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ERP - E
VCP - V
BCP - C

B00080 9

Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Lackawanna Business Park Site
City of Lackawanna, Erie County
Site Number B-00080-9

March 1999

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION - RECORD OF DECISION

Lackawanna Business Park
Environmental Restoration Site
City of Lackawanna, Erie County
Site No. B-00080-9

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Lackawanna Business Park environmental restoration site which was chosen in accordance with the New York State Environmental Conservation Law (ECL).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Lackawanna Business Park environmental restoration site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous substance constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health or the environment.

Description of Selected Remedy

Based upon the results of the Site Investigations (SI) and Remedial Alternatives Report (RAR) for the Lackawanna Business Park environmental restoration site and the criteria identified for evaluation of alternatives, the NYSDEC has selected limited excavation with a deed restrictions as the remedy for the site. The components of the remedy are:

- Excavation and disposal of contaminated fill material from areas of high chromium and lead levels identified in the SI and remedial design.

- Implementation of deed restrictions which will limit the development of the property to industrial and/or commercial use, notify the site developer that subsurface soils will be subject to solid waste disposal regulations if excavated and will require covering of fill material on-site with either parking areas, roadways or clean soil with a vegetative cover.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective.

March 30 1999
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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Environmental Restoration
RECORD OF DECISION

Lackawanna Business Park
City of Lackawanna, Erie County
Site No. B-00080-9
March 1999

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) has selected the remedy to address the threat to human health and/or the environment created by the presence of hazardous substances at the Lackawanna Business Park Site.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Under the Environmental Restoration (Brownfields) Program, the State may provide a grant to the City of Lackawanna to reimburse up to 75 percent of the eligible costs for site remediation activities. Once remediated, the property can then be reused.

As more fully described in Sections 3 and 4 of this document, the placement of fill materials consisting of ash and slag has resulted in the presence of hazardous substances, including chromium and lead, at the site. These disposal activities have resulted in a threat to human health associated with the potential ingestion of or dermal contact with surface materials.

In order to eliminate or mitigate the threats to the public health and/or the environment that the hazardous substances disposed at the Lackawanna Business Park brownfield site have caused, the following remedy was selected to allow for future commercial/industrial use of the property:

- a limited excavation and off-site disposal of areas of contaminated soil be performed.
- deed restrictions to limit the use of the property to commercial/industrial use and require the use of clean soil cover in areas described as green spaces which are not covered by buildings, pavement and roadways.

The selected remedy, discussed in detail in Section 8 of this document, is intended to attain the remediation goals selected for this site in Section 6 of this Record of Decision (ROD) in conformity with applicable standards, criteria, and guidance (SCGs).

SECTION 2: SITE LOCATION AND DESCRIPTION

The property is located at 2560 Hamburg Turnpike (NYS Route 5) in the City of Lackawanna. The property is a vacant, irregularly-shaped lot located east of the Hamburg Turnpike on A Street and consists of approximately 8.4 acres. The property currently contains various piles of soil/debris and abandoned construction materials, such as manhole structures and pipe, and demolition waste. (Figure 1) The project has been designated Site No.B00080-9 for the NYS Brownfields Program.

On September 4, 1998, the City of Lackawanna was awarded a grant for the brownfield investigation of this site as part of the environmental restoration (brownfields) program, funded by the 1996 Clean Water/Clean Air Bond Act.

The immediate property vicinity and the surrounding area consists primarily of mixed residential and commercial/industrial uses, and has been designated by the City as a Light Industrial Area[1]. The terrain is generally flat. The ground surface has been re-graded slightly to accommodate the property's past use for residential, recreational, and commercial activities, followed most recently by construction equipment storage. Current vegetation consists of grasses, light underbrush, sparse mature trees, and two sets of two rows of parallel trees running east-west along both the southern and northern areas of the property

The property is located approximately 1-mile east of Lake Erie. Smokes Creek, a Class C water body, is located along a portion of the south boundary of the property.

There are three significant industrial areas in close proximity to the property:

Lehigh Industrial Park, Inc.: Located approximately 1/2-mile north, northeast of the project area, this site is a State Hazardous Waste Site (SHWS) for which an RI/FS and remedial construction has been completed. The site is currently classified a Class 4 Site meaning only long term maintenance and monitoring is required to be performed at the property.

Buffalo Brake Beam Company: This facility is located immediately adjacent to the north and northeast side of the project area. This operation has been located next to the subject property since at least 1927.

Amadori Construction Building: This building is located to the west of the site and consists of a metal framed structure and is currently used to store and maintain construction equipment.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

Historical information indicates that the Lackawanna Steel Company (predecessor to the Bethlehem Steel Company) built company houses on the property around 1902. This residential area was called Smokes Creek Village or Old Village. The 1927 Sanborn map indicates that four rows of parallel housing units running east to west occupied the property. These housing units continued to the west of A Street and a perpendicular row existed east of the property across B Street on property that is now occupied by the City sewage treatment plant. First and Second Streets ran between these row housing units and extended to Hamburg Turnpike (Figure 2). The row houses are not depicted on the 1950 Sanborn map and it has been reported that these housing units were demolished in the 1930s.

A review of aerial photographs indicates that after the housing units were removed, the property remained relatively vacant until the late 1950s. Long-time area residents reported that during this time the property was used by local residents for gardens. The 1958 aerial shows that clearing had taken place within the eastern and southeastern area. A ball field is depicted in this area in a 1978 aerial photograph. City records also indicate that this area of the property was graded and seeded and was actively used by the City in 1973

[1] "Creekside Commercial Corridor, City of Lackawanna, Erie County, New York, NYSDEC-1996 Environmental Restoration Project Application", The Saratoga Associates, October 1997

