



June 1, 2011

Mr. Greg Dunn
Voluntary Site Remediation Unit B
Remedial Project Management Section
Division of Remediation Management
1021 North Grand Ave East
P.O. Box 19276
Springfield, IL 62794-9276

**Subject: Remedial Action Plan (RAP) Addendum
Former Manufactured Gas Plant
Champaign, IL
State ID 0190100008**

Dear Greg:

Ameren Illinois is providing this addendum to the remedial action plan (RAP) to address project modifications to the originally submitted RAP document dated December 2008, entitled *Remedial Action Plan – Former Manufactured Gas Plant, Champaign, Illinois – State ID 0190100008*.

Current Excavation Activities

The excavation of the former Manufactured Gas Plant (MGP) related impacts have been completed to date in eight of the proposed nine phases. Each phase has been performed within a tent structure where any potential vapor from the excavation is filtered through external carbon units before being discharged to the atmosphere. PSC and Environmental Operations Inc. (EOI) are currently excavating Phase 9.

Excavation was completed to within approximately 20 feet of the site boundary. A 20-foot perimeter was maintained around the site boundary to ensure the stability of the tent structure and for worker safety during excavation.

Proposed Excavation

This proposed revision provides for the additional excavation of impacted soils (0-to 3-foot depth) around the inside perimeter of the former MGP site that could not be excavated beneath the tent structure. The proposed areas of excavation are shown in Figure 1. The excavation and backfill areas shown numerically are for field sequencing only.

Based on sidewall confirmatory sampling performed during the excavation activities, concentrations of MGP constituents still exist that exceed Tier 1 or site specific Tier 2 ROs outside the phased excavation limits. In order to remediate the 0-to 3-foot depth zone for the ingestion and inhalation pathways, PSC proposes to excavate the top three feet in the areas that were not addressed during the tent phased excavations. This zone will be excavated "open air" and therefore a tent will not be utilized. The use of the tent is not feasible in these areas adjacent to the property line, nor is it necessary. The contaminants of concern in the proposed excavation area are primarily PAHs with limited VOCs. Table 1 shows the results of previous excavation sidewall samples in the areas that we are proposing for open-air excavation. Nevertheless, we will take appropriate precautions in the event that VOCs are encountered. During the excavations, any potential vapors will be monitored "real-time" by an on-site health and safety officer. This data will be recorded on daily air monitoring reports. If vapors or odors are above action-levels, PSC will utilize a spray-on cover material to minimize potential vapor migration off-site.

Proposed Sampling and Backfilling

PSC will also be backfilling the excavation following additional confirmatory sampling of the sidewalls. This sampling will further aid in the determination of soil plume delineation. Samples collected will be submitted for analysis for only the constituents that previously exceeded a Tier 1 or Tier 2 RO. Backfilling will include the reuse of previously placed and compacted CA-6 crushed stone.

In order to facilitate the overall site restoration and site grading, the backfilling of the perimeter excavations will be only backfilled with one foot of on-site crushed stone. The upper two feet will be backfilled using one-and a-half feet of clean clay and six inches of clean topsoil. Soil samples will be collected and analyzed to verify that the clay and topsoil meet the IEPA requirements of clean fill material.

If you have any questions or require further information, please feel free to contact me.

Sincerely yours;



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Enclosures

cc: Mr. -Pete Sazama - PSC

Table 1
Exceedances of Tier 1 Remedial Objectives
Excavation Wall Samples in the 0 to 3 foot Depth Interval
Champaign MGP

