintenance shall be provided after heavy use and each rainfall event.

5. Stabilized Flow Line: The Contractor shall provide to the RE a plan to have stabilized conveyance between upstream and downstream ends of storm sewer under construction when rain is forecasted, so that flow will not erode. This is important where new storm sewer connects to an existing storm sewer system. The use of a stabilized flow line between an installed storm sewer and open disturbance will reduce the potential for the offsite discharge of sediment-bearing waters.

All erosion control products furnished shall be specifically recommended by the manufacturer for the use specified in the erosion control plan prior to the approval and use of the product. The Contractor shall submit to the Engineer a notarized certification by the producer stating the intended use of the product and that the physical properties required for this application are met or exceeded. The contractor shall provide manufacturer installation procedures to facilitate the Engineer in construction inspection.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Once the construction is completed and the vegetation has been established, the perimeter barrier will be removed and areas disturbed by the removal will be stabilized with seeding and mulching.

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

      The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design and Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

   b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a

water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of storm water management controls:

Storage pipes will be constructed to hold storm water surcharging in the existing drainage to pump station 5.

A detention tank will be constructed that will improve water quality in runoff from the 5-year and greater storms, south of the Circle Interchange, discharging to pump station 26.

Also, Phosphorous fertilizer has been eliminated from the project to reduce project impacts on the receiving waters.

4. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

All management practices, controls, and other provisions provided in this plan are in accordance with "IDOT Standard Specification for Road and Bridge Construction" and "Illinois Urban Manual."

5. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.

   a. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

   - Approximate duration of the project, including each stage of the project
   - Rainy season, dry season, and winter shutdown dates
   - Temporary stabilization measures to be employed by contract phases
   - Mobilization timeframe
   - Mass clearing and grubbing/roadside clearing dates
   - Deployment of Erosion Control Practices
   - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
   - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
   - Paving, saw-cutting, and any other pavement related operations
   - Major planned stockpiling operations
   - Timeframe for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
   - Permanent stabilization activities for each area of the project

b. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit applies to offsite Borrow and Waste/Use areas in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:

- Vehicle Entrances and Exits – Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
- Material Delivery, Storage and Use – Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
- Stockpile Management – Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
- Waste Disposal – Discuss methods of waste disposal that will be used for this project.
- Spill Prevention and Control – Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
- Concrete Residuals and Washout Wastes – Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management – Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Additional measures indicated in the plan.

III. **Maintenance:**

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

The Contractor will be responsible for the inspection, maintenance and repair of all sedimentation and erosion control measures. If the Engineer notices or is notified of an erosion or sedimentation deficiency, the Engineer will notify the Contractor to correct it. All Offsite Borrow, Waste, and Use areas are part of the construction siste and are to be inspected according to the language in this section and Section IV.

Inspection of these areas shall be made at least once every seven days and within 24 hours of the end of each 0.5 inches or greater rainfall, or an equivalent snowfall. Additionally during winter months, all measures should be checked after each significant snowmelt. Any necessary repairs or cleanup to maintain the effectiveness of said measures shall be made immediately. The project shall additionally be inspected by the Construction Field Engineer on a bi-weekly basis to determine that erosion control efforts are in place and effective and if other erosion control work is necessary.

All erosion and sediment control measures shall be maintained in accordance with the IDOT Erosion and Sediment Control Field Guide for Construction Inspection:
http://www.dot.il.gov/desenv/environmental/idot%20field%20guide.pdf

In additional, the following link may also be useful for maintenance:
http://www.dot.il.gov/desenv/environmental/bestpractices.html

Seeding - All erodible bare earth will be temporarily seeded on a weekly basis to minimize the amount of erodible surface within the contract limits. Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or pollution runoff in compliance with environmental law and EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site. On a weekly basis, the Engineer shall inspect the project to determine whether erosion control efforts are in place and effective and if additional control measures are necessary. Sediment collected during construction by the various temporary erosion control systems shall be disposed on the site on a regular basis as directed by the Engineer and stabilized accordingly.

Temporary Erosion Control Seeding – Reapply seed if stabilization has not been achieved. Apply temporary mulch to hold seed in place if seed has been washed away or found to be concentrated in ditch bottoms. Restore rills, greater than 4 inches deep, as quickly as possible on slopes steeper than 1V:4H to prevent sheet-flow from becoming concentrated flow patterns.

Perimeter Erosion Barrier - This shall be inspected every 7 calendar days and after a storm event of 0.5 inch or greater (including snowfall). Repair when tears, gaps, leaning or undermining occur and restore erosion barrier taut. Repair or replace any missing or broken stakes immediately. Sediment will be removed if the integrity of the fencing is in jeopardy. Remove once permanent stabilization is established since it will no longer be necessary.

Erosion Control Blanket - Repair damage due to water running beneath the blanket and restore when displacement occurs. Reseeding may be necessary. Replace and re-staple all displaced erosion control blankets immediately.

Mulching – Mulch shall be placed at the base of trees or shrubs; never in drainageways; and on temporary or final seeded areas away from traffic where it would be blown away.

Sodding – Limit foot traffic to low use for the first two to three weeks. Ensure irrigation rate does not result in runoff. Install salt-tolerant sod where needed. Replace when >25% of any individual piece of sod is no longer viable. Restore areas where rolling edges are present or sod is displaced.

Storm Drain Inlet Protection – Remove sediment from inlet filter basket when basket is 25% full or 50% of the fabric pores are covered with silt. Remove ponded water on road surfaces immediately. Clean filter if standing water is present longer than one hour after a rain event. Remove trash accumulated around or on top of practice. When filter is removed for cleaning, replace filter if any tear is present.

Protection of trees/temporary tree protection: Any protective measures which are knocked down shall be repaired immediately. Trim any cuts, skins, scrapes or bruises to the bark of the vegetation and utilize local nursery accepted procedures to seal damaged bark. Prune all tree branches broken, severed, or damaged during construction. Smoothly cut, perpendicular to the root, all cut, broken, or severed during construction, roots 1 inch or greater in diameter. Cover roots exposed during excavation with moist earth and/or backfill immediately to prevent roots from drying.

Temporary Sediment Basin – Remove accumulated silt when the basin becomes 50% filled. Maintain the outlet structure to prevent clogging. Correct erosion at outlet and provide stabilization if necessary.

Stabilized Construction Exits – Replenish stone or replace exit if vehicles continue to track sediment onto the roadway from the construction site. Sweep sediment on roadway from construction activities immediately. Use street sweeping in conjunction with this BMP to remove sediment not removed by the stabilized

construction exit.

Material Delivery and Storage – Document the various types of materials delivered and their storage locations in the SWPPP. Update the SWPPP when significant changes occur to material storage or handling locations and when they have been removed. Cleanup spills immediately. Remove empty containers.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm that is 0.5 inch or greater or equivalent snowfall.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

FAI 90/94/290
(Harrison Street and Halsted Street)
Section 2013-008R
Cook County
Contract No. 60W26

Illinois Department of Transportation

Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.5 of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	F.A.I. 90/94/290	Marked Rte.	Harrison and Halsted Streets
Section	2013-008R	Project No.	
County	Cook County	Contract No.	60W26

This certification statement is a part of the SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in the SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

☐ Contractor

☐ Sub-Contractor

Print Name	Signature
Title	Date
Name of Firm	Telephone
Street Address	City/State/ZIP

Addendum A: 10-15-2013

Revised 10/31/13

FAI 90/94/290
(Harrison Street and Halsted Street)
Section 2013-008R
Cook County
Contract No. 60W26

Items which this Contractor/subcontractor will be responsible for as required in Section II.5. of the SWPPP:

Addendum A: 10-15-2013

Revised 10/31/13

This page intentionally left blank

Revised 10/31/13

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Revise Article 669.01 of the Standard Specifications to read:

"669.01 Description. This work shall consist of the transportation and proper disposal of contaminated soil and water. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities."

Revise Article 669.08 of the Standard Specifications to read:

"669.08 Contaminated Soil and/or Groundwater Monitoring. The Contractor shall hire a qualified environmental firm to monitor the area containing the regulated substances. The affected area shall be monitored with a photoionization detector (PID) utilizing a lamp of 10.6eV or greater or a flame ionization detector (FID). Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. No excavated soils can be taken to a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation with detectable PID or FID meter readings that are above background. The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily. All testing shall be done by a qualified engineer/technician. Such testing and monitoring shall be included in the work. The Contractor shall identify the exact limits of removal of non-special waste, special waste, or hazardous waste. All limits shall be approved by the Engineer prior to excavation. The Contractor shall take all necessary precautions.

Based upon the land use history of the subject property and/or PID or FID readings indicating contamination, a soil or groundwater sample shall be taken from the same location and submitted to an approved laboratory. Soil or groundwater samples shall be analyzed for the contaminants of concern, including pH, based on the property's land use history or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605. The analytical results shall serve to document the level of soil contamination. Soil and groundwater samples may be required at the discretion of the Engineer to verify the level of soil and groundwater contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, location and elevation, and any other observations.