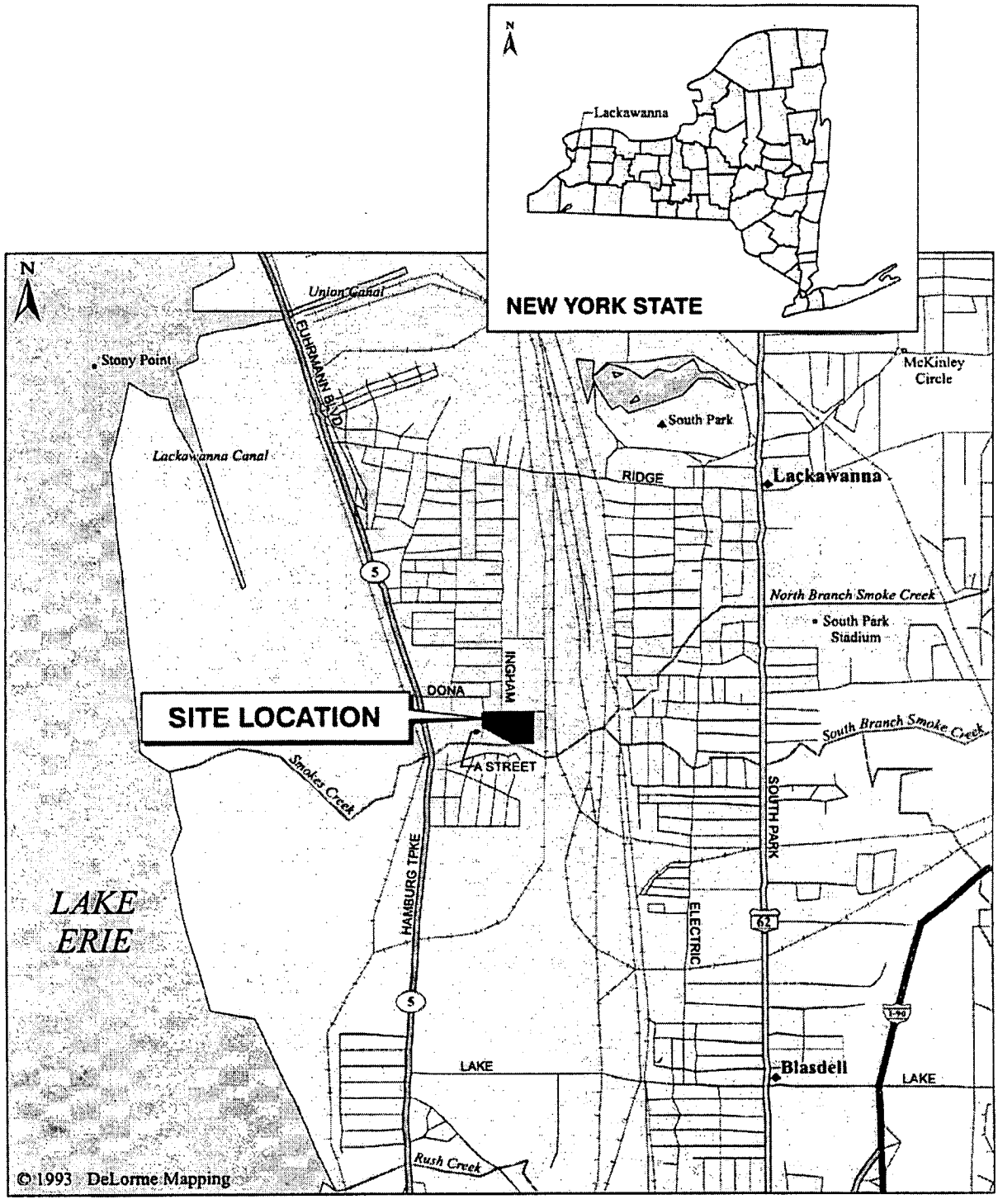

Figure 1
Lackawanna Business Park
Site Location

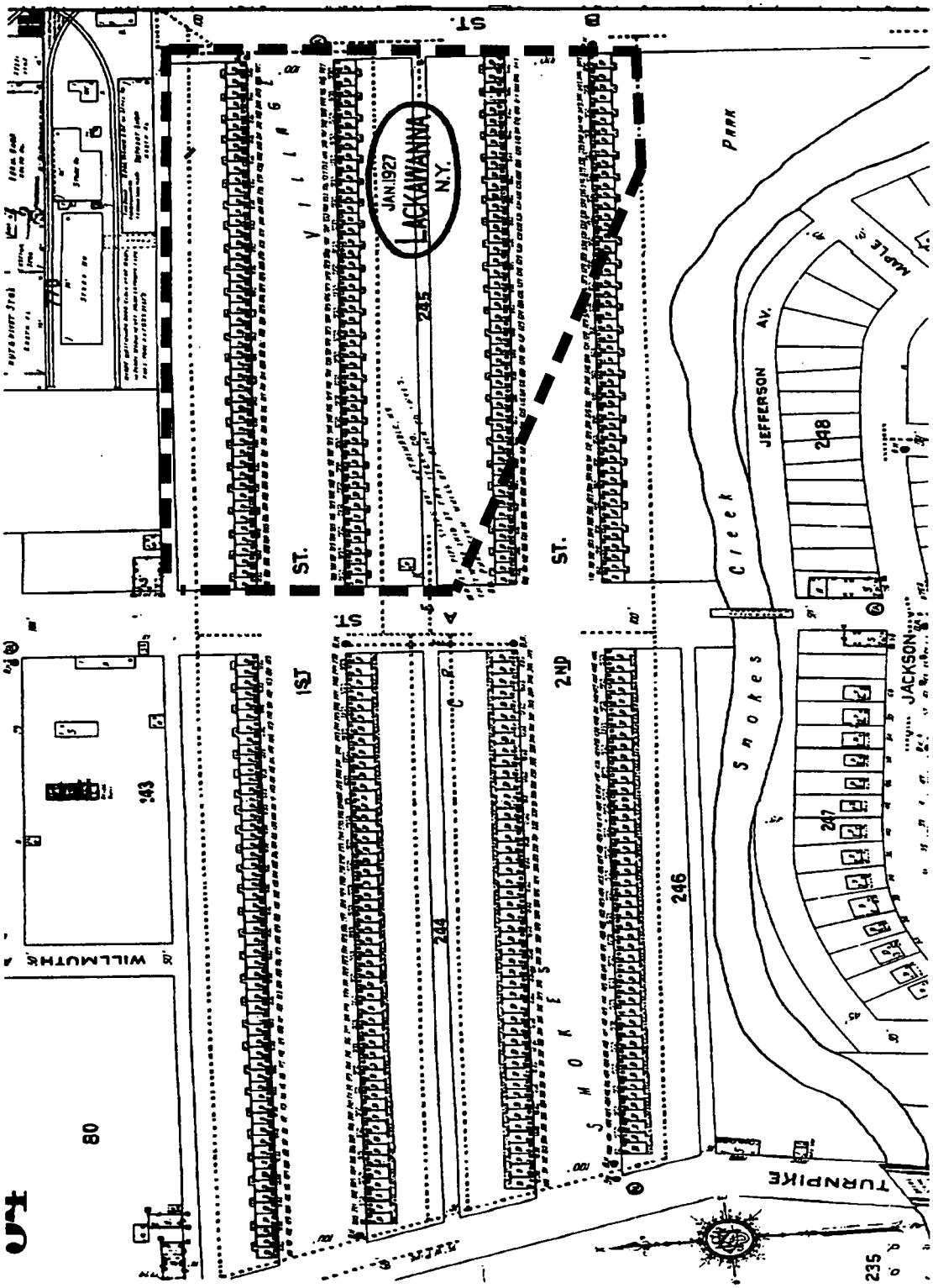

Figure 2
Lackawanna Business Park
1927 Sanborn Map

as a recreation area that included a mini-bike trail and ballfield (called the "Old Village Ballfield"). The exact date of first use by the city for these purposes is not certain.

Records show that the Amadori Construction Co., Inc., began leasing the property from the Bethlehem Steel Company (BSC) in 1968 and that the Amadori building (West of the property) was constructed during that year. Amadori purchased the property in February 1973 from BSC and sold it to their associated company, Mark Roberts Construction, the same month. The Amadori/Mark Roberts Construction Companies were engaged in the rental of construction equipment and general construction. The Amadori building site was used to store, repair and maintain construction equipment. No commercial disposal activities have been documented to have occurred at the property. The City of Lackawanna took ownership of the property in 1996.

3.2: Environmental Restoration History

Prior to starting the investigation of the site, a "Site Investigation Scoping Plan/Phase I Environmental Site Assessment" was performed on the property on April 7 & 8, 1998. The Phase I provided information pertaining to: the Sites present and past ownership, location, current and past uses, surface and drainage features, local geology and hydrogeology, previous studies, adjacent properties, historical information and recommended data needs and remedial goals. The information from the Phase I was used to determine the sampling location/methods during the subsequent Site investigation.

SECTION 4: CURRENT STATUS

To determine the nature and extent of any contamination by hazardous substances of this environmental restoration site, the City of Lackawanna has recently completed a Site Investigation/Remedial Action Report (SI/RAR).

4.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site.

The SI field work was conducted between June 22, 1998 and July 3, 1998. A report entitled Site Investigation/Remedial Alternative Report", dated September 1998, has been prepared describing the field activities and findings of the SI in detail.

The SI included the following activities:

- Magnetometer survey to determine presence of underground storage tanks.
- Installation of soil borings and monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions.
- Surface soil sampling
- Excavation of test pits and trenches to locate and characterize underground storage tanks, depth to bedrock, buried structures, and fill materials.
- Debris excavation to determine the content of the various berm and debris piles on the property.

