APPENDIX II

TABLES

Table 1. Contaminants of Potential Concern for the Geddes Brook/Ninemile Creek HHRA

Contaminant	Fish Fillets	Channel Sediments	Floodplain Soils/Sediments	Surface Water
Metals/Inorganics				
Aluminum		•	•	
Antimony		•	•	•
Arsenic (inorganic)	•	•	•	
Cadmium	•			•
Chromium		•	•	•
Copper	•			
Cyanide		•	•	
Iron	•	•	•	
Lead		•	•	•
Manganese		•	•	•
Methylmercury	•	•	•	•
Mercury (inorganic)	NA [1]	•	•	•
Nickel	•			
Selenium	•	•		
Thallium		•	•	•
Vanadium	•			
Zinc	•			
Volatile Organic Compounds				
No VOC COPCs identified in any Geddes Brook/Ninemile Creek medium				
Semivolatile Organic Compounds				
3-Nitroaniline			•	
N-nitroso-di-n-propylamine			•	
Hexachlorobenzene	•	•	•	
Polycyclic Aromatic Hydrocarbons				
Benz(a)anthracene		•	•	
Benzo(a)pyrene		•	•	
Benzo(b)fluoranthene		•	•	
Benzo(g,h,i)perylene			•	
Benzo(k)fluoranthene			•	
Dibenz(a,h)anthracene		•	•	
Indeno(1,2,3-cd)pyrene		•	•	
Phenanthrene		•	•	
Pesticides				
4,4-DDD	•			
4,4'-DDE	•			
4,4'-DDT	•			
Dieldrin	•	•		
Heptachlor Epoxide	•	•		
Polychlorinated Biphenyls				
Aroclor 1248	•		•	
Aroclor 1254	•	•	•	
Aroclor 1260	•	•	•	
Aroclor 1268		•	•	
Total PCBs (sum)	•	•	•	
Dioxins/Furans				
2,3,7,8-TCDD TEQ	•	•	•	•

Notes: • - Specified contaminant identified as a contaminant of potential concern (COPC).
NA - This analyte or parameter group not analyzed in specified exposure area.
Contaminants not listed were not identified as COPCs in any site medium.
[1] - All mercury in fish addressed as methylmercury.

Table 2. Contaminants and Stressors of Concern Selected for Geddes Brook/Ninemile Creek Media in the BERA

Contaminant	Surface Water	Channel Sediments	Floodplain Soils/Sediments	Plants	Fish
Metals/Inorganics					
Arsenic		•	•	•	•
Barium	•				
Cadmium			•		
Chromium			•	•	
Copper		•	•		
Iron			•		
Lead	•	•	•	•	
Manganese	•	•	•		
Mercury/Methylmercury	•	•	•	•	•
Nickel		•	•		
Selenium			•	•	•
Thallium			•	•	
Vanadium			•	•	
Zinc		•	•	•	•
Volatile Organic Compounds					
Dichlorobenzenes (Sum)		•			
Carbon disulfide		•			
Methylene chloride		•			
Semivolatile Organic Compounds					
Bis(2-ethylhexyl)phthalate		•			
Hexachlorobenzene		•	•		
2-Methylphenol		•			
Phenol		•	•		
Polycyclic aromatic hydrocarbons (total)		•	•		
Pesticides/Polychlorinated Biphenyls					
Chlordane isomers		•	•		
DDT and metabolites		•	•		•
Dieldrin			•		
Endrin			•		
Endosulfans (sum)		•			
Heptachlor and heptachlor epoxide		•	•		
Polychlorinated biphenyls (total)		•	•		•
Dioxins/Furans					
PCDD/PCDFs (TEQ)			•		•
Other Substances/Stressors					
Calcite		•			
Chloride	•				
Sodium	•				
Total dissolved solids	•				

Notes: • – Contaminants and stressors of concern assessed in the BERA for the specific media listed.

Table 3. Summary of Channel Sediment Data for Select Parameters from Geddes Brook and Ninemile Creek (1998,2001,2008)

	Upper Ninemile Creek		Lower Ninemile Creek		Upper Geddes Brook		Lower Geddes Brook		Lower Ninemile Creek Reach AB 2008	
Parameter	**Maximum Detection**	**Average Detection**	**Maximum Detection**	**Average Detection**	**Maximum Detection**	**Average Detection**	**Maximum Detection**	**Average Detection**	**Maximum Detection**	**Average Detection**
0 to 15 cm									**0 to 30 cm**	
Arsenic (mg/kg)	5.80	5.20	23.7	6.12	3.30	2.55	6.60	4.44	NA	NA
Benzo(a)pyrene (µg/kg)	180	118	1,100	328	2,100	1,550	2,900	720	NA	NA
Hexachlorobenzene (µg/kg)	ND	ND	2,450	193	3.10	3.10	795	253	NA	NA
Lead (mg/kg)	23.5	18.0	194	39.7	30.3	30.3	114	36.4	NA	NA
Mercury (mg/kg)	0.15	0.10	21.1	3.08	0.36	0.20	15.7	2.62	119	25.57
Methylmercury (µg/kg)	1.89	1.24	6.26	2.48	2.01	1.60	4.83	2.91	NA	NA
Total PAHs (µg/kg)	2,040	1,379	13,981	3,645	24,469	18,009	42,130	8,717	NA	NA
Total PCBs (µg/kg)	ND	ND	1,350	166	ND	ND	150	111	NA	NA
Phenol (µg/kg)	ND	ND	220	142	ND	ND	250	195	NA	NA
15 to 45 cm									**30 to 60 cm**	
Arsenic (mg/kg)	4.20	4.20	33.2	7.09	3.40	3.40	14.6	6.26	NA	NA
Benzo(a)pyrene (µg/kg)	ND	ND	2,800	460	360	360	480	283	NA	NA
Hexachlorobenzene (µg/kg)	ND	ND	7,100	807	ND	ND	5,500	925	NA	NA
Lead (mg/kg)	9.90	9.90	532	50	35.2	35.2	200	41.4	NA	NA
Mercury (mg/kg)	0.03	0.03	68.6	6.58	0.32	0.27	5.30	1.57	98.8	30.10
Methylmercury (µg/kg)	0.17	0.17	9.01	2.82	0.59	0.59	4.60	1.37	NA	NA
Total PAHs (µg/kg)	ND	ND	33,915	4,420	4,083	4,083	6,030	2,929	NA	NA
Total PCBs (µg/kg)	ND	ND	1,200	210	52.0	52.0	400	250	NA	NA
Phenol (µg/kg)	ND	ND	1,700	499	ND	ND	120	92.5	NA	NA
45 to 75 cm										
Arsenic (mg/kg)	NA	NA	101	10.1	2.70	2.70	8.30	5.76	NA	NA
Benzo(a)pyrene (µg/kg)	NA	NA	1,600	374	150	150	1,400	557	NA	NA
Hexachlorobenzene (µg/kg)	NA	NA	26,000	2,168	ND	ND	17,500	5,322	NA	NA
Lead (mg/kg)	NA	NA	388	45.8	25.1	25.1	371	127	NA	NA
Mercury (mg/kg)	NA	NA	118	5.33	0.37	0.30	79.0	16.7	NA	NA
Methylmercury (µg/kg)	NA	NA	20.1	4.80	0.27	0.27	8.82	3.04	NA	NA
Total PAHs (µg/kg)	NA	NA	23,685	4,071	1,787	1,787	12,620	5,575	NA	NA
Total PCBs (µg/kg)	NA	NA	2,100	258	37	37	4,500	1,580	NA	NA
Phenol (µg/kg)	NA	NA	940	505	ND	ND	ND	ND	NA	NA
75 to 105 cm									**60 to 90**	
Arsenic (mg/kg)	NA	NA	101	14.6	3.60	3.60	22.7	10.2	NA	NA
Benzo(a)pyrene (µg/kg)	NA	NA	1,200	251	82	82	3,900	1,123	NA	NA
Hexachlorobenzene (µg/kg)	NA	NA	1,050	372	ND	ND	107,500	27,386	NA	NA
Lead (mg/kg)	NA	NA	374	50.9	14.8	14.8	144	57.6	NA	NA
Mercury (mg/kg)	NA	NA	28.3	3.09	0.42	0.26	3.76	2.79	121	40.37
Methylmercury (µg/kg)	NA	NA	14.9	2.94	0.35	0.35	3.51	2.34	NA	NA
Total PAHs (µg/kg)	NA	NA	17,661	3,296	943	943	55,180	15,785	NA	NA
Total PCBs (µg/kg)	NA	NA	2,500	441	27.5	27.5	133	133	NA	NA
Phenol (µg/kg)	NA	NA	700	401	ND	ND	ND	ND	NA	NA
Below 105 cm									**Below 90 cm**	
Arsenic (mg/kg)	NA	NA	37.6	7.69	NA	NA	10.3	9.35	NA	NA
Benzo(a)pyrene (µg/kg)	NA	NA	1,100	418	NA	NA	2,800	1,600	NA	NA
Hexachlorobenzene (µg/kg)	NA	NA	435	228	NA	NA	140,000	73,125	NA	NA
Lead (mg/kg)	NA	NA	321	44.1	NA	NA	115	86.7	NA	NA
Mercury (mg/kg)	NA	NA	30.2	1.57	NA	NA	10.4	8.85	126	6.59
Methylmercury (µg/kg)	NA	NA	4.36	1.10	NA	NA	3.14	3.09	NA	NA
Total PAHs (µg/kg)	NA	NA	15,654	4,867	NA	NA	41,860	23,621	NA	NA
Total PCBs (µg/kg)	NA	NA	475	167	NA	NA	ND	ND	NA	NA
Phenol (µg/kg)	NA	NA	780	285	NA	NA	ND	ND	NA	NA

Notes:
1. NA=Not analyzed
2. ND=Not detected
3. The sediment samples outside of the site limits, as defined in this Proposed Plan, are not included in these statistics. These include NM1, NM2, TN-17 and TN-18, which are located upstream of Amboy Dam in upper Ninemile Creek, and GB1, which is located in upper Geddes Brook. These data can be found in the RI report, and the statistics reported for upper Ninemile Creek and upper Geddes Brook in Appendix I of the RI include the data from these stations.

Table 4. Summary of Floodplain Soil/Sediment Data for Select Parameters from Geddes Brook and Ninemile Creek (1998, 2000, 2001, 2002, and 2007)

	Lower Ninemile Creek			Islands in Lower Ninemile Creek			Lower Geddes Brook			Geddes Brook IRM Sampling		
Parameter	Depth Interval (cm)	Maximum Detection	Average Detection	Depth Interval (cm)	Maximum Detection	Average Detection	Depth Interval (cm)	Maximum Detection	Average Detection	Depth Interval (cm)	Maximum Detection	Average Detection
Arsenic (mg/kg)	0 to 15	23.0	5.76	0 to 15	6.40	5.63	0 to 15	7.70	5.85	0 to 15	NA	NA
Benzo(a)pyrene (µg/kg)	0 to 15	14,000	654	0 to 15	320	248	0 to 15	8,000	1,067	0 to 15	780	340
Hexachlorobenzene (µg/kg)	0 to 15	890	91	0 to 15	745	423	0 to 15	1,650	263	0 to 15	880	328
Lead (mg/kg)	0 to 15	466	44.3	0 to 15	42.2	34.4	0 to 15	192	52.5	0 to 15	NA	NA
Mercury (mg/kg)	0 to 15	58.7	2.29	0 to 15	1.90	0.71	0 to 15	14.1	4.33	0 to 15	15.7	3.98
Methylmercury (µg/kg)	0 to 15	27.5	5.83	0 to 15	NA	NA	0 to 15	5.31	4.03	0 to 15	NA	NA
Total PAHs (µg/kg)	0 to 15	173,980	7,756	0 to 15	3,990	3,036	0 to 15	138,363	14,707	0 to 15	8,410	3,738
Total PCBs (µg/kg)	0 to 15	600	70.7	0 to 15	80.0	49.6	0 to 15	450	137	0 to 15	NA	NA
Phenol (µg/kg)	0 to 15	120	91.4	0 to 15	ND	ND	0 to 15	ND	ND	0 to 15	NA	NA
Arsenic (mg/kg)	15 to 30	31.0	5.91	15 to 45	6.00	5.68	15 to 30	8.90	5.82	15 to 30	NA	NA
Benzo(a)pyrene (µg/kg)	15 to 30	20,000	736	15 to 45	400	250	15 to 30	460	282	15 to 30	430	220
Hexachlorobenzene (µg/kg)	15 to 30	1,050	130	15 to 45	165	93	15 to 30	1,360	344	15 to 30	840	394
Lead (mg/kg)	15 to 30	317	36	15 to 45	39.8	35.1	15 to 30	173	50.7	15 to 30	NA	NA
Mercury (mg/kg)	15 to 30	59.5	3.79	15 to 45	4.70	0.99	15 to 30	33.7	11.7	15 to 30	39.1	6.14
Methylmercury (µg/kg)	15 to 30	NA	NA	15 to 45	NA	NA	15 to 30	NA	NA	15 to 30	NA	NA
Total PAHs (µg/kg)	15 to 30	283,060	8,693	15 to 45	4,590	2,976	15 to 30	4,992	2,947	15 to 30	4,720	2,370
Total PCBs (µg/kg)	15 to 30	1,050	143	15 to 45	140	59.1	15 to 30	800	462	15 to 30	NA	NA
Phenol (µg/kg)	15 to 30	66	55	15 to 45	ND	ND	15 to 30	ND	ND	15 to 30	NA	NA
Arsenic (mg/kg)	30 to 60	NA	NA	45 to 75	9.40	6.40	30 to 60	NA	NA	30 to 60	NA	NA
Benzo(a)pyrene (µg/kg)	30 to 60	1,700	298	45 to 75	270	270	30 to 60	NA	NA	30 to 60	4,000	690
Hexachlorobenzene (µg/kg)	30 to 60	6,400	1,006	45 to 75	20	20	30 to 60	NA	NA	30 to 60	8,100	2,840
Lead (mg/kg)	30 to 60	NA	NA	45 to 75	45.9	27.3	30 to 60	NA	NA	30 to 60	NA	NA
Mercury (mg/kg)	30 to 60	76.9	4.16	45 to 75	0.85	0.32	30 to 60	NA	NA	30 to 60	269	14.2
Methylmercury (µg/kg)	30 to 60	NA	NA	45 to 75	NA	NA	30 to 60	NA	NA	30 to 60	NA	NA
Total PAHs (µg/kg)	30 to 60	18,714	3,208	45 to 75	3,092	3,092	30 to 60	NA	NA	30 to 60	40,700	6,363
Total PCBs (µg/kg)	30 to 60	NA	NA	45 to 75	15	15	30 to 60	NA	NA	30 to 60	NA	NA
Phenol (µg/kg)	30 to 60	NA	NA	45 to 75	ND	ND	30 to 60	NA	NA	30 to 60	NA	NA
Arsenic (mg/kg)	60 to 90	NA	NA	75 to 105	5.40	3.95	60 to 90	NA	NA	60 to 90	NA	NA
Benzo(a)pyrene (µg/kg)	60 to 90	1,500	285	75 to 105	200	200	60 to 90	NA	NA	60 to 90	1,800	696
Hexachlorobenzene (µg/kg)	60 to 90	870	256	75 to 105	2	2	60 to 90	NA	NA	60 to 90	93	93
Lead (mg/kg)	60 to 90	NA	NA	75 to 105	34.3	20.1	60 to 90	NA	NA	60 to 90	NA	NA
Mercury (mg/kg)	60 to 90	43.1	2.71	75 to 105	0.28	0.12	60 to 90	NA	NA	60 to 90	156	7.18
Methylmercury (µg/kg)	60 to 90	NA	NA	75 to 105	NA	NA	60 to 90	NA	NA	60 to 90	NA	NA
Total PAHs (µg/kg)	60 to 90	16,404	2,857	75 to 105	2,832	2,832	60 to 90	NA	NA	60 to 90	17,950	7,012
Total PCBs (µg/kg)	60 to 90	NA	NA	75 to 105	ND	ND	60 to 90	NA	NA	60 to 90	NA	NA
Phenol (µg/kg)	60 to 90	NA	NA	75 to 105	ND	ND	60 to 90	NA	NA	60 to 90	NA	NA

Notes:
1. NA=Not analyzed
2. ND=Not detected
3. The floodplain data for Ninemile Creek upstream of the confluence with Geddes Brook and for Geddes Brook upstream of the West Flume were not included in these statistics because these floodplain areas are not within the site limits. These soil data can be found in the RI report, and statistics for upper Ninemile Creek and upper Geddes Brook are reported in Appendix I of the RI. The data from 2007 are reported in Appendix B of the Supplemental FS (Parsons, 2008a). The summary of the 2007 data provided by Parsons was revised by Earth Tech for NYSDEC.

Table 4 cont.

	2007 Geddes Brook			2007 Ninemile Creek OU-1		
Parameter	Depth Interval (cm)	Maximum Detection	Average Detection	Depth Interval (cm)	Maximum Detection	Average Detection
Arsenic (mg/kg)	0 to 30	13.1	9.81	0 to 30	12.3	6.94
Benzo(a)pyrene (µg/kg)	0 to 30	NA	NA	0 to 30	NA	NA
Hexachlorobenzene (µg/kg)	0 to 30	NA	NA	0 to 30	0.10	0.07
Lead (mg/kg)	0 to 30	NA	NA	0 to 30	NA	NA
Mercury (mg/kg)	0 to 30	36.0	5.72	0 to 30	12.0	2.07
Methylmercury (µg/kg)	0 to 30	NA	NA	0 to 30	NA	NA
Total PAHs (µg/kg)	0 to 30	NA	NA	0 to 30	20.3	5.02
Total PCBs (µg/kg)	0 to 30	NA	NA	0 to 30	NA	NA
Phenol (µg/kg)	0 to 30	NA	NA	0 to 30	NA	NA
Arsenic (mg/kg)	----	----	----	----	----	----
Benzo(a)pyrene (µg/kg)	----	----	----	----	----	----
Hexachlorobenzene (µg/kg)	----	----	----	----	----	----
Lead (mg/kg)	----	----	----	----	----	----
Mercury (mg/kg)	----	----	----	----	----	----
Methylmercury (µg/kg)	----	----	----	----	----	----
Total PAHs (µg/kg)	----	----	----	----	----	----
Total PCBs (µg/kg)	----	----	----	----	----	----
Phenol (µg/kg)	----	----	----	----	----	----
Arsenic (mg/kg)	30 to 60	17.4	6.99	30 to 60	11.1	5.91
Benzo(a)pyrene (µg/kg)	30 to 60	NA	NA	30 to 60	NA	NA
Hexachlorobenzene (µg/kg)	30 to 60	NA	NA	30 to 60	0.05	0.04
Lead (mg/kg)	30 to 60	NA	NA	30 to 60	NA	NA
Mercury (mg/kg)	30 to 60	14.7	3.94	30 to 60	3.60	0.69
Methylmercury (µg/kg)	30 to 60	NA	NA	30 to 60	NA	NA
Total PAHs (µg/kg)	30 to 60	NA	NA	30 to 60	8.25	2.83
Total PCBs (µg/kg)	30 to 60	NA	NA	30 to 60	NA	NA
Phenol (µg/kg)	30 to 60	NA	NA	30 to 60	NA	NA
Arsenic (mg/kg)	60 to 90	7.30	3.58	60 to 90	5.40	3.17
Benzo(a)pyrene (µg/kg)	60 to 90	NA	NA	60 to 90	NA	NA
Hexachlorobenzene (µg/kg)	60 to 90	NA	NA	60 to 90	0.01	0.01
Lead (mg/kg)	60 to 90	NA	NA	60 to 90	NA	NA
Mercury (mg/kg)	60 to 90	11.0	1.48	60 to 90	0.72	0.19
Methylmercury (µg/kg)	60 to 90	NA	NA	60 to 90	NA	NA
Total PAHs (µg/kg)	60 to 90	NA	NA	60 to 90	0.89	0.50
Total PCBs (µg/kg)	60 to 90	NA	NA	60 to 90	NA	NA
Phenol (µg/kg)	60 to 90	NA	NA	60 to 90	NA	NA

Table 5. Summary of Surface Water Data for Select Parameters from Geddes Brook and Ninemile Creek (1998)

	Upper Ninemile Creek		Lower Ninemile Creek		Upper Geddes Brook		Lower Geddes Brook	
Parameter	Maximum Detection	Average Detection	Maximum Detection	Average Detection	Maximum Detection	Average Detection	Maximum Detection	Average Detection
Dissolved Arsenic (µg/L-dis)	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Lead (µg/L-dis)	ND	ND	ND	ND	ND	ND	1.2	1.2
Lead (µg/L)	1.8	1.8	1.7	1.7	ND	ND	1.8	1.8
Dissolved Methylmercury (ng/L-dis)	4.2E-02	4.1E-02	3.2E-02	2.1E-02	4.0E-02	2.9E-02	6.1E-02	3.7E-02
Dissolved Total Mercury (ng/L-dis)	ND	ND	ND	ND	ND	ND	1.4	1.4
Total Mercury (ng/L)	2.3	1.8	27	9.2	2.1	2.1	27	22
Hexachlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Phenol (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Total PAHs (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
1. ND=Not detected
2. Data collected during the GB/NMC RI from the West Flume (Station GB4) and the "Unnamed Creek" (Station GB5), both of which discharge to lower Geddes Brook, are not included in this data summary since these streams are outside of the scope of this remedy.
3. The water samples outside of the site limits, as defined in this ROD, are not included in these statistics. These include NM1 and NM2 upstream of Amboy Dam in upper Ninemile Creek, and GB1 in upper Geddes Brook. These data can be found in the RI report, and the statistics reported for upper Ninemile Creek and upper Geddes Brook in Appendix I of the RI include the data from these stations.

Table 6. Concentrations of Select Contaminants in Geddes Brook/Ninemile Creek Fish

Contaminants (only contaminants considered risk drivers are shown)	Units (wet weight)	Target Tissue Concentration Range (mg/kg) [2]		Fish Concentrations (mg/kg) Data from 1990, 1998, 2000, and 2002		
				Arithmetic Mean	95% UCL[4]	Max Detection
Human Health Exposure - Fish Fillets		**RME**				
Mercury (as methylmercury) [5]	mg/kg	0.6		0.55	0.73	2.5
Total PCBs [6]	mg/kg	0.011 to 1.1		0.17	0.45	1.9
PCDD/PCDFs - TEQ as 2,3,7,8-TCDD [7]	mg/kg	1.0E-07 to 1.0E-05		2.3E-06	5.9E-06	1.8E-05
Ecological Exposure - Small Fish (3 to 18 cm) Whole Fish [1, 3]		**NOAEL**	**LOAEL**			
Mercury (as methylmercury)	mg/kg	0.009	0.187	0.28	0.85	0.85
Ecological Exposure - Large Fish (18 to 60 cm) Whole Fish [1, 3]		**NOAEL**	**LOAEL**			
Mercury (as methylmercury)	mg/kg	0.014	0.345	0.56	1.9	1.9

Sources:
-- Human health exposure data (fish fillets) were taken from Table 3.1 of Appendix B of the Geddes Brook/Ninemile Creek Human Health Risk Assessment (HHRA) report.
-- Ecological exposure data (whole fish) were taken from Table I-2 of the Geddes Brook/Ninemile Creek FS report.

-- Target tissue concentrations were taken from Appendix I of the Geddes Brook/Ninemile Creek FS report and from Attachment A-2 of Appendix A of the OU1 Supplemental FS report. Fish tissue PRGs can be found in the text boxes on pages 41 and 42 of the ROD.

Notes:
1. Mercury concentrations were adjusted from fillet to whole body concentrations by multiplying by a factor of 0.7, as developed in the Onondaga Lake Baseline Ecological Risk Assessment.
2. RME = reasonable maximum exposure; NOAEL = no-observed-adverse-effect-level; LOAEL = lowest-observed-adverse-effect-level.
3. NOAELs and LOAELs for small (3 to 18 cm) fish are based on the belted kingfisher and mink. NOAELs and LOAELs for large (18 to 60 cm) fish are based on the great blue heron and river otter.
4. The maximum detected concentration was used as the 95% UCL if it was lower than the calculated UCL.

5. The human health target tissue concentration for mercury (0.6 mg/kg) is based on young child RME (non-cancer effects). The RME target concentration for adults is slightly higher (0.9 mg/kg). See the PRGs in fish tissue text box on page 42 of the ROD.

6. The human health target tissue concentrations for total PCBs based on RME carcinogenic risks at risk targets of 1E-05 and 1E-04 for adults are 0.11 mg/kg and 1.1 mg/kg, respectively. The RME targets based on non-cancer effects of 0.12 to 0.19 mg/kg fall within the range based on the carcinogenic risk target of 1E-05. A target concentration based on the 1E-06 risk level (0.011 mg/kg) is much lower than mean background concentrations in US waters and may not be achievable. See the PRGs in fish tissue text box on page 42 of the ROD.

7. The human health target tissue concentrations for PCDD/PCDFs based on RME carcinogenic risks at risk targets of 1E-05 and 1E-04 for adults are 1E-06 mg/kg and 1E-05 mg/kg, respectively. Non-carcinogenic targets could not be developed for PCDD/PCDFs. A target concentration based on the 1E-06 risk level (1E-07 mg/kg) is much lower than mean background concentrations in US waters and may not be achievable. See the PRGs in fish tissue text box on page 42 of the ROD.

Table 7

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future
Medium: Lower Ninemile Creek

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration	Exposure Point Concen-tration Units	Statistical Measure
		Min	Max					
Fish Fillet	Arsenic	0.52	1.1	mg/kg-ww	4/26	5.1E-02	mg/kg-ww	95% Chebyshev
	Hexachlorobenzene	2.6E-04	0.11	mg/kg-ww	14/26	3.4E-02	mg/kg-ww	97.5% Chebyshev
	PCBs	0.023	1.89	mg/kg-ww	18/25	4.5E-01	mg/kg-ww	95% Chebyshev
	PCDDs/PCDFs	3.3E-07	1.8E-05	mg/kg-ww	24/25	5.9E-06	mg/kg-ww	95% Chebyshev
	Methylmercury	0.13	2.5	mg/kg-ww	36/36	7.3E-01	mg/kg-ww	H-UCL
	Dieldrin	0.0011	0.02	mg/kg-ww	5/25	5.7E-03	mg/kg-ww	95% Chebyshev
Surface Sediment	Arsenic	NA	23.7	mg/kg-dw	NA	6.7E+00	mg/kg-dw	H-UCL
	Hexachlorobenzene	NA	11	mg/kg-dw	NA	3.2E+00	mg/kg-dw	97.5% Chebyshev
	Benzo(a)pyrene	NA	1.1	mg/kg-dw	NA	5.5E-01	mg/kg-dw	97.5% Chebyshev
Surface Soil	Arsenic	NA	23	mg/kg-dw	NA	7.9E+00	mg/kg-dw	95% Chebyshev
	Benz(a)anthracene	NA	15	mg/kg-dw	NA	1.7E+00	mg/kg-dw	97.5% Chebyshev
	Benzo(a)pyrene	NA	14	mg/kg-dw	NA	1.6E+00	mg/kg-dw	97.5% Chebyshev
	Dibenz(a,h)anthracene	NA	3.1	mg/kg-dw	NA	3.7E-01	mg/kg-dw	97.5% Chebyshev

Key

mg/kg-ww: milligrams per kilogram wet weight
mg/kg-dw: milligrams per kilogram dry weight
NA: Data not available
H-UCL: Data are lognormally distributed
95% Chebyshev: Data are non-parametrically distributed.
97.5% Chebyshev: Data are non-parametrically distributed.

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

The table presents the chemicals of concern (COCs) and exposure point concentration for each of the COCs detected in fish tissue, surface sediment and surface soil (*i.e.*, the concentration that will be used to estimate the exposure and risk from each COC in each medium). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the exposure point concentration (EPC), and how the EPC was derived.

Table 8

Non-Cancer Toxicity Data Summary

Ingestion

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorption Efficiency (for Dermal)	Adjusted RfD (for Dermal)	Adjusted Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates of RfD:
Arsenic	Chronic	3E-04	mg/kg-day	1	3E-04	mg/kg-day	Skin	3	IRIS	04/08/2003
Hexachlorobenzene	Chronic	8E-04	mg/kg-day	1	8E-04	mg/kg-day	Liver	100	IRIS	04/08/2003
PCBs (highly chlorinated) (as Aroclor 1254)	Chronic	2E-05	mg/kg-day	1	2E-05	mg/kg-day	Immune System	300	IRIS	04/08/2003
PCDD/ PCDFs	Chronic	NA	mg/kg-day		NA	mg/kg-day				
Dieldrin	Chronic	5E-05	mg/kg-day	1	5E-05	mg/kg-day	Liver	100	IRIS	04/08/2003
Methylmercury	Chronic	1E-04	mg/kg-day	1	1E-04	mg/kg-day	Develop.	10	IRIS	04/08/2003
Benz(a)anthracene	Chronic	3E-02	mg/kg-day	1	3E-02	mg/kg-day	Kidney	3000	IRIS/NCEA	04/11/2003
Benzo(a)pyrene	Chronic	NA	mg/kg-day		NA	mg/kg-day				
Dibenz(a,h)anthracene	Chronic	3E-02	mg/kg-day	1	3E-02	mg/kg-day	Kidney	3000	IRIS/NCEA	04/11/2003

Key

NA: No information available
IRIS: Integrated Risk Information System, U.S. EPA

Summary of Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern in fish tissue, surface sediments, and surface soils. Two of the COCs have toxicity data indicating their potential for adverse non-carcinogenic health effects in humans, while no data are currently available to evaluate noncancer health effects from exposure to PCDD/PCDFs and benzo(a)pyrene.

Table 9

Cancer Toxicity Data Summary

Ingestion

Chemical of Concern	Oral Cancer Slope Factor	Absorption Efficiency (for Dermal)	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Arsenic	1.5E+00	1	1.5E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	04/08/2003
Hexachlorobenzene	1.6E+00	1	1.6E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003
PCBs (highly chlorinated) (as Aroclor 1254)	2.0E+00	1	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003
PCDD/ PCDFs	1.5E+05	1	1.5E+05	$(mg/kg\text{-}day)^{-1}$	B2	HEAST	1997
Dieldrin	1.6E+01	1	1.6E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003
Benz(a)anthracene	7.3E-01	1	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003
Benzo(a)pyrene	7.3E+00	1	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003
Dibenz(a,h)anthracene	7.3E+00	1	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	04/08/2003

Key:
NA: No information available
IRIS: Integrated Risk Information System, U.S. EPA
HEAST: Health Effects Assessment Summary Tables

EPA Group:
A - Human carcinogen
B1 - Probable Human Carcinogen - Indicates that limited human data are available
B2 - Probable Human Carcinogen - Indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

Summary of Toxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern in fish tissue. Toxicity data for cancer risks for PCBs are for PCBs as a class; i.e., total PCBs, without differentiation with regard to level of chlorination or molecular weight.

Table 10

Page 1

Risk Characterization Summary – Carcinogens (Reasonable Maximum Exposure)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Adult (18 and older)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	Arsenic	3.5E-06	--	--	3.5E-06
			Hexachlorobenzene	2.5E-06	--	--	2.5E-06
			Dieldrin	4.2E-06	--	--	4.2E-06
			PCBs	4.2E-05	--	--	4.2E-05
			PCDD/PCDFs	4.0E-05	--	--	4.0E-05
						Total Risk =	**9.2E-05**

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Sediment	Surface Sediment	Lower Ninemile Creek	Arsenic	7.4E-07	--	3.8E-07	1.1E-06
			Hexachlorobenzene	3.7E-07	--	6.4E-07	1.0E-06
						Total Risk =	**2.1E-06**

Table 10

Page 2

Risk Characterization Summary – Carcinogens (Reasonable Maximum Exposure)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Adult (18 and older)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Lower Ninemile Creek	Arsenic	8.7E-07	--	4.5E-07	1.3E-06
			Benzo(a)pyrene	8.5E-07	--	1.9E-06	2.7E-06
						Total Risk =	**4.1E-06**

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Young Child (less than 6)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	Arsenic	1.1E-06	--	--	1.1E-06
			Dieldrin	1.3E-06	--	--	1.3E-06
			PCBs	1.3E-05	--	--	1.3E-05
			PCDD/PCDFs	1.3E-05	--	--	1.3E-05
						Total Risk =	**2.8E-05**

Table 10

Page 3

Risk Characterization Summary – Carcinogens (Reasonable Maximum Exposure)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Older Child (6 to < 18)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	Arsenic	1.5E-06	--	--	1.5E-06
			Hexachlorobenzene	1.1E-06	--	--	1.1E-06
			Dieldrin	1.8E-06	--	--	1.8E-06
			PCBs	1.8E-05	--	--	1.8E-05
			PCDD/PCDFs	1.8E-05	--	--	1.8E-05
						Total Risk =	**4.0E-05**

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Sediment	Surface Sediment	Lower Ninemile Creek	Arsenic	4.8E-07	--	2.1E-06	2.6E-06
			Hexachlorobenzene	2.4E-07	--	3.5E-06	3.8E-06
			Benzo(a)pyrene	1.9E-07	--	3.7E-06	3.9E-06
						Total Risk =	**1.0E-05**

Table 10

Page 4

Risk Characterization Summary – Carcinogens (Reasonable Maximum Exposure)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Older Child (6 to < 18)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Lower Ninemile Creek	Arsenic	5.7E-07	--	2.5E-06	3.0E-06
			Benz(a)anthracene	5.9E-08	--	1.1E-06	1.2E-06
			Benzo(a)pyrene	5.6E-07	--	1.1E-05	1.1E-05
			Dibenz(a,h)anthracene	1.3E-07	--	2.5E-06	2.6E-06
						Total Risk =	**1.8E-05**

Key

— : This route of exposure was not quantitatively evaluated in the baseline human health risk assessment.

Risk Characterization

This table provides carcinogenic risk estimates for the significant routes of exposure for the COCs noted above. These risk estimates are based on a reasonable maximum exposure (RME) and were developed by taking into account various conservative assumptions about the frequency and duration of exposure for each population, as well as the toxicity of the COCs. The COCs contributing most significantly to the risk level for all three populations are arsenic, hexachlorobenzene, dieldrin, PAHs, PCBs (total) and PCDD/PCDFs. The risk levels for these COCs indicate that if no clean-up action is taken, an individual would have a probability that exceeds the acceptable range for developing cancer as a result of site-related exposure to these COCs. Additional information can be found in the text of the ROD and the baseline human health risk assessment.

Table 11

Risk Characterization Summary – Noncarcinogens (Reasonable Maximum Exposure)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Adult (18 and older)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	PCBs	Immune System	3.0	–	--	3.0
							Total Hazard Index =	**3.0**

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Young Child (less than 6)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	PCBs	Immune System	4.7	--	--	4.7
			Methylmercury	Developmental	1.2	--	--	1.2
							Total Hazard Index =	**5.9**

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Young Child (less than 6)

Scenario Timeframe: Current/Future
Receptor Population: Recreation
Receptor Age: Older Child (6 < 18)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Fish	Fish Tissue	Fish Fillet	PCBs	Immune System	3.3	--	--	3.3
							Total Hazard Index =	**3.3**

Risk Characterization

This table provides hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for all routes of exposure. The Risk Assessment Guidance for Superfund (RAGS) states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse noncancer effects. The estimated HIs for the adult, older child, and young child recreators, indicate that the potential for adverse noncancer effects could occur from ingestion of fish fillet tissue containing PCBs for all three age groups and from methylmercury for young children. Additional information can be found in the text of the ROD and the baseline human health risk assessment.