Revised 10/31/13

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 and "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective."

Replace the first two paragraphs of Article 669.09 of the Standard Specifications with the following:

"669.09 Contaminated Soil and/or Groundwater Management and Disposal. The management and disposal of contaminated soil and/or groundwater shall be according to the following:

(a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:

(1) When analytical results indicate chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the right-of-way as fill, when suitable. Such soil excavated for storm sewers can be placed back into the excavated trench as backfill, when suitable, unless trench backfill is specified. If the soils cannot be utilized within the right-of-way, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the right-of-way as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the right-of-way as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

Revised 10/31/13

(4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the right-of-way as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(5) When the Engineer determines soil cannot be managed according to Articles 669.09(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC but the pH of the soil is less than 6.25 or greater than 9.0, the excavated soil can be utilized within the right-of-way or managed and disposed of off-site as "uncontaminated soil" according to Article 202.03. However the excavated soil cannot be taken to a CCDD facility or an uncontaminated soil fill operation.

(c) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste.

All groundwater encountered within lateral trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer."

Revised 10/31/13

Revise Article 669.14 of the Standard Specifications to read:

"669.14 Final Environmental Construction Report. At the end of the project, the Contractor will prepare and submit three copies of the Environmental Construction Report on the activities conducted during the life of the project, one copy shall be submitted to the Resident Engineer, one copy shall be submitted to the District's Environmental Studies Unit, and one copy shall be submitted with an electronic copy in Adode.pdf format to the Geologic and Waste Assessment Unit, Bureau of Design and Environment, IDOT, 2300 South Dirksen Parkway, Springfield, Illinois 62764. The technical report shall include all pertinent information regarding the project including, but not limited to:

(a) Measures taken to identify, monitor, handle, and dispose of soil or groundwater containing regulated substances, to prevent further migration of regulated substances, and to protect workers,

(b) Cost of identifying, monitoring, handling, and disposing of soil or groundwater containing regulated substances, the cost of preventing further migration of regulated substances, and the cost for worker protection from the regulated substances. All cost should be in the format of the contract pay items listed in the contract plans (identified by the preliminary environmental site assessment (PESA) site number),

(c) Plan sheets showing the areas containing the regulated substances,

(d) Field sampling and testing results used to identify the nature and extent of the regulated substances,

(e) Waste manifests (identified by the preliminary environmental site assessment (PESA) site number) for special or hazardous waste disposal, and

(f) Landfill tickets (identified by the preliminary environmental site assessment (PESA) site number) for non-special waste disposal."

Revise the second paragraph of Article 669.16 of the Standard Specifications to read:

"The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL."

Revised 10/31/13

Qualifications. The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General. This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either "uncontaminated soil" or non-special waste, except where noted as **hazardous waste**. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

- Station 3830+15 to Station 3831+00 (Halsted Street) 0 to 100 feet RT (UIC Student Recreational Facility, PESA Site 2615-236, 737 South Halsted Street). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Carbazole, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, Lead, and Manganese.
- Station 3833+00 to Station 3837+000 (Halsted Street) 0 to 100 feet LT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, Lead, and Manganese.
- Station 3838+50 to Station 3839+10 (Halsted Street) 0 to 70 feet LT (The Rice Building, PESA Site 2615-212, 815-821 West Van Buren Street and 405 South Green Street). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Carbazole, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, and Lead.
- Station 3831+00 to Station 3832+00 (Halsted Street) 0 to 100 feet RT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Benzo(k)Fluoranthene, Carbazole, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, Naphthalene, Lead, and Manganese. **Hazardous Waste for Lead**.
- Station 3832+00 to Station 3833+00 (Halsted Street) 0 to 40 feet RT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Dibenzo(a,h)Anthracene, and Lead.

Revised 10/31/13

- Station 7307+15 to Station 7308+00 (Taylor Exit Ramp) 0 to 60 feet LT/RT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Dibenzo(a,h)Anthracene, and Lead.
- Station 7308+00 to Station 7309+00 (Taylor Exit Ramp) 0 to 60 feet LT/RT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Benzo(b)Fluoranthene, Benzo(k)Fluoranthene, Carbazole, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, Naphthalene, Lead, and Manganese. **Hazardous Waste for Lead**.
- Station 7807+90 to Station 7810+00 (Harrison Street) 0 to 170 feet LT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Anthracene, Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, Indeno(1,2,3-cd)Pyrene, and Lead.
- Station 3830+00 to Station 3833+00 (Halsted Street) 0 to 130 feet LT (UIC Harrison Field, PESA Site 2615-225, 800 Block of South Harrison Street). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Lead, and Manganese.
- Station 3700+00 to Station 3838+50 (Halsted Street) 0 to 100 feet LT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead and Manganese.
- Station 3836+00 to Station 3838+50 (Halsted Street) 0 to 80 feet RT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene.
- Station 3838+50 to Station 3839.10 (Halsted Street) 0 to 80 feet RT (Bus Stop, PESA Site 2615-213, 400 Block of South Halsted Street). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead.
- Station 7807+90 to Station 7810+00 (Harrison Street) 0 to 200 feet RT (IDOT ROW, PESA Site 2615-1, I-90/94 between Grand Avenue and West 14th Street). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, Lead, and Manganese.
- Station 7810+00 to Station 7811+40 (Harrison Street) 0 to 100 feet RT (Cermak Pumping Station, PESA Site 2615-237, 735 West Harrison Street). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, Lead, and Manganese.
- Station 7810+00 to Station 7811+40 (Harrison Street) 0 to 100 feet LT (IDOT ROW, PESA Site 2615-219, I-290 between Throop Street and the Chicago River). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene and Lead.
- Station 3830+15 to Station 3831+00 (Halsted Street) 0 to 130 feet LT (UIC Residential Halls, PESA Site 2615-235, 600 and 700 South Halsted Street and 901 West Harrison Street). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene.

Revised 10/31/13

TEMPORARY CHAIN LINK FENCE

Description. This work shall consist of furnishing, installing, maintaining and removing temporary chain link fence and gates in two locations. Temporary chain link fence with screening must be utilized around the water main relocation work site. Temporary chain link fence shall be used to provide access control at the Cermak Pumping Station after the removal of the existing fence and gate and prior to the installation of the final fence and gate. The fence and gates are to be installed at locations as specified on the plans, or as directed by the Engineer Work under this item shall be performed according to section 664 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

General Requirements. The Temporary Chain Link Fence shall be at least 8 feet in height. The Temporary Chain Link Fence at the water main relocation area shall be self-standing without the need to disturb the surface ground by excavation. The stand shall be made of galvanized steel pipe or similar materials. The Temporary Chain Link Fence utilized at the Cermak Pumping Station shall include the anchorage of posts into existing concrete pavement. Each fence panel shall be made from welded wire panels or out of chain link fence materials. All the necessary bases, panel clamps and bolts shall be included and installed in accordance to the manufacturer specifications and to the satisfaction of the Engineer.

The Temporary Chain Link Fence at the water main relocation area shall utilize opaque fabric meshing affixed to the chain link fence face. The fabric meshing shall allow passage of air but shall contain dust and dirt. The mesh fabric shall be the full height of the fence and cover the entire length of the fence including any gated opening. The fabric meshing and fence shall not contain any advertisement. The color of the fabric shall be approved by the Engineer.

Method of Measurement. Temporary Chain Link Fence shall be measured for payment in feet, along the top of the fence from center to center of end posts, including the length occupied by gates.

Basis of Payment. Temporary Chain Link Fence will be paid for at the contract unit price per foot for TEMPORARY CHAIN LINK FENCE for which said price shall include all labor, materials, equipment, furnishing, installing, maintaining and incidentals necessary for placement and removal and disposal of the temporary chain link fence and gates.

Added 10/31/13

STORM SEWER TO BE FILLED

Description. This work shall consist of cleaning and then filling storm sewer pipes to be abandoned.

Materials. The material to fill the pipes shall be Controlled Low Strength Material (CLSM) meeting the requirements of Section 1019 of the Standard Specifications.

Construction Requirements. The inside of the pipe shall be cleaned of all unsuitable material and debris before placing the CLSM. The pipe shall be completely filled. The method used for filling the pipe and containing the CLSM at the pipe ends shall be at the Contractor's option.

The weather and temperature placement requirements of Section 593 of the Standard Specifications shall apply.

Method of Measurement. The volume for payment of CLSM shall be the measured volume in cubic yards of the sewer pipe to be filled. Cleaning the pipe will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for STORM SEWER TO BE FILLED.

Added 10/31/13

CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT ENGINEERING SERVICES

Description. This item shall consist of payment for work performed by the City of Chicago Department of Water Management (CDWM) related to engineering services in support of this contract. These services include operations related to the shutting down the existing 54" water main, testing and inspection during the installation of the 54" water main relocation, startup of services on the relocated water main, water quality testing, abandonment of the 12" water main on Halsted Street, field supervision, technical assistance, reviews and other required services.