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the SI analytical data were compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the Lackawanna Business Park Site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 of the NYS Sanitary Code. For soils, NYSDEC TAGM 4046 provides soil cleanup guidelines for the protection of groundwater, background conditions and health based exposure scenarios. Guidance values for evaluating contamination on surface water sediments are provided by the NYSDEC Technical Guidance for Screening Contaminated Sediments.

Based upon the results of the site investigation in comparison to the SCGs and potential public health and environmental exposure routes, certain areas and media of the site require remediation. These are summarized below. More complete information can be found in the SI Report.

Chemical concentrations are reported in parts per billion (ppb) or parts per million (ppm). For comparison purposes, SCGs are given for each medium.

Site Geology and Hydrogeology

The United States Department of Agriculture (USDA) Soil Conservation Service *Soil Survey of Erie County, New York (1*986) lists the site area as Urban Land, which is defined as nearly level urbanized areas, and areas of well drained to poorly drained soils and disturbed soils on lowland plains. This complex consists of nearly level areas of urban land and somewhat poorly drained Niagara soils. Niagara soils formed 'in silty lake-laid deposits with slope ranges from 0 to 3 percent. Permeability of the Niagara soils is moderately slow; the available water capacity is high and run-off is slow.

The subsurface investigation identified fill materials consisting of reworked silt, clay , and gravel intermixed with brick, concrete, cinders, metal, glass, and wood. The fill materials consisted largely of building demolition debris assumed to be the remnants of the former row houses. Surface materials consisted of very dense gravel intermixed with slag at some locations. The physical character of the fill was generally consistent across the site with a few exceptions. Materials resembling foundry sands were identified at test trench location TT-5. An isolated area of fill containing coal ash was identified at test trench locations TT-17 and TT-26 within the former housing foundations. A very dense impenetrable material (concrete) was encountered at two of these test trench locations, as well as two other locations (TT-4 and TT- 13), at depths of 6 to 8 feet below grade. The trenches were located between the row house foundations and the material is believed to be the row house basement floor.

Native subsurface soils beneath the fill materials consisted of a brown fine to medium sand which is underlain by a gray medium dense to very dense sandy to clayey silt with some gravel. Bedrock below the site is a black fissile shale classified as the Levanna shale member of the Skaneateles formation. Bedrock was encountered at an average depth of 12 feet below ground surface (bgs) across most of the site. The boring for monitoring well MW-4, situated in the southeast portion of the site, encountered bedrock 15.5 feet bgs.

Groundwater was encountered at depths ranging from 8 to 10 feet bgs. The general direction of groundwater flow across the site is to the southeast towards Smokes Creek which is approximately 100 feet south of the site (Figure 3). The calculated average hydraulic gradient across the site is 0.013 foot per foot (ft/ft).

The site is generally flat with the exception of isolated berms of soil and debris in the southeastern portion of the site (Figure 3). The average height of northernmost berm is approximately 10 feet, while the average height of the berm in the southeast portion of the site is approximately 5 feet. Surface drainage is likely

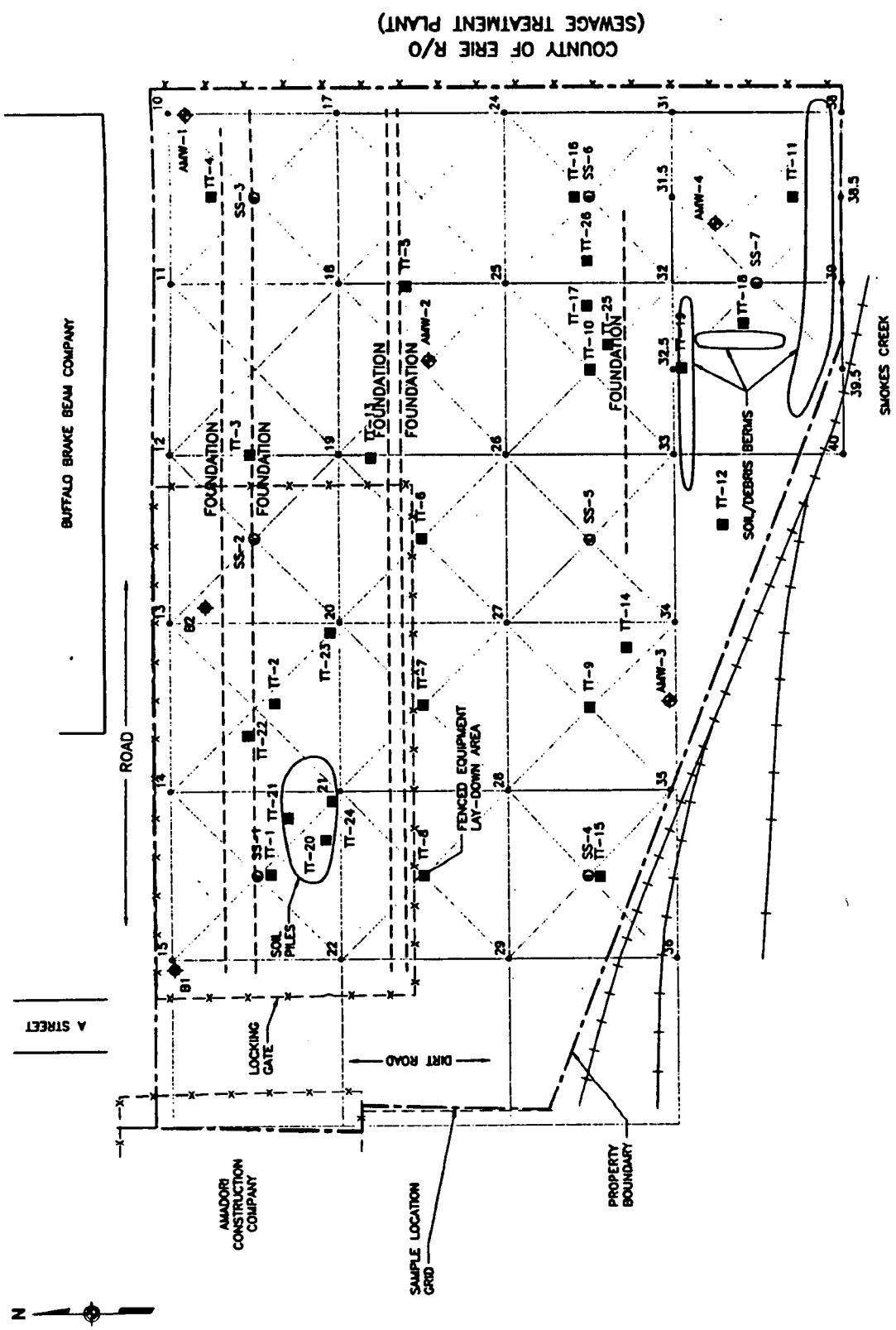

Figure 3
Lackawanna Business Park
Site and Sampling Plan

laterally in all directions and towards onsite low spots. In general, surface drainage most likely follows the surface topography and flows from north to south-southwest towards Smokes Creek. No man-made drainage was observed during the site investigation. The site is also located within a 100-year flood plain of Smokes Creek.

4.1.1 Nature of Contamination:

As described in the SI Report dated September 1998, soil and groundwater samples were collected at the site to characterize the nature and extent of contamination. Samples of site surface and subsurface soils and groundwater were collected and analyzed for full Target Compound List (TCL) organic suite (151 organic compounds), and the Target Analyte List (TAL) inorganic suite. TCL analysis is comprised of three groups of compounds: the volatile organic compounds (VOCs), the semi-volatile compounds (SVOCs) and Polychlorinated biphenyls (PCBs). TAL analysis consists of analyzing for 23 metal and total cyanide.

4.1.2 Extent of Contamination

Tables 1 through 3 summarize the extent of contamination for the contaminants of concern in surface and subsurface soils and groundwater and compares the data with the proposed remedial action levels Standards, Criteria and Guidance (SCGs) for the Site. The following are the media which were investigated and a summary of the findings of the investigation.