TABLE 12
GEDDES BROOK/NINEMILE CREEK OPERABLE UNIT 2 (REACH AB)
SUMMARY OF ALTERNATIVES

	Alternative 1	**Alternative 2**	**Alternative 3**	**Alternative 4**
Description	Alternative 1 consists of No Action and is retained as a baseline condition per the NCP.	Alternative 2 consists of removal of contaminated Ninemile Creek channel sediments in Reach AB to a depth to meet criteria (1.3 mg/kg mercury and RGs for other CPOIs) and removal of contaminated floodplain soils/sediments where concentrations exceed 1.3 mg/kg mercury (and PRGs for other CPOIs) to a depth of 2 ft (60 cm) in the floodplain, followed by placement of backfill and a habitat layer in the channel and floodplain.	Alternative 3 consists of removal of Ninemile Creek channel sediments and floodplain soils/sediments in Reach AB to various depths and placement of backfill and habitat layer. Specific components of this alternative are discussed in the text of the ROD.	Alternative 4 consists of full removal of Ninemile Creek channel sediments and floodplain soils/sediments in Reach AB to a depth to meet criteria (0.15 mg/kg mercury and ~~P~~RGs for other CPOIs) and placement of backfill and habitat layer.
Remediated Area (Acres) Total Channel / Floodplain	0	10.8	15.5	16.4
Dredged/Excavated Volume (cy)	0	23,000	58,000	70,000
Mercury Mass Removed (Pounds)	0	430	640	690
Construction Time (Years)	0	1	1	2
Total Estimated Cost	$0	$9,900,000	$16,500,000	$21,100,000

TABLE 13
GEDDES BROOK/NINEMILE CREEK OPERABLE UNIT 2 RECORD OF DECISION
COST SUMMARY FOR SELECTED REMEDY - NINEMILE CREEK REACH AB

Site: **Ninemile Creek OU-2** Location: **Syracuse, New York**	Project title: **Selected Remedy (Alternative 3) - Removal and Backfill/Habitat Layer**			
CAPITAL COSTS				
DESCRIPTION	**QTY**	**UNIT**	**UNIT COST**	**TOTAL COST**
DIRECT CONSTRUCTION COSTS				
Reach AB				
1. Clearing (light)	5.3	ACRE	$7,000	$37,100
2. Clearing (heavy)	6.3	ACRE	$18,000	$113,400
3. Temporary roads	120,000	SF	$4	$480,000
4. Install temporary culvert channel crossing	1	LS	$150,000	$150,000
5. Install/remove 40' sheeting (purchased for NMC and re-used)	12,000	SF	$10	$120,000
6. Dredge channel sediment	15,600	CY	$41	$639,600
7. Hydraulically dredge from station 3+00 - 4+00.	700	CY	$65	$45,500
8 . Remove floodplain soil/sediment adjacent to creek	9,400	CY	$22	$206,800
9. Install/remove temporary water control	2,500	LF	$225	$562,500
10. Excavation Dewatering	45	DY	$2,800	$126,000
11. Remove floodplain soil/sediment (SYW-10)	32,100	CY	$16	$513,600
12. Stockpile and decant channel sediment	15,600	CY	$10	$156,000
13. Stockpile and decant floodplain soil/sediment	41,500	CY	$4	$166,000
14. Onsite treatment of water				
a. Capital Costs	1.00	LS	$900,000	$900,000
b. O&M Costs	9,100,000	GAL	$0.057	$518,700
15. Install cover materials in existing channel				
a. Purchase sand layer	3,100	CY	$20	$62,000
b. Place sand layer	3,100	CY	$21	$65,100
c. Purchase erosion protection layer	6,200	CY	$42	$260,400
d. Place erosion protection layer	6,200	CY	$21	$130,200
e. Purchase gravel habitat layer	6,200	CY	$34	$210,800
f. Place gravel habitat layer	6,200	CY	$21	$130,200
16. Place backfill within floodplains				
a. Purchase backfill	21,100	CY	$20	$422,000
b. Place backfill	21,100	CY	$9	$189,900
c. Purchase topsoil layer	18,700	CY	$26	$486,200
d. Place topsoil layer	18,700	CY	$8	$149,600
17. Emergent wetland planting	5.3	ACRE	$35,000	$185,500
18. Forested wetland planting	6.3	ACRE	$70,000	$441,000
19. Local handling, transport and consolidation at LCP	57,100	CY	$36	$2,055,600
SUBTOTAL DIRECT CONSTRUCTION COSTS				**$9,523,700**
OTHER CAPITAL COSTS				
1. Indirect Construction Costs (% of direct construction costs)	1	Lot	18%	$1,714,266
2. Contingency (% of direct construction costs)	1	Lot	20%	$1,904,740
3. Engineering, Design & Construction Oversight (% of direct construction costs and contingency)	1	Lot	17%	$1,942,835
SUBTOTAL OTHER CAPITAL COSTS				**$5,561,841**
TOTAL CAPITAL COSTS				**$15,085,541**

TABLE 13
GEDDES BROOK/NINEMILE CREEK OPERABLE UNIT 2 RECORD OF DECISION
COST SUMMARY FOR SELECTED REMEDY - NINEMILE CREEK REACH AB

ANNUAL OPERATION, MAINTENANCE, AND MONITORING COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL COST
1. Project Management Administration, and Reporting	1	LS	$20,000	$20,000
2. Water and Sediment Monitoring	1	LS	$20,800	$20,800
3. Cover Maintenance and Sampling (floodplain)	11.6	ACRE	$750	$8,700
4. Cover Maintenance and Sampling (channel)	0	ACRE	$1,500	$0
5. Baseline Maintenance and Monitoring (floodplain)	11.6	ACRE	$750	$8,700
6. Baseline maintenance and Monitoring (channel)	3.9	ACRE	$1,500	$5,850
7. Institutional Controls	1	LS	$10,000	$10,000
SUBTOTAL ANNUAL O&M COSTS				**$74,050**
8. Contingency (% of subtotal)	20%			$14,810
9. Technical Support/Troubleshooting (% of subtotal and contingency)	10%			$8,886
TOTAL ANNUAL O&M COSTS				**$97,746**

PERIODIC COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL COST
1. CERCLA Reviews (once every 5 years)	1	LS	$50,000	$50,000
2. Wetland Monitoring Assessments (Years 1, 3, and 5)	1	LS	$30,000	$30,000
3. Forested Wetland Monitoring Assessment (Years 10, 20, and 30)	1	LS	$20,000	$20,000
TOTAL PERIODIC COSTS				**$100,000**

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST PER YEAR	DISCOUNT FACTOR (7%)	PRESENT VALUE
Capital Cost	0	$15,085,541	$15,085,541	1.000	$15,085,541
Annual OM&M Cost	1-30	$2,932,380	$97,746	12.409	$1,212,934
Periodic Cost	1	$30,000	$30,000	0.935	$28,037
Periodic Cost	3	$30,000	$30,000	0.816	$24,489
Periodic Cost	5	$80,000	$80,000	0.713	$57,039
Periodic Cost	10	$70,000	$70,000	0.508	$35,584
Periodic Cost	15	$50,000	$50,000	0.362	$18,122
Periodic Cost	20	$70,000	$70,000	0.258	$18,089
Periodic Cost	25	$50,000	$50,000	0.184	$9,212
Periodic Cost	30	$70,000	$70,000	0.131	$9,196
TOTAL PRESENT VALUE OF ALTERNATIVE					**$16,498,000**

Notes: Costs are based on Table F-1-2 in the OU2 Supplemental FS (Parsons, 2009) and have a +50%/-30% accuracy with the base year of 2008.
Costs for OU1 (including the Geddes Brook IRM) are not included in costs above.

TABLE 14

CHEMICAL-SPECIFIC POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Medium/Authority	Citation	Status	Requirement Synopsis
WATER			
Clean Water Act [Federal Water Pollution Control Act; as amended], 33 USC §§ 1251-1387	40 CFR Part 129	ARAR	Toxic Pollutant Effluent Standards for aldrin/dieldrin, DDT, endrin, toxaphene, benzidene and PCBs.
Clean Water Act	40 CFR Parts 122, 125 and 401	ARAR	Wastewater Discharge Permits; Effluent Guidelines, Best Available Technology and Best Management Practices.
Clean Water Act	40 CFR § 403.5	ARAR	Discharge to Publicly-Owned Treatment Works
Safe Drinking Water Act	40 CFR Parts 144-147	ARAR	Underground Injection Control Program
Safe Drinking Water Act, 42 USC §§ 300f - 300j-26	40 CFR Part 141	ARAR	National Primary Drinking Water Regulations
Toxic Substances Control Act (TSCA), Title 1,15 USC § 2601	40 CFR §§ 761.65 – 761.75	ARAR	TSCA facility requirements: Establishes siting guidance and criteria *for* storage (761.65), chemical waste landfills (761.75), and incinerators (761.70).
USEPA	USEPA Federal Register, Volume 57, No. 246, December 22, 1992	ARAR	Ambient Water Quality Criteria
New York State Environmental Conservation Law (ECL) Article 15, Title 3 and Article 17, Titles 3 and 8	6 NYCRR Part 608	ARAR	Part 608 includes the requirement to obtain a SPDES permit for certain discharges in any navigable waters of the State (6 NYCRR 608.5). The regulations contained in 6 NYCRR Parts 700 – 706 include water quality classifications, standards and guidance values. Note that: • Section 608.6(a) requires development and submission of a sufficiently detailed construction plan with a map); • Section 608.9(a) requires that construction or operation of facilities that may result in a discharge to navigable waters demonstrate compliance with CWA §§ 301 – 303, 306 and 307 and 6 NYCRR §§ 751.2 (prohibited discharges) and 754.1 (effluent prohibitions; effluent limitations and water quality-related effluent limitations; pretreatment standards; standards of performance for new sources.)
	6 NYCRR Part 700	ARAR	Part 700 provides definitions and describes collection and sampling procedures.
	6 NYCRR Part 701	ARAR	Part 701 establishes classifications for surface waters and groundwater.
	6 NYCRR Part 702	ARAR	Part 702 establishes the deviation and use of these standards and guidance values.

Medium/Authority	Citation	Status	Requirement Synopsis
	6 NYCRR Part 703	ARAR	Part 703 establishes surface water and groundwater quality standards and groundwater effluent limitations.
	6 NYCRR Part 704	ARAR	Part 704 establishes criteria for thermal discharges.
	6 NYCRR Part 705	ARAR	Part 705 contains reference sources for related regulations.
	6 NYCRR Part 706	ARAR	Part 706 establishes additional procedures for the derivation of standards and guidance values that are protective of aquatic life from acute and chronic effects.

TABLE 15

CHEMICAL-SPECIFIC POTENTIAL CRITERIA, ADVISORIES AND GUIDANCE TO BE CONSIDERED (TBC)

Medium/Authority	Citation	Status	Requirement Synopsis
BIOTA			
International Joint Commission – United States and Canada	Great Lakes Water Quality Agreement of 1978, as amended	TBC	The concentration of total PCBs in fish tissue (whole fish, wet weight basis) should not exceed 0.1 µg/g for the protection of birds and animals that consume fish. Criterion for mercury is 0.5 µg/g mercury in whole fish [wet weight basis].
NOAA – Damage Assessment Center	Reproductive, Developmental and Immunotoxic Effects of PCBs in Fish: A Summary of Laboratory and Field Studies, March 1999 (Monosson, E.)	TBC	The effective concentrations for reproductive and developmental toxicity fall within the ranges of the PCB concentrations found in some of the most contaminated fish. There are currently an insufficient number of studies to estimate the immunotoxicity of PCBs in fish. Improper functioning of the reproductive system and adverse effects on development may result from adult fish liver concentrations of 25 to 71 ppm Aroclor 1254. PCB Congener BZ #77: 0.3 to 5 ppm (wet wt) in adult fish livers reduces egg deposition, pituitary gonadotropin, and gonadosomatic index, alters retinoid concentration (Vitamin A), and reduces larval survival. 1.3 ppm in eggs reduces larval survival.
DEC Division of Fish and Wildlife	Niagara River Biota Contamination Project: Fish Flesh Criteria for Piscivorous Wildlife, Technical Report 87-3, July 1987, pp. 41-48 and Table 26 (Newell *et al.)*	TBC	Provides a method for calculating concentrations of organochlorines in fish flesh for the protection of wildlife. The fish flesh criterion is 0.11 mg/kg wet wt for PCBs, 3 mg/kg for dioxin/furans, and 0.33 mg/kg for hexachlorobenzene.
SEDIMENT			
EPA Office of Emergency and Remedial Response	Guidance on Remedial Actions for Superfund Sites with PCB Contamination, EP A/540/G- 90/007, August 1990 (OSWER Dir. No. 9355.4-01).	TBC	Provides guidance in the investigation and remedy selection process for PCB-contaminated Superfund sites. Provides preliminary remediation goals for various contaminated media, including sediment (pp. 34-36) and identifies other considerations important to protection of human health and the environment.
NOAA – Damage Assessment Office	Development and Evaluation of Consensus-Based Sediment Effect Concentrations for PCBs in the Hudson River, MacDonald Environmental Services Ltd., March 1999	TBC	Estuarine, freshwater and saltwater sediment effects concentrations for total PCBs: Threshold Effect Concentration: 0.04 mg/kg Mid-range Effect Concentration: 0.4 mg/kg Extreme Effect Concentration: 1.7 mg/kg
NOAA (compilation of other literature sources for Sediment Quality Guidelines [SQGs])	Screening Quick Reference Tables for Organics (SQRTs)	TBC	Tables with screening concentrations for inorganic and organic contaminants.

Medium/Authority	Citation	Status	Requirement Synopsis
EPA Great Lakes National Program Office, Assessment and Remediation of Contaminated Sediments (ARCS) Program	Calculation and Evaluation of Sediment Effect Concentrations for the Amphipod *Hyalella azteca* and the midge *Chironomus riparius,* EPA 905- R96-008, September 1996	TBC	Provides sediment effect concentrations (SECs), which are defined as the concentrations of a contaminant in sediment below which toxicity is rarely observed and above which toxicity is frequently observed.
DEC Division of Fish, Wildlife and Marine Resources	Technical Guidance for Screening Contaminated Sediment, January 1999	TBC	Includes a methodology to establish sediment criteria for the purpose of identifying contaminated sediments. Provides sediment quality screening values for non-polar organic compounds, such as PCBs, and metals to determine whether sediments are contaminated (above screening criteria) or clean (below screening criteria). Also discusses the use of sediment criteria in risk management decisions.
WATER			
International Joint Commission – United States and Canada	Great Lakes Water Quality Agreement of 1978, as amended	TBC	The concentration of total PCBs in fish tissue (whole fish, wet weight basis) should not exceed 0.1 µg/g for the protection of birds and animals that consume fish. Criterion for mercury is 0.5 µg/g mercury in whole fish [wet weight basis].
DEC	DEC TOGS 1.1.2	TBC	New York State Groundwater Effluent Limitations
AIR			
DEC	New York Air Cleanup Criteria, January 1990	TBC	Provides guidance for the control of ambient air contaminants in New York State.

TABLE 16

LOCATION-SPECIFIC POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Medium/Authority	Citation	Status	Requirement Synopsis
Fish and Wildlife Coordination Act	16 USC § 662	ARAR	Whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose, by any department or agency of the United States, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State in which the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources.
Clean Water Act	33 CFR Parts 320-330	ARAR	Dredge and Fill in Wetlands
Section 404 of the Clean Water Act [Federal Water Pollution Control Act, as amended], 33 USC § 1344	33 CFR Parts 320-329	ARAR	Includes requirements for issuing permits for the discharge of dredged or fill material into navigable waters of the United States. A permit is required for construction of any structure in a navigable water.
National Historic Preservation Act, 16 USC § 470 et seq.	36 CFR Part 800	ARAR	Remedial Actions must take into account effects on properties in or eligible for inclusion in the National Registry of Historic Places.
Clean Water Act Section 401, 33 USC 1341	40 CFR Part 121	ARAR	State Water Quality Certification Program
Clean Water Act, Section 404, 33 USC § 1344	40 CFR Parts 230 and 231	ARAR	No activity which adversely affects an aquatic ecosystem, including wetlands, shall be permitted if a practicable alternative that has less adverse impact is available. If there is no other practical alternative, impacts must be minimized.
New York State ECL Article 11, Title 5	6 NYCRR Part 182	ARAR	The taking of any endangered or threatened species is prohibited, except under a permit or license issued by DEC. The destroying or degrading the habitat of a protected animal likely constitutes a "taking" of that animal under NY ECL § 11-0535.
New York State ECL Article 3, Title 3; Article 27, Titles 7 and 9	6 NYCRR § 373-2.2	ARAR	Establishes construction requirements for hazardous waste facilities within the 100-year floodplain.
New York State ECL Article 15, Title 5, 6 NYCRR Part 608 Use and Protection of Waters	6 NYCRR Part 608	ARAR	Protection of Waters Program

Medium/Authority	Citation	Status	Requirement Synopsis
New York State Freshwater Wetlands Law, Environmental Conservation Law (ECL) Article 24, Title 7	6 NYCRR Parts 662-665	ARAR	Defines procedural requirements for undertaking different activities in and adjacent to freshwater wetlands, and establishes standards governing the issuance of permits to alter or fill freshwater wetlands.

TABLE 17

LOCATION-SPECIFIC POTENTIAL CRITERIA, ADVISORIES AND GUIDANCE TO BE CONSIDERED (TBC)

Medium/Authority	Citation	Status	Requirement Synopsis
EPA Office of Solid Waste and Emergency Response	Policy on Floodplain and Wetland Assessments for CERCLA Actions, August 1985	TBC	Superfund actions must meet the substantive requirements of the Floodplain Management Emergency Executive Order (E.O. 11988) and the Protection of Response 1985 Wetlands Executive Order (E.O. 11990). This memorandum discusses situations that require preparation of a floodplain or wetlands assessment and the factors that should be considered in preparing an assessment for response actions taken pursuant to Section 104 or 106 of CERCLA. For remedial actions, a floodplain/wetlands assessment must be incorporated into the analysis conducted during the planning of the remedial action.
Executive Order No. 11988, 42 Fed. Reg. 26951 (May 25, 1977)	Floodplain Management	TBC	Executive Order describes the circumstances where federal agencies should manage floodplains.
Executive Order No. 11990, 42 Fed. Reg. 26961 (May 25, 1977)	Protection of Wetlands	TBC	Executive Order describes the circumstances where federal agencies should manage wetlands.
Statement of Procedures on Floodplain Management and Wetlands Protection	**http://www.epa.gov/compliance/resources/policies/nepa/floodplain-management-wetlands-statement-pg.pdf**	TBC	Sets forth EPA policy and guidance for carrying out Executive Orders 11990 and 11988. Executive Order 11988: Floodplain Management requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid, to the extent possible, adverse effects associated with direct and indirect development of a floodplain. Federal agencies are required to avoid adverse impacts or minimize them if no practicable alternative exists. Executive order 11990: Protection of Wetlands requires federal agencies conducting certain activities to avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands if a practicable alternative exists. Federal agencies are required to avoid adverse impacts or minimize them if nor practicable alternative exists.

TABLE 18

ACTION-SPECIFIC POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Medium/Authority	Citation	Status	Requirement Synopsis
Section 10, Rivers and Harbors Act, 33 USC § 403	33 CFR Parts 320 - 330	ARAR	U.S. Army Corps of Engineers approval is generally required to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of the channel of any navigable water of the United States.
Clean Air Act, 42 USC s/s 7401 et seq. (1970)	40 CFR Part 52	ARAR	Approval and Promulgation of Implementation Plans
Clean Air Act, 42 USC s/s 7401 et seq. (1970)	40 CFR Part 60	ARAR	Standards of Performance for New Stationary Sources
Clean Air Act, 42 USC s/s 7401 et seq. (1970)	40 CFR Parts 61 and 63	ARAR	Part 61- National Emission Standards for Hazardous Air Pollutants. Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories.
Section 402 of the Clean Water Act	40 CFR Parts 121, 122, 125, 401 and 403.5	ARAR	Provisions related to the implementation of the National pollutant Discharge Elimination System (NPDES) program
Safe Drinking Water Act	40 CFR Parts 144 - 147	ARAR	SDWA underground injection control program
Section 404(b) of the Clean Water Act,	40 CFR Part 230	ARAR	Guidelines for Specification of Disposal Sites for Dredged or Fill Material. Except as otherwise provided under Clean Water Act Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. Includes criteria for evaluating whether a particular discharge site may be specified.
Section 404©) of the Clean Water Act, 33 USC § 1344(b)	33 CFR Parts 320, 323, 325, 329 and 330	ARAR	These regulations apply to all existing, proposed, or potential disposal sites for discharges of dredged or fill materials into U.S. waters, which include wetlands. Includes special policies, practices, and procedures to be followed by the U.S. Army Corps of Engineers in connection with the review of applications for permits to authorize the discharge of dredged or fill material into waters of the United States pursuant to Section 404 of the Clean Water Act.
Resource Conservation and Recovery Act	40 CFR Part 257	ARAR	Criteria for Classification of Waste Disposal Facilities
Resource Conservation and Recovery Act 42 USC s/s 6901 et seq. (1976) Subtitle C – Wastes	40 CFR Part 261	ARAR	Identification and listing of hazardous waste

Medium/Authority	Citation	Status	Requirement Synopsis
Resource Conservation and Recovery Act 42 USC s/s 6901 et seq. (1976)	40 CFR Part 262	ARAR	Standards applicable to generators of hazardous waste
Resource Conservation and Recovery Act 42 USC s/s 6901 et seq. (1976)	40 CFR § 262.11	ARAR	Hazardous waste determination
Resource Conservation and Recovery Act, 42 USC s/s 6901 et seq. (1976)	40 CFR Part 262.34	ARAR	Standards for Hazardous Waste Generators, 90-Day Accumulation Rule
Resource Conservation and Recovery Act, 42 USC s/s 6901 et seq. (1976)	40 CFR Part 264 and 265, Subparts B-264.10 - .19 F-264.90 - .101 G-264.110 - .120 J-264.190 - .200 S-264.550 - .555 X-264.600 - .603	ARAR	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities. B- General Facility Standards F- Releases from Solid Waste Management Units G- Closure and Post Closure J- Tank Systems S- Special Provisions for Cleanup X- Miscellaneous Units
Section 3004 of the Resource Conservation and Recovery Act (Solid Waste Disposal Act, as amended), 42 USC § 6924	40 CFR § 264. 13(b)	ARAR	Owner or operator of a facility that treats, stores or disposes of hazardous wastes must develop and follow a written waste analysis plan.
Resource Conservation and Recovery Act, 42 USC s/s 6901 et seq. (1976)	40 CFR Part 264 and 265, Subparts K-264.220 - .232 L-264.250 - .259 N – 264.300 - .317	ARAR	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities. K- Surface Impounds L- Waste Piles – Landfills, Subtitle C
Section 3004 of the Resource Conservation and Recovery Act, as amended, 42 USC § 6924	40 CFR § 264.232	ARAR	Owners and operators shall manage all hazardous waste placed in a surface impoundment in accordance with 40 CFR Subparts BB (Air Emission Standards for Equipment Leaks) and CC (Air Emission Standards for Tanks, Surface Impoundments and Containers).
Resource Conservation and Recovery Act, 42 USC s/s 6901 et seq. (1976)	40 CFR Part 268	ARAR	Land disposal restrictions C- Prohibitions on Land Disposal
Toxic Substances Control Act (TSCA), Title 1,15 USC § 2605	40 CFR Part 761	ARAR	Polychlorinated biphenyls (PCBs) manufacturing, processing, distribution in commerce, and use prohibitions
Hazardous Materials Transportation Act, as amended, 49 USC §§ 5101 – 5127	49 CFR Part 170.	ARAR	Transport of hazardous materials program procedures.
Hazardous Materials Transportation Act, as amended, 49 USC §§ 5101 – 5127	49 CFR Part 171	ARAR	Department of Transportation Rules for Transportation of Hazardous Materials, including procedures for the packaging, labeling, manifesting and transporting of hazardous materials.

Resource Conservation and Recovery Act, 42 USC s/s 6901 et seq. (1976)	62 Fed. Reg. 25997 and 63 Fed. Reg. 65874	ARAR	Subtitle C, Phase IV Supplemental Proposal on Land Disposal of Mineral Processing Wastes (62 FR 25997), and Hazard Remediation Waste Management requirements (63 FR 65874)
New York State ECL Article 17, Title 5	____	ARAR	It shall be unlawful for any person, directly or indirectly, to throw, drain, run or otherwise discharge into such waters organic or inorganic matter that shall cause or contribute to a condition in contravention of applicable standards identified at 6 NYCRR § 701.1.
New York State ECL Article 11, Title 5	NY ECL § 11-0503	ARAR	Fish & Wildlife Law against water pollution. No deleterious or poisonous substances shall be thrown or allowed to run into any public or private waters in quantities injurious to fish life, protected wildlife, or waterfowl inhabiting those waters, or injurious to the propagation of fish, protected wildlife, or waterfowl therein.
New York State ECL Article 19, Title 3 - Air Pollution Control Law. Promulgated pursuant to the Federal Clean Air Act, 42 USC § 7401	6 NYCRR Parts 200, 202, 205, 207, 211, 212, 219, and 257.	ARAR	Air Pollution Control Regulations. The emissions of air contaminants that jeopardize human, plant, or animal life, or is ruinous to property, or causes a level of discomfort is strictly prohibited.
New York State ECL Article 27, Title 7	6 NYCRR Part 360	ARAR	Solid Waste Management Facilities New York State regulations for design, construction, operation, and closure requirements for solid waste management facilities.
New York State ECL Article 27, Title 11	6 NYCRR Part 361	ARAR	Siting of Industrial Hazardous Waste Facilities establishes criteria for siting industrial hazardous waste treatment, storage and disposal facilities. Regulates the siting of new industrial hazardous waste facilities located wholly or partially within New York State. Identifies criteria by which the facilities siting board will determine whether to approve a proposed industrial hazardous waste facility.
New York State ECL Article 27, Title 3	6 NYCRR Part 364	ARAR	Standards for Waste Transportation Regulations governing the collection, transport and delivery of regulated wastes, including hazardous wastes.
New York State ECL Article 27, Title 9	6 NYCRR Parts 370 and 371	ARAR	New York State regulations for activities associated with hazardous waste management.
New York State ECL Article 3, Title 3; Article 27, Titles 7 and 9	6 NYCRR Part 372	ARAR	Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities. Includes Hazardous Waste Manifest System requirements for generators, transporters, and treatment, storage or disposal facilities, and other requirements applicable to generators and transporters of hazardous waste.

New York State ECL Article 3, Title 3; Article 27, Titles 7 and 9	6 NYCRR Part 373	ARAR	Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities. Includes Hazardous Waste Manifest System requirements for generators, transporters, and treatment, storage or disposal facilities, and other requirements applicable to generators and transporters of hazardous waste.
New York State ECL Article 27 Title 13	6 NYCRR Part 375-1,-2	ARAR	Environmental Remediation Programs. Establishes standards for the development and implementation of inactive hazardous waste disposal site remedial programs.
New York State ECL Article 27, Title 9	6 NYCRR Part 376	ARAR	Land Disposal Restrictions. PCB wastes including dredge spoils containing PCBs greater than 50 ppm must be disposed of in accordance with federal regulations at 40 CFR Part 761.
New York State ECL Article 15, Title 5, and Article 17, Title 3	6 NYCRR Part 608	ARAR	Use and Protection of Waters. A permit is required to change, modify, or disturb any protected stream, its bed or banks, or remove from its bed or banks sand or gravel or any other material; or to excavate or place fill in any of the navigable waters of the state. Any applicant for a federal license or permit to conduct any activity which may result in any discharge into navigable waters must obtain a State Water Quality Certification under Section 401 of the Federal Water Pollution Control Act. 33 USC § 1341.
New York State ECL, Article 1. Title 1, Article 3 Title 3, Article 15 Title 3, Article 17 Title 1, 3, and 8	6 NYCRR Part 700-706	ARAR	New York limitations on discharges of sewage, industrial waste or other wastes.
New York State ECL Article 17, Title 8	6 NYCRR Parts 750 – 758	ARAR	New York State Pollutant Discharge Elimination System (SPDES) Requirements Standards for Storm Water Runoff, Surface Water, and Groundwater Discharges, In general, no person shall discharge or cause a discharge to NY State waters of any pollutant without a permit under the New York State Pollutant Discharge Elimination System (SPDES) program.
Local County or Municipality Pretreatment Requirements	Local regulations	ARAR	Local regulations

TABLE 19

ACTION-SPECIFIC POTENTIAL CRITERIA, ADVISORIES, AND GUIDANCE TO BE CONSIDERED (TBC)

Medium/ Authority	Citation	Status	Requirement Synopsis
USEPA	Covers for Uncontrolled Hazardous Waste Sites (EPA/540/2-85-002; September 1985)	TBC	Covers for Uncontrolled Hazardous Waste Sites should include a vegetated top cover, middle drainage layer, and low permeability layer.
USEPA	Rules of Thumb for Superfund Remedy Selection (EPA 540-R-97-013, August 1997)	TBC	Describes key principles and expectations, as well as "best practices" based on program experience for the remedy selection process under Superfund. Major policy areas covered are risk assessment and risk management, developing remedial alternatives, and groundwater response actions.
USEPA	Land Use in the CERCLA Remedy Selection Process (OSWER Directive No. 9355.7-04, May 1995)	TBC	Presents information for considering land use in making remedy selection decisions at NPL sites.
USEPA	Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites (OSWER Directive 9285.6-08, February 2002)	TBC	Presents risk management principles that site managers should consider when making risk management decisions at contaminated sediment sites.
USEPA	Contaminated Sediment Strategy (EPA-823-R-98- 001, April 1998)	TBC	Establishes an Agency-wide strategy for contaminated sediments, with the following four goals: 1) prevent the volume of contaminated sediments from increasing; 2) reduce the volume of existing contaminated sediment; 3) ensure that sediment dredging and dredged material disposal are managed in an environmentally sound manner; and 4) develop scientifically sound sediment management tools for use in pollution prevention, source control, remediation, and dredged material management.
USEPA	Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (OSWER 9355.0-85 December 2005)	TBC	Provides technical and policy guidance for addressing contaminated sediment sites nationwide primarily associated with CERCLA actions.
USEPA	Structure and Components of Five-Year Reviews (OSWER Directive 9355.7-02, May 1991) Supplemental Five-Year Review Guidance (OSWER Directive 9355.7-02A, July 1994) Second Supplemental Five-Year Review Guidance (OSWER 9355.7-03A, December 1995)	TBC	Provides guidance on conducting Five-Year Reviews for sites at which hazardous substances, pollutants, or contaminants remain on-site above levels that allow for unrestricted use and unlimited exposure. The purpose of the Five-Year Review is to evaluate whether the selected response action continues to be protective of public health and the environment and is functioning as designed.
USEPA	40 CFR Part 50	ARAR	Clean Air Act, National Ambient Air Quality Standards
USACE	USACE, Notice on Issuance of Nationwide Permits, 67 Fed. Reg. 2020 (Jan. 15, 2002).	TBC	Reissues Nationwide permits, General Conditions, and definitions with some modifications and one new general condition. Modifications include additional requirements to enhance aquatic protection.

Medium/ Authority	Citation	Status	Requirement Synopsis
DEC	Letter from William R. Adriance, Chief Permit Administrator, to Richard Tomer and Paul G. Leuchner, Chiefs of the New York and Buffalo Districts of USACE, re. *Section 401 Water Quality Certification*, January 15, 2002 Nationwide Permits (Mar. 15, 2002).	TBC	
DEC	New York Guidelines for Soil Erosion and Sediment Control	TBC	
DEC	Air Guide 1 - Guidelines for the Control of Toxic Ambient Air Contaminants, 2000	TBC	Provides guidance for the control of toxic ambient air contaminants in New York State. Current annual guideline concentrations (AGCs) for PCBs are 0.01 µg/m3 for inhalation of evaporative congeners (Aroclor 1242 and below) and 0.002 µg/m3 for inhalation of persistent highly chlorinated congeners (Aroclor 1248 and above) in the form of dust or aerosols.
DEC	Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water	TBC	Provides guidance for ambient water quality standards and guidance values for pollutants
DEC	Technical and Operational Guidance Series (TOGS) 1.2.1 Industrial SPDES Permit Drafting Strategy for Surface Waters	TBC	Provides guidance for writing permits for discharges of wastewater from industrial facilities and for writing requirements equivalent to SPDES permits for discharges from remediation sites.
DEC	Technical and Operational Guidance Series (TOGS) 1.3.1 Waste Assimilative Capacity Analysis & Allocation for Setting	TBC	Provides guidance to water quality control engineers in determining whether discharges to water bodies have a reasonable potential to violate water quality standards and guidance values.
DEC	Technical and Operational Guidance Series (TOGS) 1.3.2 Toxicity Testing in the SPDES Permit Program	TBC	Describes the criteria for deciding when toxicity testing will be required in a permit and the procedures which should be followed when including toxicity testing requirements in a permit.
DEC	Technical and Operational Guidance Series (TOGS) 2.1.1, Guidance on Groundwater Contamination Strategy	TBC	
DEC, Division of Environ-mental Remedi-ation	Technical and Administrative Guidance Memorandum (TAGM) 4031 Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites	TBC	Provides guidance on fugitive dust suppression and particulate monitoring for inactive hazardous waste sites.
DEC	Interim Guidance on Freshwater Navigational Dredging, October 1994	TBC	Provides guidance for navigational dredging activities in freshwater areas.
DEC Division of Fish, Wildlife and Marine Resources	Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA), October 1994	TBC	Provides rationale and methods for sampling and evaluating impacts of a site on fish and wildlife during the remedial investigation and other stages of the remedial process
DEC TAGM 3028	"Contained-In Criteria for Environmental Media (November 30, 1992).	TBC	Provides "contained-in" concentrations/ action levels for environmental media and the basis for these criteria.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

Administrative Record Index
Operable Unit 2 of the Geddes Brook/Ninemile Creek Site

APPENDIX III

(New York State Inactive Hazardous Waste Disposal Site #7-34-030)

RI/FS Activities	Documents *
Remedial Investigation/Feasibility Study Work Plans	Citizen Participation Plan for the Onondaga Lake National Priority List Site (1996) New York State's Revision of the Sampling and Analysis Part of the Geddes Brook/Ninemile Creek Remedial Investigation Work Plan (Bein 1998) Letter from A.J. Labuz to Timothy Larson containing additional data (Labuz 1998) New York State's Revision of the Geddes Brook/Ninemile Creek Remedial Investigation Work Plan (NYSDEC 2000) Ninemile Creek/ Geddes Brook Sediment IRM Sampling Plan (BBL 2000) Ninemile Creek Supplemental Sampling Program - Floodplain Sampling and Analysis Work Plan (O'Brien & Gere 2002) Work Plan for Young of Year Fish Collection in Ninemile Creek (TAMS 2002) Interim Remedial Measure Work Plan for the Geddes Brook Site (Parsons 2003)

Remedial Investigation Reports	Ninemile Creek/Geddes Brook Sediment IRM Investigation Report (BBL 2001) New York State's Revision of the Geddes Brook/Ninemile Creek Remedial Investigation Report (TAMS 2003c) New York State's Revision of the Geddes Brook/Ninemile Creek Baseline Ecological Risk Assessment (TAMS 2003b) New York State's Revision of the Geddes Brook/Ninemile Creek Human Health Risk Assessment Report (TAMS 2003a) New York State Department of Law.003. State of New York's Determinations Disapproving and Revising Honeywell's Remedial Investigation, Baseline Ecological Risk Assessment, and Human Health Risk Assessment Reports for the Geddes Brook/Ninemile Creek Site (Spiegel/Gershon [Office of the Attorney General] and Larson [NYSDEC], July 31, 2003) Phase 1A Cultural Resources Survey (Pratt and Pratt, 2003).