Constituent	Soil Ingestion			Soil Inhalation			Indoor Air		Soil Component to Groundwater ⁽⁴⁾	IEPA Accepted Background Levels for MSA	Sample Location: Sample ID: Sample Date: Sample Depth (feet):	P1-A1-W	P1-A2-W	P1-A3-W	P1-A4-W	P1-A5-W	P2-A1-W	P2-A2-W	P2-A3-W	P3-A1-W	P3-A2.5-W
	Residential	Commercial	Construction	Residential	Commercial	Construction	Residential	Commercial				P1-A1-W (0-3)	P1-A2-W (0-3)	P1-A3-W (3)	P1-A4-W (3)	P1-A5-W(3)	P2-A1-W (3)	P2-A2-W (3)	P2-A3-W (3)	P3-A1-W (3)	P3-A2.5-W (3)
BTEX Constituents (mg/kg)																					
Benzene	12	100	2,300	0.8	1.6	2.2	0.069	0.51	0.03	---	0.303	3.96	154	0.115	1.39	15.8	0.684	<0.99	11.7	3.59	
Ethylbenzene	7,800	200,000	20,000	400	400	58	130	130	13	---	0.330	16.9	72.0	0.207	22.2	6.8	0.53	3.5	2.4	5.83	
Toluene	16,000	410,000	410,000	650	650	42	240	240	12	---	0.660	<5.76	<97.7	0.047	<5.17	10	0.44	<4.95	9.99	2.04	
m,p-Xylenes	16,000	410,000	41,000	420 ⁽¹⁾	420 ⁽¹⁾	5.9 ⁽²⁾	75 ⁽²⁾	120 ⁽²⁾	200 ⁽²⁾	---	0.540	8.77	50.0	0.194	8.54	25.5	1.1	1	14	13.2	
o-Xylene	16,000	410,000	41,000	410	410	6.5	98	140	190	---	0.270	5.7	<97.7	0.120	7.77	13	0.63	1.3	5.6	1.72	
Xylenes	16,000	410,000	41,000	320	320	5.6	63	100	150	---	0.810	14.470	50.0	0.314	16.310	38.5	1.73	2.3	19.6	14.92	
PNA Constituents (mg/kg)																					
Acenaphthene	4,700	120,000	120,000	---	---	---	---	---	570	0.13	4.21	56.3	160	0.31	60.7	13.1	0.42	31.6	6.14	2.95	
Acenaphthylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	85 ⁽⁴⁾	0.07	64.8	7.59	17	0.12	4.63	12.8	0.61	8.18	27.7	1.81	
Anthracene	23,000	610,000	610,000	---	---	---	---	---	12,000	0.4	16.1	33.2	86	0.21	26.3	11.6	0.785	14.4	52.1	4.99	
Benzo(a)anthracene	0.90	8	170	---	---	---	---	---	2	1.8	72	15.3	49	0.22	12	9.11	1.08	10.2	145	3.54	
Benzo(a)pyrene	0.09	0.80	17	---	---	---	---	---	8	2.1	166	14.2	44	0.3	11.4	7.49	0.886	14.8	146	2.16	
Benzo(b)fluoranthene	0.90	8	170	---	---	---	---	---	5	2.1	151	11.6	39	0.25	8.61	8.17	1.08	12.1	182	2.62	
Benzo(g,h,i)perylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	27,000 ⁽⁴⁾	1.7	106	4.94	21	0.18	4.86	2.07	0.246	7.27	83.6	0.854	
Benzo(k)fluoranthene	9	78	1,700	---	---	---	---	---	49	1.7	42.4	4.31	13	0.087	3.02	3.06	0.432	3.66	70	0.889	
Bis(2-ethylhexyl)phthalate	46	410	4,100	31,000	31,000	31,000	---	---	3,600	---	<16.6	<8.67	<55	<0.092	<8.61	<7.82	<2.4	<4.43	<47.1	<14.3	
Chrysene	88	780	17,000	---	---	---	---	---	160	2.7	70	16.1	49	0.24	13.3	9.77	1.2	12.7	146	2.96	
Dibenzo(a,h)anthracene	0.09	0.80	17	---	---	---	---	---	2	0.42	23.3	1.38	5.5	0.044	1.16	1.05	<0.122	1.78	23.6	<0.726	
Fluoranthene	3,100	82,000	82,000	---	---	---	---	---	4,300	4.1	81.7	36.8	110	0.37	28.8	24.3	2.55	20.8	321	8.91	
Fluorene	3,100	82,000	82,000	---	---	---	---	---	560	0.18	6.66	38.3	65	0.16	25.2	17.3	0.775	13.6	21.7	5.95	
Indeno(1,2,3-cd)pyrene	0.90	8.00	170	---	---	---	---	---	14	1.6	78.1	4.32	17	0.14	3.64	2.48	0.297	5.6	83.3	1.1	
Naphthalene	1,600	41,000	4,100	170	270	1.8	34	34	12	0.2	10.8	141	340	0.38	187	44.9	1.59	37.1	45.2	19.2	
Phenanthrene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	200 ⁽⁴⁾	2.5	17.5	104	260	0.48	77.8	43.6	2.68	50.5	161	15.2	
Pyrene	2,300	61,000	61,000	---	---	---	---	---	4,200	3	160	47.3	150	0.49	39.9	17.2	1.86	30.4	275	6.74	
Metals (mg/kg)																					
Mercury	23	610	61	10	16	0.10	0.45	0.45	6.4	0.06	0.09	0.064	0.096	0.048	0.046	0.029	0.044	0.043	0.043	0.034	
Selenium	390	10,000	1,000	---	---	---	---	---	3.3	0.48	0.934	<0.588	1.78	3.78	0.49	0.582	7.02	0.587	0.46	<0.556	
Arsenic	13.0	13.0	61.0	750	1,200	25,000	---	---	30	13	3.17	<2.5	3.29	<1.3	1.2	1.2	2.4	2.51	3.43	5.54	
Barium	5,500	140,000	14,000	690,000	910,000	870,000	---	---	1,800	110	69.9	115	66	92.5	101	107	94.5	105	124	47.5	
Cadmium	78	2,000	200	1,800	2,800	59,000	---	---	59	0.6	0.74	0.11	0.52	0.83	0.15	0.42	0.66	0.18	0.34	0.1	
Chromium	230	6,100	4,100	270	420	690	---	---	32	16.2	12.4	24.9	23.2	19.9	25.5	20.1	19.1	24.4	18.3	13.9	
Lead	400	800	700	---	---	---	---	---	107	36	52.5	15.7	16.5	19.8	18.3	14.8	29.6	23.4	16.8	15.7	
Silver	390	10,000	1,000	---	---	---	---	---	39	0.55	<0.53	<0.55	<0.52	<0.52	0.53	<0.53	<0.52	<0.52	<0.51	<0.52	
Cyanide, Amenable to Chlorination	1,600	41,000	4,100	---	---	---	---	---	40	0.51	<0.627	<2.65	8.89	Interference	Interference	Interference	Interference	Interference	6.67	<0.726	
Cyanide (Total)	---	---	---	---	---	---	---	---	---	---	3.68	16.5	68.7	4.14	0.65	2.3	9.3	3.85	7.66	0.51	