Debris Piles/Berms

Four test trenches were cut through the debris piles on the site to determine their content. In general the piles contained predominantly topsoil intermixed with clay and silt soils, concrete, rubber hoses, metal, wood, brick, and tires. No samples were collected of the berm materials because no waste substances were identified.

Soil

Surface Soils: Table 1 provides a summary of the results of the sampling of surface soils at the site. To characterize the site surface soils, the site was broken into sampling grids (Figure 3). Samples were then collected at each of the grid corners and composited into a single sample. A total of twelve (12) samples were collected. Samples were analyzed for TCL organic and TAL metal parameters. Based on the results of this sampling event additional discrete samples were collected and analyzed where abnormally high levels of contamination was detected in the composite sample.

The primary compounds observed in soils were SVOCs in the form of polycyclic aromatic hydrocarbons (PAHs) (Table 1). PAHs are compounds which are part of the make-up of asphalt products, roofing products, soot from open burning, exhaust emissions from internal combustion engines, and other industrial sources . As would be expected in an urban/industrial area such as this, PAH compounds were found in site surface soils. The PAHs identified included the following compounds: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene.

In general, levels of PAHs were detected above TAGM values in all the surface soil samples on the site. With the exception of sample SS-2, the levels detected were consistent with the concentrations found in two background samples collected from an adjacent residential area, . Sample SS-2 exhibited elevated levels of PAHs, approximately three (3) times the background levels for the area. Although these values were elevated for the general area and the site, they were below the 500 ppm value established in the Department TAGM 4046 guidance for total of semi-volatile organic compounds (Highest total value of SVOCs - 221 ppm). It is theorized that the levels of PAHs across the area is attributed to the century long air deposition

Table 1 Summary of Surface Soil Sampling Analysis

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	BACKGROUND VALUES (ppb)	NO. of SAMPLES EXCEEDING BACKGROUND	SCGs (ppb) TAGM 4046	NO. of SAMPLES EXCEEDING SCGs (of 12 samp.)
Surface Soils	Volatile Organic Compounds	Acetone	ND to 6	ND	2	200	0
	Semivolatile Organic Compounds (SVOCs)	Naphthalene	38 to 230	130	1	13000	0
		2-Methylnaphthalene	44 to 200	130	1	36400	0
		Acenaphthylene	100 to 1600	140	10	41000	0
		Acenaphthene	37 to 280	280	0	50000	0
		Dibenzofuran	39 to 300	170	1	6200	0
		Fluorene	39 to 540	280	1	50000	0
		Phenanthrene	330 to 5800	2700	1	50000	0
		Anthrathene	110 to 1600	690	1	50000	0
		Carbazole	54 to 880	430	1	NA	0
		Fluoranthene	630 to 11,000	3400	1	50000	0
		Pyrene	680 to 8500	2700	2	50000	0
		Butylbenzylphthalate	ND to 90	ND	3	50000	0
		Benzo(a)anthracene	380 to 4000	1200	2	224	12
		Chrysene	440 to 5100	1400	3	400	12
		Benzo(b)fluoranthene	560 to 5300	1500	3	1100	4
		Benzo(k)fluoranthene	580 to 5300	1500	3	1100	3
		Benzo(a)pyrene	410 to 3800	1300	3	61	12
		Indeno(1,2,3-cd)pyrene	200 to 1500	450	3	3200	0
		Dibenzo(a,h)anthracene	51 to 660	180	3	14	12
		Benzo(g,h,i)perylene	150 to 1300	420	3	50000	0

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppm)	BACKGROUND VALUES(ppm)	NO. of SAMPLES EXCEEDING BACKGROUND	SCGs (ppm) TAGM 4046	NO. of SAMPLES EXCEEDING SCGs (of 7 samples)
Surface Soils	Inorganics Metals	Aluminum	7710 to 21500	8360	0	NA	0
		Antimony	0.99 to 5.2	1.5	1	NA	0
		Arsenic	5.9 to 11.1	12.3	0	7.5	5
		Barium	73.1 to 215	62.2	7	300	0
		Beryllium	0.71 to 3.6	0.46	7	0.16	7
		Cadmium	3.8 to 7.9	6.2	3	10	0
		Calcium	42800 to 153000	27400	7	NA	0
		Chromium	25.3 to 243	57.6	4	50	4
		Cobalt	5.2 to 12.2	7	4	30	0
		Copper	30.9 to 70	41.7	3	25	7
		Iron	30000 to 61900	34000	5	2000	7
		Lead	82.7 to 172	181	0	500	0
		Magnesium	8080 to 25400	5770	7	NA	0
		Manganese	1670 to 8700	1650	7	NA	0
		Mercury	ND to 0.13	0.07	4	0.1	4
		Nickel	12.4 to 33.5	17.9	4	13	5
		Potassium	1380 to 2810	1010	7	NA	0
		Selenium	3.1 to 7.7	4.1	6	2	7
		Silver	0.92 to 3.3	0.86	7	NA	0
		Sodium	ND to 833	ND	6	NA	0
		Thallium	ND to 9.9	ND	3	NA	0
		Vanadium	11.9 to 173	27.5	3	150	0
		Zinc	133 to 340	441	0	20	7

NA - Not applicable (no limit or guidance value applies)

ND - Not detected

Table 2 Summary of Subsurface Soil Sampling Analysis

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	BACKGROUND VALUES(ppb)	NO. of SAMPLES EXCEEDING BACKGROUND	SCGs (ppb) TAGM 4046 Guidance	NO. of SAMPLES EXCEEDING SCGs (of 8 samples)
Subsurface Soils	Volatile Organic Compounds (VOCs)	Methylene Chloride	ND to 12	ND	7	100	0
	Semivolatile Organic Compounds (SVOCs)	4-Methylphenol (p-cresol)	ND to 78	ND	1	900	0
		2,4-Dimethylphenol	ND to 54	ND	1	NA	0
		Naphthalene	110 to 1100	130	6	13000	0
		2-Methylnaphthalene	100 to 790	130	6	36400	0
		Acenaphthylene	ND to 250	140	2	41000	0
		Acenaphthene	ND to 5600	280	1	50000	0
		Dibenzofuran	61 to 4800	170	1	6200	0
		Fluorene	ND to 8200	280	1	50000	0
		Phenanthrene	420 to 37000	2700	1	50000	0
		Anthrathene	65 to 13000	690	1	50000	0
		Carbazole	ND to 3100	430	1	NA	0
		Fluoranthene	550 to 22000	3400	1	50000	0
		Pyrene	520 to 34000	2700	3	50000	0
		3,3'-Dichlorobenzidine	ND to 90	ND	1	NA	0
		Benzo(a)anthracene	350 to 15000	1200	3	224	8
		Chrysene	430 to 17000	1400	4	400	8
		Benzo(b)fluoranthene	580 to 3900	1500	4	1100	5
		Benzo(k)fluoranthene	ND to 21000	1500	1	1100	1
		Benzo(a)pyrene	390 to 15000	1300	3	61	8
		Indeno(1,2,3-cd)pyrene	280 to 7400	450	5	3200	1
		Dibenz(a,h)anthracene	160 to 5800	180	6	14	8
		Benzo(g,h,i)perylene	310 to 6100	420	6	50000	0