Feasibility Study	Geddes Brook/Ninemile Creek Feasibility Study Report (Parsons 2005) Email from Tim Larson regarding comments (1st wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report (September 29, 2008) Email from James O'Loughlin regarding responses to Tim Larson's September 29, 2008 (1st wave) email Email from Tim Larson regarding comments (2nd wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report (October 3, 2008) Email from Tim Larson regarding comments (3rd wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report (October 6, 2008, 12:53PM) Email from Tim Larson regarding comments (4th wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report (October 6, 2008, 5:29PM) Email from Shane Blauvelt regarding responses to Tim Larson's email dated as follows: October 3, 2008 (2nd wave); October 6, 2008, 12:53PM (3rd wave); and October 6, 2008, 5:29PM (4th wave) [October 20, 2008] Draft Final Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report (Parsons 2008)** Memo from Robert Nunes regarding Contaminated Sediment Risk Management Principles - Geddes Brook/Ninemile Creek Subsite/Onondaga Lake NPL site (January 21, 2009)

Feasibility Study (continued)	Email from Tim Larson regarding comments (1st wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report (March 18, 2009) Email from Tim Larson regarding comments (2nd wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report (April 1, 2009) Email from Tim Larson regarding comments (3rd wave) on Draft Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report (April 3, 2009) Letter from Timothy Larson to John McAuliffe (Honeywell) stating May 2009 Supplemental Feasibilitry Study was sufficiently complete to generate Geddes Brook/Ninemile Creek Operable Unit 2 Proposed Plan (May 18, 2009) Draft Final Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report (Parsons 2009)** Memo from Robert Nunes regarding Contaminated Sediment Risk Management Principles - Operable Unit 2 of the Geddes Brook/Ninemile Creek Subsite/Onondaga Lake NPL site (September 25, 2009)

Proposed Plan Released Start of Public Comment Period	Proposed Plan (May 18, 2009) Notice of Public Meeting and Opportunity to Comment (May 19, 2009)

Public Meetings Held	Documentation and Transcript of June 11, 2009 Public Meeting (Attached to the Record of Decision as Appendix VI) Written Comments on Selected Remedy (Attached to the Record of Decision as Appendix V)

Record of Decision Issued	Record of Decision and Responses to Comments (Responsiveness Summary) - October 1, 2009

Enforcement Documents	RI/FS Consent Decree for the Onondaga Lake Sediments (March 16, 1992) Stipulation and Order Amending Consent Decree (January 22, 1998) Stipulation and Order Amending Consent Decree (July 12, 2000) Order on Consent - Ninemile Creek/Geddes Brook Sampling Plan (November 10, 2000) Stipulation and Order Amending Consent Decree (March 19, 2001) Stipulation and Order Amending Consent Decree (May 30, 2002) Amendment to Order on Consent - Geddes Brook IRM (July 22, 2002) Stipulation and Order Amending Consent Decree (May 28, 2004) Stipulation and Order Amending Consent Decree (November 23, 2004) Stipulation and Order Amending Consent Decree (August 2, 2005) Stipulation and Order Amending Consent Decree (May 12, 2006) Stipulation and Order Amending Consent Decree (January 10, 2007) Stipulation and Order Amending Consent Decree (June 14, 2007)

* Data are summarized in several of these documents. The actual data, QA/QC, chain of custody, etc. are compiled at various NYSDEC office locations and can be made available at the NYSDEC Region 7 office upon request. References listed in these documents and in this Record of Decision are incorporated by reference into the Administrative Record. Many of the references listed in the documents are publicly available and readily accessible. Most of the guidance documents referenced in the documents are available on EPA or NYSDEC websites. If copies of the referenced documents cannot be located, contact the NYSDEC Project Manager (Timothy J. Larson, 518-402-9676). Copies of administrative record documents that are not available in the administrative record files in the NYSDEC Region 7 office or at Atlantic States Legal Foundation can be made available at one of those locations upon request.

** The November 2008 and May 2009 "Draft Final" Supplemental Feasibility Studies (SFSs) were the primary source of information utilized by the NYSDEC in drafting the Record of Decision (ROD) documents for OU1 and OU2, respectively. The documents were designated as "Draft" since a feasibility study is never deemed to be complete until a ROD is issued for a site, due to the fact that there may be a need to supplement or correct information contained in the FS up until the time that the ROD is issued. Accordingly, the

November 2008 and May 2009 SFS documents represent the final versions of the FS even though they carry a "Draft" designation. Emailed comments and responses to comments on earlier versions of the SFS documents are included in this administrative record since the final versions of the SFSs were prepared by Honeywell and its consultants and there were certain comments which NYSDEC and EPA had submitted which were not adequately addressed to NYSDEC and EPA's satisfaction in the Novermber 2008 and the May 2009 SFS documents, or certain statements in the documents with which NYSDEC and/or EPA did not agree. Notwithstanding any continued disagreements with respect to such comments or statements, NYSDEC determined that the information contained in the final SFSs was sufficient for NYSDEC and EPA to develop the OU2 Proposed Plan and ROD. The OU2 ROD is based upon all documents which are included in the Administrative Record.

References

Bein, P.M., New York State Department of Law. 1998. Personal communication via letter to Manning Gasch of Hunton and Williams, Richmond, VA, regarding the Determination to Disapprove and Revise the Sampling and Analysis Plan of the Geddes Brook/Ninemile Creek Remedial Investigation Work Plan. June 30

BBL. 2000. Ninemile Creek/Geddes Brook Sediment IRM Sampling Plan. Prepared for Honeywell, Inc., Syracuse, NY by Blasland, Bouck & Lee, Inc., Syracuse, NY. December.

BBL. 2001. Ninemile Creek/Geddes Brook Sediment IRM Investigation Report. Prepared for Honeywell, Inc., Syracuse, NY by Blasland, Bouck & Lee, Inc., Syracuse, NY. September.

Labuz, A.J., AlliedSignal Engineering Materials. 1998. Personal communication via letter to Timothy Larson of NYSDEC, Albany, NY, containing Exhibit information requested by NYS (Bein 1998). July 10

NYSDEC, 2000. New York State's Revision of the Geddes Brook/Ninemile Creek Remedial Investigation Work Plan. Original version (April 1998) prepared for AlliedSignal by Exponent. New York State Department of Environmental Conservation, Albany, NY. May 12.

O'Brien & Gere. 2002. Floodplain Sampling and Analysis Work Plan: Ninemile Creek Supplemental Sampling Program. Geddes, NY. Prepared for Honeywell, Inc., Syracuse, New York by O'Brien & Gere Engineers, Inc., Syracuse, NY. August.

Parsons. 2003. Interim Remedial Measure Work Plan for the Geddes Brook Site. Geddes, NY. Prepared for Honeywell, Inc., Morristown, NJ by Parsons, Liverpool, NY. April.

Parsons. 2005. Draft Final Geddes Brook/Ninemile Creek Feasibility Study Report. Prepared for Honeywell, Inc. By Parsons, May.

Parsons. 2008. Draft Final Geddes Brook/Ninemile Creek Operable Unit 1 Supplemental Feasibility Study Report. Prepared for Honeywell, Inc. by Parsons, November.

Parsons. 2009. Draft Final Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report. Prepared for Honeywell, Inc. by Parsons, May.

Pratt and Pratt. 2003. Phase 1A Cultural Resources Survey - Onondaga Lake LCP Bridge Street Site and Related Wastebeds. Village of Solvay, Town of Geddes, and Town of Camillus, Onondaga County, NY. Prepared for Parsons by Pratt and Pratt. March 2003.

Spiegel and Gershon, New York State Department of Law, and Larson, NYSDEC. 2003. State of New York's Determinations Disapproving and Revising Honeywell's Remedial Investigation, Baseline Ecological Risk Assessment, and Human Health Risk Assessment Reports for the Geddes Brook/Ninemile Creek Site. July 31.

TAMS. 2002. Work Plan for Young-of-Year Fish Collection in Ninemile Creek. Prepared for New York State Department of Environmnetal Conservation, Albany, NY by TAMS Consultants, Inc., New York, NY. September.

TAMS. 2003c. Geddes Brook/Ninemile Creek Remedial Investigation Report. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, NY by TAMS Consultants, Inc., New York, NY and YEC, Valley Cottage, NY. July.

TAMS. 2003b. Geddes Brook/Ninemile Creek Baseline Ecological Risk Assessment. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, NY by TAMS Consultants, Inc., New York, NY and YEC, Valley Cottage, NY. July.

TAMS. 2003a. Geddes Brook/Ninemile Creek Human Health Risk Assessment Report. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, NY by TAMS Consultants, Inc., New York, NY and YEC, Valley Cottage, NY. July.

APPENDIX IV

STATEMENT OF FINDINGS:
FLOODPLAINS AND WETLANDS

Appendix IV

Record of Decision

Geddes Brook/Ninemile Creek OU2
Onondaga Lake Superfund Site

Statement of Findings: Floodplains and Wetlands

Need to Affect Floodplains and Wetlands

Geddes Brook/Ninemile Creek Operable Unit 2 (OU2) soil and sediments are currently contaminated with mercury and other contaminants. OU2 lies within the 100-year floodplain; therefore, cleanup of the contaminated soil and sediments, which pose a risk both to human and ecological receptors, will involve extensive remedial work within the floodplain. The floodplain also contains a portion of a State Class I wetland, Wetland SYW-10, which is directly connected to the lower reach of Ninemile Creek (see ROD Figure 2).

NYSDEC and EPA have determined that there is no practicable alternative that is sufficiently protective of human health and the environment which would not result in the removal of contaminated soil/sediment. Consequently, since remedial action is necessary, any remedial action that might be taken would necessarily affect floodplains and wetlands associated with the OU2 portion of the Geddes Brook/Ninemile Creek site. The following four remedial alternatives were considered:

- Alternative 1 – "No Action".

- Alternative 2 – Removal of contaminated Ninemile Creek channel sediments in Reach AB to a depth to meet criteria (1.3 mg/kg mercury and cleanup criteria for other chemical parameters of interest (CPOIs) in the channel and removal of contaminated floodplain soils/sediments where concentrations exceed 1.3 mg/kg mercury (and RGs for other CPOIs) to a depth of 2 ft (60 cm) in the floodplain, followed by placement of backfill and a habitat layer in the channel and floodplain.

- Alternative 3 – Removal of Ninemile Creek channel sediments and floodplain soils/sediments in Reach AB to various depths and placement of backfill and habitat layer. (Cleanup criteria which would be met under this alternative are discussed below.)

- Alternative 4 – Full removal of Ninemile Creek channel sediments and floodplain soils/sediments in Reach AB to a depth to meet criteria (0.15 mg/kg mercury and RGs for other CPOIs) and placement of backfill and habitat layer.

The No-Action alternative does not entail removal or capping/backfilling of contaminated soil/sediment; under this alternative, no remedial actions would take place within delineated floodplains or wetlands. Under this alternative, contaminated soil/sediment at the site would remain in place and would continue to be a potential source of contamination to Ninemile Creek and the wetlands and floodplains. Consequently, the No-Action alternative would not be protective of human health and the environment. The implementation of any of the action alternatives would be more protective of human health and the environment than the no-action alternative (since they would, to varying degrees, meet the RAOs and cleanup levels for the site and would result in residual risks

which would be less than residual risks under the no-action alternative); all action alternatives would involve substantial actions within the floodplain and wetland.

The selected remedy, Alternative 3, for the Ninemile Creek portion of OU2, addresses the remedial action objectives (RAOs) and cleanup levels by removing mercury, arsenic, lead, hexachlorobenzene, phenol, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and dioxins/furans from Geddes Brook and Ninemile Creek. Implementing the selected remedy will also control an existing source of contamination to Onondaga Lake and allow for remediation of the lake to proceed consistent with a Court-ordered schedule for the Lake Bottom Subsite. The selected remedy addresses all areas of the Ninemile Creek portion of OU2 such that concentrations of mercury and other CPOIs following remediation are expected to be below the New York State Department of Environmental Conservation's sediment criteria (including the "Lowest Effects Level" of 0.15 milligrams per kilogram [mg/kg] for mercury) in the top 2 feet of channel sediments and 6 NYCRR Part 375 unrestricted use soil cleanup objectives (including the objective of 0.18 mg/kg for mercury) in the top 2 feet in floodplain areas. The selected remedy will also attain a 0.8 mg/kg site-specific bioaccumulation-based sediment quality value (BSQV) for mercury in sediments for protection of wildlife consumption of fish and 0.6 mg/kg site-specific BSQV for mercury in floodplain soils for protection of wildlife consumption of terrestrial invertebrates. The selected remedy is also expected to achieve fish tissue mercury concentrations ranging from 0.1 mg/kg, which is for protection of ecological receptors, to 0.3 mg/kg, which is based on EPA's methylmercury National Recommended Water Quality criterion for the protection of human health from the consumption of organisms.

The selected remedy includes the dredging/excavation and removal of contaminated channel sediments and floodplain soils/sediments in lower Ninemile Creek. Following dredging/excavation to remove all significant contamination in the stream or floodplain, the area will be backfilled to bring the sediment or ground surface up to the designed elevation, if needed, and a habitat layer will be placed. Restoration of the stream bed and banks, wetlands (including forested areas), and habitats will be performed following sediment and soil removal and placement of a sand base level and backfill, where needed. This will include placement of a habitat layer with appropriate substrate types and thicknesses, as well as plantings of appropriate species of wetland and upland vegetation. Backfilled areas would include a minimum of 1 foot of suitable habitat material with a suitable amount of organic material. The details of habitat restoration will be developed during the remedial design.

Effects of Proposed Action on the Natural and Beneficial Values of Floodplains and Wetlands

The RAOs for OU2 include the elimination or reduction, to the extent practicable, of further transport of sediments and soils containing mercury and other CPOIs from the channel and floodplain of lower Geddes Brook and lower Ninemile Creek to Geddes Brook, Ninemile Creek, and, ultimately, Onondaga Lake. Since the selected remedy is expected to achieve the RAOs, sediments and soils contaminated with mercury and other contaminants will no longer function as a source of contamination to the wetlands and floodplains associated with OU2. Furthermore, backfilling activities will not significantly alter the capacity of the floodplain or channel, and should not result in any increase in downstream flooding events. Any short-term negative impacts to the natural or beneficial values associated with the OU2 soils and sediments will be more than compensated for by the long-term benefits to the Geddes Brook/Ninemile Creek ecosystem once these soils and sediments are removed. Further, it is anticipated that no long-term adverse effects to floodplain

resources will result due to implementation of the selected remedy.

Restoration of the stream bed and banks, wetlands, and floodplains will be performed following sediment and soil removal and placement of backfill. The remedy includes design and implementation of a Site-wide habitat restoration plan that will specify restoration details for each section of the Site. Goals of the habitat restoration plan, to be developed during remedial design, will include, but will not be limited to, providing connectivity of the stream with the surrounding floodplain/wetland, the establishment of diverse habitats and native vegetation (*e.g.*, vernal pools, forested floodplains), and no net loss of wetland areas following remediation. Natural stream restoration techniques will be used in designing both the channel remedy and the habitat layer with the goal of creating a diversity of stream and near-stream habitats and minimizing hardening of the channel and banks, to the extent feasible. Additionally, the specific thickness(es), type(s) of substrate material, and specifications for vegetation to be used for the habitat layer will be developed in the restoration plan.

Compliance with Applicable State or Local Floodplains Protection Standards

The primary location-specific ARARs applicable to the remediation are ECL Article 24 Freshwater Wetlands, ECL Article 15 Use and Protection of Waters, and Clean Water Act (CWA) Section 404. For freshwater wetlands, 6 NYCRR Part 663 regulates activities conducted in or adjacent to regulated wetlands. Article 15 is implemented by 6 NYCRR Part 608 which regulates alterations to beds and banks of streams such as dredging and filling.

The primary New York State standard for protection of freshwater wetlands applicable to the remediation is Environmental Conservation Law, Article 24, and Title 7. For freshwater wetlands, 6 NYCRR Parts 662 through 665 regulates activities conducted in or adjacent to regulated wetlands. The selected remedy will comply with this standard.

The selected remedy will also comply with Executive Order 11988: Floodplain Management; Executive Order 11990: Protection of Wetlands, and EPA's Statement of Procedures on Floodplains Management & Wetlands Protection. Accordingly, draft floodplains and wetlands assessments have already been developed for the Geddes Brook/Ninemile Creek site; these assessments will be refined as necessary during the remedial design process.

Measures to Mitigate Potential Harm to the Floodplains and Wetlands

The forested portion of SYW-10 is a valuable Class I wetland which is limited along the shores of Onondaga Lake. Therefore, during remedial design a focused study will take place to evaluate criteria such as contaminant concentrations, habitat value, size, location within SYW-10, and engineering considerations to determine what portions of SYW-10 would require remediation. The details of this focused study will be developed during design. Based on the outcome of this study it may be determined that a portion of SYW-10 is appropriate to be excluded from remediation so that area can continue to provide valuable forested wetland functions.

Implementation of the selected remedy will entail removal and, where needed, backfilling of Ninemile Creek soil/sediment, resulting in temporary physical disturbances to the wetlands and floodplains. Measures to minimize potential adverse impacts that cannot be avoided will be evaluated as part of and incorporated into the remedial design. Common practices include field

demarcation of wetland/floodplain areas and implementation of soil/sediment erosion and/or re-suspension control measures (*e.g.,* installation of silt fencing, hay bales, hay/straw mulch, jute matting) to minimize impacts from construction activities. The negative ecological effects resulting from the placement of backfill would be limited temporarily (it is expected that benthic recolonization would take less than three years) and be offset by the positive long-term effects of clean cover system materials for benthic habitat.

Measures will also be employed during dredging activities to prevent creek sediments that are resuspended during remediation activities from being transported to downstream areas during flooding events (100- and 500-year storms). For example, energy barriers such as sheet piles and/or silt curtains could be used during dredging activities to minimize the transport of resuspended sediments from the areas being dredged to downstream areas.

Monitoring will occur during dredging operations. Monitoring of surface water in the vicinity of the work zones will be conducted to measure potential exceedances of ambient water quality criteria due to resuspension as a result of dredging operations. Should this monitoring indicate that elevated levels of suspended sediments are being generated by dredging activities, operations will be modified so as to reduce those levels. Possible actions that could be taken in this regard include slowing down the rate of sediment removal, changing the depth of the dredge cut, modifications to movement of the dredge equipment, and cessation of dredging activities.

APPENDIX V

RESPONSIVENESS SUMMARY

GEDDES BROOK/NINEMILE CREEK SITE OPERABLE UNIT 2
RESPONSIVENESS SUMMARY

Table of Contents

Please note that a list of acronyms/abbreviations are contained on page xv of this Record of Decision.

Page

Introduction 1
Public Review 2
Public Comment Period and Public Meeting 2
Receipt and Identification of Comments 3
Organization of the Comment and Response Index 4
Responses to Frequent Comments 5

Attachments

Attachment 1 Comment and Response Index

Attachment 2 Letters and Email Submitted During the Public Comment Period and Oral Comments Made During the Public Meeting

GEDDES BROOK/NINEMILE CREEK SITE
OPERABLE UNIT 2
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
AND PROPOSED PLAN
RESPONSIVENESS SUMMARY

INTRODUCTION

This Responsiveness Summary (RS) provides a summary of comments and concerns received during the public comment period related to the Operable Unit 2 (OU2) Geddes Brook/Ninemile Creek Site remedial investigation and feasibility study (RI/FS) reports and Proposed Plan, and provides responses of the New York State Department of Environmental Conservation (NYSDEC) and United States Environmental Protection Agency (EPA) to those comments and concerns. The RI/FS reports (TAMS/Earth Tech, 2003a,b,c; Parsons, 2005, 2009) describe the nature and extent of the contamination at the site and evaluate remedial alternatives to address this contamination. The Proposed Plan (NYSDEC and EPA, 2009) identifies NYSDEC and EPA's preferred remedy and the basis for that preference.

Public involvement in the review of Proposed Plans is stipulated in Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, and Sections 300.430(f)(3)(i)(F) and 300.430(f)(5)(iii)(B) of the National Oil and Hazardous Substances Pollution Contingency Plan. These regulations provide for active solicitation of public comment.

All public comments received are addressed in this RS, which was prepared following guidance provided by EPA in EPA 540-R-92-009 and OSWER[1] Directive 9836.0-1A. The comments presented in this document have been considered in NYSDEC and EPA's final decision in the selection of a remedy to address the contamination at the OU2 portion of the Geddes Brook/Ninemile Creek site.

The text of this RS explains the public review process and how comments were responded to and provides responses to frequent comments. In addition to this text, there are two attachments:

Attachment 1	The Comment and Response Index, which contains summaries of every comment received and NYSDEC/EPA's response.
Attachment 2	Comments provided during the public comment period, including letters, e-mails, and oral statements. This attachment contains copies of every comment received.

---

[1] Office of Solid Waste and Emergency Response.

PUBLIC REVIEW

NYSDEC and EPA rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the OU2 Proposed Plan for the Geddes Brook/Ninemile Creek Site was made available to the public on May 19, 2009. A fact sheet was released with the Proposed Plan and both documents are available at NYSDEC's website (http://www.dec.ny.gov/chemical/37558.html).

The complete Administrative Record file, which contains the information (including the Geddes Brook/Ninemile Creek RI, Human Health Risk Assessment [HHRA], Baseline Ecological Risk Assessment [BERA], FS and Supplemental FS) upon which the selection of the remedy has been based, is available at the locations listed in the text box below.

Information Repositories for the Geddes Brook/Ninemile Creek Operable Unit 2 Site Administrative Record

Atlantic States Legal Foundation
658 West Onondaga Street
Syracuse, NY 13204-3711
(315) 475-1170
Please call for hours of availability

NYSDEC, Region 7 Office
615 Erie Boulevard West
Syracuse, NY 13204-2400
(315) 426-7400
Hours: M – F, 8:30 a.m. – 4:45 p.m.
Please call for an appointment

NYSDEC Central Office
625 Broadway
Albany, NY 12233-7013
(518) 402-9767
Hours: M – F, 8:30 a.m. – 4:45 p.m.
Please call for an appointment

Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, NY 13204-2494
Hours: M, Th, F, Sat, 9:00 a.m. – 5:00 p.m.;
Tu, W, 9:00 a.m. – 8:30 p.m.
Phone: (315) 435-1800

PUBLIC COMMENT PERIOD AND PUBLIC MEETING

The public comment period is intended to gather information about the views of the public regarding both the remedial alternatives and general concerns about the site. A notice of the commencement of the public comment period, the public meeting date, the preferred remedy, contact information, and the availability of above-referenced documents was provided in a fact sheet distributed to the public on May 18, 2009 and published in the *Syracuse Post-Standard* on May 19, 2009.

The public comment period for the OU2 Geddes Brook/Ninemile Creek RI/FS and Proposed Plan commenced on May 19, 2009 and continued until July 3, 2009. During that period, a public meeting was held on June 11, 2009 at the New York State Fairgrounds in Syracuse, New York. Approximately 40 people, including residents, local business people, media, and state and local government officials, attended the public meeting. A question-and-answer session followed the formal presentation at the public meeting. A complete transcript of the public meeting can be found in Appendix VI of this ROD.

RECEIPT AND IDENTIFICATION OF COMMENTS

Public comments on the RI/FS and the Proposed Plan were received in several forms, including:

- Written comments submitted to NYSDEC via e-mail.
- Written comments mailed to NYSDEC.
- Oral comments made at the public meeting.

Each of the five written submissions received a commenter number as follows:

- Commenter 1 – Onondaga Nation (Joseph J. Heath)
- Commenter 2 – Onondaga County (Jean M. Smiley)
- Commenter 3 – Atlantic States Legal Foundation (Samuel H. Sage and Don Hughes)
- Commenter 4 – Citizens Campaign for the Environment (Sarah Eckel)
- Commenter 5 – Nine Mile Creek Conservation Council (Fred Miller)

Oral comments made during the June 11, 2009 public meeting, including both comments made in the form of statements and during the question and answer session, were assigned an oral comment number (*e.g.*, OC1) in the order of when the oral comment occurred during the public meeting. These numbers were assigned for the convenience of readers and to assist in the organization of this RS; there was no priority or special treatment given to one commenter over another in the responses to comments.

In addition to being summarized in the Comment and Response Index (Attachment 1), copies of all written submissions have been included in Attachment 2. The commenter number associated with each written submission is marked at the top of the first page of each letter and the sub-numbers of the individual comments are marked in the margin next to the text that begins the comment.

In addition to being summarized in the Comment and Response Index (Attachment 1), all oral comments received during the public meeting are contained in the public meeting transcript included in Attachment 2.

NYSDEC and EPA carefully considered each comment received and made every effort to be fully responsive.

ORGANIZATION OF THE COMMENT AND RESPONSE INDEX

The Comment and Response Index (Attachment 1) contains a complete listing of all comments and NYSDEC and EPA's responses. The index allows readers to find answers to specific questions they have raised and is organized as follows:

- The first column lists the name of the commenter.
- The second column identifies the alphanumeric file code assigned to each comment (e.g., 1.a., OC1.a.).
- The third column provides a summary of the comment.
- The fourth column provides the response to the comment.

Example:

Name/Agency	Comment Code	Comment Summary	Response
Samuel H. Sage, Atlantic States Legal Foundation (including comments from Don Hughes)	3.a	The commenter agrees that the preferred remedy (Alternative 3) is far better than Alternative 2 and supports use of the sediment consolidation area (SCA) at Wastebed 13.	The comment is acknowledged. Contaminated sediments and soils removed from the Ninemile Creek OU2 portion of the site and the associated floodplain will be disposed of at Honeywell's LCP Bridge Street subsite containment system or the SCA that will be constructed at Wastebed 13 as part of the remediation of the Onondaga Lake Bottom subsite. A decision as to the specific disposal location will be made during the design phase. This decision will consider various factors including the design and construction schedules for the Ninemile Creek OU2 remedy as well as the SCA so that remediation of Ninemile Creek is not unnecessarily delayed.

In a few instances, a commenter may appear in the Comment and Response Index more than once, because he/she sent letters that were different from their oral statements, or made different oral statements. If an individual spoke for a group and then wrote a letter in his/her own name (or vice-versa), the submissions were coded separately and each appears in the Comment and Response Index.

RESPONSES TO FREQUENT COMMENTS

The responses below are for comments that were made by many commenters and were typically a combination of several comments on a similar topic. One answer has been provided for each frequent comment. If a specific comment is considered part of a frequent comment, the response in the Comment and Response Index will indicate to "see response to Frequent Comment #1" (or other appropriate comment number). If a specific comment needed response beyond what is in the frequent comment response, that additional, comment-specific response is in the Comment and Response Index.

Frequent Comment #1: Several commenters expressed concern that there is insufficient data to select a remedy for the site. Specifically, the commenters refer to an over reliance on mercury as an indicator of contamination and indicate that the database contains an inadequate number of samples and/or an inadequate range of analytes.
(Comments 1.a, 1.c,1.e, 1.f, 1.n, 3.b, OC4.b, OC4.d, and OC5.g)

Response to Frequent Comment #1:

Use of Mercury as an Indicator Based on its Prevalence and Highly Elevated Concentrations

The sampling program in Reach AB concentrated on mercury since it was the contaminant at the plant site that was most prevalent and most elevated. Mercury was prevalent and elevated as is shown by the 169 shallow (0 to 2 ft) floodplain soil samples, where 78 percent of the samples were greater than the NYSDEC (2005) rural background concentration of 0.18 mg/kg, 65 percent of the samples were greater than three times that value (0.54 mg/kg), and concentrations as high as 77 mg/kg were found.

The other contaminants that were retained as chemical parameters of interest (CPOIs) in the FS (Parsons, 2005, Section 2.5) tended not to be nearly as extensive or as elevated as mercury, as shown in the following summary of results from Reach AB. Arsenic was greater than the NYSDEC (2005) rural background concentration of 13 mg/kg in about 8 percent of the 40 shallow floodplain samples in which it was analyzed with a high of 18.4 mg/kg. Lead was greater than the NYSDEC (2005) rural background concentration of 63 mg/kg in about 9 percent of the 34 shallow floodplain soil samples in which it was analyzed with a high of 115 mg/kg. Benzo(a)pyrene was greater than the NYSDEC (2005) rural background concentration of 1 mg/kg in 5 percent of the 57 shallow floodplain soil samples in which it was analyzed with a high of 2.5 mg/kg. Hexachlorobenzene was detected in 24 percent of the 65 shallow floodplain soil samples in which it was analyzed, but none of those concentrations (the high was 0.57 mg/kg) exceeded the Benthic Aquatic Life Chronic Toxicity value of 117 mg/kg.

The Results Indicate that the Horizontal and Vertical Extent of Mercury Contamination was Determined

The mercury sampling program included collecting 206 samples in the floodplain and 143 samples in the sediment of Reach AB (all depths). The horizontal extent of the elevated concentrations across the floodplain were consistent with the observed historic high water mark (which matches the 50-year return interval) since the 1953 start of the operation of the Bridge Street plant (e.g., compare Figures 3 and 6a of the Proposed Plan). The mercury concentration vertical profiles strongly suggest a distinct horizon below which the mercury concentration drops dramatically. As

shown in Figures 6a, 6b, and 6c of the Proposed Plan and this ROD, high concentrations (greater than 3 mg/kg) of mercury are seen throughout the floodplain of Reach AB in the top 2 ft. By the time the samples are at a depth of 2 to 3 ft, mercury concentrations are less than 0.5 mg/kg except for three areas within the Reach AB floodplain, as follows:

- The spits on either side of the mouth of Ninemile Creek, which were formed as the Solvay wastes deposited in Onondaga Lake. The extremely high deposition caused a build-up of at least 6 feet of wastes with elevated concentrations of mercury at the mouth of the stream (e.g., see log and results from Station NMC-SED-70 as presented in Appendix B of the OU2 Supplemental FS [Parsons, 2009]).

- The bank on the west side of the stream in the downstream 500 ft of the stream. There are mounds of soil along this section, which appear to be dredge spoils, where the "clean" horizon is expected to be about 1 to 2 ft deeper than the rest of the area.

- Two isolated samples with concentrations of about 2 and 6 mg/kg on the east bank of the stream in the upper and central portions of Reach AB.

In the Reach AB channel sediments (see Figures 6a through 6c of the Proposed Plan and this ROD and RI Figures 5-1a and 5-1b), the mercury concentrations also drop dramatically at a depth of 2 ft. The shallow depth of contamination may be a result of or partially a result of the dredging of most of this reach in the 1960s. Much of the lower portion of Reach AB contains less than 2 ft of more recent, mercury-contaminated sediment with marl or other native materials within the top 1 to 2 ft.

These patterns show that the mercury contamination within Reach AB is generally less than 3 ft deep in the floodplain and sediments except for those isolated areas with a clear cause for suspecting a deeper accumulation of contaminated sediments/soils (e.g., spits, dredge spoil mounds). Additional sampling will be completed in these areas during design.

The Results Indicate that Other Contaminants are Generally Limited to the Materials with Elevated Mercury Concentrations

Based on the understanding of contamination being limited horizontally by depositional patterns at high flow, and vertically by a horizon of native material that existed prior to Honeywell operations, there should be no significant contamination by other contaminants beyond the extent of the mercury contamination.

The sampling of the Reach AB floodplain, which included a total of 206 samples from depths ranging from 0 to 3 ft, included subsets of samples that were analyzed for contaminants other than mercury, including but not limited to, arsenic (23 percent of all samples), VOCs (13 percent), PAHs (35 percent), other SVOCs and PCBs (19 percent), hexachlorobenzene (38 percent), and phenol (22 percent). For those contaminants that were clearly associated with the Bridge Street Plant (e.g., PCBs and hexachlorobenzene), the only floodplain detections were in samples where mercury was at least 0.7 mg/kg and generally higher. Out of the 37 samples collected in the Reach AB floodplain below 2 ft that were analyzed for mercury, there were no exceedances of the selected cleanup levels for arsenic (8 samples), lead (5 samples), PCBs (5 samples), and PAHs (13 samples), and there were no detections of hexachlorobenzene and phenol (13 samples) below 2 ft.

Out of the 73 sediment samples collected in the Reach AB channel below 2.5 ft[2] (which is the average depth of sediment removal for the selected remedy), lead (22 samples), PCBs (22 samples), and PAHs and hexachlorobenzene (8 samples), had no exceedances of the selected cleanup levels. Below 2.5 ft, arsenic (22 samples) slightly exceeded the cleanup level of 33 mg/kg in two samples from 2.5 to 5 ft (both at Station TN-5-2 which is at the upper end of Reach AB near the "Ponded Area" and has low levels [less than 0.5 mg/kg] of mercury below 2.5 ft), and phenol (8 samples) slightly exceeded the cleanup level of 0.53 mg/kg in one sample from 2.5 to 3.5 ft (also at Station TN-5-2). For both arsenic and phenol, data are available at this location below these depths (below 5 ft for arsenic and 3.5 ft for phenol) and show no exceedances. These exceedances of the cleanup levels for arsenic and phenol below 2.5 ft occurred at the very upstream limit of Reach AB (Station TN-5-2), which may be upstream of the area dredged in the 1960s. This area will be further sampled during design and the data will be used to determine if additional removal (beyond 2.5 ft in this area) or an isolation cap is needed in this area.

Additional Sampling Will Be Performed During Design

As noted above, additional sampling will be conducted during design at depths below what was previously sampled (3 ft) in select areas of the floodplain (e.g., spits, dredge spoil mounds). Additional sampling will also be conducted in the channel sediments in select areas. As noted in Footnotes 11 (page 67) and 17 (page 88) of the Proposed Plan, "sampling during the pre-design investigation would include the other CPOIs (as well as mercury) to ensure that the remedy is protective for all CPOIs."

Summary

The sampling results are consistent with the understanding that the primary source of contamination was the Honeywell LCP Bridge Street Plant site, and mercury was by far the most prevalent and elevated contaminant associated with that site. The deposition of mercury and other contaminants would have been constrained both horizontally and vertically by the history of the site, and by the mechanisms of deposition. The data support the use of mercury as an indicator of contamination, and those mercury results were used successfully to identify the extent of contamination. However, as discussed above, data for the other CPOIs have been collected during the RI/FS and factored into the remedy selection. Also, as noted in the Proposed Plan, data for the CPOIs other than mercury will continue to be collected during design to ensure that the remedy is protective for all CPOIs.

Frequent Comment #2: Several commenters expressed concern that further investigation is needed at upgradient or upland sites (including Wastebeds 1 through 8 and LCP Bridge Street OU2) before a remedy for Ninemile Creek can be selected.
(Comments 1.b, 1.i, 3.d, OC4.d, and OC5.b)

Response to Frequent Comment #2:

Operable Unit 2 of the Geddes Brook/Ninemile Creek site includes the channel sediments, surface water, and floodplain soils/sediments of the section of lower Ninemile Creek from the downstream

[2] Based on the mid-point of the sample interval.

end of OU1 to Onondaga Lake. This section of lower Ninemile Creek (Reach AB) flows adjacent to the western edge of the Wastebeds 1 through 8 site, which is undergoing a separate RI/FS.

The eastern and central portions of Wastebeds 1 through 8 have been found to contain highly-elevated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene and other PAHs, and phenols in soils/wastes at the base of the Solvay waste. However, in the area west of the original Ninemile Creek channel (see Figure 4 of this ROD) (i.e., the area adjacent to the OU2 portion of the current Ninemile Creek), of these compounds, only phenol has been found at concentrations greater than about 100 µg/L in the shallow and intermediate groundwater, and other contaminants (e.g., BTEX and naphthalene) were generally less than 10 µg/L, with somewhat higher concentrations (but still less than about 100 µg/L) in the old Ninemile Creek channel material near the OU2 portion of the current Ninemile Creek (based on RI data). Relatively low levels of contamination (less than about 0.1 mg/kg for BTEX, and less than about 1 mg/kg for total PAHs and phenol) were found in the surface and subsurface soils (down to a depth of about 20 ft) adjacent to the OU2 portion of Ninemile Creek based on RI data.

Pursuant to an RI/FS work plan for Wastebeds 1 through 8 (O'Brien & Gere, 2006), and based on an ongoing remedial investigation, Honeywell has initiated a Focused Feasibility Study to evaluate remedial alternatives for Wastebeds 1 through 8. Based on this ongoing work, remedial measures, for Wastebeds 1 through 8, would not require significant modification to the Ninemile Creek OU2 site channel or floodplain, and therefore would not impact remedy selection for Ninemile Creek OU2. However, any remedial measures along the western edge of the Wastebeds 1 through 8 site, which might be needed to address contamination from and/or erosion of the Wastebeds 1 through 8 site, would be performed prior to and/or coordinated with the remediation of Reach AB of lower Ninemile Creek.

The LCP Bridge Street OU2 site is undergoing a separate investigation due to a xylene-contaminated groundwater plume, which resulted in localized contamination of sediment in the West Flume. However, the xylene contamination does not extend to the mouth of the West Flume, and therefore does not extend to Geddes Brook, Ninemile Creek or Onondaga Lake from this source. In addition, the West Flume was remediated and is being monitored as part of the LCP Bridge Street OU1 site. The localized groundwater contamination will be addressed in the LCP Bridge Street OU2 ROD.