General. It shall be the Contractor's responsibility to arrange and coordinate all required services by CDWM. All necessary field and pumping station work, including valve operations, shall be scheduled with CDWM in advance of the time period required. All work to be performed by CDWM is subject to CDWM work schedules and availability. Acceptance of complete water main by CDWM is based upon CDWM review of installation, presence during testing and cleaning operations and other roles as desired by CDWM and required in these specifications.

Method Of Payment. The Contractor will make payments to CDWM based upon the following schedule agreed to with CDWM:

- 80% of initial estimate of costs by CDWM. CDWM has identified to the Department that services are estimated at $224,800,00. This payment shall be made to CDWM within ten (10) days of contract award using certified check, certified mail and receipt notification. The receipt is to be provided to the Engineer for records.
- Remaining balance at the completion of services by CDWM as invoiced including back up information.

CDWM will invoice the final amount based upon current rates for labor (straight time), material, equipment, overhead charges and other costs incurred.

The Contractor will be reimbursed based upon the requirements identified in Section 109.05, including administrative costs. The Contractor shall secure invoices from CDWM for work performed by CDWM. These invoices shall be submitted as documentation to the Department prior to or with any Contractor payment request for the remaining balance at the completion of work related to CDWM facilities.

For bidding purposes, this item shall be estimated as $227,500, which includes the estimated cost by CDWM with additional administrative costs per Section 109.05.

Basis Of Payment. This work will be paid for at the contract lump sum price for CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT ENGINEERING SERVICES which shall be reimbursement in full, and with administrative costs as described in Section 109.05, for services provided by CDWM.

Added 10/31/13

EXCAVATION AND RESTORATION FOR WATER MAIN ABANDONMENT

Description. This item shall consist of payment for work performed by the Contractor in order to allow the City of Chicago Department of Water Management (CDWM) the access to abandon the 12" water main that conflicts with the proposed south abutment of the Halsted Street Bridge.

The CDWM has identified that the existing 12" water main along Halsted Street north of Harrison Street can be abandoned and removed under this project. From Halsted Street, the water main alignment is along I-290 and Peoria Street. The 12" water main has two existing connections to a 12" water main in Harrison Street and an existing connection to a 16" water main in vacated Green Street. The entire three sided loop will be abandoned as part of this work and will allow the removal of the abandoned water main along Halsted Street.

The locations where work is required are approximate and are shown in the Plans. The locations are based upon CDWM atlas information and survey information. The exact locations and dimensions will be determined by CDWM.

The location near the northwest corner of the Halsted Street and Harrison Street intersection is within the roadway and sidewalk improvement area. The final water main abandonment shall be scheduled to minimize the need to provide restoration work in advance of reconstruction of the pavement and sidewalk in the immediate area.

Construction Requirements. It shall be the Contractor's responsibility to perform all work associated with the water main improvements, except for required work on the actual water main pipes and fittings. The Contractor shall provide all necessary work including, maintenance of traffic and lane closures, pavement and/or sidewalk removal, excavation, trench construction, bracing, protection of excavation, backfill using excavated material or trench backfill, pavement patches, pavement marking replacement, sidewalk construction, permanent erosion control and other restoration activities.

CDWM will identify the exact locations and configurations for the excavations. The dimensions shown on the Plans are approximate, and are based upon correspondence with CDWM on the anticipated scope of work to make necessary water main cuts, fitting removal, pipe sleeve installed and other work efforts.

Method Of Measurement. The locations identified for Contractor performed excavation and restoration for water main abandonment will be measured for payment by each location required.

Trench backfill utilized for the backfill of the excavations will be measured for payment separately according to Article 208.03

Basis Of Payment. This work will be paid for at the contract unit price per each for EXCAVATION AND RESTORATION FOR WATER MAIN ABANDONMENT which price will be payment in full for all labor and materials necessary to complete the work as described. No separate payment will be made for pavement or sidewalk removal, pavement patching or required restoration.

Trench backfill will be paid for according to Article 208.04.

Added 10/31/13

RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)
Effective: December 1, 1986
Revised: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications. A separate policy is required for each railroad unless otherwise noted.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
CTA @ Halsted Street over I-290		-0-
Chicago Transit Authority (CTA) 567 West Lake Street P.O.Box 7598 Chicago IL 60680-7598	Blue Line 382 trains/day@55mph.	

DOT/AAR No.: N/A
RR Division: CTA
RR Mile Post: N/A
RR Sub-Division: Blue Line

For Freight/Passenger Information Contact: Mr. Richard Herndobler Phone: 312/681-3921
For Insurance Information Contact: Tamika Press Phone: 312/681-2901

Approval of Insurance. The original and one certified copy of each required policy shall be submitted to the following address for approval:

Illinois Department of Transportation
Bureau of Design and Environment
2300 South Dirksen Parkway, Room 326
Springfield, Illinois 62764

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.
3426I

Added 10/31/13

REMOVE TEMPORARY WOOD POLE

Description. This item consists of removing existing temporary wood poles, aerial cable, conduit attached to the wood pole including all associated apparatus and connections. This removal shall also include removal of all wiring and connections to the associated high mast light towers. All equipment and material removed as part of this item shall become property of the Contractor and shall be removed from the site.

Pole holes shall be backfilled according to Article 819.04.

Method of Measurement. Units measured for payment will be counted on a per-pole basis, regardless of pole material, mounting height, and installation depth.

Basis of Payment. This work will be paid for at the Contract unit price each for REMOVE TEMPORARY WOOD POLE.

Added 10/31/13

PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, STRUCTURE MOUNTED WITH COUNT DOWN TIMER (CDOT)

Description. This item will consist of furnishing and installing a pedestrian head mounted on structure as specified herein, or as directed by the Engineer.

During construction and until the installation is placed in operation, all signal faces must be hooded. The hooding material must be securely fastened so it will not be disturbed by normal inclement weather or wind.

Materials. The countdown pedestrian signal must meet the requirements of Material Specification 1545. All housing units must be made of polycarbonate. The light source must be LED. Mounting hardware must meet the requirements of Material Specification 1495. Cable must meet the requirements of Material Specification 1475.

Installation. Mounting: Contractor shall provide the shop drawings for mounting the pedestrian signal on the structure for engineer's approval.

Cable: The Contractor must provide and install a length of 8/C #16 AWG, as per Specification 1475, flexible electrical cord, medium duty, of sufficient length to extend without strain or stress from the terminal strip in the "Green" section of the signal head to the terminal strip in the junction box mounted on the pole. The number of conductors in the cord, and the color coding of the conductors, must be sufficient to match the requirements of the signal head being installed, and must be connected in accordance with Specification 1493. Both ends of the cable length must be carefully stripped of six inches (6") of jacket and one inch (1") of insulation, and each conductor properly tinned. The service cable from the signal heads must enter the pole through the bottom mounting bracket and enter the long sweep elbow to terminate by attachment to the terminal strip in the junction box in accordance with connector schematic, Bureau of Electricity Drawing Number 12268-A

Method of Measurement. This work will be measured per each unit installed, complete which includes all the brackets, tubes, mounting hardware and wiring as noted above.

Basis of Payment. This work will be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, STRUCTURE MOUNTED WITH COUNT DOWN TIMER (CDOT), which price will be payment in full for furnishing and installing the signal head complete.

Added 10/31/13

ELECTRIC CABLE AERIAL SUSPENDED, COMMUNICATION, NO. 19 100 PAIR (MATERIALS ONLY)

Description. This work will consist of the purchasing a 100 pair, Number 19 AWG copper electric communication cable from an City of Chicago approved cable manufacturer and delivering the cable directly from the manufacturer to a City of Chicago storage site as specified herein and as directed by the Engineer.

The cables must comply with the City of Chicago Office of Emergency Management and Communications requirements. The cables must be purchased from a cable manufacturer approved by the City of Chicago Office of Emergency Management and Communications prior to processing the purchase order.

General Requirements. General requirements must be in accordance with Section 801 of the Standard Specifications, in accordance with City of Chicago Office of Emergency Management and Communications Standards and the City of Chicago Electrical Code, except as herein modified.

Material. The 100-pair, 19 AWG copper communication cable will be the BELL System Type BHBH as manufactured by GENERAL CABLE, Air Core Bonded PASP, Catalog Number 7502214 or approved equal.

The cable shall comply with Telcordia (Bellcore) Specification GR-421-CORE and be ROHS Compliant (effective 1/1/10).

Catalog cuts of the cable must be provided by the Contractor and submitted to the City of Chicago Office of Emergency Management and Communications for review and approval prior to purchase.