Notes:
⁽¹⁾ Objective is for m-xylene
⁽²⁾ Objective is for p-xylene
⁽³⁾ Objectives are for Class I groundwater.
⁽⁴⁾ Non-TACO or provisional ROs provided by the IEPA.
 --- No objective has been published for this constituent by the IEPA, or the sample was not analyzed for this constituent.
 Concentration exceeds one or more project remediation objective.

Table 1
Exceedances of Tier 1 Remedial Objectives
Excavation Wall Samples in the 0 to 3 foot Depth Interval
Champaign MGP

Constituent	Soil Ingestion			Soil Inhalation			Indoor Air		Soil Component to Groundwater ⁽³⁾	IEPA Accepted Background Levels for MSA	Sample Location: Sample ID: Sample Date: Sample Depth (feet):	P3-A3-W	P3-A4-W	P3-F.5-W	P3-G-W	P3-G.5-W	P3-H-W	P3-H.5-W	P4-A1-W	P4-A2-W
	Residential	Commercial	Construction	Residential	Commercial	Construction	Residential	Commercial				P3-A3-W (3)	P3-A4-W (3)	P3-F.5-W (3)	P3-G-W (3)	P3-G.5-W (3)	P3-H-W (3)	P3-H.5-W (3)	P4-A1-W (3)	P4-A2-W (3)
BTEX Constituents (mq/kg)																				
Benzene	12	100	2,300	0.8	1.6	2.2	0.069	0.51	0.03	---	2.26	5.61	1.2	29.7	31.7	0.0082	0.0065	3.65	7.3	
Ethylbenzene	7,800	200,000	20,000	400	400	58	130	130	13	---	1.89	1.91	<5.99	4.6	<2.55	0.0024	0.0026	9.75	49.6	
Toluene	16,000	410,000	410,000	650	650	42	240	240	12	---	5.52	2	<5.99	31.1	<2.55	0.0029	0.0048	<6.5	<29	
m,p-Xylenes	16,000	410,000	41,000	420 ⁽¹⁾	420 ⁽¹⁾	5.9 ⁽²⁾	75 ⁽²⁾	120 ⁽²⁾	200 ⁽²⁾	---	13.1	2.38	<5.99	16.7	<2.55	0.0041	0.0056	2.4	13.7	
o-Xylene	16,000	410,000	41,000	410	410	6.5	98	140	190	---	5.54	1.43	<5.99	7.45	<2.55	0.0023	0.0022	<6.5	15.6	
Xylenes	16,000	410,000	41,000	320	320	5.6	63	100	150	---	18.64	3.81	<5.99	24.15	<2.55	0.0064	0.0078	2.4	29.3	
PNA Constituents (mq/kg)																				
Acenaphthene	4,700	120,000	120,000	---	---	---	---	---	570	0.13	10.3	24.8	0.53	2.21	0.638	0.037	0.345	22.4	117	
Acenaphthylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	85 ⁽⁴⁾	0.07	18.6	9.2	1.27	7.79	2.01	0.456	1.0	1.43	6.72	
Anthracene	23,000	610,000	610,000	---	---	---	---	---	12,000	0.4	29.7	26.3	1.87	5.26	1.67	0.25	1.91	6.59	40.3	
Benzo(a)anthracene	0.90	8	170	---	---	---	---	---	2	1.8	19	38.9	4.06	3.12	1.09	1.43	11.7	3.55	19.8	
Benzo(a)pyrene	0.09	0.80	17	---	---	---	---	---	8	2.1	14.7	41.3	3.56	3.05	1.03	1.62	13.1	3.35	17.1	
Benzo(b)fluoranthene	0.90	8	170	---	---	---	---	---	5	2.1	16.6	46.3	4.58	2.52	0.852	2.51	18.5	2.62	13.1	
Benzo(g,h,i)perylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	27,000 ⁽⁴⁾	1.7	5.53	19.8	1.86	1.29	0.427	1.34	7.52	1.33	6.94	