It should be noted though that preliminary results from an investigation of an unnamed tributary which adjoins Geddes Brook upstream of the culverts beneath the Conrail railroad tracks indicates that elevated levels of mercury are present in tributary sediment and floodplain soils (Honeywell, 2009). The presence of contamination in the unnamed tributary appears to be the result of historic overflows from the wastebeds when they were in use as settling basins or from backflow of Geddes Brook. Additional investigation of the unnamed tributary is presently being conducted, and if warranted, contamination in the unnamed tributary will be addressed under either the Geddes Brook Interim Remedial Measure (IRM) prior to remediating contaminated channel sediment and floodplain soil/sediment in and adjacent to lower Geddes Brook.

Frequent Comment #3: Several commenters expressed concern about the potential loss of some or all of the forested wetland near the mouth of Ninemile Creek as a result of the remediation. (Comments 1.d, 2.b, and 5.f)

Response to Frequent Comment #3:

The forested portion of SYW-10 is a valuable Class I wetland, which is limited along the shores of Onondaga Lake. During the remedial design, a study will be conducted to evaluate criteria such as contaminant concentrations, habitat value, size, location within SYW-10, and engineering considerations to determine which portions of SYW-10 would be remediated. Based on the outcome of this study, it may be determined that a portion of SYW-10 does not require remediation and may therefore be retained as a forested wetland.

REFERENCES

BBL. 1999. Supplemental Site Investigation Report, Wastebeds 9 to 15, Onondaga County, New York. Prepared for AlliedSignal, Inc., Syracuse, NY by BB&L Engineers and Scientists, Syracuse, NY. August.

Honeywell. 2009. Addendum 1 to Pre-Design Investigation Work Plan #6 – Unnamed Tributary Soil/Sediment Sampling, August 4.

NYSDEC. 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Statewide Rural Surface Soil Survey. August.

NYSDEC and EPA. 2009. Proposed Plan for Operable Unit 2 of the Geddes Brook/Ninemile Creek Site, Onondaga County, New York. May 18.

O'Brien & Gere. 2008. Draft Remedial Investigation Wastebeds 1 through 8 Site, Geddes, New York. Prepared by O'Brien & Gere for Honeywell. April. (NYSDEC comments dated October 27, 2008)

O'Brien & Gere. 2006. Revised Work Plan, Remedial Investigation/Feasibility Study Wastebeds 1 through 8, Geddes, New York. Prepared for Honeywell. November.

Parsons. 2009. Geddes Brook/Ninemile Creek Operable Unit 2 Supplemental Feasibility Study Report. Draft Final. Prepared by Parsons, Liverpool, NY in association with Exponent and QEA for Honeywell, East Syracuse, NY. May.

Parsons. 2005. Geddes Brook/Ninemile Creek Feasibility Study Report. Draft Final. Prepared by Parsons, Liverpool, NY in association with Exponent, Albany, NY for Honeywell, Morristown, NJ. May.

TAMS/Earth Tech. 2003a. Geddes Brook/Ninemile Creek Human Health Risk Assessment. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, New York by TAMS/Earth Tech, New York, NY and YEC, Valley Cottage, NY. July.

TAMS/Earth Tech. 2003b. Geddes Brook/Ninemile Creek Baseline Ecological Risk Assessment. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, New York by TAMS/Earth Tech, New York, NY and YEC, Valley Cottage, NY. July.

TAMS/Earth Tech. 2003c. Geddes Brook/Ninemile Creek Remedial Investigation Report. Original document prepared for Honeywell, East Syracuse, NY by Exponent, Bellevue, WA. Revision prepared for New York State Department of Environmental Conservation, Albany, New York by TAMS/Earth Tech, New York, NY and YEC, Valley Cottage, NY. July.

RESPONSIVENESS SUMMARY

ATTACHMENT 1

Comment and Response Index

Name/Agency	Comment Code	Comment Summary	Response
Onondaga Nation, Joseph J. Heath (July 3, 2009 letter which includes a copy of their March 31, 2009 comment letter on the draft OU2 Supplemental FS report)	1.a.	The Nation expressed concern that insufficient data exist regarding contamination at this site to select a remedy.	See response to Frequent Comment #1.
	1.b.	The Nation expressed concern that the Wastebeds 1 through 8 site would recontaminate Ninemile Creek OU2 and that further study is needed.	See response to Frequent Comment #2.
	1.c.	The Nation expressed concern that it appears that the removals proposed (locations and depths) are based solely on mercury and not other contaminants.	See response to Frequent Comment #1.
	1.d.	The Nation requests that further sampling be completed in the forested wetland area in the hopes that some of the area would not be destroyed. If forested areas are impacted by remediation, deed restrictions or other measures should be employed to allow the restoration of the forested wetland to succeed.	NYSDEC/EPA agree that further sampling will be completed in this area during remedial design. If forested wetland areas are impacted by remediation, these wetlands will be restored. Any potential future impact to these wetlands would be regulated through State and federal permitting requirements for wetlands. See also response to Frequent Comment #3.
	1.e.	The Nation strongly believes that the FS demonstrates that additional study is needed to characterize the site and select a remedy.	See response to Frequent Comment #1.
	1.f.	The Nation expressed concern that the sampling is spatially inadequate and additional sampling should be completed at a greater depth to support remedial decisions.	See response to Frequent Comment #1.

Name/Agency	Comment Code	Comment Summary	Response
	1.g.	The Nation expressed concern that the sampling omits important contaminants other than mercury and that further sampling should be completed in SYW-10 and in Ninemile Creek surface water prior to selecting a remedy.	See response to Frequent Comment #1. Also, as noted in Footnotes 11 (page 67) and 17 (page 88) of the Proposed Plan, "sampling during the pre-design investigation would include the other CPOIs (as well as mercury) to ensure that the remedy is protective for all CPOIs."
	1.h.	The Nation identified errors in the concentration units for lead and arsenic in select data tables in Honeywell's March 2009 Preliminary Draft OU2 Supplemental FS.	A similar comment was included in NYSDEC's April 1, 2009 comment letter and the errors were corrected in Honeywell's May 2009 Draft Final OU2 Supplemental FS.
	1.i.	The Nation expressed concern that the upstream and upgradient sites (LCP OU2 and Wastebeds 1 through 8) should be addressed prior to remediating Ninemile Creek.	See response to Frequent Comment #2.
	1.j.	The Nation requests that the remedy should avoid precluding habitat restoration options and cleanup objectives should meet levels that are protective regardless of the substrate being placed.	Habitat restoration is an integral part of the remediation and the details of habitat restoration will be developed during remedial design. The goals of the habitat restoration plan will include, but will not be limited to, providing connectivity of the stream with the surrounding floodplain/wetland, the establishment of diverse habitats and native vegetation (e.g., vernal pools, forested floodplains), and no net loss of wetland areas following remediation. As noted in the ROD, natural stream restoration techniques will be used in designing both the channel remedy and the habitat layer with the goal of creating a diversity of stream and near-stream habitats and minimizing hardening of the channel and banks, to the extent feasible. The cleanup objectives will be met regardless of the substrate that is placed. The goal for the concentrations of the clean material for mercury, other chemical parameters of interest, and other constituents will be NYSDEC's sediment criteria (including the lowest effects level of 0.15 mg/kg] for mercury) in sediments and 6 NYCRR Part 375 unrestricted use soil cleanup objectives (including the objective of 0.18 mg/kg for mercury) in soils.

Name/Agency	Comment Code	Comment Summary	Response
	1.k.	The Nation requests that the remedy should ensure suitable habitat exists for cold water fish passage up from Onondaga Lake and that sufficient contamination is removed for those that consume fish.	The habitat restoration plan to be developed during design will include appropriate habitat (water depth) to allow fish passage throughout the OU1 and OU2 portions of Ninemile Creek. Also, it is anticipated that the remedy will achieve USEPA's National Recommended Water Quality Criterion for methylmercury, as measured in fish tissue, of 0.3 mg/kg and is a Remediation Goal (as identified in the Geddes Brook/Ninemile Creek OU1 and OU2 RODs).
	1.l.	The Nation requests that additional survey of wetland plants be completed prior to work commencing and that any rare, protected, or native plants be protected during the remediation.	A survey of the wetlands has commenced and will be completed during the design. Also, the design would include measures to protect any rare, protected, or native plants, where feasible.
	1.m.	The Nation requests that steps to be taken during the remediation work to protect birds and animals and restore habitat should be identified.	A habitat restoration plan will be developed during design to identify measures which will be needed to restore habitat and protect wildlife during remedial activities in accordance with the ROD. The requirements identified in the plan will need to be met during remediation.
	1.n.	The Nation expressed concern that none of the alternatives evaluated are adequate because the site has not been sufficiently characterized in context of the regulations or a holistic approach.	See response to Frequent Comment #1.
Jean M. Smiley, Onondaga County Executive Office	2.a.	The County is interested in seeing the State and Honeywell achieve the stated remedial goals for the site.	The comment is acknowledged.
	2.b.	The County requests that the remedy have sufficient flexibility for the forested portion of the SYW-10 wetland.	See response to Frequent Comment #3.

Name/Agency	Comment Code	Comment Summary	Response
Samuel H. Sage, Atlantic States Legal Foundation (including comments from Don Hughes)	3.a.	The commenter agrees that the preferred remedy (Alternative 3) is far better than Alternative 2 and supports use of the sediment consolidation area (SCA) at Wastebed 13.	The comment is acknowledged. Contaminated sediments and soils removed from the Ninemile Creek OU2 portion of the site and the associated floodplain will be disposed of at Honeywell's LCP Bridge Street subsite containment system or the SCA that will be constructed at Wastebed 13 as part of the remediation of the Onondaga Lake Bottom subsite. A decision as to the specific disposal location will be made during the design phase. This decision will consider various factors including the design and construction schedules for the Ninemile Creek OU2 remedy as well as the SCA so that remediation of Ninemile Creek is not unnecessarily delayed.
	3.b.	The commenter expressed concern that the existing data are inadequate to support the Proposed Plan.	See response to Frequent Comment #1.
	3.c.	The commenter expressed concern that chemicals of concern other than mercury such as lead, arsenic, hexachlorobenzene, phenol, PCBs, PAHs, and dioxins/furans must also be monitored.	As noted in Footnotes 11 (page 67) and 17 (page 88) of the Proposed Plan, "sampling during the pre-design investigation would include the other CPOIs (as well as mercury) to ensure that the remedy is protective for all CPOIs." See also response to Frequent Comment #1.
	3.d.	The commenter expressed concern that the schedule for a decision on the OU2 remedy appears to be rushed and that the RI/FS for Wastebeds 1 through 8 has not been completed.	See response to Frequent Comment #2.
	3.e.	The commenter states that the proposed remedy does not correct many injuries inflicted on Geddes Brook and Ninemile Creek such as losses of wetlands and stream sinuosity and these losses should be compensated under the Natural Resources Damage Assessment program.	The purpose of the remedy is to protect public health and the environment. Natural resource damages are addressed separately. NYSDEC is the designated Natural Resource Trustee for the State of New York. Other Natural Resource Trustees include the Onondaga Nation and the Department of Interior through the U.S. Fish and Wildlife Service. The Natural Resource Trustees are coordinating their efforts and they are working cooperatively with Honeywell to pursue a natural resource damage assessment and plan for restoration activities related to the Onondaga Lake NPL site.

Name/Agency	Comment Code	Comment Summary	Response
Sarah Eckel, Citizens Campaign for the Environment	4.a.	The commenter indicated that the group, in general, supports the clean-up plan.	The comment is acknowledged.
	4.b.	The commenter supports use of the two disposal options (LCP Bridge Street site or SCA at Wastebed 13) and recommends regular testing and reporting and installing a liner.	The comment is acknowledged. Long-term monitoring of the LCP Bridge Street site containment facility is a component of the remedy for that site. A liner will be installed as part of the construction of the SCA at Wastebed 13 and monitoring would also be performed in and around the SCA.
	4.c.	The commenter looks forward to the Proposed Plan for the remediation of the wastebeds and expects that the plans and monitoring for the wastebeds will be shared with the Citizen Participation Working Group.	Toward the end of the RI/FS phase, the Proposed Plan and RI/FS documents for the site will be made available to the community. This will be an opportunity for the public to review the documents and offer input regarding NYSDEC and EPA's preferred remedy. During the public comment period, the NYSDEC and EPA will hold a public meeting to present the conclusions of the RI/FS, to elaborate further on the reasons for recommending the preferred remedy, to answer questions regarding the proposed cleanup plan, and to receive public comments.
	4.d.	The commenter suggested that the Geddes Brook/Ninemile Creek site be subject to participation and review of the Onondaga Lake Citizen Participation Working Group.	The appropriateness of including the Geddes Brook/Ninemile Creek site in the Onondaga Lake Bottom Subsite Citizen Participation Plan and associated Working Group will be considered.
	4.e.	The commenter requests that design-phase documents for GB/NMC OU1 and OU2 be provided to the public for review and comment.	Design phase documents will be made available to the public at the public repositories and via website posting. The Department may issue corresponding Fact Sheets to inform the public of the availability of a given design phase document and to summarize the given document's purpose and content. DEC will consider public input received on design phase documents as the design process moves forward. Depending upon the level of public interest expressed, the Department may host public availability sessions, as appropriate, to help inform the public and answer questions. Formal solicitation of public comments within a prescribed time frame is not planned.

Name/Agency	Comment Code	Comment Summary	Response
	4.f.	The commenter suggested that a World Wide Web-based document repository be developed for key documents for each of the sites as well as project updates and schedules for public comment.	The NYSDEC Region 7 web site includes select documentation for Onondaga Lake, Geddes Brook/Ninemile Creek, and other select sites. It is anticipated that select future design documents will also be placed on this site. It is anticipated that fact sheets will continue to be developed to summarize key milestones and schedules for public involvement. The site address is: http://www.dec.ny.gov/chemical/37558.html
	4.g.	The commenter suggests that signage be placed along and near all project sites including, but not limited to, the Geddes Brook/Ninemile Creek projects and the Onondaga Lake shore.	Public outreach is a standard component of a site's remedial program and may include signage to provide information about the progress of on-site cleanup activities and, where appropriate, to ensure public safety. The posting of signage will be considered during the remedial design.
Fred Miller, Nine Mile Creek Conservation Council	5.a.	The commenter supports the cleanup but has several concerns.	The comment is acknowledged. Responses to specific, stated concerns are provided in the responses that follow.
	5.b.	The commenter expressed concern that the historic Ninemile Creek channel could provide a conduit for contamination from Wastebeds 1 through 8 to recontaminate the creek.	In 1926, the lowest reach of Ninemile Creek (*i.e.*, Reach AB) was re-routed to accommodate the construction of Wastebeds 1 through 8. The findings of the ongoing RI and Focused Feasibility Study for the Wastebeds 1 through 8 site indicate that the historic channel is not a significant source of contamination to Ninemile Creek. See also response to Frequent Comment #2.
	5.c.	The commenter expressed concern that since the marl layer is only present near the lake and not farther upstream, additional consideration should be given to obtain the most effective excavation depth for maximum removal of contaminants.	Although the marl was not found in the upper portion of the Reach AB channel, sediment cores indicate that mercury concentrations decline below a depth of about 2.5 ft in this area. However, there is one core location (TN-5-2) which is at the upper end of Reach AB near the Ponded Area where there are exceedances of the cleanup levels for arsenic down to 5 ft and phenol down to 3.5 ft. For both of these parameters, there are no exceedances at this location below these depths. See also response to Frequent Comment #1.
	5.d.	The commenter expressed concern that long-term monitoring to ensure Alternative 3 provides the same level of protection as Alternative 4 will be ineffective.	NYSDEC and EPA prefer Alternative 3 because it provides the same overall protection of human health and the environment and compliance with ARARs, as Alternative 4. Alternative 3 also presents less short-term risks and is more implementable than Alternative 4. Long-term monitoring is a component of both Alternative 3 and Alternative 4.

Name/Agency	Comment Code	Comment Summary	Response
	5.e.	The commenter suggested that the LCP Bridge Street site containment facility is not a suitable site for the placement of contaminated sediment and soil from the remediation of the Geddes Brook/ Ninemile Creek site. The SCA at Wastebed 13 is the better selection.	The LCP site containment facility was designed with the capability to receive sediment and soil from the remediation of the Geddes Brook/Ninemile Creek site. The facility includes a subsurface barrier wall which was installed around the facility, and groundwater extraction wells, to contain site-impacted shallow and deep groundwater. The barrier wall was installed to a depth of approximately 55 feet and is keyed into low-permeability glacial till. A temporary, low-permeability cap has been installed at the facility and the final cap will be constructed after the placement of sediments from the Geddes Brook/Ninemile Creek site has been completed. Long-term monitoring of groundwater, surface water, sediment, and biota is being conducted to ensure the effectiveness of the remedy. This facility can adequately contain the contaminated materials from the Geddes Brook/Ninemile Creek site and be protective of public health and the environment. As was noted in the ROD, the SCA at Wastebed 13 will also be considered. A decision as to the specific disposal location would be made during the design phase. This decision would consider various factors including the design and construction schedules for the Ninemile Creek OU2 remedy as well as the SCA so that remediation of Ninemile Creek is not unnecessarily delayed.
	5.f.	The commenter expressed concern with the removal of the forested wetlands.	See response to Frequent Comment #3.
	5.g.	The commenter expressed concern that the lower remediation area is owned by Onondaga County and not Honeywell and there is no binding agreement to protect the forested wetland in perpetuity.	Onondaga County has indicated in their letter dated June 29, 2009 that is included as part of this responsiveness summary, that it supports preserving as much of this forested wetland area as possible. Since it is a regulated federal and state wetland, it is unlikely that the area would be fragmented and developed. The current alignment of the County's proposed bike trail in this area just west of Ninemile Creek is along I-690 and is not expected to impact the forested wetland.
	5.h.	The commenter requested the riparian buffer be maintained over as large an area as possible.	The comment is noted and this issue will be evaluated as part of the remedial design.
James Corbett, Onondaga County Legislature	OC1.a. (transcript page 30)	The commenter supports the cleanup.	The comment is acknowledged.

Name/Agency	Comment Code	Comment Summary	Response
	OC1.b. (transcript page 30)	The commenter supports habitat enhancements in the channel, stream banks, and wetlands.	The comment is acknowledged.
	OC1.c. (transcript page 31)	The commenter stated that an important consideration of this project is the ability for the County to extend the bike trail along the west shore and over Ninemile Creek.	The comment is acknowledged. NYSDEC will work with Onondaga County and Honeywell with the intent that the remediation of Ninemile Creek, and associated floodplains, would not impact the extension of the bike trail. See also response to Comment OC7.a.
Fred Miller, Nine Mile Creek Conservation Council	OC2.a. (transcript page 33)	The commenter requests that a visual representation of the riparian zone be developed and presented.	Generating a visual rendering of the anticipated restoration of the riparian zone post-remedy will be considered during the design phase.
	OC2.b. (transcript page 34)	The commenter expressed concern that since the forested wetland, which is a valuable environmental asset, is County (not Honeywell) property, that the area should be placed into a conservationship or otherwise protected into the future.	Onondaga County has indicated in a letter that is included as part of this responsiveness summary that it supports preserving as much of this forested wetland area as possible. Since it is a regulated federal and state wetland, it is unlikely that the area would be fragmented and developed. The current alignment of the County's proposed bike trail in this area just west of Ninemile Creek is along I-690 and is not expected to impact the forested wetland.
Sarah Eckel, Citizens Campaign for the Environment	OC3.a. (transcript page 36)	The commenter indicated that the group supports the preferred alternative.	The comment is acknowledged.
	OC3.b. (transcript page 36)	The commenter requests that NYSDEC provide for public involvement during the design phase.	Public involvement is an important part of the remedial process and will take place during the remedial design phase.
	OC3.c. (transcript page 37)	The commenter suggests that signage be placed along and near all project sites including, but not limited to, the Geddes Brook/Ninemile Creek projects and the Onondaga Lake shore.	See response to Comment 4.g.

Name/Agency	Comment Code	Comment Summary	Response
	OC3.d. (transcript page 37)	The commenter thanks NYSDEC for addressing contamination from Wastebeds 1 through 8 and looks forward to the proposed remedial plan for the Wastebeds 1 through 8 site.	The comment is acknowledged.
Lindsay Speer	OC4.a. (transcript page 38)	The commenter is glad to see a fuller extent of remediation than there was on the Onondaga Lake Bottom site.	The comment is acknowledged.
	OC4.b. (transcript page 38)	The commenter expressed concern about inadequate sampling and that the depth of contamination is not known in some areas.	See response to Frequent Comment #1.
	OC4.c. (transcript page 39)	The commenter expressed concern about the possibility of failure of caps in the creek.	As discussed in the Proposed Plan and this ROD, the depths of removal for the remedy are expected to eliminate the need for an isolation cap. If an isolation cap is determined to be needed in a portion of the stream, Honeywell will be required to ensure the effectiveness of the isolation cap through a monitoring and maintenance program. The scope of the program would be determined during remedial design.
	OC4.d. (transcript page 39)	The commenter expressed concerns about the timing of the plan with respect to potential contamination from Wastebeds 1 through 8 as well as inadequate testing.	See responses to Frequent Comments #1 and #2.
	OC4.e. (transcript page 40)	The commenter expressed concern about the continued channelization of Ninemile Creek and suggests that the creek could be remeandered if the wastebeds were removed and the land restored.	Natural stream restoration techniques will be used in designing both the channel remedy and the habitat layer with the goal of creating a diversity of stream and near-stream habitats and minimizing hardening of the channel and banks, to the extent feasible. Removal of the wastebeds was not considered under this ROD since the Ninemile Creek channel and floodplains can be remediated without wastebeds excavation. Providing for meandering of the restored Ninemile Creek channel via wastebeds excavation would not likely be feasible due to the volume of material involved.

Name/Agency	Comment Code	Comment Summary	Response
	OC4.f. (transcript page 40)	The commenter is encouraged by the work to enhance diversity in the floodplains, habitat, and available structure and looks forward to seeing those designs in more detail.	The comment is acknowledged. Also, a habitat restoration plan will be developed during design and will be available for the Onondaga Nation's review.
	OC4.g. (transcript page 40)	The commenter requests that a full survey of the flora and fauna in the forested wetland be completed prior to remediating this area.	Surveys of the wetlands, including flora and fauna, have commenced and will be completed during design prior to remediation.
Don Hughes	OC5.a. (transcript page 41)	The commenter agrees with the request of Fred Miller to incorporate additional graphics into the presentation.	See response to Comment OC2.a.
	OC5.b. (transcript page 41)	The commenter expressed concern about the timing of the plan for OU2 with respect to Wastebeds 1 through 8.	See response to Frequent Comment #2.
	OC5.c. (transcript page 42)	The commenter suggests that the work on Wastebeds 1 through 8 and Ninemile Creek OU2 be coordinated and questioned "what is the rush" with OU2.	The work has been and will continue to be coordinated. The remedial work for OU2 (and OU1) needs to be completed prior to commencing dredging and capping in the lake in Sediment Management Unit (SMU) 4 which is off of the mouth of Ninemile Creek. Dredging within Onondaga Lake is scheduled to begin in May 2012 in accordance with the Federal Consent Decree (89-CV-815) between the State of New York and Honeywell. See also response to Frequent Comment #2.
	OC5.d. (transcript page 43)	The commenter questioned the schedule for cleaning up the site.	See response to Comment OC5.c.
	OC5.e. (transcript page 44)	The commenter expressed concern that the entire site is underlain by fine, coarse sand and gravel so mobile contaminants are going to move.	Any contamination associated with Wastebeds 1 through 8 site will be addressed by the remedy for the wastebeds.

Name/Agency	Comment Code	Comment Summary	Response
	OC5.f (transcript page 44)	The commenter expressed concern with the use of the LCP Bridge Street site for containment since it is not a lined facility and encourages NYSDEC/EPA to require that all material be contained at the SCA.	See response to Comment 5.e.
	OC5.g (transcript page 45)	The commenter expressed concern about the adequacy of the data to select and cost alternatives.	See response to Frequent Comment #1.
	OC5.h (transcript page 45)	The commenter questioned the mercury cleanup objective for Alternative 4 and indicated that the objective for sediments should be lower than for soils.	For Alternative 4, the same cleanup level for mercury (0.15 mg/kg) is used for stream sediments, wetland sediments/soils, and non-wetland soils. This value is based on NYSDEC's low effects screening level in sediments and is lower than the calculated site-specific bioaccumulation-based sediment and soil values (0.8 and 0.6 mg/kg).
Albert Breezy	OC6.a. (transcript page 47)	The commenter questioned benefits of the remediation to other water bodies (downstream) connected to Onondaga Lake.	It is expected that the remediation of Geddes Brook, Ninemile Creek, Onondaga Lake, and other upland sites and tributaries would improve conditions at those sites. Furthermore, because fish migrate between Onondaga Lake and these other water bodies, fish in these other areas may also benefit from the remediation of this site.
Don Hughes	OC7.a. (transcript pages 50 through 54)	The commenter questioned the timing of the County's construction of the bike trail and the remediation of the site.	NYSDEC and Honeywell are looking into what specific remedial measures may be needed along the alignment of the bike trail (including any bridge structures) in the event that the County moves forward with the bike trail construction prior to implementation of the Geddes Brook/Ninemile Creek OU2 remedy.
	OC7.b. (transcript pages 57 and 58)	The commenter questioned the mercury cleanup objective of 0.15 ppm and whether that refers to fish, sediments or soils.	The mercury cleanup level of 0.15 mg/kg is for stream sediments, wetland sediments/soils, and non-wetland soils. The remediation goals for fish tissue are discussed in the ROD. The selected remedy is intended to achieve fish tissue mercury concentrations ranging from 0.1 mg/kg, which is for protection of ecological receptors, to 0.3 mg/kg, which is based on EPA's methylmercury National Recommended Water Quality criterion for the protection of human health from elevated risks due to consumption of fish.

Name/Agency	Comment Code	Comment Summary	Response
Male Voice	OC8.a. (transcript page 59)	The commenter questioned the location of the deep sediments and marl.	The marl is present near the upper portion of the stream bed in the downstream portion of Reach AB as shown on Figure 10 of this ROD. Thicker sediments overlying the marl are found just downstream of Reach AB within the mouth of Ninemile Creek. As noted in Footnote 15 of the Proposed Plan (page 86), the channel sediments between Stations 0+00 and 3+00 (lower 300 ft [90 m]), which are downstream of Reach AB, are being addressed under the Onondaga Lake remedy. In this lower 300-ft reach, the concentrations of mercury in the sediments and the depth to marl are significantly greater (see data for Stations NMC-SED-70 through NMC-SED-74 in Appendix B of the OU2 Supplemental FS; note that these data are not shown in Figures 6a through 6c of the ROD since they are downstream of Reach AB). The depth of removal in this lower 300 ft downstream of Reach AB is expected to be greater than 2.5 ft (75 cm) and will be developed as part of the dredge/cap designs for Sediment Management Unit (SMU) 4 of the lake.
	OC8.b. (transcript page 60)	The commenter asked if there is a demarcation for the marl.	The upstream demarcation of the marl within the upper portion of the stream bed is shown on Figure 10 of the ROD and is approximately 1,900 ft (Station 19+00) upstream from the most downstream point of Ninemile Creek (Station 0+00).
Don Hughes	OC9.a. (transcript page 61)	The commenter questioned why the difference in cost between Alternatives 3 and 4 is not proportionate to the difference in volume.	As a result of its deeper removals (up to a depth of 8 ft into the sediments), Alternative 4 would require installation and removal of significantly (greater than ten times) more sheet pile than Alternative 3.
Dereth Glance	OC10.a. (transcript pages 62 and 63)	The commenter questioned the schedule to complete the design.	It is anticipated that preliminary design documents will be submitted in 2010 and that the design of the OU2 remedy will be completed in 2011.
	OC10.b. (transcript pages 63 and 64)	The commenter questioned why the annual costs for operation and maintenance is about $20,000 greater for Alternative 3 than Alternative 4.	Since less residual contamination would remain on-site under Alternative 4 than Alternative 3, the annual operation, maintenance and monitoring (OM&M) costs for Alternative 4 do not include costs for maintenance and monitoring of the cover in the floodplain nor estimated costs for institutional controls. Institutional controls, which are included in the OM&M cost estimates, are assumed for Alternatives 2 and 3 but not Alternative 4. See Tables F-1-2 and F-1-3 in Appendix F of the OU2 Supplemental FS (Parsons, 2009).

Name/Agency	Comment Code	Comment Summary	Response
Les Monostory	OC11.a. (transcript page 66)	The commenter questioned mercury levels in fish and concentration goals.	As shown in Table 6 of the Proposed Plan and this ROD, concentrations of mercury in fillets of edible-size fish collected from the Geddes Brook/Ninemile Creek site averaged about 0.6 mg/kg wet weight (mg/kg) with a maximum detection of 2.5 mg/kg. Additional discussion of fish tissue data can be found in the ROD. The selected remedy is intended to achieve fish tissue mercury concentrations ranging from 0.1 mg/kg, which is for protection of ecological receptors, to 0.3 mg/kg, which is based on EPA's methylmercury National Recommended Water Quality criterion for the protection of human health from elevated risks due to consumption of fish.
Bill Morris	OC12.a. (transcript page 71)	The commenter questioned the method of transport of dredged material to the disposal site and clean material to replace it.	Contaminated sediments and soils dredged/excavated from the site will likely be transported to the LCP Bridge Street containment area and/or the SCA at Wastebed 13 by truck and/or as a slurry to the SCA via a pipeline to be constructed for the lake remedy. The transport method and final disposal location will be determined during design. The source of replacement material (clean backfill and habitat layer material) will be determined during design. It is assumed that these materials would be trucked to the Site.

RESPONSIVENESS SUMMARY

ATTACHMENT 2

Letters/Email Submitted During the Public Comment Period and Oral Comments Received During the Public Meeting

Commenter 1

JOSEPH J. HEATH
ATTORNEY AT LAW
716 EAST WASHINGTON STREET
SUITE 104
SYRACUSE, NEW YORK 13210-1502
315-475-2559
Facsimile
315-475-2465

July 3, 2009 **VIA E-MAIL and FIRST CLASS MAIL**

Mr. Timothy Larson, P.E.
Remedial Bureau D
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York, 12233-7016

RE: Geddes Brook / Ninemile Creek OU2 Proposed Plan

Dear Mr. Larson:

I am writing on behalf of the Onondaga Nation, for whom I am General Counsel, regarding the Geddes Brook / Ninemile Creek Operable Unit 2 Proposed Remedial Action Plan, provided to the Onondaga Nation under consultation with DEC and Honeywell.

The Onondaga Nation would like to thank the DEC for the opportunity to review and comment on the documents related to this portion of the Onondaga Lake Superfund Site. As noted in the Nation's March 31, 2009 comments on the Feasibility Study for Geddes Brook /Ninemile Creek OU2 (attached), the Nation is strongly concerned that not enough information exists regarding the type and distribution of contaminants in this site to make informed decisions regarding the best remediation for the site. This is due to significant data gaps within this site, as well as the fact the results for the Wastebeds 1-8 Remedial Investigation are not yet available. 1.a.

Wastebeds 1-8 are adjacent to this site, and the elevation change to 80 feet of waste material is certainly contributing surface and groundwater flow to Ninemile Creek, including backflow which will affect and possibly recontaminate OU-2. The Onondaga Nation is not reassured by the statement made by the DEC in our April 21, 2009 conference call that "not much" from Wastebeds 1-8 is affecting Ninemile Creek, and suggests that further study is needed. 1.b.

It also appears that the location and depth of contaminated sediment removal is based solely on mercury concentrations. This does not seem appropriate in a creek that is also contaminated by Hexachlorobenzene, Benzo(a)pyrene, PCBs, Arsenic, Lead, PAHs, and 1.c.

judging by their presence at upstream sites, VOCs, SVOCs, Xylene, pesticides, and cyanide.

Additionally, the Nation would like to express its deep concern for the forested wetland (SWY-10) adjacent to Ninemile Creek that has suffered contamination. Particularly in this case, the Onondaga Nation advocates for further sampling, in the hopes that some areas of the wetland may be spared the destruction of the cleanup activities. However, decisions regarding whether or not a particular area will be cleaned up must be based on knowledge, not on the lack thereof. It is also important that in the remediation of this site, deed restrictions or other mechanisms be put into place to ensure that this area will have the opportunity to again grow into a forested wetland. There is not enough of this type of ecosystem left along the shores of Onondaga Lake. 1.d.

Sincerely,

Joseph J. Heath

Enc.

cc: Onondaga Nation Council of Chiefs
Donald Hesler, DEC Division of Remediation

JOSEPH J. HEATH
ATTORNEY AT LAW
716 EAST WASHINGTON STREET
SUITE 104
SYRACUSE, NEW YORK 13210-1502
315-475-2559
Facsimile
315-475-2465

March 31, 2009 **VIA E-MAIL and FIRST CLASS MAIL**

Mr. Timothy Larson
Project Manager, Remedial Bureau D
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York, 12233-7016

RE: Geddes Brook / Ninemile Creek OU2 Supplemental FS Report

Dear Mr. Larson:

I am writing on behalf of the Onondaga Nation, for whom I am General Counsel, to submit comments on the DRAFT Onondaga Lake Dredging, Sediment Management, & Water Treatment Initial Design Submittal, provided to the Onondaga Nation as part of NYSDEC's ongoing consultation with the Nation concerning the clean-up of Onondaga Lake.

Background and the Nation's Interconnectedness with the Lake:

The region of Onondaga Lake and the Onondaga Lake watershed has been the homeland of the Onondaga since the dawn of time. The Nation has been the trustee and steward of Onondaga Lake since time immemorial and will continue to be so forever, as that is what is mandated by the *Gayanashagowa*, the Great Law of Peace. In the 1794 Treaty of Canandaigua the United States government recognized Onondaga Lake as part of the Onondaga Nation's aboriginal territory.

The Lake is the spiritual, cultural and historic center of the Haudenosaunee Confederacy. Over one thousand years ago, the Peacemaker brought the Mohawk, Oneida, Onondaga, Cayuga, and Seneca Nations together on the shores of Onondaga Lake. At the lakeshore, these warring Nations accepted the message of peace, laid down their arms, and formed the Haudenosaunee Confederacy. The Confederacy was the first representative democracy in the West.

To symbolize the Confederacy, the Peacemaker chose a white pine, the Tree of Peace. The Peacemaker chose the white pine because the white pine's needles are clustered in groups of five, just as the five founding Nations of the Confederacy clustered together for strength. The boughs of the white pine represent the laws that protect all the people. An eagle was placed at the top of the tree to watch for danger from without and within. Four white roots of peace reach out in the four directions towards anyone or any Nation who wishes to come under this tree of peace.

As the birth place of the Confederacy and democracy, the Lake is sacred to the Haudenosaunee. The Onondaga Nation has resided on the Lake and throughout its watershed since time immemorial, building homes and communities, fishing, hunting, trapping, collecting plants and medicine, planting agricultural crops, performing ceremonies with the natural world dependent on the Lake, and burying ancestors – the mothers, fathers and children of the Onondaga Nation. The Onondaga Nation views its relationship to this area as a place where we will forever come from and will return to.

It brings great sadness to the people of the Onondaga Nation that despite their long stewardship of the Lake and its watershed, it took only one hundred years of abuse to wreak havoc to the Lake, its tributaries and all the plants, animals and marine life that depend on the Lake and its watershed. Industry interfered with the Onondaga Nation's relationship to the land and disturbed the ancestors that were interred throughout the watershed – either by direct excavation or contamination, or indirect efforts such as construction on top of grave sites. The Onondaga Nation wishes to bring about a healing between their homelands around the Lake. They must in order to protect the future generations "whose faces are looking up from the earth."

In the spirit of its treaties with the United States, the Nation will continue to provide its perspective to the federal and state governments on the actions undertaken with respect to Onondaga Lake. The Nation remains committed to contributing to the healing of relationship between the people of Central New York and the land. In furtherance of that goal, the Nation has committed substantial resources to understanding the actions taken with respect to Onondaga Lake. Wherever possible, the Nation will continue to share its understanding and knowledge with the public and with New York State and the United States.