Transportation. The Contractor shall have the cable manufacturer deliver the cables directly to the City of Chicago storage site. The cables must be delivered on cable spools in the original packing provided by the manufacturer. The Contractor shall make arrangements to have the cables delivered directly to the City of Chicago's storage facility located within 5 miles of the job site. The delivery shall be done on weekdays between the hours of 8:00 a.m. and 4:00 p.m., excluding City holidays. The Contractor shall contact the City of Chicago Office of Emergency Management and Communications representative, Frank Kelly at 312-746-9238, seventy-two (72) hours advance notice prior to the delivery of the cables.
Any damage sustained to the cables during delivery from the manufacturer's factory to the City storage site shall be replaced in kind, to the satisfaction of the Engineer at no additional cost to IDOT.

Method of Measurement. Cable will be measured for payment in feet.

Basis of Payment. This work shall be paid for at the contract unit price per foot for ELECTRIC CABLE AERIAL SUSPENDED, COMMUNICATION, NO. 19 100 PAIR (MATERIALS ONLY) as specified. The price will be payment in full for purchasing the cable from an approved manufacturer and delivering the cable to the designated City of Chicago storage site.

Added 10/31/13

IEPA FORM 663

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.25 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: I90/94 at I290 (Circle Interchange) Office Phone Number, if available: _____

Physical Site Location (address, incldluding number and street):
Northeast corner of intersection of West Harrison Street and South Halsted Street.

City: Chicago State: IL Zip Code: 60607

County: Cook Township: _____

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345)

Latitude: 41.87491 (Decimal Degrees) Longitude: -87.64707 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

	Site Owner		Site Operator
Name:	Illinois Department of Transportation	Name:	Illinois Department of Transportation
Street Address:	201 West Center Street	Street Address:	201 West Center Street
PO Box:		PO Box:	
City:	Schaumburg State: IL	City:	Schaumburg State: IL
Zip Code:	60196-1096 Phone: 847-705-4101	Zip Code:	60196-1096 Phone: 847-705-4101
Contact:	Sam Mead	Contact:	Sam Mead
Email, if available:	Sam.Mead@illinois.gov	Email, if available:	Sam.Mead@illinois.gov

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

IL 532-2922
LPC 663 Rev. 8/2012

Added 10/31/13

Project Name: I90/94 at I290 (Circle Interchange)

Latitude: 41.87491 Longitude: -87.64707

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

LOCATION 2615-219-B10 WAS SAMPLED ADJACENT TO ISGS SITE 2615-219. SEE FIGURE 2 AND TABLE 3e OF REVISED PRELIMINARY SITE INVESTIGATION.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

TEST AMERICA ANALYTICAL REPORT - JOB ID: 500-57535-2

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Steven Gobelman, P.E., L.P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: IDOT Bureau of Design and Environment

Street Address: 2300 South Dirksen Parkway

City: Springfield State: IL Zip Code: 62764

Phone: 217.785.4246

Steven Gobleman
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

10/25/13
Date:

STEVEN GOBELMAN
196-000598
LICENSED
PROFESSIONAL
GEOLOGIST
STATE OF ILLINOIS

P.E. & L.P.G. Seal:

Added 10/31/13

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

Analytical Parameters

Volatile Organic Compounds (mg/kg)
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropene
2-Butanone (MEK)
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Methyl-tert-butyl-ether (MTBE)
Styrene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Vinyl Acetate
Vinyl Chloride
Xylenes, total
m-Xylene
o-Xylene
p-Xylene
Semivolatile Organic Compounds (mg/kg)
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromophenyl phenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene

Added 10/31/13

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

Analytical Parameters

Semivolatile Organic Compounds (mg/kg) (cont.)
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl)ether
bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Carbazole
Chrysene
Dibenzo (a,h) anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-cd) pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodi-n-propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
Inorganic Compounds, Total (mg/kg)
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc
TCLP/SPLP Inorganics (mg/L)
Antimony
Barium
Beryllium
Boron
Cadmium
Chromium
Cobalt
Iron
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Added 10/31/13

The following table summarizes the results of laboratory analysis of site soil samples. In reading the table,

- Only parameters reported at concentrations above the most stringent MAC are listed.
- Samples with the notation **"No Contaminants of Concern Noted"** were below the most stringent MAC.

The laboratory report for site soils follows this summary table.

Added 10/31/13

ISGS Site 2615-219
IDOT I-290 ROW

Sample ID	2615-219-B10-1	2615-219-B10-2	2615-219-B10-3	2615-219-B10-4
Sample Depth (ft)	0-6	6-12	12-18	18-24
Sample Date	5/30/2013	5/30/2013	5/30/2013	5/30/2013
% Solids	No Sample	No Sample	80	81
Sample pH	N/A	N/A	8	8.05
Matrix	Soil	Soil	Soil	Soil
No Contaminants Concern Noted in listed borings.				

T:\IDOT2013\IDOT2013-013\MON\663 Tables\663 Tables (60W27)

Andrews Engineering, Inc.
6/21/2013

Added 10/31/13

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-57535-2
Client Project/Site: IDOT - I-90/94 - WO 013

For:
Andrews Engineering Inc.
3300 Ginger Creek Drive
Springfield, Illinois 62711