Subsurface Soils	Inorganics Metals	Aluminum	6810 to 20100	8360	5	NA	0
		Antimony	1.1 to 34.6	1.5	6	NA	0
		Arsenic	8.3 to 57.7	12.3	5	7.5	8
		Barium	75.4 to 668	62.2	8	300	2
		Beryllium	0.69 to 1.8	0.46	8	0.16	8
		Cadmium	2.8 to 62.8	6.2	4	10	2
		Calcium	27900 to 78200	27400	8	NA	0
		Chromium	15.6 to 280	57.6	3	50	3
		Cobalt	3.6 to 15.5	7	4	30	0
		Copper	22.7 to 386	41.7	5	25	7
		Iron	13200 to 198000	34000	3	2000	8
		Lead	76.3 to 2150	181	6	500	2
		Magnesium	5260 to 10300	5770	7	NA	0
		Manganese	549 to 5390	1650	3	NA	0
		Mercury	ND to 0.33	0.07	6	0.1	6
		Nickel	11.2 to 135	17.9	4	13	7
		Potassium	628 to 2650	1010	6	NA	0
		Selenium	1.8 to 15.1	4.1	3	2	6
		Silver	0.62 to 3.2	0.86	3	NA	0
		Sodium	165 to 479	ND	8	NA	0
		Vanadium	11.5 to 157	27.5	2	150	1
		Zinc	157 to 5980	441	4	20	8

NA - Not applicable (no limit or guidance value applies) ND - Not detected

Table 3 Summary of Groundwater Sampling

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	SCG - Groundwater Standards (ppb)	SAMPLES EXCEEDING SCGs (of 4 locations)
Groundwater	Volatile Organic Compounds (VOCs)	Carbon Disulfide	ND to 2	50	0
		1,2-Dichloroethene(total)	ND to 2	5	0
		Benzene	ND to 16	0.7	2
		Toluene	ND to 12	5	2
		Ethylbenzene	ND to 5	5	0
		Xylene(total)	ND to 27	5	2
	SVOCs	2-Methylnaphthalene	ND to 1	50	0
	Inorganics Metals	Aluminum	224 to 9300	NA	0
		Arsenic	ND to 13.1	25	0
		Barium	70.4 to 117	1000	0
		Cadmium	0.54 to 2.5	10	0
		Calcium	176000 to 260000	NA	0
		Chromium	ND to 11.6	50	0
		Cobalt	1.4 to 6.7	NA	0
		Copper	ND to 15.1	200	0
		Iron	618 to 14400	300	4
		Lead	ND to 8	25	0
		Magnesium	36800 to 76800	35000	4
		Manganese	206 to 812	300	3
		Nickel	5.7 to 16	-	0
		Potassium	5530 to 13400	-	0
		Selenium	ND to 5.7	10	0
		Silver	ND to 1.5	50	0
		Sodium	12200 to 101000	20000	2
		Vanadium	ND to 13.2	-	0
		Zinc	18.2 to 22.7	300	0

NA - Not applicable (no limit or guidance value applies)

ND - Not detected

footersof residuals from the coke and steel making industry in the general area of the property. The type and concentrations of PAH contaminants noted above are of a type, and were found at concentrations, which are similar to other urban settings that have been approved for commercial industrial development.

Metals were also relatively consistent across the site with the exception of one area which exhibited elevated levels of chromium. The composite sample collected SS-7 (in the southeast corner of the property) showed an elevated level of chromium of 245 ppm compared to a guidance value of 50 ppm. Discrete samples collected around this point showed slightly reduced but still elevated levels of chrome that ranged from 145 to 173 ppm.

Subsurface Soils: During the collection of subsurface soil samples 26 test pits were excavated on the site to determine the characteristics of the fill material on the site. During the excavations, samples of discrete fill materials were collected and archived for later analysis. In general the types of fill across the site were similar in nature and did not vary widely. As noted in the surface soils, elevated levels of semi-volatile compounds, specifically PAHs, were found in subsurface fill material on the site (Table 2). With the exception of test pit TT-15 the levels of the PAHs in the fill material were similar to the levels of background surface soil, Test Pit TT-15 exhibited levels of PAHs that were 10 times the background levels. This test pit was located in an area that contained fill consisting of cinders. While this sample was above background levels it was still approximately 50% below (221 ppm) the 500 ppm total SVOC level established in TAGM 4046. Elevated levels of lead (2150 ppm) and chromium (280 ppm) were noted in a very hard and dense material in test pit TT-8. An elevated lead level (7850 ppm) was also detected at test pit TT-3 in a mixture of concrete, brick coal ash and sand.

Groundwater

Upgradiant sample AP-MW-1 and on-site sample AP-MW-2 contained benzene, toluene, ethylbenzene, and xylene (BTEX) compounds ranging in concentrations from 3 to 27 ppb. Concentrations of benzene, toluene, and xylene (total) exceeded site guidance values of 5 ppb (Table 3). Downgradient sample AP-MW-3 contained trace levels of toluene at a concentration of 1 ppb. Sample AP-MW-2 also showed 1,2-dichloroethene (total) at a concentration of 2 ppb.

The presence of low level contamination in the upgradient wells suggests an off-site contaminant source, possibly an underground storage tank leaking petroleum or an upgradient surface spill. The Phase I investigation, did not identify any registered underground storage tank sites upgradient of the site which would suggest a spill or other release. The only other VOC detected was carbon disulfide in samples AP-MW- I and AP-MW-2 at concentrations below the NYSDEC criteria for this compound. The presence of this compound in the samples is attributed to laboratory contamination. Sample AP-MW-2 contained the presence of the only SVOC detected, 2-methynapthalene at a concentration of 1 ppb. The reported concentration of this compound is below the NYSDEC criteria.

Several of the TAL metals were detected in groundwater at the site. The only metals reported at concentrations exceeding NYSDEC groundwater quality criteria were iron, magnesium, manganese, and sodium. Downgradient sample AP-MW-4 detected the greatest number of metals, and generally at the highest concentrations. This sample was collected downgradient of an area containing ash fill material (test trench Nos. 17 and 26) which may be contributing to the elevated metals concentrations at this location. However, all the metals detected in site groundwater are also naturally occurring and typically found in groundwater statewide. Based on the data, groundwater does not appear to be significantly impacted by the parameters detected in the soil above the SCGs and/or background on the site (eg. lead, chromium, and SVOCs).

4.2 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 5 of the SI Report.

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Access to the site is currently unrestricted. Individuals who enter the site could be exposed to surface soils by direct contact routes, dermal contact and incidental ingestion via hand-to-mouth transfer. The same exposure routes would apply to future site visitors or workers if the site were to be developed.

As indicated in section 4.1.1, some of the contaminants found in soils at the site are semi-volatile organics, particularly the polycyclic aromatic hydrocarbons (PAHs) such as; benzo(a)anthracene, chrysene; benzo(b)fluoranthene; benzo(a)pyrene; benzo(k)fluoranthene and dibenzo(a,h)anthracene. These compounds can be of concern when found at high levels. However, the carcinogenic PAHs found at this site are at relatively low levels (less than 5.3 ppm for any one compound in shallow soils) and, in general, are similar to levels found in urban areas as shown by the background sample taken for this project with the exception of the one area noted. The background sample had a total of approximately 19 ppm of total SVOCs. Of the 20 site soil samples analyzed, only 2 of those samples exceeded the site background levels for total SVOCs.

Based upon the projected land use of commercial development, the concentrations of PAHs found in site soils will not require remediation. Additionally, groundwater is not used as a source of potable water since public water is available and it is not likely to be used as a source in the future, therefore this does not represent a potential exposure pathway.

Metals, specifically chrome and lead were detected in two areas of the site. Both metals were detected at levels that far exceeded background values and SCGs. While several other samples, of both surface and subsurface soil, also exceeded SCGs, the concentrations were at or near background levels for the area.

4.3 Summary of Environmental Exposure Pathways:

This site is an open, undeveloped area which has been primarily been used for recreation, commercial or residential purposes for the past eighty years. Smokes Creek (Class C water body) is located directly to the south of the site and serves as a urban drainage way for the City of Lackawanna and surrounding industrial corridor. The creek does not appear to be affected by the site since groundwater in not contaminated and there is no direct discharge of site surface water to the creek. There are no environmental risks associated with this site. Based on the data, groundwater does not appear to be impacted by the contaminants detected in the soil above the SCGs and/or background on the site (eg. lead, chromium, and SVOCs) and any contamination of organic parameters appears to be from an up gradient source, off the property.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, or haulers.