The Onondaga Nation is committed to maintaining its sovereignty and its independence. Nothing in this document or in any action taken by the Nation should be construed in any way as implying approval or agreement with any NYSDEC decisions or actions which fall short of fully remediating and restoring all natural resources in the

Nation's aboriginal territory.

Overview

We understand that the purpose of the Feasibility Study is to develop, screen and evaluate alternatives for remedial action. See 40 CFR 300.430(e). Because of gaps in the consultation process prior to this date, the comments presented here go further in scope to the adequacy of the investigation to support an adequate FS and reach into the future to consider likely concerns with the remedial alternatives evaluated here. On balance, however, the Nation strongly believes that this FS clearly demonstrates that additional study is needed to adequately characterize this site to ensure that the alternative remedial measures go as far as possible towards eliminating, reducing or controlling risks to human health and the environment. See 40 CFR 300.430(a). 1.e.

Adequately Characterize the Site

The Sampling is Spatially Inadequate. 1.f.

It is vitally important the Feasibility Study document that any remedial alternative is is fully protective of the public health and the environment. This FS is based on limited sampling. For example, there is no sampling below the depth of 2-3 feet deep in the floodplains and wetlands.. As a result, the FS evaluates remedial alternatives that are based on the assumption that dredging 2-3 feet of soils will be protective. In light of the relative mobility of contaminants and duration of deposition of the contamination at this site, the sampling depth of 3 feet is inadequate to fully characterize the site. The Nation respectfully requests that NYSDEC require additional sampling to a greater depth to support any decisions on the remedial alternative for this site.

The Sampling Omits Important Contaminants 1.g.

In addition, the sampling failed to account for the full range of contaminants of concern. For example, in the channel, PCBs, Arsenic, and Lead were sampled only at the two bends and not along the reach of the stream; all other samples in the channel looked solely at mercury. Similarly, a range of contaminants (Hexachlorobenzene, Benzo(a)pyrene, PCBs, Arsenic, Lead, Mercury, and Total PAHs) were only sampled for on the edges of the wetland and near 1-690; there was no sampling for anything other than mercury along the length of Wastebeds 1-8 or in the center of the wetland. Seeing as the wastes in Wastebeds 1-8 have not been adequately characterized at this point, this is deeply concerning. Further testing in Wetland SYW-10, in and around Ninemile Creek, and also of Ninemile Creek's surface waters near points of elevated specific conductivity should be required before any decisions regarding an adequate remedy may be made.

The source of contamination to Geddes Brook and Ninemile Creek was primarily the LCP Bridge St. Plant and other industries on that property, which produced more

contaminants of concern than just these listed above. Based on the characteristics of the contamination present at the other sites, sampling should include analysis for the presence of VOCs, SVOCs, Xylene, pesticides, and cyanide. Each of these contaminants has been found or tested for either upstream at the LCP Bridge Street Site or Wastebeds 1-8.

The FS documents areas characterized by elevated specific conductivity resulting from the leaching from the Solvay Wastebeds. These areas should be further sampled for a wider range of contaminants known to be present in or co-mingled with the Solvay Waste. The FS indicates that there is a long stretch of Ninemile Creek that has only been sampled for mercury in the sediments. Without a broader range of sampling to characterize the leachate, it will not be possible to adequately determine and justify a remedy for this site.

Another example of the effects of limited sampling is the proposal in Alternative 4 to leave the upland forested wetland untouched. This decision is not adequately supported by the availabe data. Specifically, in the only sample taken in this area that was tested for a range of contaminants beyond mercury, a high concentration of benzo(a)pyrene was documented. Further testing is clearly necessary to identify and evaluate remedial alternatives for this portion of the site.

Finally, we note that there appears to be an error in the units for lead and arsenicin the data tables for this report. This is deeply concerning, as there is a large difference between parts per billion and parts per million. In order to be confident in the data that is presented can be relied upon, it is essential that these details be correct. Errors of this nature raise questions about whether the data has been appropriately analyzed and that the appropriate risk and hazard analysis will be applied. 1.h.

Coordinate Remediation with Wastebeds 1-8

The timing of the remediation of this site is a complex issue, given all of the other subsites that affect it. In particular, the upstream / upgradient sites need to be addressed prior to remediation of this site to prevent re-contamination. LCP Bridge Street OU2 (xylene plume) is only at the FS stage; Wastebeds 1-8 is at the RI stage. Both pose a threat of further contamination of Ninemile Creek. Therefore, the selection of a remedial alternative should be coordinated with the selection of a remedy and restoration options for Wastebeds 1-8. 1.i.

Avoid Precluding Habitat Restoration Options

Most engineers would agree that streams "have a mind of their own", although they still mistakenly believe it to be possible to control a stream, to bend it to the will of humans. When designs fail, they go back to the drawing board and build their design bigger and stronger, to imprison the stream once again, for a time. But a stream is an entity unto itself. 1.j.

When we respect the inherent nature of a stream, and its need to move, meander, and flow through a series of riffles, runs, and pools, we enable the stream to be much healthier. Riprap is second only to concrete in the harm that it does to an aquatic ecosystem, as it forces a stream into unnatural shapes which the stream will then resist against. The Nation is especially concerned about the proposed "armor layer" and any "chemical isolation layer." Creating a uniform bottom to the creek out of materials which do not have the ability to shift and move decreases the habitat that the creek might provide unless this remedy is coordinated with that for Wastebeds 1-8. Recontamination and structural problems with both remedies can be avoided by creating a remedy that allows the Creek to over time, move the "immovable" objects, and shift its banks. Whether or not gravel is an appropriate substrate is also questioned, noting the surrounding wetlands. A silt or muck-bottom may be more appropriate. Cleanup objectives should meet levels that are protective regardless of the substrate being placed.

Protect Fish Habitat

Ninemile Creek is a known trout stream. Any remedy should ensure that suitable habitat exists for cold water fish passage up from Onondaga Lake. Equally as important, all contamination needs to be removed so that fishermen and women, especially those who fish for subsistence use, are protected. As discussed above, adequate chemical characterization and sampling of the site is critical to ensure that the potential effects on the fish populations are adequately evaluated. 1.k.

Protecting native vegetation and forest ecosystems

A survey of the wetland plants in SYW-10 and along the floodplains is needed prior to work commencing, so that any rare, protected, or native plants might be saved and transplanted prior to the area being disturbed. This is particularly the case with SWY-10, which is a stable forested wetland. If any section of this wetland is uncontaminated and can be left undisturbed, it should be, to promote the re-establishment of this forest ecosystem. In the future, after remediation is complete, planting of native trees along Ninemile Creek would provide shade, habitat, and food for the macroinvertebrates in the stream. 1.l.

Protect Wildlife During and After Remediation

The FS should address the steps that will be taken during the remediation work to protect all birds and animals, including large and small four-legged animals as well as insects and bats, which live in the wetland and floodplains. In addition, it is important to document the steps will be taken to restore their habitat once the remediation work is done. 1.m.

Additional Concerns

Conclusion

Operable Unit 2 of the Geddes Brook/Ninemile Creek subsite of the Onondaga Lake NPL site does not exist in isolation, but is part of an interconnected whole. NYSDEC must view this site in the context of the best thinking that can be brought to bear. NYSDEC should not limit its review to merely ensuring that the minimal requirements of the NYSDEC and EPA regulations are met. Those regulations require that sufficient site characterization and analysis are conducted to ensure that the alternative remedial measures eliminate, reduce or control risks to human health and the environment. However, NYSDEC should evaluate the site in the context of the larger forces which inform our understanding of the natural world, and the interconnectedness of all things. Viewed in this light, it is clear that none of the remedial alternatives presented in this document are adequate, because the site has not been adequately characterized or understood either in the context of the regulations or in this broader context. NYSDEC must require Honeywell to collect further information to inform its assessment of this site, particularly regarding the impacts from WB1-8, the contamination in the wetland, and depth of contamination to understand what remedy is appropriate. 1.n.

Please contact me directly, or Lindsay Speer of my office if you have any questions about these comments.

Sincerely,

/s/ Joseph J. Heath

Joseph J. Heath

cc: Onondaga Nation Council of Chiefs
DEC Commissioner Alexander P. Grannis
EPA Region 2 Regional Administrator
Don Hesler, DEC
Richard Mustico, P.E., LCP Bridge Street Project Manager, DEC
Robert Nunes, EPA
Susan Edwards, Wastebeds 1-8 Project Manager, DEC

JJH/les

Commenter 2

Joanne M. Mahoney
County Executive

County of Onondaga
Office of the County Executive
John H. Mulroy Civic Center, 14th Floor
421 Montgomery Street, Syracuse, New York 13202
Phone: 315.435.3516 Fax: 315.435.8582

Jean M. Smiley
Administrator for Physical Services

June 29, 2009

JUL - 7 2009

Timothy Larson
NYS Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Dear Mr. Larson:

I offer the following comments with regard to the Proposed Plan for Operable Unit 2 (OU2) of the Geddes Brook/Ninemile Creek site. The County, as owner of the site, is very interested in seeing the State and Honeywell achieve stated remedial goals for the site. The site is within the County's most used park, adjacent to what will soon be an important extension of the park's west shore trail, and is part of the shoreline on a lake where hundreds of millions of public and private dollars are being spent to restore a valuable resource that has been lost to this community for too many years. 2.a.

The County's comment at this time has to do with SYW-10, the forested wetland north of Ninemile Creek and contiguous with the planned route of the Park's west shore trail extension. Such wetlands are relatively rare in this locale. When the west shore trail extension was planned, it was anticipated that trail users would be able to view and enjoy this ecological feature. Consequently, it was discouraging to see that in order to meet remediation objectives, it might be necessary to entirely destroy most, if not all, of this unique landscape. 2.b.

The County's request at this time is that DEC and Honeywell remain as flexible as possible, without compromising remediation goals, in developing and implementing remediation plans for the site with an eye toward preserving as much of this forested wetland feature as practical. It is understood and appreciated that tentative plans call for restoring the ecological integrity of the site if remediation efforts require destruction of the existing wetland. However it is also our understanding that such restoration efforts would take decades to realize and that the outcome of restoration is not certain. If remediation and restoration objectives can be met without leaving a significant amount of contamination on site and suffering the loss of this valued feature for several decades, we are hopeful that the State and Honeywell can and will act with sufficient flexibility to revise the remedy or the manner of its proposed implementation so as to maximize removal of contaminants while preserving this unique resource.

Respectfully,

Jean M. Smiley
Administrator for Physical Services

cc: David Coburn
Joanne M. Mahoney
John McAuliffe

Commenter 3

ATLANTIC STATES
LEGAL FOUNDATION, INC.

03 July 2009

Mr. Timothy Larson, P.E.
Remedial Bureau D
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7016

Re: Geddes Brook / Ninemile Creek OU2 Proposed Plan

Dear Timothy Larson:

The attached comments represent Atlantic States Legal Foundation's formal submittal to the hearing record for the PRAP for Geddes Brook/Ninemile Creek OU2 Subsite of the Onondaga Lake Superfund Site.

The comments submitted have been prepared by Atlantic States Legal Foundation with the assistance of our technical consultants Hughes Consulting. Financial support for employing these technical consultants is acknowledged from the EPA TAG program.

If our comments require further clarification or elaboration, we will be happy to provide supplemental materials to you.

Very truly yours,

Samuel H. Sage, President

Cc: Robert Nunes
Donald Hesler

658 West Onondaga St. Syracuse, NY 13204-3711 (315) 475-1170 FAX (315) 475-6719 Atlantic.States@aslf.org

Comments of Atlantic States Legal Foundation
on Operable Unit 2 of the Geddes Brook/Ninemile Creek Site,
Onondaga County, New York

July 3, 2009
prepared by Donald Hughes, Hughes Consulting Services

3.a.

ASLF applauds the efforts of the NYSDEC and Honeywell Inc. to clean up the extensive contamination that exists in Geddes Brook and Ninemile Creek. This cleanup effort is long overdue; these tributaries have suffered from decades of abuse from both the Wastebeds and discharges from the LCP facility, as well as runoff from numerous landfills and other industrial operations. Honeywell/Allied Chemical's past operations have resulted in extensive deposits of Solvay waste, extensive calcite precipitation, and contamination from a host of substances including hexachorobenzene; mercury, other toxic elements; PCBs; PAHs; and polychlorinated dibenzo-dioxins and -furans— among the most notoriously toxic substances known. The tributaries and wildlife that frequent them, and people who live near, drive by and recreate there have paid a terrible price for these many decades of abuse.
ASLF agrees that the preferred alternative, #3, is far better than Alternative #2. Further, we are glad to see the NYSDEC and USEPA are recommending the SCA as an option for disposal of the contaminated sediments and soils from Operable Unit 2. ASLF repeats its assertion that: **The former LCP chlor-alkali facility, despite its status as a remediated site, is NOT a suitable disposal site.**Please refer to comment #2 of Comments of Atlantic States Legal Foundation on Operable Unit 1 of the Geddes Brook/Ninemile Creek Site, Onondaga County, New York, submitted to NYSDEC in January 2009.

However, ASLF has several concerns regarding the Proposed Plan for Operable Unit 2. The concerns are based on a detailed review of the Proposed Plan, the Remedial Investigation Report (TAMS, 2003), and related documents. In general, we note that:

1) The data used to support the selection of an alternative are inadequate.

2) There is far too much emphasis being placed on mercury. The Remedial Investigations have clearly shown that, in addition to mercury, there are a host of both inorganic and organic contaminants of concern. The Fact Sheet for this Plan identifies lead, arsenic, hexachorobenzene, phenol, PCBs, PAHs, and polychlorinated dioxins and furans in addition to mercury. The HHRA also identifies DDT (and its metabolites) and dieldrin as exceeding human health criteria, due to their concentrations in fish tissue. Most of the above contaminants pose significant ecological risks as well. In addition, zinc and aluminum have been specifically identified as substances which cause ecological risk.

3) The schedule seems unduly rushed to accommodate construction of a recreational trial by Onondaga County. Selection of an alternative should probably be delayed for several reasons. The data—particularly for sediments— are inadequate at this point, so much so that the calculated volumes of sediments requiring removal could be seriously in error. In addition,

there is considerable uncertainty surrounding remediation of Wastebeds 1-8 which abut Operable Unit 2.

4. Uncorrected injuries to the environment must be addressed under Natural Resources Damage Assessment (NRDA).

<u>Comment 1.</u> The existing data are inadequate to support the Proposed Plan. 3.b.

A central feature of Alternative 3, which is the selected ("preferred") alternative, is the division of Ninemile Creek Reach AB into two segments; the lower 1,600 ft (500m) and upper 1,100 ft (340m). This division is based on the presence of "a natural formation of uncontaminated marl." The marl layer is supposed to exist in the lower 1,600 ft., ending at or near Station 19+00. The marl layer is said to be only 1-2 feet below the sediment surface, so that only the top layer of sediments need to be removed. However the data underlying this demarcation are sketchy at best.

Data presented in the RI Report (TAMS and YEC, 2003), and in the Proposed Plan, show that sediment cores were collected at the following stations (sediment transect number):

- 11+00 (TN-2)
- 19+00 (TN-3)
- 24+00 (TN-4)

Thus, there is a gap of ~800 ft between TN-2 and TN-3, and a gap of ~500 ft between TN-3 and TN-4. Marl was found at TN-2 and TN-3, but not at TN-4. At TN-4, as well as upstream sites there are extensive deposits of Solvay waste. Due to the large gaps between the transects, there is considerable uncertainty about the marl layer. Furthermore, the presence or absence of the marl layer does not necessarily mean that the contamination ends there. See Comment #2.

In contrast, maps shown in the WorkPlan for Wastebeds 1-8 show the marl layer extending under all of Reach AB, which contradicts the assumption that the marl layer ends at station 19+00.

<u>Comment 2.</u> There is far too much emphasis being placed on mercury as a measure of cleanup. Other chemicals of concern, including lead, arsenic, hexachorobenzene, phenol, PCBs, PAHs, and polychlorinated dioxins and furans must be monitored. 3.c.

The Proposed Plan (p.66, Footnote 10) notes that

> "A Pre-Design Investigation (PDI) will be performed to gather additional channel sediment data from Reach AB. The data will be reviewed during design to determine the appropriate depth of sediment removal. This will include an evaluation of the vertical and areal distribution of *mercury*, potential post-removal residual concentrations, the potential thickness and type of backfill materials,..."

There is no mention of collecting data for other contaminants. This presupposes that other contaminants follow the same contamination pattern as mercury—that when mercury is

removed, everything else will be removed as well. However, the data, limited as they are, clearly indicate that this is NOT the case.

Attached to these comments (Appendix A) are a collection of figures taken from Appendix K of the Remedial Investigation Report (TAMS and YEC, 2003). These figures show the vertical patterns of contamination in sediment cores taken from Reach AB. The first five figures show the distribution of mercury in cores form transects TN-1 through TN-5. These show that, by removing the top ~60-75 cm of sediments in Reach AB, one will very effectively reduce mercury concentrations.

However, other contaminants do not show the same pattern of concentration versus depth. For example, hexchlorobenzene (Figure 6) reaches a maximum concentration of ~500 ug/kg in core TN5-1 a depth of 75-105 cm. This pattern is *completely different* from the pattern observed for mercury. Other contaminants, namely arsenic (Figures 7 and 8) and iron (Figures 9 and 10) also display patterns which are very dissimilar to that of mercury. Note also that arsenic occurs in excess of the Severe Effects Level (33 mg/kg) identified as causing toxicity to benthic life.

These patterns demonstrate that Honeywell, with the oversight of NYSDEC and USEPA, must undertake the PDI and demonstrate cleanup objectives for contaminants in addition to mercury. Hexachlorobenzene is of particular concern, because it is highly bioaccumulative, toxic, and have been identified, along with mercury and PCBs, as a persistent toxic substance slated for "virtual elimination" in the Great Lakes (International Joint Commission, 1992, and many later reports).

As noted in our previous comments:
"Hexachlorobenzene (HCB) occurs at alarmingly high concentrations is the sediments of both Geddes Brook and Ninemile Creek. HCB is above the wildlife bioaccumulation criteria of 252 μg/kg in many cores, especially at depths greater than 75 cm (see Figure 5-10, GB/NMC RI; TAMS, July 2003)." Referring to data pertaining to Operable Unit 1, we stated: "*The human health criterion of 3.15 μg/kg is exceeded in every sample, at all depths. ASLF recommends that HCB be used, in addition to mercury, as a primary indicator of whether portions of the site are adequately cleaned up.*

<u>Comment 3.</u> The schedule for a decision on the remediation of Operable Unit 2 appears to be rushed. 3.d.

When the plan for Operable Unit 1 were released in November 2008, and discussed at a public meeting in December, it was stated that the plan for Operable Unit 2 would be contingent on a decision, or at least a better understanding of, the contamination issues associated with Wastebeds 1- 8. The Remedial Investigation for Wastebeds 1 – 8 has yet to be made public, nor has a Feasibility Study been produced. Obviously no plan of action has been proposed for these Wastebeds. The rush to produce a Plan, and thereby a ROD, for OU2 appears to be due to Onondaga County's desire to construct a recreational trail across Ninemile Creek and onto the Wastebeds. This is not appropriate, given that there are significant amount of benzene, toluene,

xylenes (BTEX) as well as phenol contained in the wastebeds. These contaminants are mobile, and may already be leaching into Ninemile Creek.

<u>Comment 4.</u> Uncorrected injuries to the environment must be addressed under Natural Resources Damage Assessment (NRDA). 3.e.

The State and USEPA must recognize that this remediation effort will not correct many injuries inflicted on Geddes Brook and Ninemile Creek. In particular, meanders that were destroyed due to construction of Wastebeds 1-8, followed by Wastebeds 9-11, will not be restored under thie proposed Remedy. While ASLF applauds the creation of habitat along Geddes Brook, this does not compensate for the loss of significant wetlands and stream sinuosity in Ninemile Creek. This loss should be compensated through the NRDA.

Appendix A.
Contamination Patterns Observed
in Sediments within Reach AB

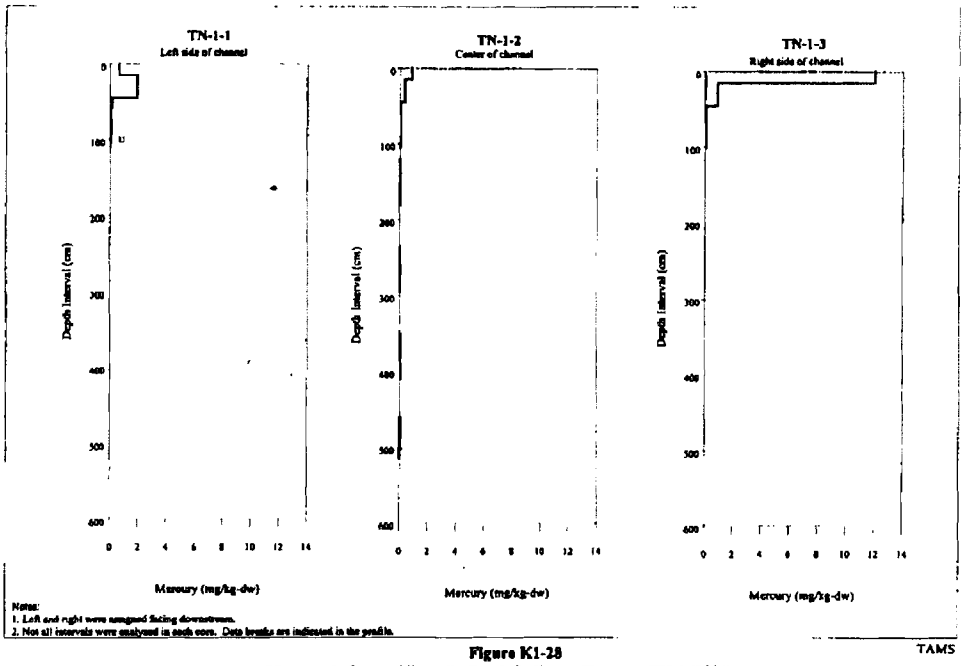

Figure K1-28
Mercury in Lower Ninemile Creek Sediment Transect TN-1 (2001)

Figure 1. Mercury, transect TN-1

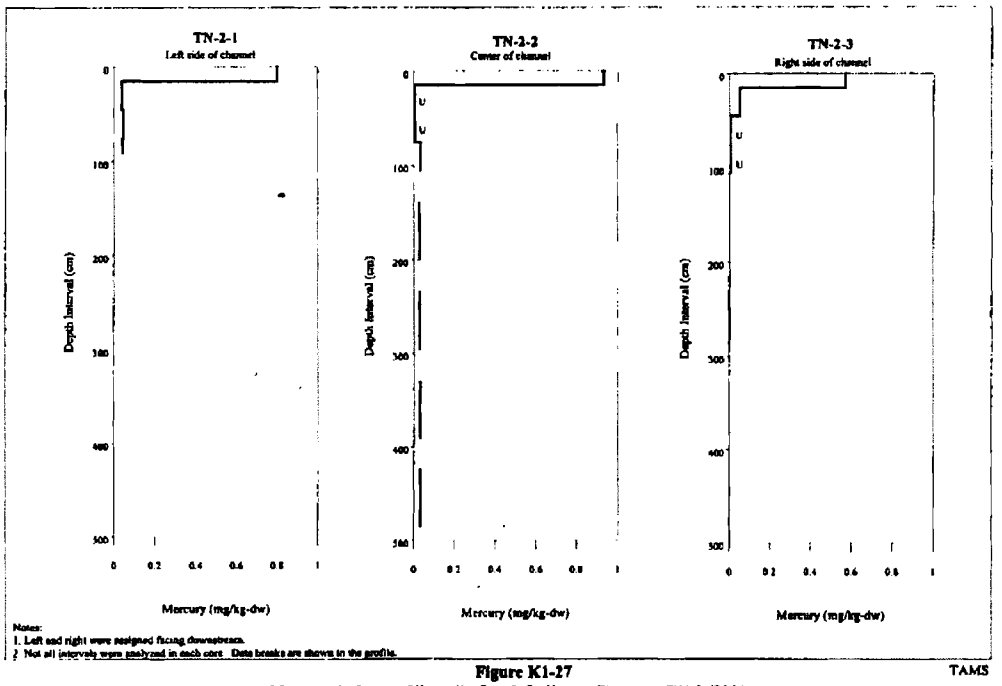

Figure K1-27
Mercury in Lower Ninemile Creek Sediment Transect TN-2 (2001)

TAMS

Figure 2. Mercury, transect TN-2

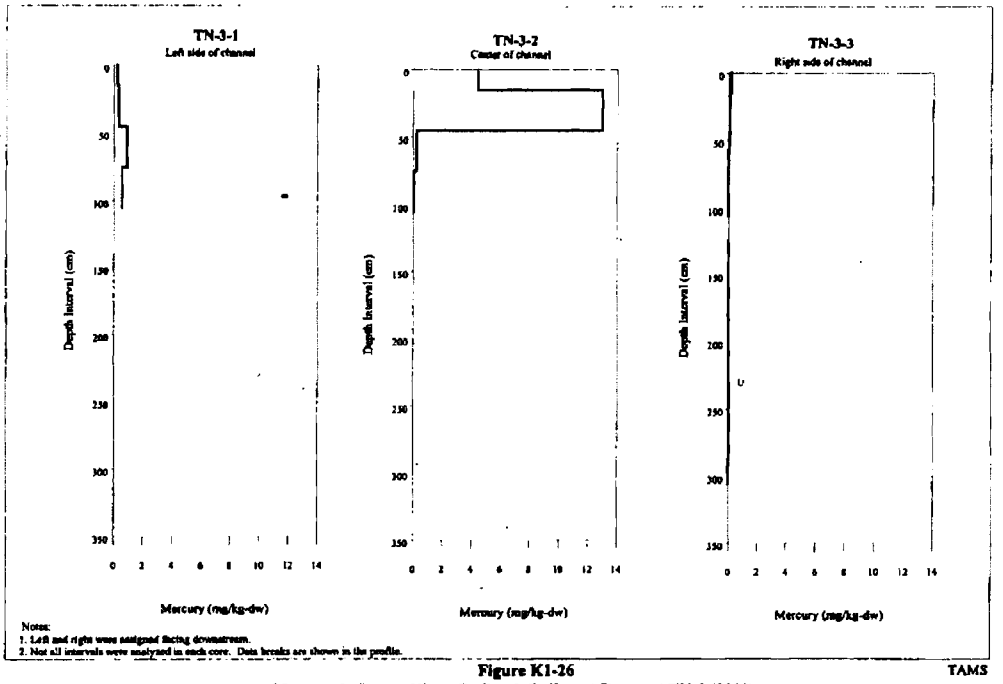

Figure K1-26 TAMS
Mercury in Lower Ninemile Creek Sediment Transect TN-3 (2001)

Figure 3. Mercury, transect TN-3

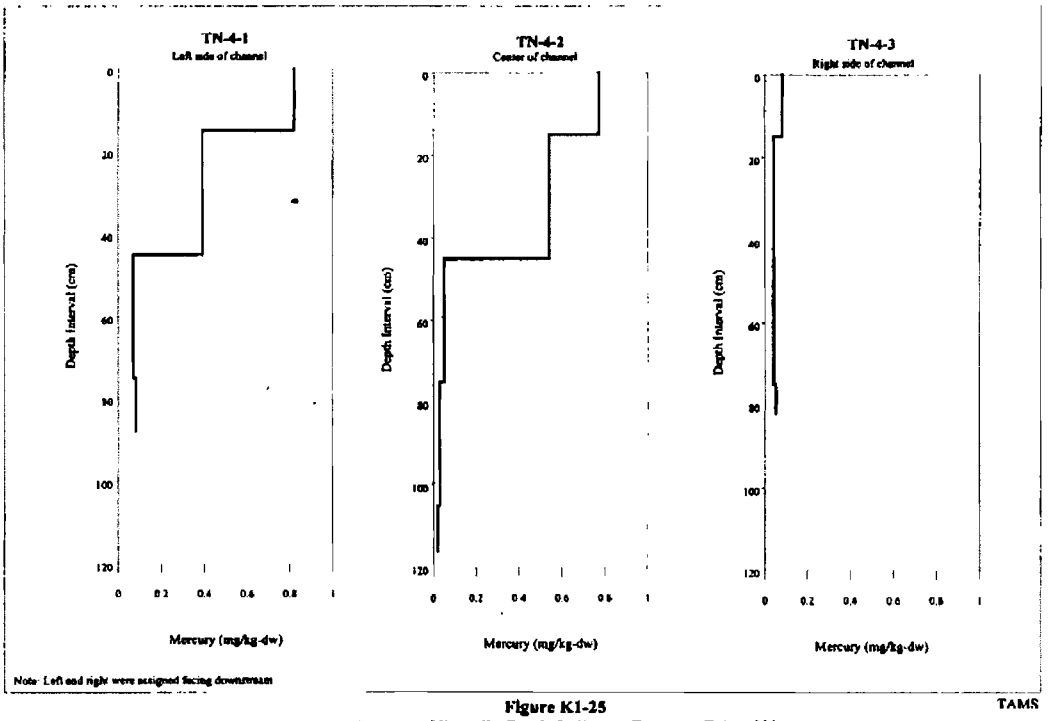

Figure K1-25
Mercury in Lower Ninemile Creek Sediment Transect TN-4 (2001)

Figure 4. Mercury, transect TN-4

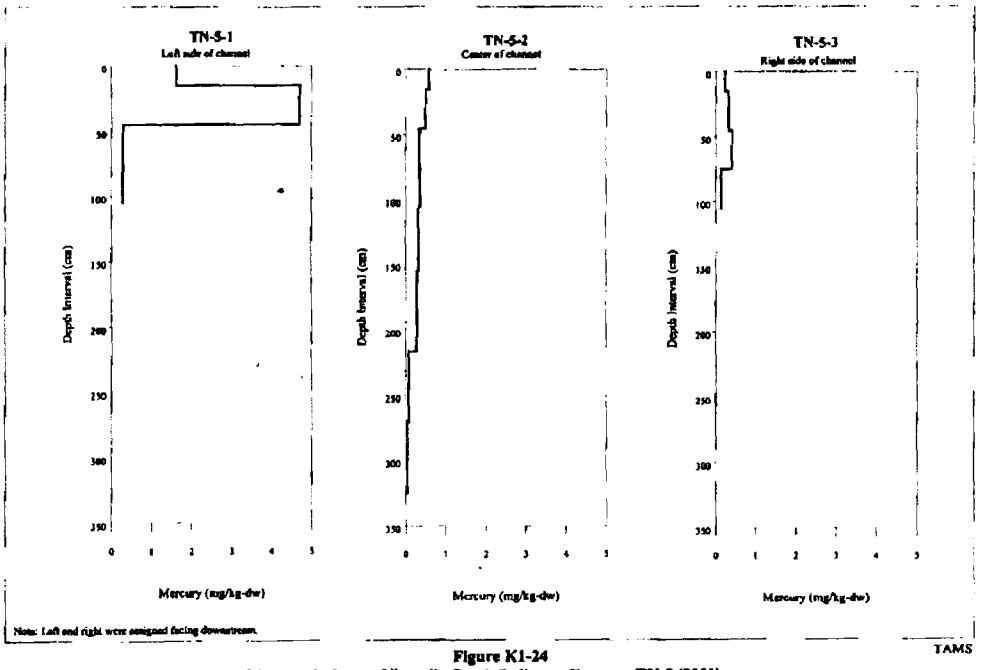

Figure K1-24
Mercury in Lower Ninemile Creek Sediment Transect TN-5 (2001)

Figure 5. Mercury, transect TN-5

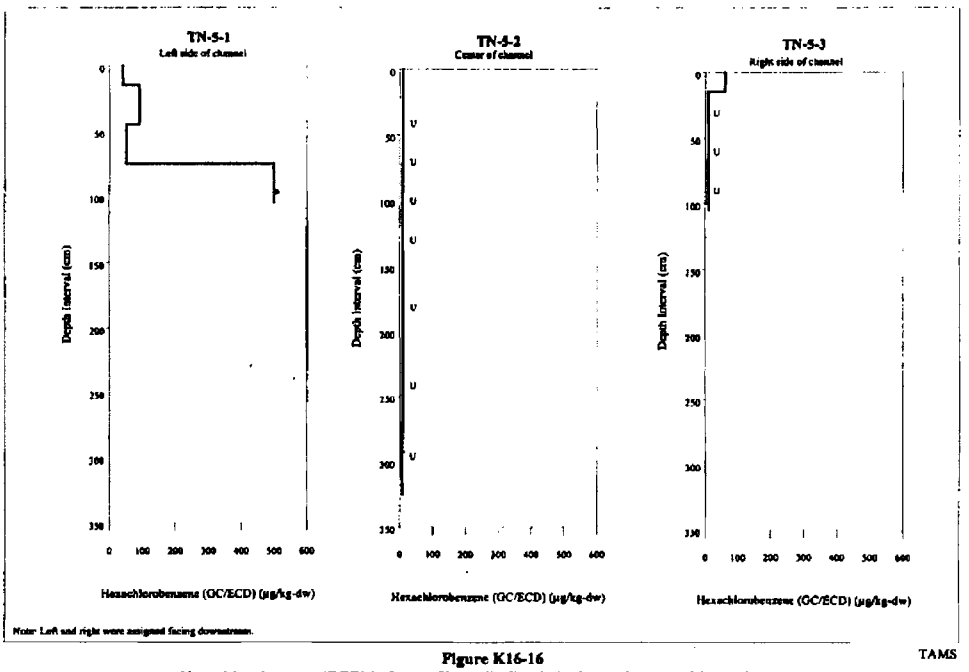

Figure K16-16
Hexachlorobenzene (ECD) in Lower Niagara Creek Sediment Transect TN-5 (2001)

TAMS

Figure 6. Hexachlorobenzene, transect TN-5

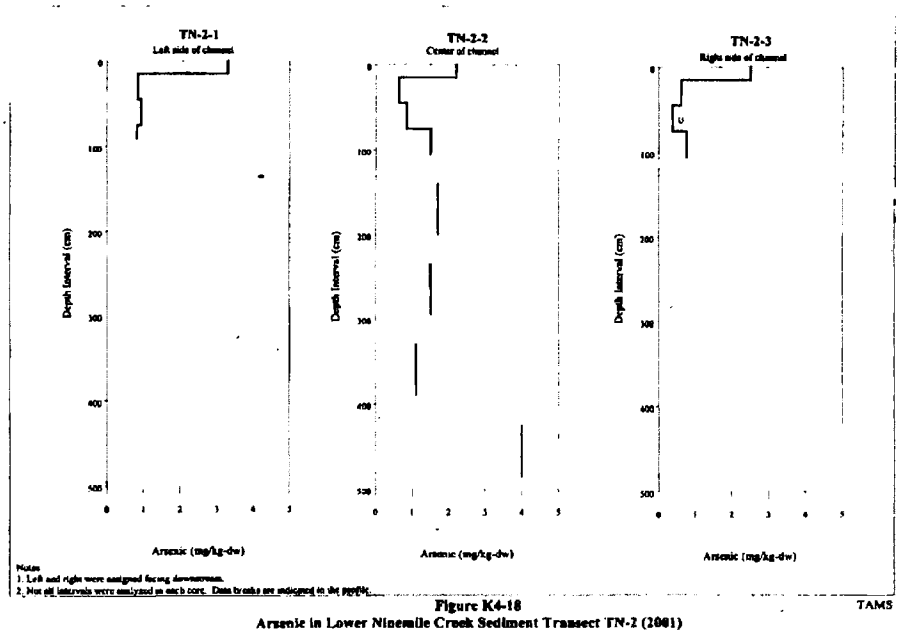

Figure K4-18
Arsenic in Lower Ninemile Creek Sediment Transect TN-2 (2001)