Attn: Mike Nelson

Authorized for release by:
6/18/2013 3:24:41 PM

Richard Wright, Project Manager II
richard.wright@testamericainc.com

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-3
Date Collected: 05/30/13 15:10
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-19
Matrix: Solid
Percent Solids: 80.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0048		0.0048	0.0021	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Benzene	<0.0048		0.0048	0.00065	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Bromodichloromethane	<0.0048		0.0048	0.00082	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Bromoform	<0.0048		0.0048	0.0011	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Bromomethane	<0.0048		0.0048	0.0014	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
2-Butanone (MEK)	<0.0048		0.0048	0.0017	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Carbon disulfide	<0.0048		0.0048	0.00071	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Carbon tetrachloride	<0.0048		0.0048	0.00087	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Chlorobenzene	<0.0048		0.0048	0.00048	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Chloroethane	<0.0048		0.0048	0.0013	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Chloroform	<0.0048		0.0048	0.00055	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Chloromethane	<0.0048		0.0048	0.0010	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
cis-1,2-Dichloroethene	<0.0048		0.0048	0.00067	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
cis-1,3-Dichloropropene	<0.0048		0.0048	0.00063	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Dibromochloromethane	<0.0048		0.0048	0.00083	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,1-Dichloroethane	<0.0048		0.0048	0.00076	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,2-Dichloroethane	<0.0048		0.0048	0.00071	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,1-Dichloroethene	<0.0048		0.0048	0.00077	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,2-Dichloropropane	<0.0048		0.0048	0.00072	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,3-Dichloropropene, Total	<0.0048		0.0048	0.00063	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Ethylbenzene	<0.0048		0.0048	0.00096	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
2-Hexanone	<0.0048		0.0048	0.0014	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Methylene Chloride	<0.0048		0.0048	0.0013	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
4-Methyl-2-pentanone (MIBK)	<0.0048		0.0048	0.0013	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Methyl tert-butyl ether	<0.0048		0.0048	0.00079	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Styrene	<0.0048		0.0048	0.00063	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,1,2,2-Tetrachloroethane	<0.0048		0.0048	0.00096	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Tetrachloroethene	<0.0048		0.0048	0.00073	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Toluene	<0.0048		0.0048	0.00067	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
trans-1,2-Dichloroethene	<0.0048		0.0048	0.00066	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
trans-1,3-Dichloropropene	<0.0048		0.0048	0.00086	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,1,1-Trichloroethane	<0.0048		0.0048	0.00071	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
1,1,2-Trichloroethane	<0.0048		0.0048	0.00065	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Trichloroethene	<0.0048		0.0048	0.00079	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Vinyl acetate	<0.0048		0.0048	0.00075	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Vinyl chloride	<0.0048		0.0048	0.0010	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1
Xylenes, Total	<0.0095		0.0095	0.00043	mg/Kg	☼	05/30/13 15:10	06/04/13 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 122*	*05/30/13 15:10*	*06/04/13 18:29*	*1*
Dibromofluoromethane	*102*		*75 - 120*	*05/30/13 15:10*	*06/04/13 18:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 134*	*05/30/13 15:10*	*06/04/13 18:29*	*1*
Toluene-d8 (Surr)	*111*		*75 - 122*	*05/30/13 15:10*	*06/04/13 18:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.063	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
1,3-Dichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
1,4-Dichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-3
Date Collected: 05/30/13 15:10
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-19
Matrix: Solid
Percent Solids: 80.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Methylphenol	<0.20		0.20	0.053	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.044	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
N-Nitrosodi-n-propylamine	<0.20		0.20	0.051	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Hexachloroethane	<0.20		0.20	0.043	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Chlorophenol	<0.20		0.20	0.057	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Nitrobenzene	<0.040		0.040	0.012	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.044	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4-Dimethylphenol	<0.40		0.40	0.13	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Hexachlorobutadiene	<0.20		0.20	0.052	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Naphthalene	<0.040		0.040	0.0077	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4-Dichlorophenol	<0.40		0.40	0.12	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Chloroaniline	<0.81		0.81	0.12	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4,6-Trichlorophenol	<0.40		0.40	0.050	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4,5-Trichlorophenol	<0.40		0.40	0.11	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Hexachlorocyclopentadiene	<0.81		0.81	0.19	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Methylnaphthalene	<0.20		0.20	0.052	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Nitroaniline	<0.20		0.20	0.072	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Chloro-3-methylphenol	<0.40		0.40	0.19	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,6-Dinitrotoluene	<0.20		0.20	0.048	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2-Nitrophenol	<0.40		0.40	0.063	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
3-Nitroaniline	<0.40		0.40	0.077	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Dimethyl phthalate	<0.20		0.20	0.050	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4-Dinitrophenol	<0.81		0.81	0.21	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Acenaphthylene	<0.040		0.040	0.0092	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
2,4-Dinitrotoluene	<0.20		0.20	0.061	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Acenaphthene	<0.040		0.040	0.012	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Dibenzofuran	<0.20		0.20	0.048	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Nitrophenol	<0.81		0.81	0.22	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Fluorene	<0.040		0.040	0.0091	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Nitroaniline	<0.40		0.40	0.082	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.045	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Hexachlorobenzene	<0.081		0.081	0.0079	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Diethyl phthalate	<0.20		0.20	0.067	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.063	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Pentachlorophenol	<0.81		0.81	0.20	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
N-Nitrosodiphenylamine	<0.20		0.20	0.054	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
4,6-Dinitro-2-methylphenol	<0.40		0.40	0.097	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Phenanthrene	0.050		0.040	0.017	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Anthracene	<0.040		0.040	0.0094	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Carbazole	<0.20	*	0.20	0.056	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Di-n-butyl phthalate	<0.20		0.20	0.051	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Fluoranthene	<0.040		0.040	0.016	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Pyrene	<0.040		0.040	0.014	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Butyl benzyl phthalate	<0.20		0.20	0.050	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Benzo[a]anthracene	<0.040		0.040	0.0084	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-3
Date Collected: 05/30/13 15:10
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-19
Matrix: Solid
Percent Solids: 80.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	0.017	J	0.040	0.0090	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.033	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.053	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Di-n-octyl phthalate	<0.20		0.20	0.081	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Benzo[b]fluoranthene	<0.040		0.040	0.0078	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Benzo[k]fluoranthene	<0.040		0.040	0.0096	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Benzo[a]pyrene	<0.040		0.040	0.0073	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.014	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Dibenz(a,h)anthracene	<0.040		0.040	0.011	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
Benzo[g,h,i]perylene	<0.040		0.040	0.014	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1
3 & 4 Methylphenol	<0.20		0.20	0.076	mg/Kg	☼	06/12/13 18:30	06/14/13 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*55*		*30 - 110*	*06/12/13 18:30*	*06/14/13 17:59*	*1*
Phenol-d5	*65*		*31 - 110*	*06/12/13 18:30*	*06/14/13 17:59*	*1*
Nitrobenzene-d5	*55*		*30 - 115*	*06/12/13 18:30*	*06/14/13 17:59*	*1*
2-Fluorobiphenyl	*63*		*30 - 119*	*06/12/13 18:30*	*06/14/13 17:59*	*1*
2,4,6-Tribromophenol	*45*		*35 - 137*	*06/12/13 18:30*	*06/14/13 17:59*	*1*
Terphenyl-d14	*87*		*36 - 134*	*06/12/13 18:30*	*06/14/13 17:59*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.46	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Arsenic	8.6		0.57	0.11	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Barium	34	B	0.57	0.061	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Beryllium	0.66		0.23	0.020	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Boron	13		2.9	0.12	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Cadmium	0.31	B	0.11	0.015	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Calcium	39000	B	11	3.1	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Chromium	16		0.57	0.067	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Cobalt	11	B	0.29	0.020	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Copper	33	B	0.57	0.051	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Iron	19000		11	4.7	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Lead	14	B	0.29	0.086	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Magnesium	20000	B	5.7	1.2	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Manganese	290	B	0.57	0.031	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Nickel	30		0.57	0.056	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Potassium	2600		29	1.7	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Selenium	<0.57		0.57	0.20	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Silver	<0.29		0.29	0.021	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Sodium	1100		57	7.7	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Thallium	0.74		0.57	0.24	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Vanadium	18		0.29	0.042	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1
Zinc	37		1.1	0.23	mg/Kg	☼	05/31/13 11:15	06/06/13 20:21	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.44	J B	0.50	0.010	mg/L		06/06/13 15:00	06/08/13 01:13	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		06/06/13 15:00	06/08/13 01:13	1
Boron	0.79		0.10	0.050	mg/L		06/06/13 15:00	06/08/13 01:13	1

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-3
Date Collected: 05/30/13 15:10
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-19
Matrix: Solid

Method: 6010B - Metals (ICP) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		06/06/13 15:00	06/08/13 01:13	1
Chromium	<0.025		0.025	0.010	mg/L		06/06/13 15:00	06/08/13 01:13	1
Cobalt	<0.025		0.025	0.0050	mg/L		06/06/13 15:00	06/08/13 01:13	1
Iron	<0.20		0.20	0.20	mg/L		06/06/13 15:00	06/08/13 01:13	1
Lead	<0.0075		0.0075	0.0050	mg/L		06/06/13 15:00	06/08/13 01:13	1
Manganese	0.031		0.025	0.010	mg/L		06/06/13 15:00	06/08/13 01:13	1
Nickel	<0.025		0.025	0.010	mg/L		06/06/13 15:00	06/08/13 01:13	1
Selenium	<0.050		0.050	0.010	mg/L		06/06/13 15:00	06/08/13 01:13	1
Silver	<0.025		0.025	0.0050	mg/L		06/06/13 15:00	06/08/13 01:13	1
Zinc	0.31		0.10	0.020	mg/L		06/06/13 15:00	06/08/13 01:13	1

Method: 6020A - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0034	J B	0.0060	0.0030	mg/L		06/06/13 15:00	06/10/13 23:06	1
Thallium	<0.0020		0.0020	0.0020	mg/L		06/06/13 15:00	06/10/13 23:06	1

Method: 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		06/05/13 13:30	06/06/13 10:38	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.029		0.020	0.0096	mg/Kg	☼	05/31/13 15:00	06/03/13 10:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.88		0.200	0.200	SU			06/06/13 13:23	1