There are currently no ongoing enforcement actions pertaining to this site therefore no PRPs have been identified. However, legal action may be initiated at a future date by the State to recover State response costs should PRPs be identified. The City of Lackawanna will assist the State in its efforts by providing all information, which identifies PRPs, to the State. . The City of Lackawanna also will not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10 which includes the goal of achieving predisposal conditions, to the extent feasible and as authorized by law. The overall remedial goal is to meet all Standards, Criteria and Guidance (SCGs) and to be protective of public health and the environment. At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by any hazardous substance disposed at the site, through the proper application of scientific and engineering principles.

As indicated in the City of Lackawanna's, October 20, 1997, "Creekside Commercial Corridor", Development Plan, the proposed future use of the Lackawanna Business Park site is commercial or light industrial use as part of the new 54 acre commercial/industrial park (Figure 4). The project is located within a designated NYS Economic Development Zone (EDZ). The City has plans to construct a connecting roadway to provide direct access to this property to the current Route 5 corridor. The project also encompasses the reuse of the former Lehigh Industrial Park Site (Site No. 915145) which was remediated under the NYS Superfund program in 1997.

Based upon the proposed commercial/ industrial future use for the Lackawanna Business Park site, the following remedial goal has been selected for this site:

- Prevent human exposure to soil containing contaminants above levels of concern.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective and comply with other statutory laws . Potential remedial alternatives for the Lackawanna Business Park site were identified, screened and evaluated in a Remedial Alternatives Report. This evaluation is presented in the report entitled "Remedial Alternative Report, Lackawanna Business Park", City of Lackawanna, Erie County, dated December 1998. A summary of the detailed analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy or procure contracts for design and construction.

7.1: Description of Remedial Alternatives

The potential remedies are intended to address the contaminated soils at the site.

Alternative No 1:
No Action

Capital Cost: $0.00

Time to Implement: Immediately
Operation and Maintenance Costs: None required.

The no action alternative is typically evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative No. 2
Limited Excavation and Disposal, Cover and Implementation of Institutional Controls for Commercial/Industrial Use

Capital Cost: $74,000
Time to Implement: 3 months
Operation and Maintenance Costs: None

This remedy would achieve SCGs (TAGM 4046) levels for metals in soils at the site through the excavation of approximately 1 foot of surface soil in the area of high chromium values (SS-7) and 3 feet of fill in the area of the high lead levels (TT-3 & TT-8). The volume of soil that would be excavated and disposed in a permitted solid waste landfill is estimated at 1750 cubic yards. Confirmatory samples would be taken to ensure values of lead and chromium were below 1000 ppm and 50 ppm, respectively. These values are set as remedial goals. Site conditions as they currently exist relative to the total amount of PAHs are already predominantly below background levels and would allow the commercial/industrial use planned for this site. The levels of compounds identified in the soils at this site are consistent with other neighborhoods in this urban area. After the excavations are completed, institutional controls would address any remaining PAH contamination, and no additional excavation would be required.

After remediation is complete, institutional controls, consisting of deed restrictions would be required to limit the development of the property to industrial and/or commercial uses, notify the site developer that subsurface fill material is contaminated and if excavated would be subject to solid waste disposal regulations, as well as require the covering of green spaces (i.e. areas which are not covered by buildings, roadways or pavement/sidewalk) with clean soil and maintain a vegetative cover.

Alternative No. 3:
Excavation and Off-site Disposal

Capital Cost: $2,552,000.00
Time to Implement: 6 months
Operation and Maintenance Costs: None

This remedy would allow unrestricted use of the site. For this alternative SCGs would be achieved by excavation of fill soils to a average depth of four feet across the site. Site excavation would be performed using traditional earth moving equipment such as backhoes and bulldozers. Excavated material would be transported using lined dump trucks or trailers to the nearest permitted solid waste landfill approved to accept the material.

During the implementation of this alternative it is estimated that approximately 47,500 cubic yards of fill material would be excavated and removed from the property. Excavated areas would be backfilled with clean soil and graded upon completion. No deed restrictions would be necessary for the future use of the site.

7.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of environmental restoration project sites in New York State (6 NYCCR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Remedial Alternatives Report.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

Only Alternative 3 would meet SCGs, specifically TAGM 4046, for all soils both within the fill and natural soils at the site. During excavation, under Alternative 3, dust controls would need to be implemented to prevent the possible exceedences of air SCGs. For Alternatives 1 & 2, TAGM values for soil would not be achieved in all cases. With the removal of the high levels of chromium and lead (Alternative 2) the remaining soil concentrations would be close to the TAGM values and/or background conditions for the area, and would not interfere with the proposed commercial/industrial use for the site.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternative 2 would be protective of human health through the placement of cover material over areas of the site not covered by buildings, roadways etc. and the excavation of areas of high surface contamination. Alternative 3 would be protective of human health by the elimination of all direct contact with contaminated site soils through the excavation and off-site disposal of all fill soils. The commercial/industrial development of the site proposed by Alternative 1, which would result in the site being covered with commercial or industrial structures, asphalt or concrete paving and new landscaped areas, while improving the existing situation would be protective of human health since contact with site soils would be eliminated.

There are no environmental risks associated with this site. Based on the data, groundwater does not appear to be impacted by the contaminants detected in the soil above the SCGs and/or background on the site (eg. lead, chromium, and SVOCs) and any contamination of organic parameters appears to be from an up gradient source, off the property.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Under Alternative 2, there would be minimal short-term impacts during the excavation of surface soil Dust generation, noise, and increased vehicular traffic would be typical of ordinary construction projects. Excavation and off-site removal of soils, along with backfilling of clean soils, could generate a dust nuisance for short periods of time, but this can be addressed with traditional dust control methods.

Alternative 3 would have somewhat greater short-term construction related impacts due to the larger volume of material to be moved. As noted above dust generation can be controlled with standard construction practices.

Alternative 1 would have no short term impacts since there would be no disturbance at the site from remedial work.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) The magnitude of the remaining risks, 2) The adequacy of the controls intended to limit the risk, and 3) The reliability of these controls.

Alternatives 1 and 2 would both leave limited contaminants on the site in both surface and subsurface soils. While the levels of contaminants would be at or near background levels for the area, the proposed development of the site would provide an added measure of protection through the cover with building structures, clean soil, and/or pavement. Alternative 3 would remove all fill material and provide for the greatest degree of permanence.

Overall, the effectiveness and permanence of Alternative 3 would exceed Alternatives 2 or 1 since the remedy would not have to rely on institutional controls.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 2 would reduce the volume of the contaminated site soils. It would also reduce the mobility of the contaminated site soils by containment under a soil cover, buildings or paved areas once development has occurred. Alternative 3 would reduce the volume of soils and the mobility of impacted soils. With Alternative # 1 there is still the minimal concern for toxicity. There would be a reduction in the mobility of the soils if future development occurred at the site, but no reduction in the volume of impacted soils.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

Alternatives 2 and 3 could be easily implemented. Each alternative would require standard construction equipment typically used in excavation and backfill operations. However, Alternative 3, once completed would not require the implementation of institutional controls. Engineering controls would likely be necessary to reduce dust emissions during soil movement operations in alternatives 2 and 3. Alternative 1 could easily be implemented since no remedial action would be required.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. However, there would not be any operation and maintenance costs after site development. Site maintenance would revert to the site owner. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

The costs for each Alternative are presented below:

Table 4 Comparison of the Cost of Remedial Alternatives			
Alternative	Capital Cost	O&M Cost	Total Cost
#1-No Action	$0.00	$0.00	$0.00
#2-Limited Excavation w/Deed Restrictions	$74,000.00	$0.00	$74,000.00
#3-Excavation	$2,552,000.00	$0.00	$2,552,000.00

8. **Community Acceptance** - Concerns of the community regarding the SI/RAR reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary"included as Appendix A presents the public comments received and the Department's response to the concerns raised. In general the public comments received were supportive of the selected remedy

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the SI/RAR, and the evaluation presented in Section 7, the NYSDEC is selecting Alternative 2: Limited Soil Excavation w/ Deed Restrictions for Commercial/Industrial Use as the remedy for this site.