Figure 7. Arsenic, Transect TN-2

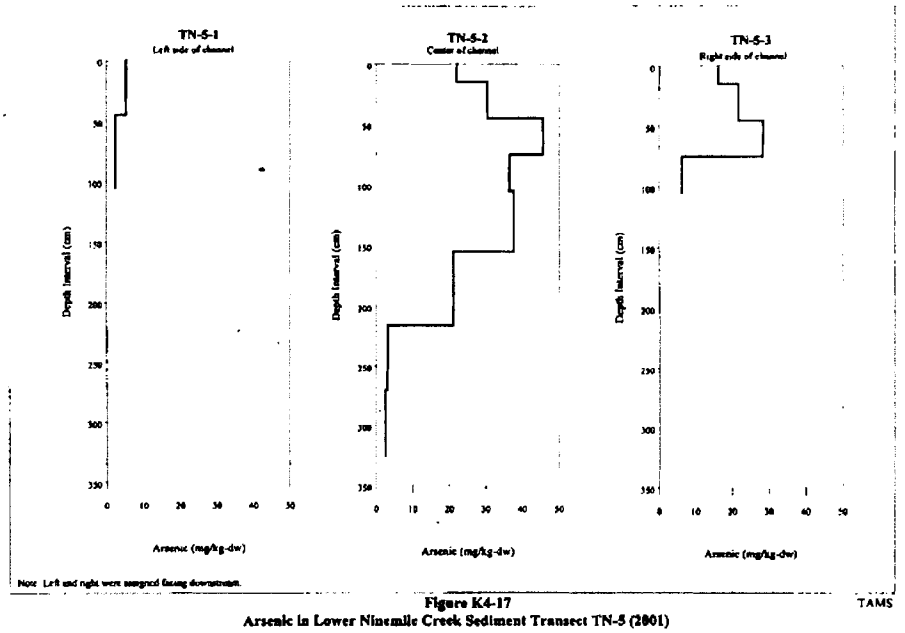

Figure K4-17
Arsenic in Lower Ninemile Creek Sediment Transect TN-5 (2001)

Figure 8.Arsenic, Transect TN-5

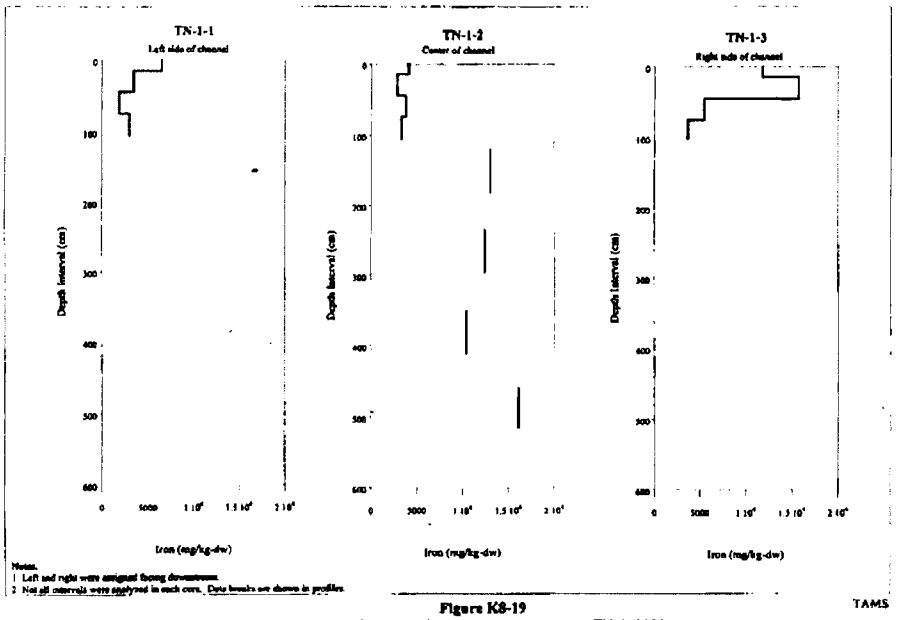

Figure K8-19
Iron in Lower Ninemile Creek Sediment Transect TN-1 (2001)

Figure 9. Iron, Transect TN-1

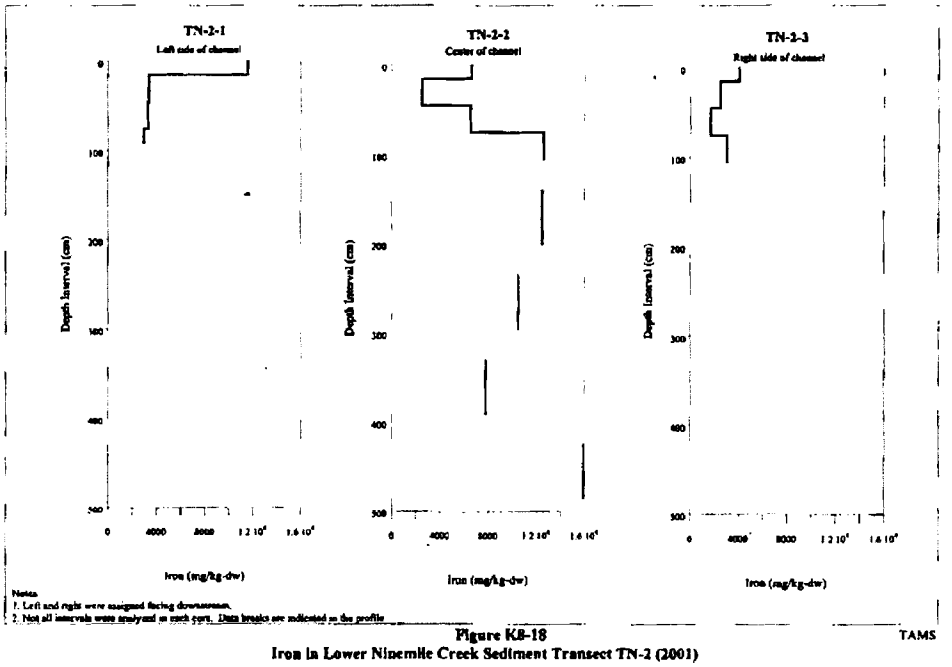

Figure KB-18
Iron in Lower Ninemile Creek Sediment Transect TN-2 (2001)

TAMS

Figure 10. Iron, Transect TN-2

Commenter 4

CITIZENS CAMPAIGN FOR THE ENVIRONMENT

❑ 225A Main Street • Farmingdale, NY 11735
516-390-7150
❑ 19 Court Street, Lower Level • White Plains, NY 10601
914-997-0946
❑ 744 Broadway • Albany, NY 12207
518-434-8171
❑ 735 Delaware Road, Box 140 • Buffalo, NY 14223
716-831-3206
❑ 466 Westcott Street, 2nd Floor • Syracuse, NY 13210
315-472-1339
❑ 129 Church Street, Suite 221 • New Haven, CT 06510
203-785-9080

Empowering Communities, Advocating Solutions.

June 24, 2009

Timothy Larson
Geddes Brook/ Ninemile Creek Site- Public Comments
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12233-7016

RE: GEDDES BROOK/NINEMILE CREEK OPERABLE UNIT 2

Citizens Campaign for the Environment (CCE) is an 80,000 member non-profit, non-partisan environmental advocacy organization that works to empower communities and advocate solutions that protect public health and the natural environment. CCE has 4,000 members in Onondaga County and continues to educate our members on the progress of the overall Onondaga Lake clean-up.

CCE commends the New York State Department of Environmental Conservation (DEC) for moving forward with upland remediation and creating actionable plans that provide clear remediation efforts for the overall remediation of Onondaga Lake. In general, CCE supports the clean-up plan proposed by the DEC and Honeywell for Geddes Brook/Ninemile Creek Operable Unit 2. CCE offers the following specific comments in relation to the clean-up and methods for communicating those plans/results to the public. 4.a.

1. **WASTE DISPOSAL**- Assuming that the LCP site has the capacity to safely store dredge materials over the long term, CCE supports the dredge/waste materials being stored at the LCP site or Wastebed 13, for the express purpose of continuing to hold Honeywell accountable for the contamination of those materials. To adequately address public concern over the storage and long-term control of those materials CCE recommends regular testing and reporting of the areas around the deposited dredge materials and installing a liner to alleviate these concerns. 4.b.
2. **WASTEBED REMEDIATION**- CCE is pleased that the proposed plan for Geddes Brook/Ninemile Creek OU2 addresses contamination from the wastebeds. CCE looks forward to the proposed plan for remediation of those wastebeds. CCE also fully expects that plans and monitoring regarding the wastebeds will be shared with the Citizen Participation Working Group. 4.c.
3. **CITIZEN PARTICIPATION WORKING GROUP**- CCE *again* strongly recommends that remediation of Geddes Brook/Ninemile Creek and any other additional upland remediation including but not limited to wastebeds and tributaries be subject to participation and review of the Citizen Participation Working Group. 4.d.

While CCE understands the expediency related to dividing these projects into operable units, it does not change the fact that the reason these sites are being remediated is from the contamination associated with Onondaga Lake. While in the minds of DEC, engineers, and the responsible party these are clearly defined different projects- they all impact the state of the Lake and should therefore be included in the transparency and public review of the Citizen Participation Working Group.

4. **DESIGN PHASE PUBLIC COMMENT**- The design phase for remediation of Geddes Brook/Ninemile Creek Operable Units 1 and 2 will include critical planning in relation to waste disposal, water treatment, new infrastructure, habitat disturbances, and dredging methods. These plans are without a doubt directly related to Onondaga Lake bottom clean-up, tributary remediation, and wastebed remediation. It is imperative that the DEC provide public comment periods, public hearings, and a full and robust explanation of WHY these plans were chosen and the alternatives, in a clear and publicly accessible manner. The citizens of Onondaga County must be engaged on these essential design plans, that the citizens will be forced to live with over the short and long term. 4.e.
5. **WEB-BASED REPOSITORY**- CCE also recommends, for the purposes of consistency and ease of communication, that Honeywell and the DEC construct a comprehensive web-based document repository. Records of Decision, proposed plans, and final decisions should all be posted- from Onondaga Lake bottom remediation to Geddes Brook/Ninemile Creek to the West Flume project. These documents should be housed with project updates and deadlines for public comment. As this comprehensive clean-up plan moves forward it is imperative that the DEC provides a clear overall picture of the projects that are impacting the health of Onondaga Lake and provide a clearer understanding of the reason why smaller projects are being done before the larger project of Lake bottom clean-up. 4.f.
6. **SIGNAGE**- CCE recommends that signage be placed along and near all project sites including but not limited to the Geddes Brook/Ninemile Creek projects and the Onondaga Lake shore. Again, this will solidify the whole of the actions and incorporate all the work being done in the area to clean-up Onondaga Lake, as all these are connected to the full health and restoration of the Lake. 4.g.

Thank you for your thoughtful consideration of CCE's' comments,

Best Regards,

Sarah Eckel
CNY Program Coordinator

cc: Adrienne Esposito, Executive Director
Dereth Glance, Executive Program Director

Commenter 5

From: derf mil <derfmil@yahoo.com>
To: <tjlarson@gw.dec.state.ny.us>
Date: 7/2/2009 6:50 PM
Subject: GB/NMC OU2 PP Comments

Nine Mile Creek Conservation Council,Inc.
P.O. Box 2501
Liverpool,NY 13089-2501
www.ninemileccc.org

Responses on matter to:

Fred Miller,President
7730 Apricot Lane
Liverpool,NY 13090
315-622-9400

July 2, 2009

Mr. Timothy Larson,PE
Project Manager
N.Y. State Department of Environmental Conservation
625 Broadway
12th Floor
Albany,NY 12233-7013
518-402-9789
tjlarson@gw.dec.state.ny.us

Re:Public Comment Submission to NYSDEC re:Comments Operable Unit-2 of the
Geddes Brook-Nine Mile Creek Site,Onondaga County,NY.
(GB/NMC OU-2 PP Comments),Proposed Plan dated 5/18/09.

Dear Mr. Larson:

The Nine Mile Creek Conservation Council,Inc.(NMCCC)is a river conservation group serving Nine Mile Creek and associated tributaries.The

organization is involved with a variety of river and watershed conservation and protection issues within our watershed.

On June 11th,2009 the NMCCC attended the DEC and EPA public meeting at the New York State Fairgrounds.Prior to that NMCCC attended a public information meeting on June 2,2009 provided by Honeywell at their offices regarding OU-2.

We support the clean up but hold several concerns: 5.a.

A)The data indicates groundwater mounding under Wastebeds 1-8.The gravel along the old 9 Mile creekbed could provide a convenient conduit for contaminated groundwater to flow south back into the creek post remediation resulting in recontaminating the sediments along the river.We have concerns that Solvay waste and related chemicals that were co-disposed/co-mingled(e.g.,benzene,toluene,PAH's)in Wastebed 1-8 can migrate into 9 Mile Creek through groundwater movements or erosion.More analysis on this situation needs to be considered. 5.b.

B)The marl layer is being utilized as a depth marker for excavation.The river was previously dredged.Thus the marl layer is only present near the lake and not further up-river.This issue needs to be given more thought with regard to obtaining the most effective excavation depths for maximal removal of contaminants. 5.c.

C)The discussion comparing Alternative 3(the preferred alternative in plan)with Alternative 4 includes the thought that long-term monitoring will ensure that Alternative 3 provides the same level of protection as Alternative 4.In our experience,long term monitoring is ineffective.It is important to get the remediation correct the first time and avoid revisiting to correct actions at a later date. 5.d.

D)The plan presented two options for the disposal of contaminated material at either the LCP site or Wastebed 13.The LCP site is not properly designed to accept contaminated materials.The NMCCC stated our position in our OU-1 letter of comment submission:"LCP is an unlined site and former industrial chemical plant.We have concerns with adding more contaminants to this already contaminated site and the pumping of ground water forever.Based upon monitoring various clean up proposals over the years we think Wastebed 13 to be a superior site with added engineering improvements and provides a more sensible selection for the GB-NMC waste".With proper controls to ensure that contaminated effluents do not reach Nine Mile Creek through the gravel deposits that underlie Wastebed 13 this is the better selection. 5.e.

E)We have concerns about the removal of the established forested wetlands along the northwest side of the river as part of the clean up plan.It 5.f.

appears that much of the mercury contamination in this area is the result of sediment deposition during flood events.It may not pose much of a threat if left undisturbed.More thought is needed whether to completely remove the trees,only partially or not at all.If completely removed it will take 50 plus years to reach maturity.We believe more thought on the solution for this area is in order.

F)The lower remediation area is owned by Onondaga County(Parks).The general community perception is this area is owned by Honeywell which is not the case.We see no evidence of a binding agreement for the long term which will protect the forest-wetlands in perpetuity against being converted into intensive recreational use(e.g.,ballfields,etc.).If the area is to be a wildlife habitat refuge it must not be fragmented and developed.This is a realtively small area.The area should remain whole and not broken into non-contiguous segments by trails,roads,etc.,as it will then not serve the purpose of a wildlife habitat refuge into the decades ahead.Clear language to that effect must be implemented into an agreement protecting the area into the decades ahead with certainty. 5.g.

G)We would like to see as thick a riparian buffer implemented along the 690 highway and up river under the highway bridges.We understand there are various N.Y.State Department of Transportation requirements for highway and bridge maintenance.With the large scope of the Nine Mile Creek remediation process all parties should look towards implementing some new concepts and ideas to obtain a significant riparian buffer in this area. 5.h.

We appreciate DEC holding the public session on June 11,2009.NMCCC looks forward to continuing involvement in the process.

Submitted for NMCCC from compiled comments and data.

Sincerely,
Fred Miller,President NMCCC

James A. Corbett
Onondaga County Legislator
133 Blackstone Way
Syracuse, New York 13219
Telephone (315) 488-6739
E-mail: jcorbet7@twcny.rr.com

June 10, 2009

Because of a previous commitment I will not be able to attend the public meeting and speak on the next phase of Nine Mile Creek's cleanup. Please accept the following as my comments.

** The lake cleanup continues to be one of the most important projects in Central New York. I am pleased to hear progress is continuing to be made on the tributaries into Onondaga Lake and the upland sites, primarily in Geddes which is part of my legislative district. The cleanup of these uplands is the key that will allow lake dredging to begin in 2012. OC1.a.

** As our Onondaga County Legislative representative to the DEC Region 7 Fish & Wildlife Management Board, I was happy to hear of the visit by DEC Commissioner Pete Grannis to fish Nine Mile Creek. Nine Mile Creek's reputation as one of the best trout streams in the state is well earned, both with local and stocked fish. I am encouraged to hear habitat enhancements will be taking place not only within Nine Mile Creek to support fish migrating from Onondaga Lake and upstream, but also other enhancements along the banks and in the wetlands to support diverse habitats throughout the area. OC1.b.

** An important consideration for this project is the ability for the County to extend the bike trail along the western shores of the lake and over Nine Mile Creek. With 1.5 million plus visitors enjoying Onondaga Lake Park each year, the ability to extend the trail will only enhance the recreational opportunities for visitors and increase the access to the trail for residents on the western side of the lake. As Chairman of the Environmental Protection Committee I am pleased to hear the County, DEC and Honeywell are working together to address any environmental issues necessary to ensure safety to the public and are moving forward to make this happen. OC1.c.

Thank you,

Jim Corbett

PARSONS ENGINEERING OF NEW YORK

NYSDEC/EPA Public Meeting

June 11, 2009

Ubiqus Reporting
Irvine, CA (949) 477 4972
New York, NY (212) 227 7440
www.ubiqus.com

[START BR_012.MP3]

MS. DIANE CARLTON: Let's get started so we can get you out in a reasonable period before the next thunderstorm rolls through.

I'd like to welcome everyone to our meeting on the Nine Mile Creek Geddes Operable Unit Two. We are going to be discussing the proposed remedy for the site. We'll have a short PowerPoint presentation that Tim Larson from our DEC office in Albany will be making.

I'm Diane Carlton with the DEC here in Syracuse, for those of you that don't know me. Following Tim's presentation, those of you that filled out the official comment cards, we will call you based on how you registered. First registration will be called up first. When we get through those, if there's anybody else that has additional comments that they'd like to make, certainly that's

possible, and then maybe we can take some informal questions and answers ’cause we don’t have a real big group here.

So I’m going to turn it over to Tim Larson. He’s an engineer with our office in Albany, and he’s the project manager on the site. Tim?

MR. TIM LARSON: Thank you, Diane, and thank you, everybody, for coming out on this less-than-desirable, I guess, weather we have out there. But at least it’s not snow or ice so I guess that’s pretty good.

As Diane said I’m going to be walking through a presentation, relatively brief presentation as far as the topic of discussion tonight. And that’s Geddes Brook Nine Mile Creek Operable Unit 2. And once I get through the presentation, we will basically entertain any kind of statements that individuals would like to make, or any kind of questions.

And I do have--I believe I have sufficient number of handouts, as far as the slides go. So if somebody didn't get a copy of the slides and would like one, it's on the table by the front door. I guess with that having been said, we'll get started.

Now, what I'm going to do is basically start kind of out large and then kind of zoom in on the actual site itself. Here's Onondaga Lake. And there's various subsites. Basically, the umbrella to everything falls under, as far as these various sites go, is the Onondaga Lake NPL site. And there's various subsites associated with this NPL site. You have GM Ley Creek PCB Dredgings, GM IFG Fisher Guide. You have basically Town of Salina landfill, Wastebed B Harbor Brook. You have Willis Avenue, Semmit Residue Ponds. You basically have the LCP Bridge Street site, Geddes Brook Nine Mile Creek and the

lake itself.

Next slide, please.

And like I said, kind of zooming in a little bit more. And we do have a larger poster board here. I realize in your handouts, this particular slide is difficult to see, but like I said, we do have a poster board over there, if you'd like to take a look at it after the presentation.

And the main point of this is it shows kind of the orientation of the various tributaries that are going to be the focus of discussion. Basically, I guess we can move from the lake upstream. We have Nine Mile Creek here and then basically it continues up above where Geddes Brook intersects it and you have basically Geddes Brook here and then you have the West Flume leading to Bridge Street. Bridge Street was a source of contamination to the West Flume to Geddes

Brook and to Nine Mile Creek. And this also basically shows various Solvay wastebeds. In particular, Wastebed 13 is an area I'll be talking about a little bit later in the presentation. And that's one of two possible locations for the material, soil and sediments to be brought to--from the remediation of Geddes Brook Nine Mile Creek.

Next, please.

We have Geddes Brook and then basically, once again, Nine Mile Creek. And there's an adjacent site, Wastebeds 1 through 8. And historically, there was questions as far as what the remediation of Wastebeds 1 through 8 would be. And that issue led us to actually breaking up Nine Mile Creek into two operable units, with Operable Unit 1 including Geddes Brook, and the focus of discussion tonight, Operable Unit 2, which is this location right here.

Briefly, before I get into a discussion of Operable Unit 2, I wanted to kind of rewind a little bit on Operable Unit 1. And we were here on December 10th for a similar public meeting, similar to the meeting we have tonight. And the focus of that discussion was Operable Unit 1. And during that public meeting, we presented the proposed plan for Operable Unit 1.

Since that public meeting, the public comment period closed on the proposed plan for OU1 and also for the response action associated with the Geddes Brook IRM. And on April 29th, the Geddes Brook IRM response action document was finalized and also the proposed plan, taking into account public comment, was finalized and became the record of decision for Operable Unit 1. And that also was finalized on April 29th.

And with respect to the

alternatives that were ultimately selected in those two decision documents, they were consistent with the proposed alternatives that were in the document. So disposal at Bridge Street was selected for Geddes Brook, and the alternative that we presented on, you know, back in December was the alternative three one that was actually carried forward into the ROD for OU1.

Now, the next three topics I'd like to talk about are the remedial investigation. Where we basically investigate soil, sediment, surface water associated with a particular site for various parameters, collect information, then we go through an ecological risk assessment and a human health risk assessment.

Once we basically compile that information, we go into the feasibility study where we basically evaluate various

remedial alternatives and then we actually generate our proposed plan, which discusses the various alternatives, along with our preferred remedial alternative.

Next, please.

The Geddes Brook remedial investigation--and this work was done, for the most part, consistent to a point where it included Operable Unit 1 and Operable Unit 2. And basically, it was initiated in 1998 and continued through 2002. And as I said previously, samples were analyzed for sediment, surface water, floodplain soils and fish as well.

The most prevalent contaminant we found was mercury. Other contaminants we found included arsenic, lead, PAHs, PCBs, hexachlorobenzene and phenol. And as I said, ecological risk was done, and a human health risk assessment was done. And based on the outcome of those risk assessments, it was determined that

unacceptable risks were identified to both humans and wildlife.

Next, please.

The next three slides are very difficult to see, I realize that. But hopefully, for the most part, you can see colors. And red basically is the highest concentration, and these dot plots are for mercury, and this particular one is 0 to 1 foot. And as we go down, the lower we get, we want to basically see the blue and the purples. That was basically are approaching, or at, background or, in essence, very, very low levels.

So as we basically move through the slide, you can see where we have some locations that obviously aren't, you know, the blue, the purple, like I talked about, there's actually a red location there. If you can move to the next one Diane. This is 1 to 2 feet.

And as we basically go through

these, you can see the colors are basically moving away, for the most part, not in every location, but for the most part, they're moving away from the highest concentrations to the lower concentrations. And then once we get from 0 to 1, 1 to 2--and then next slide Diane, please--2 to 3, there's very many locations that are basically down where we're talking about, the blues and the purples, which are--the purples, I think, are .15. PPM for mercury, which, once again, is a concentration where we're getting down background upstream concentrations.

Now, the areas I'm going to be talking about are basically the channel and the floodplain area we have here, and we also have floodplain here. We do have some contamination in the floodplain soils as well. And we'll get into a discussion as far as how we're going to rectify that

contamination in a moment or two. If we can move on, Diane.

So as I said, we basically did the remedial investigation and basically did the risk assessments. And once we had that information in hand, we got into the feasibility study where we actually looked at various remedial alternatives. And we had a feasibility study that was generated back in 2005 that included both Operable Unit 1 and Operable Unit 2.

There was various questions we had, associated with the alternatives that were evaluated. And we spent time between then and the initiation of the supplemental feasibility study in May 2009, collecting some additional data, as I said, breaking the site up into two operable units, getting a better handle on remedial boundaries. We evaluated new remedial alternatives. And Operable Unit 2 also included additional samples that

were collected post-RI, up through 2008.

So we had the initial 2005 feasibility study. It was supplemented with additional information in the 2009 supplemental feasibility study, May 2009, had the various alternatives that we evaluated in the proposed plan, including our preferred alternative.

Next, please.

As part of the feasibility study, there's various criteria that are evaluated to ultimately determine what the most appropriate alternative is. And these various alternatives--or I'm sorry, these various criteria are basically listed on this particular slide where we have overall protection of human health and the environment, compliance with applicable or relevant and appropriate requirements, ARARs. Long-term effectiveness and permanence. That's basically how long--do we have a level of

comfort that the remedy will actually be in place and perform as it's intended? Reduction of toxicity, mobility or volume through treatment. Short-term effectiveness, any issues we basically have kind of near-term rather than long-term, associated with implementing the various remedial alternatives. Ease of implementation, once again, relatively self-explanatory, I believe. Cost. Support agency acceptance. And the one where basically the purpose of being here tonight is community acceptance, to basically present these various alternatives and hear what you basically have as far as comments and your thoughts associated with the various alternatives, including our preferred alternative.

Next, please.

With respect to the disposal of material from Operable Unit 2--and that includes sediment and floodplain soil as

well, there's two options that were evaluated. Option A, which is consolidation at Honeywell's containment system at the LCP Bridge Street site. Or the other option is the sediment containment area to be constructed on Wastebed 13. Option B was disposal of contaminated sediments at an off-site permitted landfill in Rochester. And I have a slide that's coming up--actually, a couple slides. Actually, it shows the two locations.

The preferred disposal option is Option A, with material going to the LCP Bridge Street site or to the SCA to be constructed at Wastebed 13. The material being disposed of at either of these two locations, these two locations, the technology's proven and reliable, and we feel that both of these locations will be protective of human health and the environment.

Next, please. Next one.

And this shows the two possible locations. Once again, we got Nine Mile Creek here, and here is Geddes Brook. LCP Bridge Street, the facility has actually been constructed, has a temporary cover on top of it, and is awaiting the potential for material being disposed of from Geddes Brook and/or Nine Mile Creek. The other disposal location that is being considered and will be evaluated in the remedial design will be the sediment containment area that will be located up on Wastebed 13. And that location of Wastebed 13 was something that was previously presented to the public. We got comment on that, and the decision of the SCA being located at Wastebed 13 is a decision also that has been made.

Next, Diane.

Here’s a brief overview--and I’m going to get into more detail as far as

the four alternatives that were considered in the proposed plan. The first alternative--and we're required to basically only include this as a point of comparison--is no-action alternative.

Alternative two is partial removal of mercury to a number of 1.3 PPM and other significant contaminants. And these other significant contaminants are the contaminants that I identified earlier on this slide that were identified in the remedial investigation they include arsenic, lead, PAHs, PCBs, hexachlorobenzene and phenol. So that's what's being referred to when you talk about other significant contaminants.

Alternative three, which is our preferred alternative, is removal based on limits defined by physical features and to various depths. And I'm going to get into a discussion on this in greater detail in a moment.

Alternative four is basically as near to complete removal as possible to a mercury number of .15. And once again, the .15 number is basically approaching background upstream concentrations and also remediating the other significant contaminants as well.

First alternative, no-action alternative. Once again, it’s a baseline for comparison purposes. There’s no material being removed, there’s no cost, and there’s no construction time. So this is basically literally doing nothing for this alternative. Next, please.

Alternative two, partial removal of mercury to 1.3 and other significant contaminants. This consists of dredging excavating material, 23,000 cubic yards, area remediated, 10.8. Capital cost, annual O&M, present worth. Total present worth cost, 9.9 million for this. And anticipated construction time for this

alternative would be a year.

Next, please.

Alternative two--I'm sorry--okay. Yes. Alternative two basically shows what's being done. And there's a removal in the channel and the floodplains, primarily once again to the 1.3 PPM number. However, we do have clean-up numbers for the other significant contaminants as well, and they would basically be addressed in this alternative.

Next, please.

Alternative three, and this is the preferred alternative for both DEC and EPA. And this consists of dredging 58,000 cubic yards, a 15.5-acre remediated area. Capital cost, 15.1 million. Various other costs there. Total. Present worth cost, 16.5 million. Construction time of one year.

Next, please.

And this alternative is a removal alternative. And fortunately, the contamination that we have, we're seeing generally the top 2 to 3 feet within the channel. And unlike alternative--I'm sorry--Operable Unit 1, where part of the alternative included capping, we feel very confident that this particular alternative can be achieved, the objectives, by basically doing a removal without needing a cap. We are, as part of remedial design, going to go out and collect additional samples. We're going to be sampling for mercury. We're going to be sampling for the other parameters as well. And we do have a contingency that if we do see something unusual, there's an option of capping, as far as this alternative goes. But based on the information we have right now, I'm confident and actually hopeful that it will be a removal alternative without capping.

Alternative two is a removal to 1.3 PPM for mercury and other contaminants. Alternative four, which I'm going to get into in a second, is removal to .15, all right? This is a forested wetland we have right here. And actually, one of the poster boards we have up here very nicely shows the forested wetland. What we have is we have mature trees that exist in that location. So one thing we're looking at doing as part of alternative three is evaluating a portion of the forested wetland to determine, based on the concentrations if we can save some of these mature trees.

Alternative two and alternative four are, you know, primarily just going after blazing these trees to the ground in an effort to achieve the clean-up number. What we're looking to do is, once again, weigh the benefits of the mature trees against the contaminants we actually see.

And we're going to be doing additional work as part of the design to determine if, in fact, we can save some of those trees. We'll be doing additional sediment sampling. We may be doing, you know, additional types of samples. I'm not sure.

Evaluations of Indiana bat is an item that's basically coming up. It's a, I guess, endangered species or protected species that has been found around Onondaga Lake, and there's thought that possibly this might be a habitat location for at least part of the year. So, you know, once again, it's an aggressive alternative. We're looking at removing the material so basically we don't need a cap. We basically place some fill and then we put habitat material on top of it. And as part of this alternative, there's going to be diversity as far as the habitat goes, topography-wise, in the

channel, as well as the floodplains to try to basically improve the habitat from what it actually is right now.

This particular slide is a poster board over here, and I would encourage people to basically take a look at it after the presentation if they have not already. And it gets into more specifics as far as what's being done in the various locations. Some of you may have--may remember from the presentation that Operable Unit 1, there's some heavily-armored stone under Reach BC, which is kind of up here. We do have that armored stone as protection on 690 along this area as well. We're looking at basically moving the material on top of that armored stone, replacing it with clean material. Likewise, we're moving material on the floodplains, on the Wastebeds 1 through 8 side, replacing that with clean material, and the area of the forested wetland and

the two pieces of land that basically jut out here would be remediated and clean material would be placed there as well. So over the entire footprint of the site channel, as well as floodplain sediments, material would be removed and clean material would be placed back in there, suitable habitat material.

Next, please.

This is alternative four. And it consists of dredging approximately 70,000 cubic yards, 16.4 acres remediated area. Capital cost, 20 million. Present worth, total cost, 21.1 million. And construction time, approximately two years.

Next, please.

Similar to alternative two, as far as actually what’s being done--not that they’re the same alternative by any reach, alternative two was remediating to 1.3 PPM. This is going down to .15 PPM

for mercury and, once again, addressing the other contaminants identified, that we identified in the remedial investigation as well. We have clean-up numbers for those.

The one thing I do want to add, there's an area for alternative four right here in this area. And this is not forested wetland. It's called forested upland so it's not actually part of the wetland. And concentrations we had in here were, I think, you know, .2 PPM or less, generally around there. So that area is included in alternative four. It's not included in alternative three. And once again, based on the concentrations that we saw and the fact that we have mature trees in this location, for alternative three, we thought it was appropriate to basically keep the mature trees and not basically go after them based on the concentrations we

saw. However, since this alternative is actually cleaning up to .15, that actual additional area is included.

Next, please.

As I've said numerous times throughout the presentation, the preferred alternative is alternative three. Alternative three is the same overall protection, human health and the environment, compliance with state and federal regulations as alternative four. Represents less short-term risk, is more implementable, has a significantly lower cost. Capital costs--I'm sorry--present worth cost, 16.5 versus 21.1 million for alternative 4. And with respect to alternative one and two, alterative three is more protective of human health and the environment. So basically, alternative three, we feel gives you the same protection that alternative four. It's more protective than alternative one and

two. And alternative three is cheaper than--less expensive than alternative four. And that's the basis of why we thought it was the best alternative. And once again, the various criteria that I showed earlier in the presentation were evaluated to ultimately arrive at this decision of alternative three being the preferred alternative.

Next, please.

The public comment period associated with the proposed plan, the RI, the feasibility study and the risk assessments was already initiated. It's ongoing. And it's scheduled to conclude on July 3rd.

Once the public comment period is concluded, we'll be issuing a record of decision for Geddes Brook Nine Mile Creek, and that's scheduled for October 30th of this year. And the record of decision is where we actually select an alternative.

The record of decision also includes the transcript of this meeting tonight. It includes all the comments that we received during the public comment period. And we basically address all those comments as well. That information is included in the record of decision.

And after we generate the ROD, we actually get into design and we anticipate starting construction of the first part. Once again, as far as kind of moving upstream, downstream, we have Geddes Brook then we have Nine Mile Creek Operable Unit 1 and Operable Unit 2. So as far as moving upstream and downstream, Geddes Brook would be the first thing to be remediated, and we're anticipating that to begin in 2010.

And that basically concludes the presentation. Maybe, Diane, if you can do statements and then questions at this point in time. And maybe you can just put

up the next slide that shows people where they can send comments to, either via mail or email. And if people do want more information on this project, Geddes Brook Nine Mile Creek Operable Unit 2 or Operable Unit 1 or Onondaga Lake, you can track down information at this particular Web site, which is a DEC Web site.

And I guess, Diane, we're going to do statements first? Okay. All right.

I basically received a letter from James Corbett--is there correct?--Onondaga County legislator. And unfortunately, he was not able to attend tonight so he gave us some information that he would like us to read, and I'm going to do so at this point in time. It's not that lengthy. And it's dated June 10th, 2009.

Because of a previous commitment, I will not be able to attend the public meeting and speak on the next phase of

Comment

Nine Mile Creek's cleanup. Please accept the following as my comments.

OC1.a.

First one. The lake cleanup continues to be one of the most important projects in Central New York. I am pleased to hear progress is continuing to be made on the tributaries into Onondaga Lake, in the upland sites, primarily in Geddes Brook, which is part of my legislative district. The cleanup of these uplands is the key that will allow lake dredging to begin in 2012.

OC1.b.

Second comment. As our Onondaga County legislative representative to the DEC Region 7 Fish & Wildlife Management Board, I was happy to hear of the visit by DEC Commissioner Pete Grannis to fish Nine Mile Creek. Nine Mile Creek's reputation as one of the best trout streams in the state is well earned, both for local and stocked fish. I'm encouraged to hear habitat enhancements will be taking place

Comment

not only within Nine Mile Creek to support fish migrating from Onondaga Lake and upstream, but also other enhancements along the banks and in the wetlands to support diverse habitats throughout the area.

OC1.c.

Last comment. An important consideration for this project is the ability for the county to extend the bike trail along the western shores of the lake and over Nine Mile Creek. With 1.5 million-plus visitors enjoying Onondaga Lake Park each year, the ability to extend the trail will only enhance the recreational opportunities for visitors and increase the access to the trail for residents on the western side of the lake.

As Chairman of the Environmental Protection Committee, I am pleased to hear the county, DEC, and Honeywell are working together to address any environmental issues necessary to ensure safety to the

public and are moving forward to make this happen. Thank you. Jim Corbett.

Diane, we had some other ones as well?

All right. Looks like the first one we have up is Fred Miller, representing Nine Mile Creek Conservation Council. Fred? And actually, Diane, we have a mic right behind the laptop there.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Absolutely. Yeah. Don, what we're doing, we're doing statements first, not questions and answers. We're going to get through that and then we're going to do questions and answers, similar to what we did last time, for the last public meeting. Yes, Fred?

MR. FRED MILLER: [Off mic]

MR. TIM LARSON: Here, Fred, I don't know if the mic's on. Here, the only--here - -.