Benzo(k)fluoranthene	9	78	1,700	---	---	---	---	---	49	1.7	6.59	17.2	1.78	0.822	0.294	0.835	6.27	0.85	4.05	
Bis(2-ethylhexyl)phthalate	46	410	4,100	31,000	31,000	31,000	---	---	3,600	---	<11.1	<13.7	<11.2	<2.3	<2.19	<0.762	<1.55	<4.93	<9.3	
Chrysene	88	780	17,000	---	---	---	---	---	160	2.7	19	40.4	3.78	2.95	1.03	1.7	12.4	3.36	20	
Dibenzo(a,h)anthracene	0.09	0.80	17	---	---	---	---	---	2	0.42	2.75	5.82	0.55	0.315	0.11	0.369	2.5	0.377	1.92	
Fluoranthene	3,100	82,000	82,000	---	---	---	---	---	4,300	4.1	50.8	95.9	6.35	6.01	2.19	1.97	18	7.18	43.7	
Fluorene	3,100	82,000	82,000	---	---	---	---	---	560	0.18	37.9	21.9	1.59	6.31	1.6	0.113	0.518	8.75	62.1	
Indeno(1,2,3-cd)pyrene	0.90	8.00	170	---	---	---	---	---	14	1.6	5.99	19.5	1.82	1.01	0.341	1.2	7.38	1.11	5.5	
Naphthalene	1,600	41,000	4,100	170	270	1.8	34	34	12	0.2	140	14.7	10.6	52.6	15.9	0.338	0.386	65.5	330	
Phenanthrene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	200 ⁽⁴⁾	2.5	90.4	94.9	5.61	18	5.27	0.825	6.86	23.1	147	
Pyrene	2,300	61,000	61,000	---	---	---	---	---	4,200	3	37.5	82.5	5.77	8.16	2.77	2.18	17.1	9.79	62.6	
Metals (mq/kg)																				
Mercury	23	610	61	10	16	0.10	0.45	0.45	6.4	0.06	0.042	0.059	0.052	0.012	0.008	0.328	0.307	0.049	0.032	
Selenium	390	10,000	1,000	---	---	---	---	---	3.3	0.48	0.799	3.56	<0.566	<0.545	<0.556	<0.566	<0.588	<0.577	0.42	
Arsenic	13.0	13.0	61.0	750	1,200	25,000	---	---	30	13	2.91	4.08	7.41	7.24	5.01	2.84	<2.4	<2.45	<2.31	
Barium	5,500	140,000	14,000	690,000	910,000	870,000	---	---	1,800	110	43.5	79.7	81.6	58.7	17.5	118	136	134	153	
Cadmium	78	2,000	200	1,800	2,800	59,000	---	---	59	0.6	0.17	0.72	0.21	0.22	0.12	0.61	0.57	0.35	0.34	
Chromium	230	6,100	4,100	270	420	690	---	---	32	16.2	16	13.1	15.1	16.8	15.7	21.9	26.8	22.8	20.3	
Lead	400	800	700	---	---	---	---	---	107	36	15.5	45.2	29.6	13	10.1	76.9	78.2	16.1	15.9	
Silver	390	10,000	1,000	---	---	---	---	---	39	0.55	<0.51	<0.55	<0.53	<0.55	<0.5	<0.5	<0.53	<0.54	<0.51	
Cyanide, Amenable to Chlorination	1,600	41,000	4,100	---	---	---	---	---	40	0.51	4.22	6.23	Interference	<0.578	<0.552	1.49	4.34	<0.723	0.831	
Cyanide (Total)	---	---	---	---	---	---	---	---	---	---	12.8	6.68	1.21	0.37	<0.55	10	5.19	1.36	1.62	

Notes:

⁽¹⁾ Objective is for m-xylene

⁽²⁾ Objective is for p-xylene

⁽³⁾ Objectives are for Class I groundwater.

⁽⁴⁾ Non-TACO or provisional ROs provided by the IEPA.

--- No objective has been published for this constituent by the IEPA, or the sample was not analyzed for this constituent.

Concentration exceeds one or more project remediation objective.