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-4
Date Collected: 05/30/13 15:15
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-20
Matrix: Solid
Percent Solids: 81.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0044		0.0044	0.0019	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Benzene	<0.0044		0.0044	0.00061	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Bromodichloromethane	<0.0044		0.0044	0.00076	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Bromoform	<0.0044		0.0044	0.0010	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Bromomethane	<0.0044		0.0044	0.0013	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
2-Butanone (MEK)	<0.0044		0.0044	0.0016	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Carbon disulfide	<0.0044		0.0044	0.00066	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Carbon tetrachloride	<0.0044		0.0044	0.00081	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Chlorobenzene	<0.0044		0.0044	0.00045	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Chloroethane	<0.0044		0.0044	0.0012	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Chloroform	<0.0044		0.0044	0.00051	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Chloromethane	<0.0044		0.0044	0.00093	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
cis-1,2-Dichloroethene	<0.0044		0.0044	0.00063	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
cis-1,3-Dichloropropene	<0.0044		0.0044	0.00058	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Dibromochloromethane	<0.0044		0.0044	0.00077	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,1-Dichloroethane	<0.0044		0.0044	0.00070	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,2-Dichloroethane	<0.0044		0.0044	0.00066	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,1-Dichloroethene	<0.0044		0.0044	0.00072	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,2-Dichloropropane	<0.0044		0.0044	0.00067	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,3-Dichloropropene, Total	<0.0044		0.0044	0.00058	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Ethylbenzene	<0.0044		0.0044	0.00089	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
2-Hexanone	<0.0044		0.0044	0.0013	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Methylene Chloride	<0.0044		0.0044	0.0012	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.0012	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Methyl tert-butyl ether	<0.0044		0.0044	0.00073	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Styrene	<0.0044		0.0044	0.00058	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,1,2,2-Tetrachloroethane	<0.0044		0.0044	0.00089	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Tetrachloroethene	<0.0044		0.0044	0.00068	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Toluene	<0.0044		0.0044	0.00062	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
trans-1,2-Dichloroethene	<0.0044		0.0044	0.00061	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
trans-1,3-Dichloropropene	<0.0044		0.0044	0.00079	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,1,1-Trichloroethane	<0.0044		0.0044	0.00068	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
1,1,2-Trichloroethane	<0.0044		0.0044	0.00060	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Trichloroethene	<0.0044		0.0044	0.00073	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Vinyl acetate	<0.0044		0.0044	0.00070	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Vinyl chloride	<0.0044		0.0044	0.00093	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1
Xylenes, Total	<0.0089		0.0089	0.00040	mg/Kg	☼	05/30/13 15:15	06/04/13 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 122*	*05/30/13 15:15*	*06/04/13 18:53*	*1*
Dibromofluoromethane	*99*		*75 - 120*	*05/30/13 15:15*	*06/04/13 18:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*	*05/30/13 15:15*	*06/04/13 18:53*	*1*
Toluene-d8 (Surr)	*111*		*75 - 122*	*05/30/13 15:15*	*06/04/13 18:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.061	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
1,3-Dichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
1,4-Dichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-4
Date Collected: 05/30/13 15:15
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-20
Matrix: Solid
Percent Solids: 81.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Methylphenol	<0.19		0.19	0.051	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.049	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Hexachloroethane	<0.19		0.19	0.041	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Chlorophenol	<0.19		0.19	0.055	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Nitrobenzene	<0.038		0.038	0.012	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.043	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4-Dimethylphenol	<0.38		0.38	0.12	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Hexachlorobutadiene	<0.19		0.19	0.051	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Naphthalene	<0.038		0.038	0.0075	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4-Dichlorophenol	<0.38		0.38	0.12	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Chloroaniline	<0.78		0.78	0.12	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4,6-Trichlorophenol	<0.38		0.38	0.049	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4,5-Trichlorophenol	<0.38		0.38	0.11	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Hexachlorocyclopentadiene	<0.78		0.78	0.18	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Methylnaphthalene	<0.19		0.19	0.050	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Nitroaniline	<0.19		0.19	0.070	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Chloronaphthalene	<0.19		0.19	0.044	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Chloro-3-methylphenol	<0.38		0.38	0.18	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,6-Dinitrotoluene	<0.19		0.19	0.046	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2-Nitrophenol	<0.38		0.38	0.061	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
3-Nitroaniline	<0.38		0.38	0.075	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Dimethyl phthalate	<0.19		0.19	0.048	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4-Dinitrophenol	<0.78		0.78	0.20	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Acenaphthylene	<0.038		0.038	0.0089	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Acenaphthene	<0.038		0.038	0.012	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Dibenzofuran	<0.19		0.19	0.047	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Nitrophenol	<0.78		0.78	0.21	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Fluorene	<0.038		0.038	0.0088	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Nitroaniline	<0.38		0.38	0.079	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Hexachlorobenzene	<0.078		0.078	0.0076	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.061	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Pentachlorophenol	<0.78		0.78	0.20	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
N-Nitrosodiphenylamine	<0.19		0.19	0.052	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
4,6-Dinitro-2-methylphenol	<0.38		0.38	0.094	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Phenanthrene	0.047		0.038	0.016	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Anthracene	<0.038		0.038	0.0091	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Carbazole	<0.19	*	0.19	0.054	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Di-n-butyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Fluoranthene	0.017	J	0.038	0.016	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Pyrene	<0.038		0.038	0.014	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Butyl benzyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Benzo[a]anthracene	<0.038		0.038	0.0081	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-4
Date Collected: 05/30/13 15:15
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-20
Matrix: Solid
Percent Solids: 81.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	0.016	J	0.038	0.0087	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.032	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.051	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Di-n-octyl phthalate	<0.19		0.19	0.079	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Benzo[b]fluoranthene	<0.038		0.038	0.0075	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Benzo[k]fluoranthene	<0.038		0.038	0.0092	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Benzo[a]pyrene	<0.038		0.038	0.0071	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.013	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Dibenz(a,h)anthracene	<0.038		0.038	0.011	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
Benzo[g,h,i]perylene	<0.038		0.038	0.013	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1
3 & 4 Methylphenol	<0.19		0.19	0.073	mg/Kg	☼	06/12/13 18:30	06/14/13 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	50		30 - 110	06/12/13 18:30	06/14/13 18:23	1
Phenol-d5	60		31 - 110	06/12/13 18:30	06/14/13 18:23	1
Nitrobenzene-d5	49		30 - 115	06/12/13 18:30	06/14/13 18:23	1
2-Fluorobiphenyl	58		30 - 119	06/12/13 18:30	06/14/13 18:23	1
2,4,6-Tribromophenol	42		35 - 137	06/12/13 18:30	06/14/13 18:23	1
Terphenyl-d14	82		36 - 134	06/12/13 18:30	06/14/13 18:23	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.45	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Arsenic	7.4		0.56	0.11	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Barium	29	B	0.56	0.060	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Beryllium	0.58		0.22	0.020	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Boron	12		2.8	0.12	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Cadmium	0.30	B	0.11	0.014	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Calcium	41000	B	11	3.0	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Chromium	14		0.56	0.065	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Cobalt	10	B	0.28	0.020	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Copper	29	B	0.56	0.050	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Iron	17000		11	4.6	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Lead	13	B	0.28	0.083	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Magnesium	23000	B	5.6	1.2	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Manganese	330	B	0.56	0.030	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Nickel	27		0.56	0.055	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Potassium	2300		28	1.7	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Selenium	<0.56		0.56	0.20	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Silver	<0.28		0.28	0.020	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Sodium	510		56	7.5	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Thallium	0.71		0.56	0.24	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Vanadium	16		0.28	0.041	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1
Zinc	34		1.1	0.23	mg/Kg	☼	05/31/13 11:15	06/06/13 20:27	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.054	J	0.50	0.010	mg/L		06/05/13 15:00	06/07/13 04:02	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		06/05/13 15:00	06/07/13 04:02	1
Boron	0.079	J	0.10	0.050	mg/L		06/05/13 15:00	06/07/13 04:02	1

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Client Sample ID: 2615-219-B10-4
Date Collected: 05/30/13 15:15
Date Received: 05/31/13 06:30

Lab Sample ID: 500-57535-20
Matrix: Solid

Method: 6010B - Metals (ICP) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		06/05/13 15:00	06/07/13 04:02	1
Chromium	<0.025		0.025	0.010	mg/L		06/05/13 15:00	06/07/13 04:02	1
Cobalt	<0.025		0.025	0.0050	mg/L		06/05/13 15:00	06/07/13 04:02	1
Iron	0.63		0.20	0.20	mg/L		06/05/13 15:00	06/07/13 04:02	1
Lead	<0.0075		0.0075	0.0050	mg/L		06/05/13 15:00	06/07/13 04:02	1
Manganese	0.028		0.025	0.010	mg/L		06/05/13 15:00	06/07/13 04:02	1
Nickel	<0.025		0.025	0.010	mg/L		06/05/13 15:00	06/07/13 04:02	1
Selenium	<0.050		0.050	0.010	mg/L		06/05/13 15:00	06/07/13 04:02	1
Silver	<0.025		0.025	0.0050	mg/L		06/05/13 15:00	06/07/13 04:02	1
Zinc	0.021	J	0.10	0.020	mg/L		06/05/13 15:00	06/07/13 04:02	1

Method: 6020A - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0035	J	0.0060	0.0030	mg/L		06/05/13 15:00	06/10/13 23:13	1
Thallium	<0.0020		0.0020	0.0020	mg/L		06/05/13 15:00	06/10/13 23:13	1

Method: 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		06/05/13 13:30	06/06/13 10:46	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.031		0.021	0.0097	mg/Kg	☼	05/31/13 15:00	06/03/13 10:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.08		0.200	0.200	SU			06/06/13 13:29	1

Added 10/31/13

Definitions/Glossary

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57535-2

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD exceeds the control limits
X	Surrogate is outside control limits
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

ANDREWS ENGINEERING INC

CHAIN OF CUSTODY RECORD

FIG 4

Client Contact	Laboratory	Project Name: I90/94 Cook Co	COC No.: 1 of 2
Andrews Engineering, Inc. 3300 Ginger Creek Drive Springfield, IL 62711 217-787-2334 Contact: Colleen Grey email: cgrey@andrews-eng.com	Lab: Test America - Chicago Address: 2417 Bond Street University Park, IL 60484 Phone: 708-534-5200 Contact: Dick Wright email: richard.wright@testamericainc.com	Project No.: IDOT2013-013 TAT: [X] 15 BD [ ] 10 BD [ ] 5 BD [ ] 2 BD ___ Other Sampler: SR SS, CLN	Lab Job No.: 500-57535 Sample Temp:

Special Instructions:

See Table 2 for complete parameter lists and minimum reporting limits.

* If Total RCRA metal (mg/kg) result exceeds the Soil Toxicity Characteristics Limit (Table 3), run TCLP for that specific RCRA metal.

** If SPLP result exceeds Class I Standard, run TCLP for that specific parameter.

SAMPLES 219-B10-1 & 219-B10-2 WERE NOT COLLECTED.