FEMALE VOICE: There we go.

Comment

Don't touch the buttons.

OC2.a.

MR. FRED MILLER: We--the Nine Mile Creek Conservation Council Board attended the Honeywell public information meeting at their offices last week. And one of the things that at least I came away with was that I got--I think some of the other members of the board, trying to get a visual representation of what the final riparian zone will look like. And thinking of a computer-generated graphic of a progression over 5, 10, 15, 20 years out. For those of us who are used to looking at development plans and engineering plans, it's self-explanatory. I think for the average person who doesn't deal with that on a consistent basis, it might not be as representative to them in that type of plan form as it would be to us. We're familiar with it.

So we thought that we'd like to get a visualization and what does that

Comment

look like? How wide is the riparian zone, visually? We've seen the--some of the photographs and enhanced photographs that are basic in some of the standard watercolor renditions, but we thought that might be an enhancing factor for the whole project if something like that could be done so that we could really get a hands-on approach to it.

Also underneath the highway, due to DOT restrictions on the maintenance and flood control, et cetera, we'd like to see something there in a more visual form to--that's--to put in that context to get a visual representation. I think it would help everybody in the area as well.

OC2.b.

And also, we had one just concern that the remediation area, that's basically county park property, not Honeywell property. And one of the things that we were concerned about--I know it's an area of public policy that perhaps

Honeywell doesn't--or doesn't need to address, but for our own concerns is that we viewed this area as possibly being a legacy wetlands forest for the future, if left alone for 1 or 200 years, it would be a fabulous area. Since it's on county parks property, we had concerns of how it could be generated in the plan that would lend support that the area should be put into some type of conservationship or protection into the future so it doesn't fall victim to shortsighted planning at any of the county levels where turns into a soccer field, a baseball field that the futurists filled in or disturbed in any way 10, 20, 30 years away. The opportunity here for reforestation and remediation into the future is quite a valuable environmental asset around the lake, at least in terms of a view shed at this point.

MR. TIM LARSON: Okay.

MR. FRED MILLER: That's all I have to say, unless someone else from the Board has any comment. Thank you.

MR. TIM LARSON: Thank you, Fred. Let's see. Next one we had up was Sarah Eckel, Citizens Campaign for the Environment.

MS. SARAH ECKEL: My name's Sarah Eckel. I'm the Central New York Program Coordinator for Citizens Campaign for the Environment. CC is an 80,000-member, non-profit, non-partisan advocacy organization working throughout New York State.

OC3.a.

And in general, CC supports the preferred cleanup alternative number three by the DEC for Geddes Brook Nine Mile Creek. However, CC believes the DEC should provide ample opportunity for public involvement in the design phase to the citizen participation working groups. CC understands that some of the most important decisions are going to be made

OC3.b.

Comment

during the design phase, including waste disposal, water treatment, new infrastructure, habitat disturbances and dredging methods. And we know these issues and other issues along with them will impact the local community, and we want to make sure the design phase is transparent and accessible to the public.

OC3.c.

We would like to, once again, recommend that there's educational signage placed around the public access points to Geddes Brook and Nine Mile Creek to educate the public on the cleanup progress, timelines, and to ensure issues associated with recreational use are well noted.

OC3.d.

We'd like to thank the DEC for addressing the contamination coming from Wastebeds 1 through 8, and we look forward to the plan for cleaning those up as well. And thank you again for the opportunity to speak today.

MR. TIM LARSON: Thank you. Next we had up was Lindsay Speer.

MS. LINDSAY SPEER: My name I is Lindsay Speer. I'm a community organizer on behalf of the Onondaga Nation. I want to just state there we have - - consulting government to government with the DEC and so they're commenting during the public comment period. Tonight I'm making comments on my own behalf.

OC4.a.

And in general, I'm glad to see that there is a fuller extent of remediation in this site than there was on the Onondaga Lake bottom. However, I am really concerned about the inadequate sampling that was done prior to coming up with the plans. Throughout most of the creek length, a lot of the sampling was only done 1 or 2 feet deep, and still, we're finding contamination. So we don't actually know what the depth of contamination actually is. And so it

OC4.b.

Comment

concerns me that the plan is to then if they find more contamination then cap it. I would like to know more--I think there needs to be more information about what exists prior to plans actually being made.

And any contingency plan should actually be for removal instead of capping. Streams cannot have caps in them. Streams, by their own nature, remove the things that are in their way. And so I strongly am concerned that there is strong possibility of failure for caps in this creek.

OC4.c.

I'm also very concerned about the timing of the plan. Right now, there is, you know, we have not heard about Wastebeds 1 through 8. We don't know what sort of contamination is there or getting into Geddes Brook Nine Mile Creek. And again, this comes into where there is inadequate testing. Only mercury was tested for a long--the majority of the

OC4.d.

length near Wastebeds 1 through 8.

So I think that we need to--I'm very concerned that there's a timing gap, that Wastebeds 1 through 8 need to be looked at first.

OC4.e.

I am also concerned about the continued channelization of Geddes Brook Nine Mile Creek. Obviously, 690 poses a problem in terms of where the creek would go to one side, but you do have a large area where the wastebeds currently are where the creek could then be remeandered if the wastebeds were removed and the land put back to its natural state.

OC4.f.

I'm encouraged by the work to encourage diversity in the floodplains, the habitat, and structure available along the creek. I look forward to seeing those designs in more detail. And I would encourage that there be a full survey of the flora and fauna in the forested wetland prior to its destruction so that

OC4.g.

Comment

we know exactly what is there and what needs to be replaced. Thank you.

MR. TIM LARSON: Thank you. Next up, we have--

MR. DON HUGHES: [interposing] Don Hughes.

MR. TIM LARSON: --Don Hughes.

MR. DON HUGHES: Thank you. Well, I'd actually like to echo a lot of the comments that you've just heard from Fred Miller, first off, that you folks at DEC really could make better use, I think, of Honeywell's resources. They have an army of consultants, PR people and so forth, as all these graphics around the room. Make that part of the talk. That would be helpful, I think.

OC5.a.

And what Lindsay was just talking about in terms of the timing, we were just here in December, as you noted, Tim. And my understanding was that we were--the decision to segregate Nine Mile Creek into

OC5.b.

Comment

Operable Unit 1 versus Operable Unit 2 was because of Wastebeds 1 through 8 having impact on the creek. And so I was rather surprised when this announcement came out that, low and behold, already we've got a plan for Operable Unit 2. And as far as I know, there's not a remedial investigation that's out for Wastebeds 1 through 8, much less a plan for Wastebeds 1 through 8.

OC5.c.

So it seems to me that these two sites should be coordinated. Do Wastebeds 1 through 8 and section A -- Operable Unit 2, the lower section of Nine Mile, in conjunction with one another. The question is, what's--what is the rush here? There's plenty of work to do that Honeywell's got to do, just working on Operable Unit 1 on the lake and so forth.

There's a--I got a few other questions and--I'll give you the mic when I'm done. The--

MR. TIM LARSON: [interposing]

Comment

Well, Don, if you have questions, what we can do is we can just hold off on those.

MR. DON HUGHES: We can just talk. You've got a mic. How about that? Yes, okay. What is the schedule? You talked about the Geddes Brook IRM, but beyond that, what's the schedule for cleaning up this site?

OC5.d.

MR. TIM LARSON: All right. Don, what I'd like to do is we can come back to that--and Lindsay, if you had questions too for me, that's fine. We can entertain those. What I'd like to do is get through--now, I think there was one other person basically who--

MR. DON HUGHES: [interposing] Well, let me finish my statement then. If you don't want to get into a dialogue or questions then--

MR. TIM LARSON: [interposing] No, I do, Don. It's just timing-wise. I'd prefer to do the statements now and

then we'll get into the questions in a minute. That's all.

OC5.e.

MR. DON HUGHES: Okay. That's fine. One other thing to notice about this site is, if you look at the remedial investigation, the entire area is underlain by fine, coarse sand and gravel so any mobile contaminants are going to move. So that's something to keep in mind in designing the remediation.

OC5.f.

I would take issue, fundamentally, with the--with putting LCP and the sediment containment area as being equals. They are not equals. The sediment containment area is a lined, properly-designed landfill. The LCP site is not. It's an abandoned, partially-remediated site, chemical manufacturing plant. It has no liner. It has a requirement to pump ground water in perpetuity. And I would encourage the DEC and the EPA to have all the contaminated

Comment

material put in the SCA, not in LCP.

I agree with what Lindsay said about the adequacy of the data. It's hard for me to understand how we can--that the agencies can put a fixed number for the cost of alternative four when there's--there really isn't a lot of sediment data. There's a lot of floodplain data, but the sediment data is--there's big gaps. There's hundreds of meters where there simply are no cores.

OC5.g.

And my last comment is about--again, this is relevant to the comparison of the alternatives. Alternative four, as a cleanup objection of .15 parts per million. I take it that applies to both sediments and soils. And my comment on that is that the cleanup objective for sediments should be much more stringent than it is for soils because in sediments, you have the opportunity for bioaccumulation so--and that's really what

OC5.h.

this is all about is to prevent mercury, hexachlorobenzene, dioxins, PCBs, et cetera from accumulating in fish.

Thank you.

MR. TIM LARSON: Thank you, Don. And the last person we have as far as making a statement, Albert--is it Breezy?

FEMALE VOICE: - -.

MR. TIM LARSON: Okay. And Albert, who do you represent?

MR. ALBERT BREEZY: The Oswego County American Legion. I'm--

MR. TIM LARSON: [interposing] Mic - -.

MR. ALBERT BREEZY: Oswego County American Legion. I am Chairman for the--I'm an officer of the conservation--whatever you want to call it.

MR. TIM LARSON: Okay. Thank you.

MR. ALBERT BREEZY: I was brought up on a large farm. I know a little bit

Comment

about this stuff. I went over to Korea, and you probably know what Korea was like. I know a little bit about environmental and stuff like that. And then I worked for Solvay Process or Allied Chemical or Honeywell, whatever you want to call it now.

OC6.a.

Now, my question is, when you get done, I know you're not going to be able to tell me tonight, but in the later days, you can probably come up with an answer of how this is going to help Oneida Lake and Oswego River and possibly some of the feed-offs off of--on Oswego River up through there, like, lake in Pulton [phonetic], which is contaminated. Now, maybe it'll help that too. I don't know. I know--I do know a little bit about this stuff, that stuff feeds back into other tributaries or--you know what I'm saying.

MR. TIM LARSON: Okay. I think I understand, sure.

MR. ALBERT BREEZY: Now, maybe you can get a feedback later through the letter, you know, through the mail on this stuff and figure out what's going on here.

MR. TIM LARSON: Okay. So Albert, in essence, you're kind of questioning what's going on, basically kind of downstream of Onondaga Lake? Is that generally kind of what the question is?

MR. ALBERT BREEZY: Yeah.

MR. TIM LARSON: Okay.

MR. ALBERT BREEZY: Yeah.

MR. TIM LARSON: Okay.

MR. ALBERT BREEZY: Fair enough.

MR. TIM LARSON: All right. That's fine. Thank you. I think that was it, as far as statements go. Albert, I will get back to that. Could be. It's possible.

Was there anybody else who wanted to make a statement before we actually get

into questions and answers? Okay.

All right. What we could do, Don, I know you had a few questions. Lindsay, maybe you do. But Albert, let's tackle that one first. What we're looking at doing is remediating Onondaga Lake, obviously, and that basically is set. We're working on that. And prior to actually getting out there and remediating Onondaga Lake, we want to make sure we turn off the sources of material basically leading into the lake, such as Geddes Brook and Nine Mile Creek.

Based on the remediation of the upland sites and based on remediation that we're basically doing associated with the lake, there's going to be a lot of benefits, from a toxicity standpoint, and we believe bioaccumulation standpoint as well in the lake. And although we haven't done any kind of extensive evaluation downstream, I would think that benefit

Comment

would be carried downstream as well, and I would assume there would be benefits that exist. I know obviously, lake--excuse me--fish basically enter and leave the lake relatively frequently, and I know basically there's various programs to actually tag those fish and check fish concentrations so I think the question is, once we get the lake remediated, hopefully things will, you know, continue to migrate benefits downstream so--okay?

So Don, I know you had some questions.

OC7.a.

MR. DON HUGHES: First question is about the schedule.

MR. TIM LARSON: Yes. The schedule--no? I heard something.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: I guess speak loudly 'cause we're basically recording this, Don. So I'll try to summarize. Hopefully I'll do it correctly what your

comments are.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Right. Okay. As far as, like I said before, what we're looking at doing is remediating Onondaga Lake. And before we actually get out there and remediate the lake, we're looking at basically turning off various sources that are contributing or have contributed to the lake.

We're looking at starting the dredging in the lake in May of 2012. So what we're looking at doing is basically completing the remediation of Geddes Brook and Nine Mile Creek such that the remediation of the lake is not unnecessarily postponed. We're not going to be remediating off of the mouth of Nine Mile Creek and the lake until we've remediated Nine Mile Creek and Geddes Brook. So as far as, you know, that's kind of what we're looking at. We're

looking at moving things as quickly as we, you know, possible as we can, Don, but, you know, once again, we're trying to get things done effectively, appropriately, and timely enough so it doesn't jeopardize the dredging that's scheduled to take place the beginning May of 2012.

MR. DON HUGHES: That's it.

MR. TIM LARSON: That's it?

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: I mean, if you have a more detailed--

MR. DON HUGHES: [interposing] [Off mic]

MR. TIM LARSON: Okay.

MR. DON HUGHES: The schedule then was presented to us, by - -, was that the County was going to be putting in the trail and that section would be remediated.

MR. TIM LARSON: Yeah, we got to hold on. You can't hear any of this,

Comment

correct? Okay. All right. Don, why don't you come up and just--we'll just do a tag team on this mic.

MR. DON HUGHES: Okay. So anyway, so the schedule that I understood from a meeting that Fred referenced was that Onondaga County wants to go ahead and put in a trail, which is relevant to this whole cleanup because it goes right through that area, the area that's between the highway, 690 and--

OC7.a.

MR. TIM LARSON: [interposing] -- I got to speak as well. Maybe we can back up, Diane, to one of the figures. There we go. Oop, that's it. Okay. So--

MR. DON HUGHES: [interposing] [Off mic]

MR. TIM LARSON: Yeah, Don, if you could just--

MR. DON HUGHES: [interposing] Okay. So there'll be a--

MR. TIM LARSON: [interposing]

Comment

OC7.a.

Okay.

MR. DON HUGHES: So there'll be a--what's? Oh, okay. Okay. So you got the trail coming along 690 and then a bridge will be constructed and then would go over to the wastebeds. My understanding is that, that the County wants to get that project moving this year so that that part would be remediated first and then the rest of the site would be deferred some number of years, 'til maybe 2011 or 2012. So that's the question, is, is that about correct?

MR. TIM LARSON: As I said during the presentation, Don, we're look--we're anticipating to start Geddes Brook in--next year, 2010. And obviously, once we've completed the RODs, the record of decision, we have to go through design. And also, like I said, we're basically progressing from upstream downstream, so you're going to remediate Geddes Brook,

then you're going to remediate Operable Unit 1 portion of Nine Mile Creek and then basically move downstream.

It's our hope to basically work with Honeywell, as we have in the past, and come up with a schedule of which a schedule has not been finalized yet, where once again, we can, in essence, fast track the remediation of Geddes Brook and Nine Mile Creek, once again, as fast as we possibly can, but once again, making sure we ensure it's a quality and effective remedy that we implement so that basically it doesn't postpone any work we actually do in the lake.

We've not gone as far, since we haven't actually got into the details of design, to determine exactly what is happening when any more specific than that, Don. But like I said, we're hoping that the process of remediation starts with the Geddes Brook in 2010.

MR. DON HESLER: [Off mic]

MR. TIM LARSON: You got to speak--

MR. DON HESLER: [interposing] You want to--I wish we could get this - -.

MR. TIM LARSON: We could, we could.

MR. DON HESSLER: I'm Don Hesler with the DEC. I think the one part that is missing that Don was asking about was, if the bridge work takes place before we're actually down there remediating that lower part of Nine Mile Creek, what are we going to be doing? And the answer to that is, we've been working with Honeywell. We talked to them a number of years ago about the bridge when we thought that the bridge was going to be, you know, constructed a few years back. If the bridge was to take place this summer, we'd be working with Honeywell in the area where the footprint of the bridge is, areas where the

Comment

infrastructure would be going in piers, what have you. We'd work with them to take out the appropriate material prior to the bridge construction. Just so that material's out of there, it's gone, and then, you know, then they could build a bridge and then we'd continue working downstream with the regular schedule.

MR. TIM LARSON: So that really shouldn't impede us moving forward with--starting with Geddes Brook and moving downstream, Don. Next?

MR. DON HUGHES: Yeah, mainly I thought it would just be beneficial for everyone here to know how this is going to play out.

OC7.b.

The other question was about the cleanup objective. Alternative four says .15 PPM of mercury in what, soils, sediments, both?

MR. TIM LARSON: And actually, I'm glad you raised that, Don, 'cause the

Comment

.15 relates to a toxicity number, we have bioaccumulation numbers as well that we're addressing for mercury. Is it on? It's on. Okay.

As far as the .15 goes, that's a cleanup number that's applied on a point-by-point basis as a toxicity number. We have bioaccumulation numbers for mercury and they're applied on, like, an area basis, all right? We do basically have numbers for [mic cuts out] as well. And we have a number of .8 wildlife consumption of fish number. And once again, this is applied on a SWAC, surface weighted area, basis.

OC7.b.

MR. DON HUGHES: The question is, does that .15 PPM number, what does that refer to? Are we talking about fish? Are we talking about sediments? Are we talking about soil?

MR. TIM LARSON: That number is-- .15 is in sediment. And--

Comment

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Sediment and soil.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: In wetland soils, yes. I'm sorry, Don. I didn't understand your question. Next?

MALE VOICE: Don't want to--this is just something to clarify. In the PRAP, it talks about digging down to he marl layer. And it suggests that the marl layer is 1 to 2 feet below the sediments. And it distinguishes that from the depositional area where the sediments are 5 to 10 feet deep. There's the--are the deep sediments upstream, as it says in the PRAP or are they actually downstream?

OC8.a.

MR. TIM LARSON: I know where the marl is that we're talking about. You're talking about in the areas that are not marl--the marl's in the lower part of reach AB, okay? Marl's not in the upper

Comment

part of reach AB. Does that answer your question? Okay.

OC8.b.

MALE VOICE: Is there a demarcation?

MR. TIM LARSON: As far as exactly where the marl is?

MALE VOICE: Don't need exact, just approximate.

MR. TIM LARSON: I'm sorry, what? All right. So - -.

MALE VOICE: [Off mic]

MR. MIKE SPEARA: The marl is downstream at this point - - depositional - -.

MR. TIM LARSON: Mike, if you can come over.

MR. MIKE SPERA: - - that's actually covered under - -.

MR. TIM LARSON: So Mike, where is the actual upstream-most location then?

MR. MIKE SPERA: I think for the purposes--

Comment

MR. TIM LARSON: [interposing] Around there? Okay.

MR. MIKE SPERA: - -.

MR. TIM LARSON: Okay. So basically, we're looking at the figure associated with alternative three, and there's a black line that basically--I'd say not quite 50% downstream, but cuts the site. And that's the demarcation line. Downstream of that, the marl is located.

OC9.a.

MR. DON HUGHES: - - let me ask--while I'm up here, one more--promise this is the last question. The difference between alternative four and alterative three is about $4.5 million. But the difference in volume is not that big, you know, it's not proportional. Can you explain why that--why is that?

MR. TIM LARSON: Sure. This is a similar issue that we basically discussed as part of our Operable Unit 1. When you get down to a certain depth, you basically

have stability problems and you basically have to use sheeting to kind of make sure that you, in essence, don't have sloughing, you know, basically where you're doing the removal. As we basically go down deeper, like would be required for alternative four, the sheeting comes into play, and installing sheeting is very expensive so that's a significant portion of the difference between the two alternatives. Not the only difference, but that's a significant difference.

Is that it, Don?

MR. DON HUGHES: That's--I'm--that's my - -.

MR. TIM LARSON: Okay. Any other questions? Yes?

MS. DERETH GLANCE: I have two questions. I trust that - -.

MR. TIM LARSON: Okay. Dereth Glance Citizens Campaign for the Environment.

Comment

OC10.a.

MS. DERETH GLANCE: I just want to know if we anticipate the initial design submittal for public review by the end of 2009 or, you know, kind of a sense of the schedule - - design - - finished design plan.

OC10.b.

My second question is there's about a 20 - - some differences in - - the reasons behind - -.

MR. TIM LARSON: Okay.

MS. DERETH GLANCE: - -.

MR. TIM LARSON: Okay. And if I don't get it correct, please correct me. But I believe the first part of the question was, will we have the design that will be available for public viewing by the end of 2009. As I said earlier, the ROD is basically scheduled to be completed in October--on October 30th of this year. I don't think it's realistic to anticipate we would have any kind of design documents we could share that shortly after the ROD

being finalized. I would imagine sometime the earlier part of 2010 would be more realistic.

MS. DERETH GANCE: [Off mic]

MR. TIM LARSON: It'd be more--that'd be more realistic, Dereth. I just can't go further than that at this point in time.

And the second question, help me out again.

OC10.b.

MS. DERETH GLANCE: The operation - - difference between - - there's about - -.

MR. TIM LARSON: Okay. I will actually see if I can basically defer to some others in the audience, and if we can, I'll have to get back to you on that, Dereth. Mike, can you help out in that? If not, we might have to table that and I'll get back to you formally on that, Dereth, as part of the response. We'll get back--we'll address that as part of

the transcript for this public meeting. Off the top of my head, Dareth, I don't know.

MR. MIKE SPERA: [Off mic]

MR. TIM LARSON: Do you have an answer? Sure. Once again, Mike Spera with AECOM.

MR. MIKE SPERA: Consultant to New York State DEC. Generally, the alternative four is slightly lower in the maintenance and cost, that also includes monitoring since it is cleaning up to each of the PRGs. There is likely less monitoring associated with that alternative. But the differences are pretty small, 20,000 per year difference. The area of the remedies are both about the same between alternatives three and four as well so that's probably the likely cause of the slight difference in cost.

MR. TIM LARSON: Thank you, Mike. Was that it, Dereth? Okay. Any other

questions from the audience? Yes, sir. Les?

MR. LES MONOSTORY: Les Monostory with the Isaac Walton League. I guess I got a couple of sort of practical questions as an angler and representative of the Sportsman Federation. What sort of mercury levels are found presently in a fish in Geddes Brook and Nine Mile Creek, and how will those levels be increased by this project and by the overall lake project? I think you mentioned some sort of a goal in terms of concentrations in the fish flesh.

OC11.a.

MR. TIM LARSON: I'll have to get back to you, Les, on the actual concentrations that we found in the fish in Nine Mile Creek. I don't have that off the top of my head. But once again, as far as the remedy we're looking at, it includes clean material being placed over the entire site, and that's basically the

channel sediments as well as the floodplain.

So as far as once we actually remediate the site, any ongoing contribution of mercury from the site to fish that are coming in contact with Nine Mile Creek, we think is basically going to be greatly reduced. I think that's very similar to the remediation that's taking place in the lake, as far as remediation that's taking place in the littoral zone. We believe that covering those materials with clean sediment is also going to contribute to basically minimizing the impact of mercury that basically goes into the fish.

Concentrations of--thank you. Concentrations that we have in the sediments, I mean, there's various ways the fish can basically get mercury. As we know, mercury's methylated. That's primarily the form of mercury that's

basically found in the fish. And that can basically come up through the food chain. That basically can actually be the methylmercury absorbed in the fish themselves. So, you know, once again, Nine Mile Creek, it's very clear that we're placing clean material everywhere so as far as the impact of mercury from the site on fish, like I said, is going to be greatly reduced, if not eliminated.

Did that address your concern, Les?

MR. LES MONOSTORY: [Off mic]

MR. TIM LARSON: Okay.

MS. DERETH GLANCE: [Off mic]

MR. TIM LARSON: See, that's hard to say, Dereth. What we're going to be doing is we're going to be monitoring the fish, obviously, as far as the concentrations go. And back in the early stages of the project, in the early '90s, we spent approximately two years going

through modeling efforts to try to get a handle on bioaccumulation and the predictions of how it goes through the food chain and how quickly something like that, you know, might happen as far as the reduction goes. It's very complicated. Like I said, the mercury can basically get into the fish from various sources. It's, you know, complicated.

So basically what we're looking at doing is, I mean, are we basically talking kind of the lake here now, Dereth, or both or--

MS. DERETH GLANCE: [interposing] [Off mic]

MR. TIM LARSON: --just in general? All right. In general. That's fine. Yeah, just in general. Right.

As far as, you know, remediating, like I said, Nine Mile Creek, the entire site's being remediated so that's pretty straightforward as far as shutting off the

sources of mercury and methylmercury to the fish.

As far as the lake goes, once again, we have various remediations. We're doing dredging, we're doing capping, and also, we're evaluating minimizing the generation of methylmercury in the hypolimnion through oxygenation or nitrication.

So what we're looking at doing is going after the possible sources of mercury and methylmercury that ultimately can get into the fish, reducing those so that, once again, over time we're seeing reductions of concentrations, hopefully put Onondaga Lake on par with basically other water bodies in New York State.

So Les, did you have another question or was that it?

MR. LES MONOSTORY: That was it, thanks.

MR. TIM LARSON: Okay. Any other

Comment

OC12.a.

questions? Yes, sir.

MR. BILL MORRIS: Bill Morris, Nine Mile Creek Conservation Council. Do you--has any thought been given at this point as to how the sediments are going to be delivered to the disposal site, and where you're going to get however-ever-many thousand yards of clean material to replace it?

MR. TIM LARSON: The easy answer is not in great detail, all right? As far as the material going up from Geddes Brook and Nine Mile Creek, there's two probable ways of it going up there. There's going to be a pipeline that's basically going to run from the lake up to the SCA at Wastebed 13. So there's a possibility that we could tap in--slurry the material, tap into that pipeline and have it basically pumped up to the SCA.

As far as going to Bridge Street, you know, it's possible something similar

could be done. The other option is basically trucking. So those are, you know, the two primary options. Has not been determined yet. That's going to be a decision that's going to be made as far as the design goes.

And the other question?

MR. BILL MORRIS: [Off mic]

MR. TIM LARSON: Replacement material. That also is something we'll evaluate, basically as far as the remedial design. I don't know we have an actual location yet where the material's going to be coming from, but this is also, you know, something that's currently being evaluated as far as the lake goes. And with respect to the volumes we're using for the lake, you know, this is not nearly that significant as far as volume goes. So once again, that's going to be dealt with as part of remedial design.

Thank you.

Any other questions? Going once, going twice. All right. Thank you, everybody, for coming out on a miserable, rainy night like this. I will be hanging around here for a while and various members of our team will be around as well, so if you have any questions, feel free to stop up.

Thank you, everybody.

[END BR_012.MP3]

APPENDIX VI

TRANSCRIPT FOR JUNE 11, 2009
PUBLIC MEETING

PARSONS ENGINEERING OF NEW YORK

NYSDEC/EPA Public Meeting

June 11, 2009

Ubiqus Reporting
Irvine, CA (949) 477 4972
New York, NY (212) 227 7440
www.ubiqus.com

[START BR_012.MP3]

MS. DIANE CARLTON: Let's get started so we can get you out in a reasonable period before the next thunderstorm rolls through.

I'd like to welcome everyone to our meeting on the Nine Mile Creek Geddes Operable Unit Two. We are going to be discussing the proposed remedy for the site. We'll have a short PowerPoint presentation that Tim Larson from our DEC office in Albany will be making.

I'm Diane Carlton with the DEC here in Syracuse, for those of you that don't know me. Following Tim's presentation, those of you that filled out the official comment cards, we will call you based on how you registered. First registration will be called up first. When we get through those, if there's anybody else that has additional comments that they'd like to make, certainly that's

possible, and then maybe we can take some informal questions and answers 'cause we don't have a real big group here.

So I'm going to turn it over to Tim Larson. He's an engineer with our office in Albany, and he's the project manager on the site. Tim?

MR. TIM LARSON: Thank you, Diane, and thank you, everybody, for coming out on this less-than-desirable, I guess, weather we have out there. But at least it's not snow or ice so I guess that's pretty good.

As Diane said I'm going to be walking through a presentation, relatively brief presentation as far as the topic of discussion tonight. And that's Geddes Brook Nine Mile Creek Operable Unit 2. And once I get through the presentation, we will basically entertain any kind of statements that individuals would like to make, or any kind of questions.

And I do have--I believe I have sufficient number of handouts, as far as the slides go. So if somebody didn't get a copy of the slides and would like one, it's on the table by the front door. I guess with that having been said, we'll get started.

Now, what I'm going to do is basically start kind of out large and then kind of zoom in on the actual site itself. Here's Onondaga Lake. And there's various subsites. Basically, the umbrella to everything falls under, as far as these various sites go, is the Onondaga Lake NPL site. And there's various subsites associated with this NPL site. You have GM Ley Creek PCB Dredgings, GM IFG Fisher Guide. You have basically Town of Salina landfill, Wastebed B Harbor Brook. You have Willis Avenue, Semmit Residue Ponds. You basically have the LCP Bridge Street site, Geddes Brook Nine Mile Creek and the

lake itself.

Next slide, please.

And like I said, kind of zooming in a little bit more. And we do have a larger poster board here. I realize in your handouts, this particular slide is difficult to see, but like I said, we do have a poster board over there, if you'd like to take a look at it after the presentation.

And the main point of this is it shows kind of the orientation of the various tributaries that are going to be the focus of discussion. Basically, I guess we can move from the lake upstream. We have Nine Mile Creek here and then basically it continues up above where Geddes Brook intersects it and you have basically Geddes Brook here and then you have the West Flume leading to Bridge Street. Bridge Street was a source of contamination to the West Flume to Geddes

Brook and to Nine Mile Creek. And this also basically shows various Solvay wastebeds. In particular, Wastebed 13 is an area I'll be talking about a little bit later in the presentation. And that's one of two possible locations for the material, soil and sediments to be brought to--from the remediation of Geddes Brook Nine Mile Creek.

Next, please.

We have Geddes Brook and then basically, once again, Nine Mile Creek. And there's an adjacent site, Wastebeds 1 through 8. And historically, there was questions as far as what the remediation of Wastebeds 1 through 8 would be. And that issue led us to actually breaking up Nine Mile Creek into two operable units, with Operable Unit 1 including Geddes Brook, and the focus of discussion tonight, Operable Unit 2, which is this location right here.

Briefly, before I get into a discussion of Operable Unit 2, I wanted to kind of rewind a little bit on Operable Unit 1. And we were here on December 10th for a similar public meeting, similar to the meeting we have tonight. And the focus of that discussion was Operable Unit 1. And during that public meeting, we presented the proposed plan for Operable Unit 1.

Since that public meeting, the public comment period closed on the proposed plan for OU1 and also for the response action associated with the Geddes Brook IRM. And on April 29th, the Geddes Brook IRM response action document was finalized and also the proposed plan, taking into account public comment, was finalized and became the record of decision for Operable Unit 1. And that also was finalized on April 29th.

And with respect to the

alternatives that were ultimately selected in those two decision documents, they were consistent with the proposed alternatives that were in the document. So disposal at Bridge Street was selected for Geddes Brook, and the alternative that we presented on, you know, back in December was the alternative three one that was actually carried forward into the ROD for OU1.

Now, the next three topics I'd like to talk about are the remedial investigation. Where we basically investigate soil, sediment, surface water associated with a particular site for various parameters, collect information, then we go through an ecological risk assessment and a human health risk assessment.

Once we basically compile that information, we go into the feasibility study where we basically evaluate various

remedial alternatives and then we actually generate our proposed plan, which discusses the various alternatives, along with our preferred remedial alternative.

Next, please.

The Geddes Brook remedial investigation--and this work was done, for the most part, consistent to a point where it included Operable Unit 1 and Operable Unit 2. And basically, it was initiated in 1998 and continued through 2002. And as I said previously, samples were analyzed for sediment, surface water, floodplain soils and fish as well.

The most prevalent contaminant we found was mercury. Other contaminants we found included arsenic, lead, PAHs, PCBs, hexachlorobenzene and phenol. And as I said, ecological risk was done, and a human health risk assessment was done. And based on the outcome of those risk assessments, it was determined that

unacceptable risks were identified to both humans and wildlife.

Next, please.

The next three slides are very difficult to see, I realize that. But hopefully, for the most part, you can see colors. And red basically is the highest concentration, and these dot plots are for mercury, and this particular one is 0 to 1 foot. And as we go down, the lower we get, we want to basically see the blue and the purples. That was basically are approaching, or at, background or, in essence, very, very low levels.

So as we basically move through the slide, you can see where we have some locations that obviously aren't, you know, the blue, the purple, like I talked about, there's actually a red location there. If you can move to the next one Diane. This is 1 to 2 feet.

And as we basically go through

these, you can see the colors are basically moving away, for the most part, not in every location, but for the most part, they're moving away from the highest concentrations to the lower concentrations. And then once we get from 0 to 1, 1 to 2--and then next slide Diane, please--2 to 3, there's very many locations that are basically down where we're talking about, the blues and the purples, which are--the purples, I think, are .15. PPM for mercury, which, once again, is a concentration where we're getting down background upstream concentrations.

Now, the areas I'm going to be talking about are basically the channel and the floodplain area we have here, and we also have floodplain here. We do have some contamination in the floodplain soils as well. And we'll get into a discussion as far as how we're going to rectify that

contamination in a moment or two. If we can move on, Diane.

So as I said, we basically did the remedial investigation and basically did the risk assessments. And once we had that information in hand, we got into the feasibility study where we actually looked at various remedial alternatives. And we had a feasibility study that was generated back in 2005 that included both Operable Unit 1 and Operable Unit 2.

There was various questions we had, associated with the alternatives that were evaluated. And we spent time between then and the initiation of the supplemental feasibility study in May 2009, collecting some additional data, as I said, breaking the site up into two operable units, getting a better handle on remedial boundaries. We evaluated new remedial alternatives. And Operable Unit 2 also included additional samples that

were collected post-RI, up through 2008.

So we had the initial 2005 feasibility study. It was supplemented with additional information in the 2009 supplemental feasibility study, May 2009, had the various alternatives that we evaluated in the proposed plan, including our preferred alternative.

Next, please.

As part of the feasibility study, there's various criteria that are evaluated to ultimately determine what the most appropriate alternative is. And these various alternatives--or I'm sorry, these various criteria are basically listed on this particular slide where we have overall protection of human health and the environment, compliance with applicable or relevant and appropriate requirements, ARARs. Long-term effectiveness and permanence. That's basically how long--do we have a level of

comfort that the remedy will actually be in place and perform as it's intended? Reduction of toxicity, mobility or volume through treatment. Short-term effectiveness, any issues we basically have kind of near-term rather than long-term, associated with implementing the various remedial alternatives. Ease of implementation, once again, relatively self-explanatory, I believe. Cost. Support agency acceptance. And the one where basically the purpose of being here tonight is community acceptance, to basically present these various alternatives and hear what you basically have as far as comments and your thoughts associated with the various alternatives, including our preferred alternative.

Next, please.

With respect to the disposal of material from Operable Unit 2--and that includes sediment and floodplain soil as

well, there's two options that were evaluated. Option A, which is consolidation at Honeywell's containment system at the LCP Bridge Street site. Or the other option is the sediment containment area to be constructed on Wastebed 13. Option B was disposal of contaminated sediments at an off-site permitted landfill in Rochester. And I have a slide that's coming up--actually, a couple slides. Actually, it shows the two locations.

The preferred disposal option is Option A, with material going to the LCP Bridge Street site or to the SCA to be constructed at Wastebed 13. The material being disposed of at either of these two locations, these two locations, the technology's proven and reliable, and we feel that both of these locations will be protective of human health and the environment.

Next, please. Next one.