Table 1
Exceedances of Tier 1 Remedial Objectives
Excavation Wall Samples in the 0 to 3 foot Depth Interval
Champaign MGP

Constituent	Soil Ingestion			Soil Inhalation			Indoor Air		Soil Component to Groundwater ⁽³⁾	IEPA Accepted Background Levels for MSA	Sample Location: Sample ID: Sample Date: Sample Depth (feet):	P4-A3-W	P4-A4-W	P4-A5-W	P5-A3-W	P5-A4-W	P5-A5-W	P6-A4.5-W	P6-A5.5-W	P6-BC5.5-W
	Residential	Commercial	Construction	Residential	Commercial	Construction	Residential	Commercial				P4-A3-W (3)	P4-A4-W (3)	P4-A5-W (3)	P5-A3-W (3)	P5-A4-W(3)	P5-A5-W (3)	P6-A4.5-W (3)	P6-A5.5-W (3)	P6-BC5.5-W (3)
<u>BTEX Constituents (mq/kg)</u>																				
Benzene	12	100	2,300	0.8	1.6	2.2	0.069	0.51	0.03	---		<6.42	1.82	4.95	5.73	<1.05	<0.0919	0.0566	0.0052	0.0022
Ethylbenzene	7,800	200,000	20,000	400	400	58	130	130	13	---		72.8	15.7	26.7	62.1	6.21	0.578	0.561	0.0652	0.0018
Toluene	16,000	410,000	410,000	650	650	42	240	240	12	---		<32.1	<6.32	<10.8	<6.31	1.4	<0.46	0.044	0.0054	0.0046
m,p-Xylenes	16,000	410,000	41,000	420 ⁽¹⁾	420 ⁽¹⁾	5.9 ⁽²⁾	75 ⁽²⁾	120 ⁽²⁾	200 ⁽²⁾	---		22.5	2.4	6.05	14.9	2.4	<0.46	0.052	0.0072	0.0034
o-Xylene	16,000	410,000	41,000	410	410	6.5	98	140	190	---		26.8	4.14	9.25	23.2	4.2	0.21	0.216	0.0449	0.0015
Xylenes	16,000	410,000	41,000	320	320	5.6	63	100	150	---		49.3	6.54	15.3	38.1	6.6	0.21	0.268	0.0521	0.0049
<u>PNA Constituents (mq/kg)</u>																				
Acenaphthene	4,700	120,000	120,000	---	---	---	---	---	570	0.13		189	23.4	7.86	106	40.8	4.82	17.6	0.726	<0.021
Acenaphthylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	85 ⁽⁴⁾	0.07		12.3	1.87	0.499	6.42	2.76	1.98	1.64	0.303	0.58
Anthracene	23,000	610,000	610,000	---	---	---	---	---	12,000	0.4		72.1	8.58	2.73	38.5	16.7	5.35	8.84	0.417	0.07
Benzo(a)anthracene	0.90	8	170	---	---	---	---	---	2	1.8		33.9	4.8	1.27	19	8.25	3.92	4.11	0.273	0.129
Benzo(a)pyrene	0.09	0.80	17	---	---	---	---	---	8	2.1		29.5	4.37	1.07	15.3	6.96	3.67	3.81	0.363	0.874
Benzo(b)fluoranthene	0.90	8	170	---	---	---	---	---	5	2.1		22.8	4.03	0.899	12.3	5.41	2.49	2.96	0.288	0.618
Benzo(g,h,i)perylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	27,000 ⁽⁴⁾	1.7		12.2	2.15	0.46	6.57	2.99	1.86	1.67	0.296	0.786
Benzo(k)fluoranthene	9	78	1,700	---	---	---	---	---	49	1.7		7.18	1.19	0.284	4.09	1.75	0.796	0.868	<0.111	0.158
Bis(2-ethylhexyl)phthalate	46	410	4,100	31,000	31,000	31,000	---	---	3,600	---		<9.47	<2.31	<0.912	<8.98	<8.17	<4.26	<2.17	<2.19	<0.422
Chrysene	88	780	17,000	---	---	---	---	---	160	2.7		32.2	4.96	1.24	18.3	8.15	3.85	4.11	0.179	0.061
Dibenzo(a,h)anthracene	0.09	0.80	17	---	---	---	---	---	2	0.42		3.44	0.591	0.131	1.82	0.792	0.441	0.419	<0.111	0.146
Fluoranthene	3,100	82,000	82,000	---	---	---	---	---	4,300	4.1		75	9.62	2.92	38.4	21.5	8.46	9.92	0.436	0.108
Fluorene	3,100	82,000	82,000	---	---	---	---	---	560	0.18		80.5	9.68	3.26	52.8	21.6	5.11	9.2	0.513	0.044
Indeno(1,2,3-cd)pyrene	0.90	8.00	170	---	---	---	---	---	14	1.6		9.83	1.75	0.386	5.38	2.39	1.31	1.28	0.201	0.569
Naphthalene	1,600	41,000	4,100	170	270	1.8	34	34	12	0.2		544	18.8	16.3	287	58.2	0.613	4.57	0.208	<0.021
Phenanthrene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	200 ⁽⁴⁾	2.5		240	28.8	9.85	131	55.1	17	29.5	1.6	<0.021
Pyrene	2,300	61,000	61,000	---	---	---	---	---	4,200	3		110	13.8	4.01	58.3	25	10.7	13.6	0.731	0.404
<u>Metals (mq/kg)</u>																				
Mercury	23	610	61	10	16	0.10	0.45	0.45	6.4	0.06		0.034	0.129	0.032	0.029	0.028	---	0.038	0.022	0.036
Selenium	390	10,000	1,000	---	---	---	---	---	3.3	0.48		<0.6	0.9	0.928	0.658	<0.566	---	<3.7	<3.64	3.7
Arsenic	13.0	13.0	61.0	750	1,200	25,000	---	---	30	13		1.6	<2.5	1.6	1.6	6.88	---	1.4	15.1	2
Barium	5,500	140,000	14,000	690,000	910,000	870,000	---	---	1,800	110		139	156	161	197	132	---	150	179	147
Cadmium	78	2,000	200	1,800	2,800	59,000	---	---	59	0.6		0.4	0.41	0.34	0.27	0.39	---	1.12	0.88	0.94
Chromium	230	6,100	4,100	270	420	690	---	---	32	16.2		20.1	19.7	21.7	23.6	23.2	---	26.7	16.6	23.4
Lead	400	800	700	---	---	---	---	---	107	36		16.3	32	16.1	16.6	16.2	---	16.9	19.6	16
Silver	390	10,000	1,000	---	---	---	---	---	39	0.55		<0.55	<0.55	<0.55	<0.49	<0.55	---	<0.51	<0.5	<0.54
Cyanide, Amenable to Chlorination	1,600	41,000	4,100	---	---	---	---	---	40	0.51		Interference	Interference	Interference	0.44	Interference	---	0.891	0.36	0.778
Cyanide (Total)	---	---	---	---	---	---	---	---	---	---		0.54	0.89	0.52	0.83	<0.59	---	0.99	0.39	0.84