Matrix Key: W: Water; S: Soil; SL: Sludge; S: Sediment; L: Leachate; DW: Drinking Water; OL: Oil; O: Other

Lab ID	Sample ID	Sample Date	Sample Time	Matrix	ANALYSES: VOCs	SVOCs	BETX & MTBE	PNAs	Pesticides	PCBs	* Total Metals	SPLP/** TCLP Metals	pH	% Solids	Waste Characterization	Comments
17	2615-219-B09-1	5/30	2:15	S	X	X					X	X	X	X		0-6.5'
18	2615-219-B09-2	5/30	2:20													6.5-13'
	~~2615-219-B10-1~~	~~5/30~~	~~3:00~~													~~0-6'~~
	~~2615-219-B10-2~~	~~5/30~~	~~3:05~~													~~6-12'~~
19	2615-219-B10-3	5/30	3:10													12-18'
20	2615-219-B10-4	5/30	3:15													18-24'
	~~2615-219-B11-1~~															
	~~2615-219-B11-1DUP~~															
	~~2615-219-B11-2~~															
	~~2615-219-B11-3~~															
	~~2615-219-B11-4~~															
	~~2615-219-B12-1~~			S	X	X					X	X	X	X		

Relinquished by: Chad Nelson	Date/Time: 5/30/13 1606	Received by:	Date/Time: 5-30-13 1606
Relinquished by:	Date/Time: 5-31-13 1741	Received by:	Date/Time: 5/31/13 0635
Relinquished by:	Date/Time:	Received by:	Date/Time:

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: I90/94 at I-290 (Circle Interchange) Office Phone Number, if available: _____

Physical Site Location (address, incldluding number and street):
656 South Halsted Street

City: Chicago State: IL Zip Code: 60607

County: Cook Township: _____

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.87417 (Decimal Degrees) Longitude: -87.64729 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

	Site Owner		Site Operator	
Name:	Illinois Department of Transportation		Illinois Department of Transportation	
Street Address:	201 West Center Street		201 West Center Street	
PO Box:				
City:	Schaumburg	State: IL	Schaumburg	State: IL
Zip Code:	60196-1096	Phone: 847-705-4101	60196-1096	Phone: 847-705-4101
Contact:	Sam Mead		Sam Mead	
Email, if available:	Sam.Mead@illinois.gov		Sam.Mead@illinois.gov	

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

IL 532-2922
LPC 663 Rev. 8/2012

Added 10/31/13

roject Name: I90/94 at I-290 (Circle Interchange)

Latitude: 41.87417 Longitude: -87.64729

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

LOCATION 2615-235-B01 WAS SAMPLED ADJACENT TO ISGS SITE 2615-235. SEE FIGURE 2 AND TABLE 3g OF REVISED PRELIMINARY SITE INVESTIGATION.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

TEST AMERICA ANALYTICAL REPORT - JOB ID: 500-57492-5

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Steven Gobelman, P.E., L.P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: IDOT Bureau of Design and Environment

Street Address: 2300 South Dirksen Parkway

City: Springfield State: IL Zip Code: 62764

Phone: 217.785.4246

Steven Gobleman
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

10/29/13
Date:

STEVEN GOBELMAN
196-000598
LICENSED
PROFESSIONAL
GEOLOGIST
STATE OF ILLINOIS
Seal:

Added 10/31/13

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

Analytical Parameters

Volatile Organic Compounds (mg/kg)
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropene
2-Butanone (MEK)
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Methyl-tert-butyl-ether (MTBE)
Styrene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Vinyl Acetate
Vinyl Chloride
Xylenes, total
m-Xylene
o-Xylene
p-Xylene
Semivolatile Organic Compounds (mg/kg)
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromophenyl phenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene

Added 10/31/13

THIS TABLE LISTS THE PARAMETERS ANALYZED IN SITE SOIL SAMPLES

Analytical Parameters

Semivolatile Organic Compounds (mg/kg) (cont.)
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl)ether
bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Carbazole
Chrysene
Dibenzo (a,h) anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-cd) pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodi-n-propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
Inorganic Compounds, Total (mg/kg)
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc
TCLP/SPLP Inorganics (mg/L)
Antimony
Barium
Beryllium
Boron
Cadmium
Chromium
Cobalt
Iron
Lead
Manganese
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Added 10/31/13

The following table summarizes the results of laboratory analysis of site soil samples. In reading the table,

- Only parameters reported at concentrations above the most stringent MAC are listed.
- Samples with the notation **"No Contaminants of Concern Noted"** were below the most stringent MAC.

The laboratory report for site soils follows this summary table.

Added 10/31/13

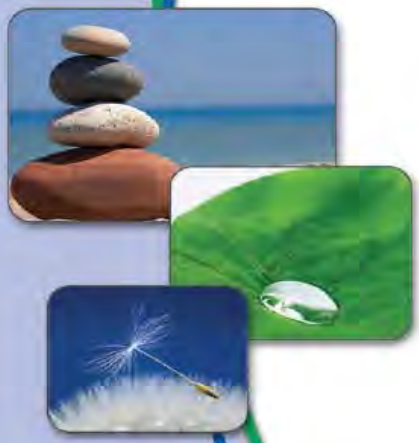
ISGS Site 2615-235
656 South Halsted Street

Sample ID	2615-235-B01-1		2615-235-B01-1 DUP		2615-235-B01-2		[1] Most Stringent MAC	[2] Outside a Populated Area MAC	[3] Populated non-Metropolitan Statistical Area MAC	[4] Within Chicago Corporate Limits MAC	[5] Metropolitan Statistical Area MAC	[6] Class I Soil TCLP/SPLP Comparisons Only
Sample Depth (ft)	0-6.5		0-6.5		6.5-13							
Sample Date	5/29/2013		5/29/2013		5/29/2013							
% Solids	94		No Sample		No Sample							
Sample pH	8.81		N/A		N/A							
Matrix	Soil		Soil		Soil							
Semivolatile Organic Compounds (mg/kg)												
Benzo(a)pyrene	0.33	1.2	NT		NT		0.09	0.09	0.96	1.3	2.1	NA

Andrews Engineering, Inc.
6/21/2013

T:\IDOT2013\IDOT2013-013M\ION\663 Tables\663 Tables (6)(W07)

Added 10/31/13



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-57492-5
Client Project/Site: IDOT - I-90/94 - WO 013

For:
Andrews Engineering Inc.
3300 Ginger Creek Drive
Springfield, Illinois 62711

Attn: Mike Nelson

Cindy Pritchard

Authorized for release by:
6/12/2013 2:28:02 PM
Cindy Pritchard, Project Mgmt. Assistant
cindy.pritchard@testamericainc.com

Designee for

Richard Wright, Project Manager II
richard.wright@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57492-5

Client Sample ID: 2615-235-B01-1
Date Collected: 05/29/13 13:15
Date Received: 05/29/13 15:11

Lab Sample ID: 500-57492-18
Matrix: Solid
Percent Solids: 94.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0049		0.0049	0.0021	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Benzene	<0.0049		0.0049	0.00068	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Bromodichloromethane	<0.0049		0.0049	0.00085	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Bromoform	<0.0049		0.0049	0.0011	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Bromomethane	<0.0049		0.0049	0.0015	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
2-Butanone (MEK)	<0.0049		0.0049	0.0018	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Carbon disulfide	<0.0049		0.0049	0.00074	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Carbon tetrachloride	<0.0049		0.0049	0.00090	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Chlorobenzene	<0.0049		0.0049	0.00050	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Chloroethane	<0.0049		0.0049	0.0013	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Chloroform	<0.0049		0.0049	0.00057	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Chloromethane	<0.0049		0.0049	0.0010	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
cis-1,2-Dichloroethene	<0.0049		0.0049	0.00070	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
cis-1,3-Dichloropropene	<0.0049		0.0049	0.00065	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Dibromochloromethane	<0.0049		0.0049	0.00086	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,1-Dichloroethane	<0.0049		0.0049	0.00078	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,2-Dichloroethane	<0.0049		0.0049	0.00073	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,1-Dichloroethene	<0.0049		0.0049	0.00080	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,2-Dichloropropane	<0.0049		0.0049	0.00075	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,3-Dichloropropene, Total	<0.0049		0.0049	0.00065	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Ethylbenzene	<0.0049		0.0049	0.0010	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
2-Hexanone	<0.0049		0.0049	0.0014	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Methylene Chloride	<0.0049		0.0049	0.0013	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
4-Methyl-2-pentanone (MIBK)	<0.0049		0.0049	0.0013	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Methyl tert-butyl ether	<0.0049		0.0049	0.00082	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Styrene	<0.0049		0.0049	0.00065	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,1,2,2-Tetrachloroethane	<0.0049		0.0049	0.0010	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Tetrachloroethene	<0.0049		0.0049	0.00076	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Toluene	<0.0049		0.0049	0.00069	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
trans-1,2-Dichloroethene	<0.0049		0.0049	0.00068	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
trans-1,3-Dichloropropene	<0.0049		0.0049	0.00089	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,1,1-Trichloroethane	<0.0049		0.0049	0.00074	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
1,1,2-Trichloroethane	<0.0049		0.0049	0.00067	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Trichloroethene	<0.0049		0.0049	0.00082	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Vinyl acetate	<0.0049		0.0049	0.00078	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Vinyl chloride	<0.0049		0.0049	0.0010	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1
Xylenes, Total	<0.0099		0.0099	0.00045	mg/Kg	☼	05/29/13 13:15	05/31/13 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 122*	*05/29/13 13:15*	*05/31/13 18:05*	*1*
Dibromofluoromethane	*94*		*75 - 120*	*05/29/13 13:15*	*05/31/13 18:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 134*	*05/29/13 13:15*	*05/31/13 18:05*	*1*
Toluene-d8 (Surr)	*104*		*75 - 122*	*05/29/13 13:15*	*05/31/13 18:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.17		0.17	0.055	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Bis(2-chloroethyl)ether	<0.17		0.17	0.051	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
1,3-Dichlorobenzene	<0.17		0.17	0.036	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
1,4-Dichlorobenzene	<0.17		0.17	0.036	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57492-5