And this shows the two possible locations. Once again, we got Nine Mile Creek here, and here is Geddes Brook. LCP Bridge Street, the facility has actually been constructed, has a temporary cover on top of it, and is awaiting the potential for material being disposed of from Geddes Brook and/or Nine Mile Creek. The other disposal location that is being considered and will be evaluated in the remedial design will be the sediment containment area that will be located up on Wastebed 13. And that location of Wastebed 13 was something that was previously presented to the public. We got comment on that, and the decision of the SCA being located at Wastebed 13 is a decision also that has been made.

Next, Diane.

Here's a brief overview--and I'm going to get into more detail as far as

the four alternatives that were considered in the proposed plan. The first alternative--and we're required to basically only include this as a point of comparison--is no-action alternative.

Alternative two is partial removal of mercury to a number of 1.3 PPM and other significant contaminants. And these other significant contaminants are the contaminants that I identified earlier on this slide that were identified in the remedial investigation they include arsenic, lead, PAHs, PCBs, hexachlorobenzene and phenol. So that's what's being referred to when you talk about other significant contaminants.

Alternative three, which is our preferred alternative, is removal based on limits defined by physical features and to various depths. And I'm going to get into a discussion on this in greater detail in a moment.

Alternative four is basically as near to complete removal as possible to a mercury number of .15. And once again, the .15 number is basically approaching background upstream concentrations and also remediating the other significant contaminants as well.

First alternative, no-action alternative. Once again, it's a baseline for comparison purposes. There's no material being removed, there's no cost, and there's no construction time. So this is basically literally doing nothing for this alternative. Next, please.

Alternative two, partial removal of mercury to 1.3 and other significant contaminants. This consists of dredging excavating material, 23,000 cubic yards, area remediated, 10.8. Capital cost, annual O&M, present worth. Total present worth cost, 9.9 million for this. And anticipated construction time for this

alternative would be a year.

Next, please.

Alternative two--I'm sorry--okay. Yes. Alternative two basically shows what's being done. And there's a removal in the channel and the floodplains, primarily once again to the 1.3 PPM number. However, we do have clean-up numbers for the other significant contaminants as well, and they would basically be addressed in this alternative.

Next, please.

Alternative three, and this is the preferred alternative for both DEC and EPA. And this consists of dredging 58,000 cubic yards, a 15.5-acre remediated area. Capital cost, 15.1 million. Various other costs there. Total. Present worth cost, 16.5 million. Construction time of one year.

Next, please.

And this alternative is a removal alternative. And fortunately, the contamination that we have, we're seeing generally the top 2 to 3 feet within the channel. And unlike alternative--I'm sorry--Operable Unit 1, where part of the alternative included capping, we feel very confident that this particular alternative can be achieved, the objectives, by basically doing a removal without needing a cap. We are, as part of remedial design, going to go out and collect additional samples. We're going to be sampling for mercury. We're going to be sampling for the other parameters as well. And we do have a contingency that if we do see something unusual, there's an option of capping, as far as this alternative goes. But based on the information we have right now, I'm confident and actually hopeful that it will be a removal alternative without capping.

Alternative two is a removal to 1.3 PPM for mercury and other contaminants. Alternative four, which I'm going to get into in a second, is removal to .15, all right? This is a forested wetland we have right here. And actually, one of the poster boards we have up here very nicely shows the forested wetland. What we have is we have mature trees that exist in that location. So one thing we're looking at doing as part of alternative three is evaluating a portion of the forested wetland to determine, based on the concentrations if we can save some of these mature trees.

Alternative two and alternative four are, you know, primarily just going after blazing these trees to the ground in an effort to achieve the clean-up number. What we're looking to do is, once again, weigh the benefits of the mature trees against the contaminants we actually see.

And we're going to be doing additional work as part of the design to determine if, in fact, we can save some of those trees. We'll be doing additional sediment sampling. We may be doing, you know, additional types of samples. I'm not sure.

Evaluations of Indiana bat is an item that's basically coming up. It's a, I guess, endangered species or protected species that has been found around Onondaga Lake, and there's thought that possibly this might be a habitat location for at least part of the year. So, you know, once again, it's an aggressive alternative. We're looking at removing the material so basically we don't need a cap. We basically place some fill and then we put habitat material on top of it. And as part of this alternative, there's going to be diversity as far as the habitat goes, topography-wise, in the

channel, as well as the floodplains to try to basically improve the habitat from what it actually is right now.

This particular slide is a poster board over here, and I would encourage people to basically take a look at it after the presentation if they have not already. And it gets into more specifics as far as what's being done in the various locations. Some of you may have--may remember from the presentation that Operable Unit 1, there's some heavily-armored stone under Reach BC, which is kind of up here. We do have that armored stone as protection on 690 along this area as well. We're looking at basically moving the material on top of that armored stone, replacing it with clean material. Likewise, we're moving material on the floodplains, on the Wastebeds 1 through 8 side, replacing that with clean material, and the area of the forested wetland and

the two pieces of land that basically jut out here would be remediated and clean material would be placed there as well. So over the entire footprint of the site channel, as well as floodplain sediments, material would be removed and clean material would be placed back in there, suitable habitat material.

Next, please.

This is alternative four. And it consists of dredging approximately 70,000 cubic yards, 16.4 acres remediated area. Capital cost, 20 million. Present worth, total cost, 21.1 million. And construction time, approximately two years.

Next, please.

Similar to alternative two, as far as actually what's being done--not that they're the same alternative by any reach, alternative two was remediating to 1.3 PPM. This is going down to .15 PPM

for mercury and, once again, addressing the other contaminants identified, that we identified in the remedial investigation as well. We have clean-up numbers for those.

The one thing I do want to add, there's an area for alternative four right here in this area. And this is not forested wetland. It's called forested upland so it's not actually part of the wetland. And concentrations we had in here were, I think, you know, .2 PPM or less, generally around there. So that area is included in alternative four. It's not included in alternative three. And once again, based on the concentrations that we saw and the fact that we have mature trees in this location, for alternative three, we thought it was appropriate to basically keep the mature trees and not basically go after them based on the concentrations we

saw. However, since this alternative is actually cleaning up to .15, that actual additional area is included.

Next, please.

As I've said numerous times throughout the presentation, the preferred alternative is alternative three. Alternative three is the same overall protection, human health and the environment, compliance with state and federal regulations as alternative four. Represents less short-term risk, is more implementable, has a significantly lower cost. Capital costs--I'm sorry--present worth cost, 16.5 versus 21.1 million for alternative 4. And with respect to alternative one and two, alterative three is more protective of human health and the environment. So basically, alternative three, we feel gives you the same protection that alternative four. It's more protective than alternative one and

two. And alternative three is cheaper than--less expensive than alternative four. And that's the basis of why we thought it was the best alternative. And once again, the various criteria that I showed earlier in the presentation were evaluated to ultimately arrive at this decision of alternative three being the preferred alternative.

Next, please.

The public comment period associated with the proposed plan, the RI, the feasibility study and the risk assessments was already initiated. It's ongoing. And it's scheduled to conclude on July 3rd.

Once the public comment period is concluded, we'll be issuing a record of decision for Geddes Brook Nine Mile Creek, and that's scheduled for October 30th of this year. And the record of decision is where we actually select an alternative.

The record of decision also includes the transcript of this meeting tonight. It includes all the comments that we received during the public comment period. And we basically address all those comments as well. That information is included in the record of decision.

And after we generate the ROD, we actually get into design and we anticipate starting construction of the first part. Once again, as far as kind of moving upstream, downstream, we have Geddes Brook then we have Nine Mile Creek Operable Unit 1 and Operable Unit 2. So as far as moving upstream and downstream, Geddes Brook would be the first thing to be remediated, and we're anticipating that to begin in 2010.

And that basically concludes the presentation. Maybe, Diane, if you can do statements and then questions at this point in time. And maybe you can just put

up the next slide that shows people where they can send comments to, either via mail or email. And if people do want more information on this project, Geddes Brook Nine Mile Creek Operable Unit 2 or Operable Unit 1 or Onondaga Lake, you can track down information at this particular Web site, which is a DEC Web site.

And I guess, Diane, we're going to do statements first? Okay. All right.

I basically received a letter from James Corbett--is there correct?--Onondaga County legislator. And unfortunately, he was not able to attend tonight so he gave us some information that he would like us to read, and I'm going to do so at this point in time. It's not that lengthy. And it's dated June 10th, 2009.

Because of a previous commitment, I will not be able to attend the public meeting and speak on the next phase of

Nine Mile Creek's cleanup. Please accept the following as my comments.

First one. The lake cleanup continues to be one of the most important projects in Central New York. I am pleased to hear progress is continuing to be made on the tributaries into Onondaga Lake, in the upland sites, primarily in Geddes Brook, which is part of my legislative district. The cleanup of these uplands is the key that will allow lake dredging to begin in 2012.

Second comment. As our Onondaga County legislative representative to the DEC Region 7 Fish & Wildlife Management Board, I was happy to hear of the visit by DEC Commissioner Pete Grannis to fish Nine Mile Creek. Nine Mile Creek's reputation as one of the best trout streams in the state is well earned, both for local and stocked fish. I'm encouraged to hear habitat enhancements will be taking place

not only within Nine Mile Creek to support fish migrating from Onondaga Lake and upstream, but also other enhancements along the banks and in the wetlands to support diverse habitats throughout the area.

Last comment. An important consideration for this project is the ability for the county to extend the bike trail along the western shores of the lake and over Nine Mile Creek. With 1.5 million-plus visitors enjoying Onondaga Lake Park each year, the ability to extend the trail will only enhance the recreational opportunities for visitors and increase the access to the trail for residents on the western side of the lake.

As Chairman of the Environmental Protection Committee, I am pleased to hear the county, DEC, and Honeywell are working together to address any environmental issues necessary to ensure safety to the

public and are moving forward to make this happen. Thank you. Jim Corbett.

Diane, we had some other ones as well?

All right. Looks like the first one we have up is Fred Miller, representing Nine Mile Creek Conservation Council. Fred? And actually, Diane, we have a mic right behind the laptop there.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Absolutely. Yeah. Don, what we're doing, we're doing statements first, not questions and answers. We're going to get through that and then we're going to do questions and answers, similar to what we did last time, for the last public meeting. Yes, Fred?

MR. FRED MILLER: [Off mic]

MR. TIM LARSON: Here, Fred, I don't know if the mic's on. Here, the only--here - -.

FEMALE VOICE: There we go.

Don't touch the buttons.

MR. FRED MILLER: We--the Nine Mile Creek Conservation Council Board attended the Honeywell public information meeting at their offices last week. And one of the things that at least I came away with was that I got--I think some of the other members of the board, trying to get a visual representation of what the final riparian zone will look like. And thinking of a computer-generated graphic of a progression over 5, 10, 15, 20 years out. For those of us who are used to looking at development plans and engineering plans, it's self-explanatory. I think for the average person who doesn't deal with that on a consistent basis, it might not be as representative to them in that type of plan form as it would be to us. We're familiar with it.

So we thought that we'd like to get a visualization and what does that

look like? How wide is the riparian zone, visually? We've seen the--some of the photographs and enhanced photographs that are basic in some of the standard watercolor renditions, but we thought that might be an enhancing factor for the whole project if something like that could be done so that we could really get a hands-on approach to it.

Also underneath the highway, due to DOT restrictions on the maintenance and flood control, et cetera, we'd like to see something there in a more visual form to--that's--to put in that context to get a visual representation. I think it would help everybody in the area as well.

And also, we had one just concern that the remediation area, that's basically county park property, not Honeywell property. And one of the things that we were concerned about--I know it's an area of public policy that perhaps

Honeywell doesn't--or doesn't need to address, but for our own concerns is that we viewed this area as possibly being a legacy wetlands forest for the future, if left alone for 1 or 200 years, it would be a fabulous area. Since it's on county parks property, we had concerns of how it could be generated in the plan that would lend support that the area should be put into some type of conservationship or protection into the future so it doesn't fall victim to shortsighted planning at any of the county levels where turns into a soccer field, a baseball field that the futurists filled in or disturbed in any way 10, 20, 30 years away. The opportunity here for reforestation and remediation into the future is quite a valuable environmental asset around the lake, at least in terms of a view shed at this point.

MR. TIM LARSON: Okay.

MR. FRED MILLER: That's all I have to say, unless someone else from the Board has any comment. Thank you.

MR. TIM LARSON: Thank you, Fred. Let's see. Next one we had up was Sarah Eckel, Citizens Campaign for the Environment.

MS. SARAH ECKEL: My name's Sarah Eckel. I'm the Central New York Program Coordinator for Citizens Campaign for the Environment. CC is an 80,000-member, non-profit, non-partisan advocacy organization working throughout New York State.

And in general, CC supports the preferred cleanup alternative number three by the DEC for Geddes Brook Nine Mile Creek. However, CC believes the DEC should provide ample opportunity for public involvement in the design phase to the citizen participation working groups. CC understands that some of the most important decisions are going to be made

during the design phase, including waste disposal, water treatment, new infrastructure, habitat disturbances and dredging methods. And we know these issues and other issues along with them will impact the local community, and we want to make sure the design phase is transparent and accessible to the public.

We would like to, once again, recommend that there's educational signage placed around the public access points to Geddes Brook and Nine Mile Creek to educate the public on the cleanup progress, timelines, and to ensure issues associated with recreational use are well noted.

We'd like to thank the DEC for addressing the contamination coming from Wastebeds 1 through 8, and we look forward to the plan for cleaning those up as well. And thank you again for the opportunity to speak today.

MR. TIM LARSON: Thank you. Next we had up was Lindsay Speer.

MS. LINDSAY SPEER: My name I is Lindsay Speer. I'm a community organizer on behalf of the Onondaga Nation. I want to just state there we have - - consulting government to government with the DEC and so they're commenting during the public comment period. Tonight I'm making comments on my own behalf.

And in general, I'm glad to see that there is a fuller extent of remediation in this site than there was on the Onondaga Lake bottom. However, I am really concerned about the inadequate sampling that was done prior to coming up with the plans. Throughout most of the creek length, a lot of the sampling was only done 1 or 2 feet deep, and still, we're finding contamination. So we don't actually know what the depth of contamination actually is. And so it

concerns me that the plan is to then if they find more contamination then cap it. I would like to know more--I think there needs to be more information about what exists prior to plans actually being made.

And any contingency plan should actually be for removal instead of capping. Streams cannot have caps in them. Streams, by their own nature, remove the things that are in their way. And so I strongly am concerned that there is strong possibility of failure for caps in this creek.

I'm also very concerned about the timing of the plan. Right now, there is, you know, we have not heard about Wastebeds 1 through 8. We don't know what sort of contamination is there or getting into Geddes Brook Nine Mile Creek. And again, this comes into where there is inadequate testing. Only mercury was tested for a long--the majority of the

length near Wastebeds 1 through 8.

So I think that we need to--I'm very concerned that there's a timing gap, that Wastebeds 1 through 8 need to be looked at first.

I am also concerned about the continued channelization of Geddes Brook Nine Mile Creek. Obviously, 690 poses a problem in terms of where the creek would go to one side, but you do have a large area where the wastebeds currently are where the creek could then be remeandered if the wastebeds were removed and the land put back to its natural state.

I'm encouraged by the work to encourage diversity in the floodplains, the habitat, and structure available along the creek. I look forward to seeing those designs in more detail. And I would encourage that there be a full survey of the flora and fauna in the forested wetland prior to its destruction so that

we know exactly what is there and what needs to be replaced. Thank you.

MR. TIM LARSON: Thank you. Next up, we have--

MR. DON HUGHES: [interposing] Don Hughes.

MR. TIM LARSON: --Don Hughes.

MR. DON HUGHES: Thank you. Well, I'd actually like to echo a lot of the comments that you've just heard from Fred Miller, first off, that you folks at DEC really could make better use, I think, of Honeywell's resources. They have an army of consultants, PR people and so forth, as all these graphics around the room. Make that part of the talk. That would be helpful, I think.

And what Lindsay was just talking about in terms of the timing, we were just here in December, as you noted, Tim. And my understanding was that we were--the decision to segregate Nine Mile Creek into

Operable Unit 1 versus Operable Unit 2 was because of Wastebeds 1 through 8 having impact on the creek. And so I was rather surprised when this announcement came out that, low and behold, already we've got a plan for Operable Unit 2. And as far as I know, there's not a remedial investigation that's out for Wastebeds 1 through 8, much less a plan for Wastebeds 1 through 8.

So it seems to me that these two sites should be coordinated. Do Wastebeds 1 through 8 and section A -- Operable Unit 2, the lower section of Nine Mile, in conjunction with one another. The question is, what's--what is the rush here? There's plenty of work to do that Honeywell's got to do, just working on Operable Unit 1 on the lake and so forth.

There's a--I got a few other questions and--I'll give you the mic when I'm done. The--

MR. TIM LARSON: [interposing]

Well, Don, if you have questions, what we can do is we can just hold off on those.

MR. DON HUGHES: We can just talk. You've got a mic. How about that? Yes, okay. What is the schedule? You talked about the Geddes Brook IRM, but beyond that, what's the schedule for cleaning up this site?

MR. TIM LARSON: All right. Don, what I'd like to do is we can come back to that--and Lindsay, if you had questions too for me, that's fine. We can entertain those. What I'd like to do is get through--now, I think there was one other person basically who--

MR. DON HUGHES: [interposing] Well, let me finish my statement then. If you don't want to get into a dialogue or questions then--

MR. TIM LARSON: [interposing] No, I do, Don. It's just timing-wise. I'd prefer to do the statements now and

then we'll get into the questions in a minute. That's all.

MR. DON HUGHES: Okay. That's fine. One other thing to notice about this site is, if you look at the remedial investigation, the entire area is underlain by fine, coarse sand and gravel so any mobile contaminants are going to move. So that's something to keep in mind in designing the remediation.

I would take issue, fundamentally, with the--with putting LCP and the sediment containment area as being equals. They are not equals. The sediment containment area is a lined, properly-designed landfill. The LCP site is not. It's an abandoned, partially-remediated site, chemical manufacturing plant. It has no liner. It has a requirement to pump ground water in perpetuity. And I would encourage the DEC and the EPA to have all the contaminated

material put in the SCA, not in LCP.

I agree with what Lindsay said about the adequacy of the data. It's hard for me to understand how we can--that the agencies can put a fixed number for the cost of alternative four when there's--there really isn't a lot of sediment data. There's a lot of floodplain data, but the sediment data is--there's big gaps. There's hundreds of meters where there simply are no cores.

And my last comment is about--again, this is relevant to the comparison of the alternatives. Alternative four, as a cleanup objection of .15 parts per million. I take it that applies to both sediments and soils. And my comment on that is that the cleanup objective for sediments should be much more stringent than it is for soils because in sediments, you have the opportunity for bioaccumulation so--and that's really what

this is all about is to prevent mercury, hexachlorobenzene, dioxins, PCBs, et cetera from accumulating in fish.

Thank you.

MR. TIM LARSON: Thank you, Don. And the last person we have as far as making a statement, Albert--is it Breezy?

FEMALE VOICE: - -.

MR. TIM LARSON: Okay. And Albert, who do you represent?

MR. ALBERT BREEZY: The Oswego County American Legion. I'm--

MR. TIM LARSON: [interposing] Mic - -.

MR. ALBERT BREEZY: Oswego County American Legion. I am Chairman for the--I'm an officer of the conservation--whatever you want to call it.

MR. TIM LARSON: Okay. Thank you.

MR. ALBERT BREEZY: I was brought up on a large farm. I know a little bit

about this stuff. I went over to Korea, and you probably know what Korea was like. I know a little bit about environmental and stuff like that. And then I worked for Solvay Process or Allied Chemical or Honeywell, whatever you want to call it now.

Now, my question is, when you get done, I know you're not going to be able to tell me tonight, but in the later days, you can probably come up with an answer of how this is going to help Oneida Lake and Oswego River and possibly some of the feed-offs off of--on Oswego River up through there, like, lake in Pulton [phonetic], which is contaminated. Now, maybe it'll help that too. I don't know. I know--I do know a little bit about this stuff, that stuff feeds back into other tributaries or--you know what I'm saying.

MR. TIM LARSON: Okay. I think I understand, sure.

MR. ALBERT BREEZY: Now, maybe you can get a feedback later through the letter, you know, through the mail on this stuff and figure out what's going on here.

MR. TIM LARSON: Okay. So Albert, in essence, you're kind of questioning what's going on, basically kind of downstream of Onondaga Lake? Is that generally kind of what the question is?

MR. ALBERT BREEZY: Yeah.

MR. TIM LARSON: Okay.

MR. ALBERT BREEZY: Yeah.

MR. TIM LARSON: Okay.

MR. ALBERT BREEZY: Fair enough.

MR. TIM LARSON: All right. That's fine. Thank you. I think that was it, as far as statements go. Albert, I will get back to that. Could be. It's possible.

Was there anybody else who wanted to make a statement before we actually get

into questions and answers? Okay.

All right. What we could do, Don, I know you had a few questions. Lindsay, maybe you do. But Albert, let's tackle that one first. What we're looking at doing is remediating Onondaga Lake, obviously, and that basically is set. We're working on that. And prior to actually getting out there and remediating Onondaga Lake, we want to make sure we turn off the sources of material basically leading into the lake, such as Geddes Brook and Nine Mile Creek.

Based on the remediation of the upland sites and based on remediation that we're basically doing associated with the lake, there's going to be a lot of benefits, from a toxicity standpoint, and we believe bioaccumulation standpoint as well in the lake. And although we haven't done any kind of extensive evaluation downstream, I would think that benefit

would be carried downstream as well, and I would assume there would be benefits that exist. I know obviously, lake--excuse me--fish basically enter and leave the lake relatively frequently, and I know basically there's various programs to actually tag those fish and check fish concentrations so I think the question is, once we get the lake remediated, hopefully things will, you know, continue to migrate benefits downstream so--okay?

So Don, I know you had some questions.

MR. DON HUGHES: First question is about the schedule.

MR. TIM LARSON: Yes. The schedule--no? I heard something.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: I guess speak loudly 'cause we're basically recording this, Don. So I'll try to summarize. Hopefully I'll do it correctly what your

comments are.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Right. Okay. As far as, like I said before, what we're looking at doing is remediating Onondaga Lake. And before we actually get out there and remediate the lake, we're looking at basically turning off various sources that are contributing or have contributed to the lake.

We're looking at starting the dredging in the lake in May of 2012. So what we're looking at doing is basically completing the remediation of Geddes Brook and Nine Mile Creek such that the remediation of the lake is not unnecessarily postponed. We're not going to be remediating off of the mouth of Nine Mile Creek and the lake until we've remediated Nine Mile Creek and Geddes Brook. So as far as, you know, that's kind of what we're looking at. We're

looking at moving things as quickly as we, you know, possible as we can, Don, but, you know, once again, we're trying to get things done effectively, appropriately, and timely enough so it doesn't jeopardize the dredging that's scheduled to take place the beginning May of 2012.

MR. DON HUGHES: That's it.

MR. TIM LARSON: That's it?

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: I mean, if you have a more detailed--

MR. DON HUGHES: [interposing] [Off mic]

MR. TIM LARSON: Okay.

MR. DON HUGHES: The schedule then was presented to us, by - -, was that the County was going to be putting in the trail and that section would be remediated.

MR. TIM LARSON: Yeah, we got to hold on. You can't hear any of this,

correct? Okay. All right. Don, why don't you come up and just--we'll just do a tag team on this mic.

MR. DON HUGHES: Okay. So anyway, so the schedule that I understood from a meeting that Fred referenced was that Onondaga County wants to go ahead and put in a trail, which is relevant to this whole cleanup because it goes right through that area, the area that's between the highway, 690 and--

MR. TIM LARSON: [interposing] -- I got to speak as well. Maybe we can back up, Diane, to one of the figures. There we go. Oop, that's it. Okay. So--

MR. DON HUGHES: [interposing] [Off mic]

MR. TIM LARSON: Yeah, Don, if you could just--

MR. DON HUGHES: [interposing] Okay. So there'll be a--

MR. TIM LARSON: [interposing]

Okay.

MR. DON HUGHES: So there'll be a--what's? Oh, okay. Okay. So you got the trail coming along 690 and then a bridge will be constructed and then would go over to the wastebeds. My understanding is that, that the County wants to get that project moving this year so that that part would be remediated first and then the rest of the site would be deferred some number of years, 'til maybe 2011 or 2012. So that's the question, is, is that about correct?

MR. TIM LARSON: As I said during the presentation, Don, we're look--we're anticipating to start Geddes Brook in--next year, 2010. And obviously, once we've completed the RODs, the record of decision, we have to go through design. And also, like I said, we're basically progressing from upstream downstream, so you're going to remediate Geddes Brook,

then you're going to remediate Operable Unit 1 portion of Nine Mile Creek and then basically move downstream.

It's our hope to basically work with Honeywell, as we have in the past, and come up with a schedule of which a schedule has not been finalized yet, where once again, we can, in essence, fast track the remediation of Geddes Brook and Nine Mile Creek, once again, as fast as we possibly can, but once again, making sure we ensure it's a quality and effective remedy that we implement so that basically it doesn't postpone any work we actually do in the lake.

We've not gone as far, since we haven't actually got into the details of design, to determine exactly what is happening when any more specific than that, Don. But like I said, we're hoping that the process of remediation starts with the Geddes Brook in 2010.

MR. DON HESLER: [Off mic]

MR. TIM LARSON: You got to speak--

MR. DON HESLER: [interposing] You want to--I wish we could get this - -.

MR. TIM LARSON: We could, we could.

MR. DON HESSLER: I'm Don Hesler with the DEC. I think the one part that is missing that Don was asking about was, if the bridge work takes place before we're actually down there remediating that lower part of Nine Mile Creek, what are we going to be doing? And the answer to that is, we've been working with Honeywell. We talked to them a number of years ago about the bridge when we thought that the bridge was going to be, you know, constructed a few years back. If the bridge was to take place this summer, we'd be working with Honeywell in the area where the footprint of the bridge is, areas where the

infrastructure would be going in piers, what have you. We'd work with them to take out the appropriate material prior to the bridge construction. Just so that material's out of there, it's gone, and then, you know, then they could build a bridge and then we'd continue working downstream with the regular schedule.

MR. TIM LARSON: So that really shouldn't impede us moving forward with--starting with Geddes Brook and moving downstream, Don. Next?

MR. DON HUGHES: Yeah, mainly I thought it would just be beneficial for everyone here to know how this is going to play out.

The other question was about the cleanup objective. Alternative four says .15 PPM of mercury in what, soils, sediments, both?

MR. TIM LARSON: And actually, I'm glad you raised that, Don, 'cause the

.15 relates to a toxicity number, we have bioaccumulation numbers as well that we're addressing for mercury. Is it on? It's on. Okay.

As far as the .15 goes, that's a cleanup number that's applied on a point-by-point basis as a toxicity number. We have bioaccumulation numbers for mercury and they're applied on, like, an area basis, all right? We do basically have numbers for [mic cuts out] as well. And we have a number of .8 wildlife consumption of fish number. And once again, this is applied on a SWAC, surface weighted area, basis.

MR. DON HUGHES: The question is, does that .15 PPM number, what does that refer to? Are we talking about fish? Are we talking about sediments? Are we talking about soil?

MR. TIM LARSON: That number is-- .15 is in sediment. And--

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: Sediment and soil.

MR. DON HUGHES: [Off mic]

MR. TIM LARSON: In wetland soils, yes. I'm sorry, Don. I didn't understand your question. Next?

MALE VOICE: Don't want to--this is just something to clarify. In the PRAP, it talks about digging down to he marl layer. And it suggests that the marl layer is 1 to 2 feet below the sediments. And it distinguishes that from the depositional area where the sediments are 5 to 10 feet deep. There's the--are the deep sediments upstream, as it says in the PRAP or are they actually downstream?

MR. TIM LARSON: I know where the marl is that we're talking about. You're talking about in the areas that are not marl--the marl's in the lower part of reach AB, okay? Marl's not in the upper

part of reach AB. Does that answer your question? Okay.

MALE VOICE: Is there a demarcation?

MR. TIM LARSON: As far as exactly where the marl is?

MALE VOICE: Don't need exact, just approximate.

MR. TIM LARSON: I'm sorry, what? All right. So - -.

MALE VOICE: [Off mic]

MR. MIKE SPEARA: The marl is downstream at this point - - depositional - -.

MR. TIM LARSON: Mike, if you can come over.

MR. MIKE SPERA: - - that's actually covered under - -.

MR. TIM LARSON: So Mike, where is the actual upstream-most location then?

MR. MIKE SPERA: I think for the purposes--

MR. TIM LARSON: [interposing] Around there? Okay.

MR. MIKE SPERA: - -.

MR. TIM LARSON: Okay. So basically, we're looking at the figure associated with alternative three, and there's a black line that basically--I'd say not quite 50% downstream, but cuts the site. And that's the demarcation line. Downstream of that, the marl is located.

MR. DON HUGHES: - - let me ask--while I'm up here, one more--promise this is the last question. The difference between alternative four and alterative three is about $4.5 million. But the difference in volume is not that big, you know, it's not proportional. Can you explain why that--why is that?

MR. TIM LARSON: Sure. This is a similar issue that we basically discussed as part of our Operable Unit 1. When you get down to a certain depth, you basically

have stability problems and you basically have to use sheeting to kind of make sure that you, in essence, don't have sloughing, you know, basically where you're doing the removal. As we basically go down deeper, like would be required for alternative four, the sheeting comes into play, and installing sheeting is very expensive so that's a significant portion of the difference between the two alternatives. Not the only difference, but that's a significant difference.

Is that it, Don?

MR. DON HUGHES: That's--I'm--that's my - -.

MR. TIM LARSON: Okay. Any other questions? Yes?

MS. DERETH GLANCE: I have two questions. I trust that - -.

MR. TIM LARSON: Okay. Dereth Glance Citizens Campaign for the Environment.

MS. DERETH GLANCE: I just want to know if we anticipate the initial design submittal for public review by the end of 2009 or, you know, kind of a sense of the schedule - - design - - finished design plan.

My second question is there's about a 20 - - some differences in - - the reasons behind - -.

MR. TIM LARSON: Okay.

MS. DERETH GLANCE: - -.

MR. TIM LARSON: Okay. And if I don't get it correct, please correct me. But I believe the first part of the question was, will we have the design that will be available for public viewing by the end of 2009. As I said earlier, the ROD is basically scheduled to be completed in October--on October 30th of this year. I don't think it's realistic to anticipate we would have any kind of design documents we could share that shortly after the ROD

being finalized. I would imagine sometime the earlier part of 2010 would be more realistic.

MS. DERETH GANCE: [Off mic]

MR. TIM LARSON: It'd be more--that'd be more realistic, Dereth. I just can't go further than that at this point in time.

And the second question, help me out again.

MS. DERETH GLANCE: The operation - - difference between - - there's about - -.

MR. TIM LARSON: Okay. I will actually see if I can basically defer to some others in the audience, and if we can, I'll have to get back to you on that, Dereth. Mike, can you help out in that? If not, we might have to table that and I'll get back to you formally on that, Dereth, as part of the response. We'll get back--we'll address that as part of

the transcript for this public meeting. Off the top of my head, Dareth, I don't know.

MR. MIKE SPERA: [Off mic]

MR. TIM LARSON: Do you have an answer? Sure. Once again, Mike Spera with AECOM.

MR. MIKE SPERA: Consultant to New York State DEC. Generally, the alternative four is slightly lower in the maintenance and cost, that also includes monitoring since it is cleaning up to each of the PRGs. There is likely less monitoring associated with that alternative. But the differences are pretty small, 20,000 per year difference. The area of the remedies are both about the same between alternatives three and four as well so that's probably the likely cause of the slight difference in cost.

MR. TIM LARSON: Thank you, Mike. Was that it, Dereth? Okay. Any other

questions from the audience? Yes, sir. Les?

MR. LES MONOSTORY: Les Monostory with the Isaac Walton League. I guess I got a couple of sort of practical questions as an angler and representative of the Sportsman Federation. What sort of mercury levels are found presently in a fish in Geddes Brook and Nine Mile Creek, and how will those levels be increased by this project and by the overall lake project? I think you mentioned some sort of a goal in terms of concentrations in the fish flesh.

MR. TIM LARSON: I'll have to get back to you, Les, on the actual concentrations that we found in the fish in Nine Mile Creek. I don't have that off the top of my head. But once again, as far as the remedy we're looking at, it includes clean material being placed over the entire site, and that's basically the

channel sediments as well as the floodplain.

So as far as once we actually remediate the site, any ongoing contribution of mercury from the site to fish that are coming in contact with Nine Mile Creek, we think is basically going to be greatly reduced. I think that's very similar to the remediation that's taking place in the lake, as far as remediation that's taking place in the littoral zone. We believe that covering those materials with clean sediment is also going to contribute to basically minimizing the impact of mercury that basically goes into the fish.

Concentrations of--thank you. Concentrations that we have in the sediments, I mean, there's various ways the fish can basically get mercury. As we know, mercury's methylated. That's primarily the form of mercury that's

basically found in the fish. And that can basically come up through the food chain. That basically can actually be the methylmercury absorbed in the fish themselves. So, you know, once again, Nine Mile Creek, it's very clear that we're placing clean material everywhere so as far as the impact of mercury from the site on fish, like I said, is going to be greatly reduced, if not eliminated.

Did that address your concern, Les?

MR. LES MONOSTORY: [Off mic]

MR. TIM LARSON: Okay.

MS. DERETH GLANCE: [Off mic]

MR. TIM LARSON: See, that's hard to say, Dereth. What we're going to be doing is we're going to be monitoring the fish, obviously, as far as the concentrations go. And back in the early stages of the project, in the early '90s, we spent approximately two years going

through modeling efforts to try to get a handle on bioaccumulation and the predictions of how it goes through the food chain and how quickly something like that, you know, might happen as far as the reduction goes. It's very complicated. Like I said, the mercury can basically get into the fish from various sources. It's, you know, complicated.

So basically what we're looking at doing is, I mean, are we basically talking kind of the lake here now, Dereth, or both or--

MS. DERETH GLANCE: [interposing] [Off mic]

MR. TIM LARSON: --just in general? All right. In general. That's fine. Yeah, just in general. Right.

As far as, you know, remediating, like I said, Nine Mile Creek, the entire site's being remediated so that's pretty straightforward as far as shutting off the

sources of mercury and methylmercury to the fish.

As far as the lake goes, once again, we have various remediations. We're doing dredging, we're doing capping, and also, we're evaluating minimizing the generation of methylmercury in the hypolimnion through oxygenation or nitrication.

So what we're looking at doing is going after the possible sources of mercury and methylmercury that ultimately can get into the fish, reducing those so that, once again, over time we're seeing reductions of concentrations, hopefully put Onondaga Lake on par with basically other water bodies in New York State.

So Les, did you have another question or was that it?

MR. LES MONOSTORY: That was it, thanks.

MR. TIM LARSON: Okay. Any other

questions? Yes, sir.

MR. BILL MORRIS: Bill Morris, Nine Mile Creek Conservation Council. Do you--has any thought been given at this point as to how the sediments are going to be delivered to the disposal site, and where you're going to get however-ever-many thousand yards of clean material to replace it?

MR. TIM LARSON: The easy answer is not in great detail, all right? As far as the material going up from Geddes Brook and Nine Mile Creek, there's two probable ways of it going up there. There's going to be a pipeline that's basically going to run from the lake up to the SCA at Wastebed 13. So there's a possibility that we could tap in--slurry the material, tap into that pipeline and have it basically pumped up to the SCA.

As far as going to Bridge Street, you know, it's possible something similar

could be done. The other option is basically trucking. So those are, you know, the two primary options. Has not been determined yet. That's going to be a decision that's going to be made as far as the design goes.

And the other question?

MR. BILL MORRIS: [Off mic]

MR. TIM LARSON: Replacement material. That also is something we'll evaluate, basically as far as the remedial design. I don't know we have an actual location yet where the material's going to be coming from, but this is also, you know, something that's currently being evaluated as far as the lake goes. And with respect to the volumes we're using for the lake, you know, this is not nearly that significant as far as volume goes. So once again, that's going to be dealt with as part of remedial design.

Thank you.

Any other questions? Going once, going twice. All right. Thank you, everybody, for coming out on a miserable, rainy night like this. I will be hanging around here for a while and various members of our team will be around as well, so if you have any questions, feel free to stop up.

Thank you, everybody.

[END BR_012.MP3]