Alternative 2 is preferred because it will result in limited potential for direct contact with site soils through the removal of areas of elevated surface soils and the eventual placement of commercial structures, asphalt parking areas, concrete walk ways and grass areas; will be protective of human health and environment; will be effective for the long term; could be easily implemented and will support the intended future use of the site. Alternative 1 will not meet the remedial goal since it does not prevent human contact with site soils and development will be unrestricted which could lead to the need for long term maintenance of site or monitoring. Exposure to areas of elevated concentrations of contaminants in surface soil could also be a potential problem if not adequately controlled. Alternative 3 will comply with the remedial goal; will be protective of human health; will be a permanent remedy; but will also be the most costly of the three alternatives, exceeding the value of the property and the facilities constructed on it. Alternative 3 will not be cost effective, but rather will be cost prohibitive compared to alternative 2, which will achieve the stated remedial goals.

Alternative # 2 will require a minimal remedial cost and will attain the same objectives as Alternative 3. Additionally, there will be no operation or maintenance costs associated with this alternative.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program.

2. Excavation and disposal of contaminated fill material from areas of high chromium and lead levels identified in the SI and remedial design.

3. Implementation of deed restrictions which will limit the development of the property to industrial and/or commercial use , notify the site developer that subsurface soils will be subject to solid waste

disposal regulations if excavated and will require covering of fill material on-site with either parking areas, roadways or clean soil with a vegetative cover.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Lackawanna Business Park site environmental restoration process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives, the following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established at the City of Lackawanna Economic Development Zone Office, Lackawanna Public Library and the NYSDEC Office.

- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.

- A fact sheet and public meeting notice was mailed to the public on February 8, 1999, presenting the Proposed Remedial Action Plan for the site and announcing a public meeting set for February 24, 1999. A public comment period was established from February 8 to March 24, 1999.

- A public meeting was held on February 24, 1999 at the City of Lackawanna City Hall to discuss the Proposed Remedial Action Plan for the Site. Questions that were raised during the public meeting and comment period are summarized in the Responsiveness Summary included in Appendix A.

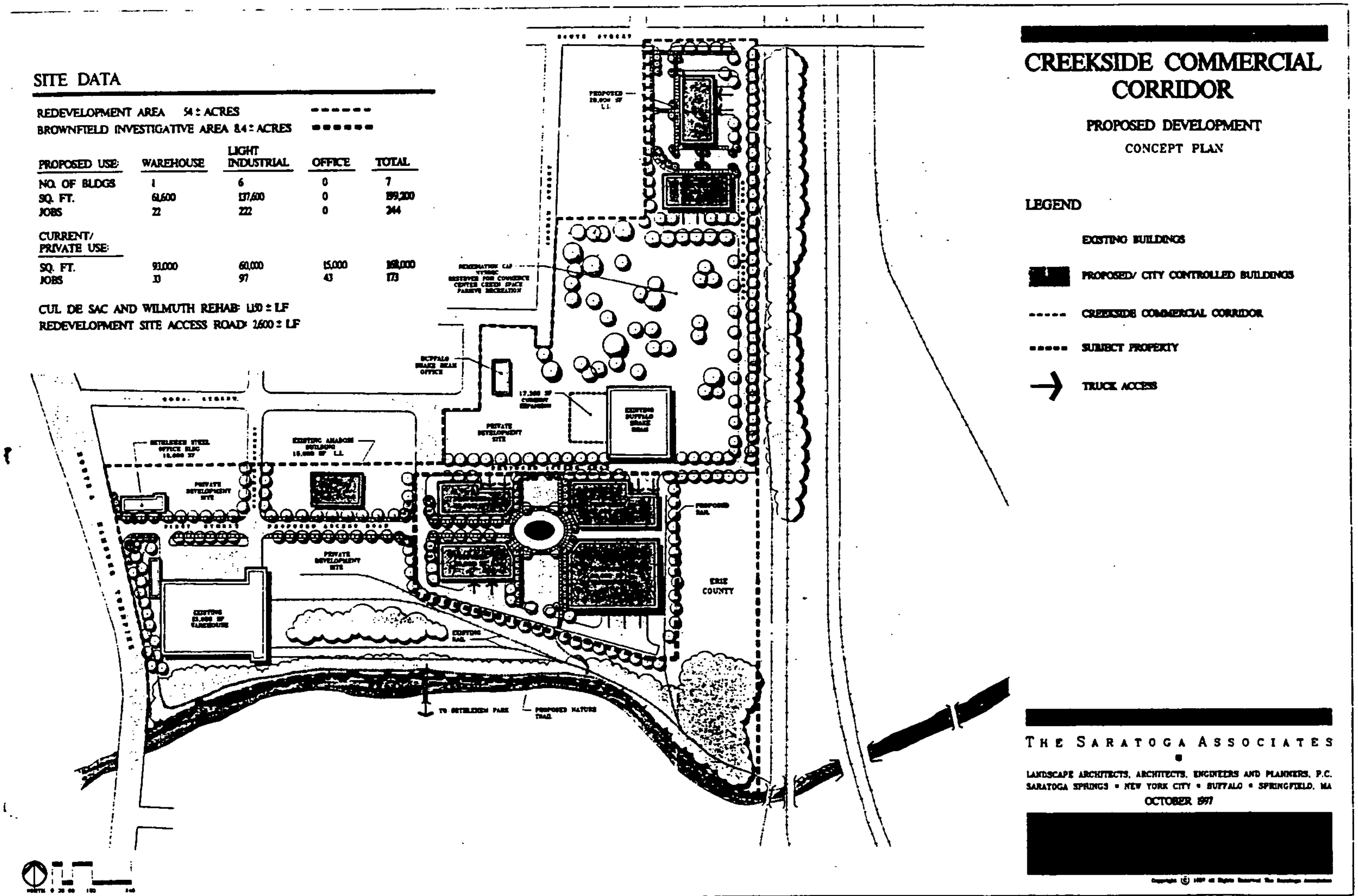

Figure 4
Lackawanna Business Park
Proposed Site Development Plan

APPENDIX A

RESPONSIVENESS SUMMARY
for the
PROPOSED REMEDIAL ACTION PLAN

LACKAWANNA BUSINESS PARK
LACKAWANNA(T), ERIE COUNTY
SITE NO. B-00080-9

The Proposed Remedial Action Plan (PRAP) was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on February 5, 1999. This Plan outlined the measures for the remediation of the Lackawanna Business Park Environmental Restoration Project Site. The selected remedy consists of:

- limited excavation and off-site disposal of areas of contaminated soil.

- deed restrictions to limit the use of the property to commercial/industrial use and require the use of clean soil cover in areas described as green spaces which are not covered by buildings, pavement and roadways.

The release of the PRAP was announced via a notice to the mailing list on February 8, 1999, which informed the public of the PRAP's availability and the time, date and location of the public meeting.

The public meeting was held on February 24, 1999 at 2:30 p.m. at the City of Lackawanna, City Hall and included a presentation of the PRAP and a discussion of the proposed remedial action. The comment period closed March 24, 1999.

This Responsiveness Summary responds to all questions and comments raised at the public meeting of February 24, 1999. No written comments were received on this plan. Comments received have become part of the Administrative Record for this site.

The following are comments related to the PRAP and the State's responses:

1. Q. What would be the potential use of the site if the No Action alternative was chosen?

   A. While the site could theoretically be redeveloped without any remedial action, the liability releases provided by the brownfield program would not be granted to the municipality and any subsequent owners if the selected remedy is not implemented.