Client Sample ID: 2615-235-B01-1
Date Collected: 05/29/13 13:15
Date Received: 05/29/13 15:11

Lab Sample ID: 500-57492-18
Matrix: Solid
Percent Solids: 94.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.17		0.17	0.038	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Methylphenol	<0.17		0.17	0.046	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,2'-oxybis[1-chloropropane]	<0.17		0.17	0.038	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
N-Nitrosodi-n-propylamine	<0.17		0.17	0.044	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Hexachloroethane	<0.17		0.17	0.037	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Chlorophenol	<0.17		0.17	0.049	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Nitrobenzene	<0.034		0.034	0.011	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Bis(2-chloroethoxy)methane	<0.17		0.17	0.038	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
1,2,4-Trichlorobenzene	<0.17		0.17	0.039	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Isophorone	<0.17		0.17	0.038	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4-Dimethylphenol	<0.34		0.34	0.11	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Hexachlorobutadiene	<0.17		0.17	0.045	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Naphthalene	<0.034		0.034	0.0067	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4-Dichlorophenol	<0.34		0.34	0.11	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Chloroaniline	<0.70		0.70	0.11	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4,6-Trichlorophenol	<0.34		0.34	0.043	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4,5-Trichlorophenol	<0.34		0.34	0.099	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Hexachlorocyclopentadiene	<0.70		0.70	0.16	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Methylnaphthalene	<0.17		0.17	0.045	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Nitroaniline	<0.17		0.17	0.062	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Chloronaphthalene	<0.17		0.17	0.039	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Chloro-3-methylphenol	<0.34		0.34	0.17	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,6-Dinitrotoluene	<0.17		0.17	0.041	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2-Nitrophenol	<0.34		0.34	0.054	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
3-Nitroaniline	<0.34		0.34	0.067	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Dimethyl phthalate	<0.17		0.17	0.043	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4-Dinitrophenol	<0.70		0.70	0.18	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Acenaphthylene	0.027	J	0.034	0.0079	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
2,4-Dinitrotoluene	<0.17		0.17	0.053	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Acenaphthene	<0.034		0.034	0.010	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Dibenzofuran	<0.17		0.17	0.041	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Nitrophenol	<0.70		0.70	0.19	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Fluorene	0.019	J	0.034	0.0079	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Nitroaniline	<0.34		0.34	0.071	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Bromophenyl phenyl ether	<0.17		0.17	0.039	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Hexachlorobenzene	<0.070		0.070	0.0068	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Diethyl phthalate	<0.17		0.17	0.058	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4-Chlorophenyl phenyl ether	<0.17	*	0.17	0.054	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Pentachlorophenol	<0.70		0.70	0.18	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
N-Nitrosodiphenylamine	<0.17		0.17	0.047	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
4,6-Dinitro-2-methylphenol	<0.34		0.34	0.084	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Phenanthrene	0.30		0.034	0.014	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Anthracene	0.078		0.034	0.0081	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Carbazole	<0.17		0.17	0.049	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Di-n-butyl phthalate	<0.17		0.17	0.044	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Fluoranthene	0.71		0.034	0.014	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Pyrene	0.79		0.034	0.012	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Butyl benzyl phthalate	<0.17		0.17	0.043	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Benzo[a]anthracene	0.38		0.034	0.0072	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57492-5

Client Sample ID: 2615-235-B01-1
Date Collected: 05/29/13 13:15
Date Received: 05/29/13 15:11

Lab Sample ID: 500-57492-18
Matrix: Solid
Percent Solids: 94.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	0.39		0.034	0.0078	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
3,3'-Dichlorobenzidine	<0.17		0.17	0.029	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Bis(2-ethylhexyl) phthalate	0.21		0.17	0.046	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Di-n-octyl phthalate	<0.17		0.17	0.070	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Benzo[b]fluoranthene	0.46		0.034	0.0067	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Benzo[k]fluoranthene	0.20		0.034	0.0082	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Benzo[a]pyrene	0.33		0.034	0.0063	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Indeno[1,2,3-cd]pyrene	0.21		0.034	0.012	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Dibenz(a,h)anthracene	0.074		0.034	0.0096	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
Benzo[g,h,i]perylene	0.24		0.034	0.012	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1
3 & 4 Methylphenol	<0.17		0.17	0.065	mg/Kg	☼	06/07/13 07:18	06/11/13 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	54		30 - 110	06/07/13 07:18	06/11/13 18:11	1
Phenol-d5	59		31 - 110	06/07/13 07:18	06/11/13 18:11	1
Nitrobenzene-d5	48		30 - 115	06/07/13 07:18	06/11/13 18:11	1
2-Fluorobiphenyl	63		30 - 119	06/07/13 07:18	06/11/13 18:11	1
2,4,6-Tribromophenol	59		35 - 137	06/07/13 07:18	06/11/13 18:11	1
Terphenyl-d14	84		36 - 134	06/07/13 07:18	06/11/13 18:11	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	0.42	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Arsenic	2.6		0.52	0.10	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Barium	16	B	0.52	0.056	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Beryllium	0.25		0.21	0.018	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Boron	7.7		2.6	0.11	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Cadmium	0.19		0.10	0.013	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Calcium	120000	B	100	28	mg/Kg	☼	05/30/13 16:00	06/06/13 11:13	10
Chromium	5.6		0.52	0.060	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Cobalt	2.1		0.26	0.019	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Copper	16	B	0.52	0.046	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Iron	5100		10	4.3	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Lead	14		0.26	0.078	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Magnesium	50000	B	5.2	1.1	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Manganese	170		0.52	0.028	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Nickel	5.6		0.52	0.051	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Potassium	970		26	1.6	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Selenium	<0.52		0.52	0.19	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Silver	<0.26		0.26	0.019	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Sodium	260		52	7.0	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Thallium	<0.52		0.52	0.22	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Vanadium	8.8		0.26	0.039	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1
Zinc	36	B	1.0	0.21	mg/Kg	☼	05/30/13 16:00	06/06/13 05:13	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.60		0.50	0.010	mg/L		06/03/13 08:10	06/05/13 20:42	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		06/03/13 08:10	06/05/13 20:42	1
Boron	1.1		0.10	0.050	mg/L		06/03/13 08:10	06/05/13 20:42	1

Added 10/31/13

Client Sample Results

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57492-5

Client Sample ID: 2615-235-B01-1
Date Collected: 05/29/13 13:15
Date Received: 05/29/13 15:11

Lab Sample ID: 500-57492-18
Matrix: Solid

Method: 6010B - Metals (ICP) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		06/03/13 08:10	06/05/13 20:42	1
Chromium	<0.025		0.025	0.010	mg/L		06/03/13 08:10	06/05/13 20:42	1
Cobalt	<0.025		0.025	0.0050	mg/L		06/03/13 08:10	06/05/13 20:42	1
Iron	<0.20		0.20	0.20	mg/L		06/03/13 08:10	06/05/13 20:42	1
Lead	<0.0075		0.0075	0.0050	mg/L		06/03/13 08:10	06/05/13 20:42	1
Manganese	<0.025		0.025	0.010	mg/L		06/03/13 08:10	06/05/13 20:42	1
Nickel	<0.025		0.025	0.010	mg/L		06/03/13 08:10	06/05/13 20:42	1
Selenium	<0.050		0.050	0.010	mg/L		06/03/13 08:10	06/05/13 20:42	1
Silver	<0.025		0.025	0.0050	mg/L		06/03/13 08:10	06/05/13 20:42	1
Zinc	0.68		0.10	0.020	mg/L		06/03/13 08:10	06/05/13 20:42	1

Method: 6020A - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		06/03/13 08:10	06/05/13 21:46	1
Thallium	<0.0020		0.0020	0.0020	mg/L		06/03/13 08:10	06/05/13 21:46	1

Method: 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		06/03/13 15:30	06/04/13 12:12	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.016		0.016	0.0074	mg/Kg	☼	05/30/13 14:15	05/31/13 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.81		0.200	0.200	SU			06/05/13 14:50	1

Added 10/31/13

Definitions/Glossary

Client: Andrews Engineering Inc.
Project/Site: IDOT - I-90/94 - WO 013

TestAmerica Job ID: 500-57492-5

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)