Notes:
⁽¹⁾ Objective is for m-xylene
⁽²⁾ Objective is for p-xylene
⁽³⁾ Objectives are for Class I groundwater.
⁽⁴⁾ Non-TACO or provisional ROs provided by the IEPA.
 --- No objective has been published for this constituent by the IEPA, or the sample was not analyzed for this constituent.
 Concentration exceeds one or more project remediation objective.

Table 1
Exceedances of Tier 1 Remedial Objectives
Excavation Wall Samples in the 0 to 3 foot Depth Interval
Champaign MGP

Constituent	Soil Ingestion			Soil Inhalation			Indoor Air		Soil Component to Groundwater ⁽³⁾	IEPA Accepted Background Levels for MSA	Sample Location: Sample ID: Sample Date: Sample Depth (feet):	P7-B1-SW	P7-BC1-SW	P7-C1-SW	P7-CD1-SW	P7-D1-W	P7-DE1-W	P8-H1-W	P8-H4-W
	Residential	Commercial	Construction	Residential	Commercial	Construction	Residential	Commercial				P7-B1-SW (3)	P7-BC1-SW (3)	P7-C1-SW (3)	P7-CD1-SW (3)	P7-D1-W (3)	P7-DE1-W (3)	P8-H1-W (3)	P8-H4-W (3)
<u>BTEX Constituents (mg/kg)</u>																			
Benzene	12	100	2,300	0.8	1.6	2.2	0.069	0.51	0.03	---	---	<1.12	<0.0227	<0.886	<0.774	<0.0252	<0.0243	0.0433	0.0498
Ethylbenzene	7,800	200,000	20,000	400	400	58	130	130	13	---	---	13.9	0.089	26	17	0.968	0.759	0.093	1.02
Toluene	16,000	410,000	410,000	650	650	42	240	240	12	---	---	<5.62	<0.113	<4.43	<3.87	0.082	0.078	0.031	0.032
m,p-Xylenes	16,000	410,000	41,000	420 ⁽¹⁾	420 ⁽¹⁾	5.9 ⁽²⁾	75 ⁽²⁾	120 ⁽²⁾	200 ⁽²⁾	---	---	5.6	<0.113	4.63	3.1	0.137	0.125	0.415	0.11
o-Xylene	16,000	410,000	41,000	410	410	6.5	98	140	190	---	---	8.85	0.03	10.3	4.8	0.395	0.365	0.185	0.527
Xylenes	16,000	410,000	41,000	320	320	5.6	63	100	150	---	---	14.45	0.03	14.93	7.9	0.532	0.49	0.6	0.637
<u>PNA Constituents (mg/kg)</u>																			
Acenaphthene	4,700	120,000	120,000	---	---	---	---	---	570	0.13	---	53.6	4.7	34.3	22.6	1.71	1.61	1.93	35.6
Acenaphthylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	85 ⁽⁴⁾	0.07	---	8.95	1.37	3.35	2.14	2.89	2.73	<0.419	3.01
Anthracene	23,000	610,000	610,000	---	---	---	---	---	12,000	0.4	---	31.2	3.83	19.5	11.1	1.17	0.981	1.03	17.6
Benzo(a)anthracene	0.90	8	170	---	---	---	---	---	2	1.8	---	19.5	2.66	10.7	5.57	0.421	0.313	0.617	8.32
Benzo(a)pyrene	0.09	0.80	17	---	---	---	---	---	8	2.1	---	21.3	3.2	9.81	5.35	3.01	2.74	<0.419	7.04
Benzo(b)fluoranthene	0.90	8	170	---	---	---	---	---	5	2.1	---	17.2	2.64	7.93	4.14	2.3	2.03	<0.419	5.75