2. Q. What will happen first in the cleanup?

   A. The first activity at the site will be additional surface and subsurface soil sampling by the City's consultant to define the exact areas to be excavated. The consultant will then prepare bidding documents based on this work.

3. Q. Under alternative 2, what protection will there be for residents of the park area during construction?

   A. The remedial project will require a site specific health and safety plan that will include provisions to protect both workers and the community. This health and safety plan will include dust

suppression methods and an air monitoring plan. Traffic routes, along with hours of operation, will also be specified so that the potential impact on the residential areas will be minimal. Temporary fencing will also be erected to prevent on-lookers (children) from entering the work zone.

4. Q. As a homeowner in the area, if there are problems, who do I complain to?

   A. A fact sheet will be mailed to interested parties and a sign will be posted at the site during the remedial activities. Both will provide local telephone numbers for City and DEC officials that can be used to report any complaints or concerns.

5. Q. How long will the cleanup take?

   A. It is expected that once the field activities start, the actual excavation of the soil and restoration of the site (back fill of the excavations and removal of equipment) should take approximately two weeks to complete.

6. Q. Will you monitor the site when a developer is working to see if they find any additional contamination during their future construction activities?

   A. No, it is not anticipated that after remediation activities have been completed that the Department will monitor any further development activities at the site. The City, as part of its municipal laws will provide inspection of the site during construction activities to ensure that local regulations are being met.

7. Q. Will someone notify us before work on this site begins?

   A. Yes, the residents will be notified in a fact sheet issued by the City of Lackawanna before work will begin.

8. Q. During remediation, why not close off Dona Street and use First Street?

   A. During the preparation of bidding documents the City and their consultant will evaluate the use of First Street as the required trucking route to avoid the use of a residential street such as Dona Street during the remedial activities.

9. Q. Contaminants are lead and chromium, are there any petroleum type contaminants?

   A. There were no petroleum contaminants found in surface or subsurface soils on the site. In addition there were no underground storage tanks (USTs) located during the site work or identified as potentially being on the property during the review of historical records. Typical petroleum contaminants were detected in trace levels at the up gradient well on the site and may be originating from a spill or release on property upgradient of the site. A referral will be made to the Department's Spill Management Unit to investigate the petroleum contaminants detected in the up gradient wells.

10. Q. Who will be letting (bidding) the contracts?

    A. The City of Lackawanna will be bidding and awarding the contract for this work.

11. Q. Will the surface elevations and contours be about the same after remediation is completed as they are now?

A. The surface elevations and contours will be restored to those that currently exist on the property. However, these may change as the site is cleared for development or once development occurs.

12. Q. Will the cleanup work be combined with the development of the site?

A. If a developer is ready to develop the site, the remedial work could be combined with the construction of building roads and other construction activities. If there are no immediate plans to develop the site, the City will implement the remedy using brownfield funding. This work can proceed as soon as the City submits a brownfield remediation application.

13. Q. When future water lines and other utilities are installed, will that work disturb the contamination?

A. No. The identified contamination of concern, relative to the development of the property for commercial/light industrial use, will be removed during the remedial work on the site. It would be expected that during the construction of any below grade utilities on the property, that the contractor installing the utilities will follow standard industrial health and safety procedures. In addition, the deed restrictions imposed on the site which will limit the development of the property to industrial and/or commercial use. It will also require that the site developer be aware that subsurface soils will be subject to solid waste disposal regulations if excavated and will require covering of fill material on-site with either parking areas, roadways or clean soil with a vegetative cover.

14. Q. You excavate to four feet in alternative 3 but only excavate down about two feet in alternative 2 to remove the contamination. Why is there a difference?

A. Alternative 3 requires the removal of <u>all</u> fill (47,500 cubic yards) on the property at a cost of approximately $2,552,000.00. Alternative 2 only requires the removal of soil that exceeds the remedial clean-up goals established for this project (1,750 cubic yards) at a cost of $74,000.00.

15. Q. Are there any funds available for privately owned adjacent properties to address their problems in a similar manner?

A. No funds are available through the 1996 Clean Water/Clean Air Environmental Bond Act for the remediation of privately owned property. A municipality must have title to property to be eligible for financing through this program.

16. Q. Is the state going to pursue any Potentially Responsible Parties and try to recoup the costs of the investigation and cleanup?

A. As part of Site Investigation that was conducted at the site past owners of the site were identified. These past owners can be considered Potentially Responsible Parties and held liable for the site remediation. However, since the contamination on site cannot be associated with the specific disposal of waste materials by one of the former owners identified, in this case there have been no Potentially Responsible Parties identified and no cost recovery action is anticipated at this time. If new information is presented that a PRP does exist, the City and DEC will pursue cost recovery procedures.

17. Q. How significant is the benzo-related compound contamination?

A. The benzo-related compounds fall into a category of semi-volatile compounds known as polycyclic aromatic hydrocarbons or PAHs. The maximum total amount of PAHs detected at the site was 221 ppm. DEC guidance values for total PAHs in soil for is less than 500 ppm.

18. Q. Lackawanna City Hall is not the most convenient place for the Document Repository, could one be opened at the Lackawanna library?

A. An additional document repository will be established at the Lackawanna Public Library, 560 Ridge Road, Lackawanna.

APPENDIX B
Administrative Record

1. October 20, 1997 - Application submitted by the City of Lackawanna for Investigative Grant funds from the 1998 Environmental Bond Act for the Lackawanna Business Park.

2. February 1998 - *Technical Proposal for Site Investigation/Remedial Alternative Report, City of Lackawanna, Erie County, Project # B00080-9* by URS-Greiner, Inc..

3. May 14, 1998 - *SI/RAR Scoping Plan, Phase I Environmental Site Assessment, Amadori Project Site Property, City of Lackawanna, Erie County New York*, by Panamerican Environmental, Inc.

4. August 3, 1998 - State Assistance Contract No. C300724 - NYSDEC - 1996 Clean Water/Clean Air Bond Act , Environmental Restoration Projects - Title 5.

5. September 1998 - *Site Investigation Report for the Site Investigation/Remedial Alternative Report, Amadori Property, City of Lackawanna, Erie County, Project # B00080-9* by URS-Greiner, Inc.

6. December 1998 - *Remedial Alternatives Report for the Site Investigation/Remedial Alternative Report, Amadori Property, City of Lackawanna, Erie County, Project # B00080-9* by URS-Greiner, Inc.

7. February 5, 1999 - *Proposed Remedial Action Plan Environmental Restoration, Lackawanna Business Park* - NYSDEC - Region 9 Office.

8. March 1999 - *Record of Decision, Lackawanna Business Park* - NYSDEC - Region 9 Office.

APPENDIX C

GLOSSARY OF TERMS

COCs:	Chemicals of Concern
ECL:	Environmental Conservation Law
NYCRR:	New York Codes, Rules, and Regulations
NYSDEC:	New York State Department of Environmental Conservation
NYSDOH:	New York State Department of Health
O&M:	Operation and Maintenance
ppb:	Parts per billion (equivalent to 1 second in 31.7 years) also can be represented as ug/l (as measured in a liquid) and ug/kg (as measured in a solid)
ppm:	Parts per million (equivalent to 1 second in 11.6 days) also be represented as mg/l (as measured in a liquid) and mg/kg (as measured in a solid)
PRAP:	Proposed Remedial Action Plan
PRP:	Potential Responsible Party
RA:	Removal Action
RAOs:	Remedial Action Objectives (clean up goals)
RCRA:	Resource, Conservation, Recovery Act
RI/FS:	Remedial Investigation/Feasibility Study
ROD:	Record of Decision
SCG:	Standards, Criteria and Guidance
SI:	Site Investigation