Benzo(g,h,i)perylene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	27,000 ⁽⁴⁾	1.7	---	10.1	1.44	3.2	2.54	2.82	2.57	<0.419	2.35
Benzo(k)fluoranthene	9	78	1,700	---	---	---	---	---	49	1.7	---	4.84	0.703	2.28	1.22	0.523	0.522	<0.419	1.78
Bis(2-ethylhexyl)phthalate	46	410	4,100	31,000	31,000	31,000	---	---	3,600	---	---	<4.24	<0.849	<7.99	<1.95	<2.06	<2.1	<8.27	<2.07
Chrysene	88	780	17,000	---	---	---	---	---	160	2.7	---	20.6	2.78	10.6	5.4	1.37	1.34	0.37	8.13
Dibenzo(a,h)anthracene	0.09	0.80	17	---	---	---	---	---	2	0.42	---	2.34	0.379	0.886	0.578	0.452	0.407	<0.419	0.649
Fluoranthene	3,100	82,000	82,000	---	---	---	---	---	4,300	4.1	---	40.5	5.53	23.2	11.9	0.421	0.365	0.905	16.8
Fluorene	3,100	82,000	82,000	---	---	---	---	---	560	0.18	---	30.8	3.92	19.4	11.9	1.8	1.65	1.36	18.4
Indeno(1,2,3-cd)pyrene	0.90	8.00	170	---	---	---	---	---	14	1.6	---	7.64	1.27	2.69	1.89	2.34	2.15	<0.419	1.99
Naphthalene	1,600	41,000	4,100	170	270	1.8	34	34	12	0.2	---	36.6	0.319	49.9	46.5	1.3	1.41	6.25	1.89
Phenanthrene	2,300 ⁽⁴⁾	61,000 ⁽⁴⁾	61,000 ⁽⁴⁾	---	---	---	---	---	200 ⁽⁴⁾	2.5	---	104	12.9	67.6	36.5	1.58	1.33	4.44	55
Pyrene	2,300	61,000	61,000	---	---	---	---	---	4,200	3	---	65.6	8.75	34.3	18.8	2	1.84	1.4	24.9
<u>Metals (mg/kg)</u>																			
Mercury	23	610	61	10	16	0.10	0.45	0.45	6.4	0.06	---	0.031	0.038	0.017	0.013	0.049	0.051	0.036	0.032
Selenium	390	10,000	1,000	---	---	---	---	---	3.3	0.48	---	<0.556	<0.556	<0.577	<0.556	<0.6	<0.566	<0.577	<0.545
Arsenic	13.0	13.0	61.0	750	1,200	25,000	---	---	30	13	---	3.62	5.65	5.47	5.14	9.52	11.8	6.57	7.02
Barium	5,500	140,000	14,000	690,000	910,000	870,000	---	---	1,800	110	---	118	118	59.4	31.4	96	119	138	114
Cadmium	78	2,000	200	1,800	2,800	59,000	---	---	59	0.6	---	0.43	0.52	<0.2	<0.18	0.18	0.24	0.51	0.19
Chromium	230	6,100	4,100	270	420	690	---	---	32	16.2	---	22	23.1	14.7	14.5	19	24.3	21.9	17.5
Lead	400	800	700	---	---	---	---	---	107	36	---	15.1	18	14.2	18.3	14.7	16.8	17.3	18.1
Silver	390	10,000	1,000	---	---	---	---	---	39	0.55	---	<0.52	<0.53	<0.55	<0.5	<0.54	<0.54	<0.55	<0.55
Cyanide, Amenable to Chlorination	1,600	41,000	4,100	---	---	---	---	---	40	0.51	---	1.64	37.4	1.06	1.62	26.8	1.3	<2.6	6.28
Cyanide (Total)	---	---	---	---	---	---	---	---	---	---	---	2.34	47.1	1.55	3.46	30.8	3.84	1.8	10.9

Notes:

⁽¹⁾ Objective is for m-xylene

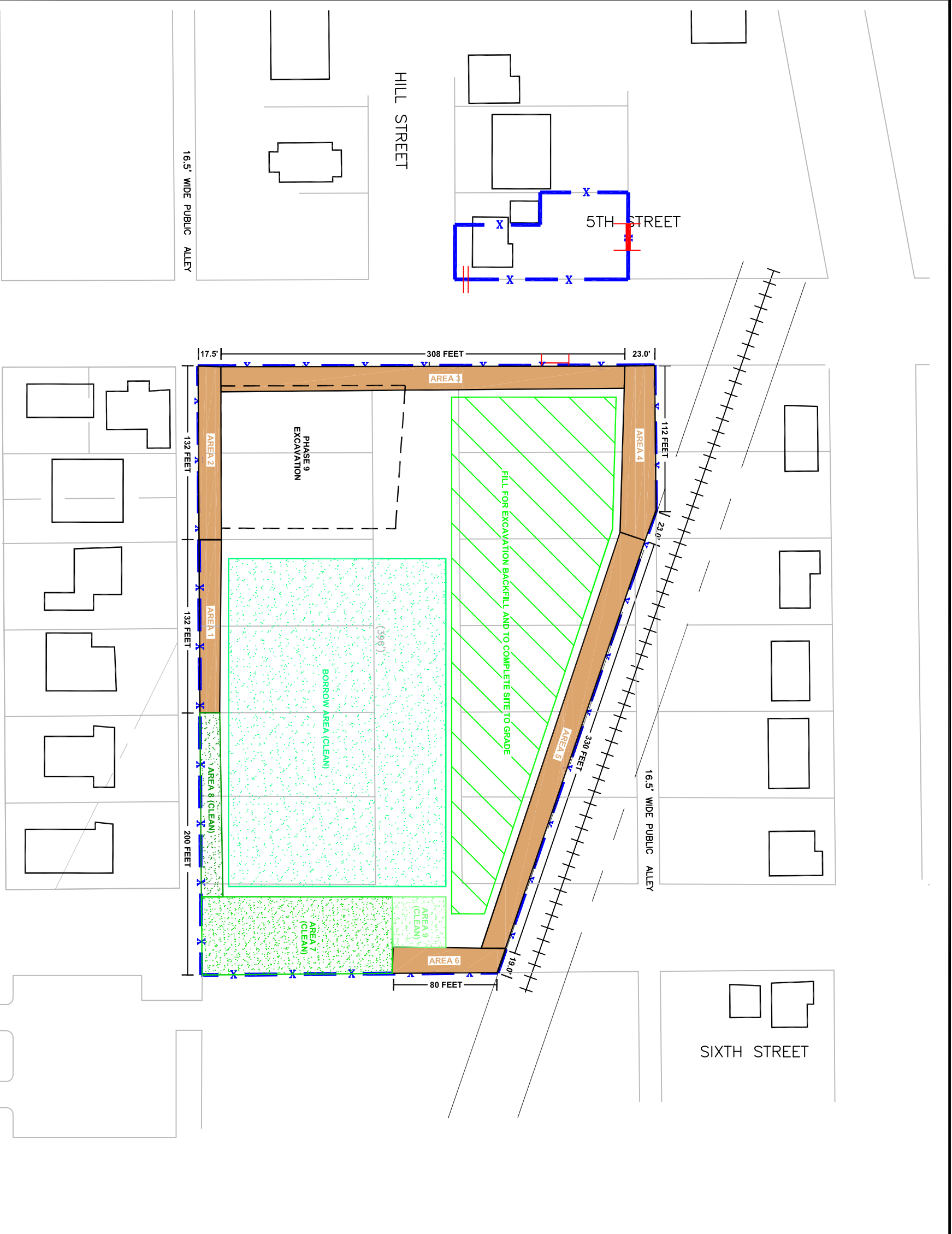
⁽²⁾ Objective is for p-xylene

⁽³⁾ Objectives are for Class I groundwater.

⁽⁴⁾ Non-TACO or provisional ROs provided by the IEPA.

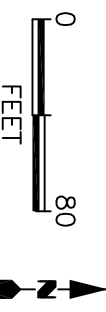
--- No objective has been published for this constituent by the IEPA, or the sample was not analyzed for this constituent.

Concentration exceeds one or more project remediation objective.



LEGEND

	EXISTING STRUCTURES (APPROXIMATE)
	NORFOLK SOUTHERN RAILWAY CORPORATION PROPERTY BOUNDARY
	REMEDIATION SITE BOUNDARY
	FENCE
	EXCAVATION AREA (0 TO 3 FOOT DEPTH)
	CLEAN BORROW AREA
	BACKFILL TO COMPLETE SITE TO GRADE



TITLE:
0 TO 3 FOOT EXCAVATION AND CLEAN BORROW AREAS

DWN:	TMM	DES:	SS	PROJECT NO:	62403053
CHKD:	PTS	APPD:		AMERENIP CHAMPAIGN, ILLINOIS	
DATE:	02/06/11	REV:		FIGURE 1	