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Original

MALCOLM PIRNIE

VOLUNTARY CLEANUP PROGRAM APPLICATION

HANNA FURNACE SITE
THE FORMER PRODUCTION AREA
(SUBPARCEL 2)

CITY OF BUFFALO

DOWNTOWN DEVELOPMENT INC.
BUFFALO, NEW YORK

JANUARY 2001

MALCOLM PIRNIE, INC.

P. O. Box 1938
Buffalo, New York 14219

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

VOLUNTARY CLEANUP PROGRAM APPLICATION

NYSDEC Site No.: _____ (rev. 11/00)

STATEMENT OF CERTIFICATION

I, Alan DeLisle, do hereby certify and attest that the information included in this Voluntary Cleanup Program application, including any attachments, is, to the best of my knowledge and belief, accurate and complete; and that the applicant has the necessary funds to undertake the activities proposed to be implemented under this application, if approved.

01/31/01 _____
Date Signature

TYPE OF CONTAMINANTS: ☐ Petroleum ☑ Hazardous Substances ☐ MGP ☐ Other

I. SITE NAME AND LOCATION

SITE NAME (legal, common, or descriptive): Hanna Furnace - Former Manufacturing Area (Subparcel 2)
SITE LOCATION: Street or Route No.: 1818 Fuhrmann Boulevard
CITY/TOWN: Buffalo COUNTY: Erie ZIP: 14220
LATITUDE: 042° 50' 2.60" N LONGITUDE: 078° 50' 55.04" W
COUNTY TAX MAP IDENTIFIER NO(S). _____

II. CURRENT OWNER/OPERATOR INFORMATION

Current owner's name, address, and phone and fax nos.:

City of Buffalo
City Hall, 65 Niagara Square
Buffalo, NY 14202
ph: 716-851-5054 fx: 716-854-0172

Current operator's name, address, and phone and fax nos.:

Same as Owner

III. VOLUNTEER IDENTIFICATION

Volunteer's name, address, and phone and fax nos.:

Joint - Buffalo Economic Renaissance Corporation &
617 Main Street
Buffalo, NY 14203
ph: 716-842-6923 fx: 716-842-6942

Volunteer's contact's name, address, and phone and fax nos.:

Development Downtown, Inc. & City of Buffalo

617 Main Street	City Hall, 65 Niagara Square
Buffalo, NY 14203	Buffalo, NY 14202
716-842-6923	716-851-5054

Describe Volunteer's relationship, if any, to current owner and current operator (subsidiary, shareholder, partner, etc.). If no relationship, put "none":
Buffalo Economic Renaissance Corporation (BERC) is the City of Buffalo's economic development agency. This Buffalo Redevelopment Project is ultimately overseen by the Development Downtown, Inc. (DDI) Board of Directors.

IV. PROPERTY'S ENVIRONMENTAL HISTORY OVER PAST 50 YEARS

A. To the extent that existing information/studies/reports/ are readily available to the applicant, attach:
- a description of the environmental history of the site that includes previous uses of the property, types of operation, chemicals used on the property, by-products or wastes produced by previous activities on-site, and a list of any orders, decrees, or other legal documents regarding violations of the Environmental Conservation Law or equivalent federal environmental statutes;
- a list of previous owners with names, last known addresses and telephone numbers (describe Volunteer's relationship, if any, to each previous owner listed. If no relationship, put "none"); and
- a list of previous operators with names, last known addresses and telephone numbers (describe Volunteer's relationship, if any, to each previous operator listed. If no relationship, put "none").

B. Is the site listed in New York State's Registry of Inactive Hazardous Waste Sites? YES ____ NO ✔

If yes, the Registry Site Code is __ - ____ - _____.

C. Is the site listed as Class 1 or 2 in New York State's Registry of Inactive Hazardous Waste Sites? YES ____ NO ✔

D. Did the Volunteer generate, transport or dispose of, arrange for or cause the generation, transportation or disposal of hazardous substance on the property? YES ____ NO ✔

E. Is the site a treatment, storage, or disposal facility (TSDF) subject to corrective action or closure under permit or order issued under the Department's hazardous waste management regulatory ("RCRA") program? YES ____ NO ✔

F. Is the site a TSDF operating under interim status under the RCRA program that is subject to enforcement action leading to the issuance of an order containing a corrective action schedule? YES ____ NO ✔

V. INTENDED SITE USE

Briefly describe below the Contemplated Use of the site following cleanup.

Following cleanup, the Former Manufacturing portion of the Hanna Furnace Site will be developed into a light industrial/commercial park. The proposed plan for the redevelopment of the entire Hanna Furnace Site calls for transitional development including lower profile, flex-type product in closest proximity to the canal and high-bay distributors/light manufacturing buildings on the outer perimeter of the site.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
VOLUNTARY CLEANUP PROGRAM APPLICATION

IV. PROPERTY'S ENVIRONMENTAL HISTORY

A.1. Description of Environmental History

1929

The newly formed National Steel Company purchased the property in 1929 from the Hanna Furnace Company, forming the Hanna Furnace Corporation. Pig iron manufacturing operations began during the period of 1900 to 1915 with the construction of the blast furnaces. Iron ore, lime, coke and other raw materials were received via the Union Ship Canal, and stockpiled along the northern and southern edges of the canal.

1979

In 1979 Rupley, Bahler, and Blake, Consulting Engineers prepared a Solid Waste Management Facility Report for the Hanna Furnace Corporation. This report includes an evaluation of surface water quality in the Union Ship Canal and an on-site pond. The water samples contained phenols and soluble iron at concentrations above NYSDEC Class GA (drinking water) groundwater standards. It should be noted that groundwater is not used as a drinking water supply in the area of the site.

1982

Pig iron manufacturing ceased in 1982.

In April 1982, after the cessation of pig iron manufacturing at the site, the Erie County Department of Environmental Protection inspected the site and prepared a report entitled "Inactive Site Profile Report". The report recommended that the NYSDEC downgrade the classification of the site to a "class F" which pertains to a site where no further action is warranted and little to no environmental hazard potential exists.

1983

The Jordan Foster Scrap Corporation purchased the Hanna Furnace property in 1983. They took in scrap metal from several used Bethlehem Steel buildings, etc., for processing on the Hanna Furnace site. The processed metal was then distributed via barge, rail, and roadway. No wastes were generated for disposal. The Jordan Foster Scrap Corporation filed for bankruptcy during 1986 and leased the site briefly to the Equity Scrap Processing Company.

In 1983, the NYSDEC, after inspection of the site, prepared an "Inactive Hazardous Waste Disposal Site Report". The on-site inactive landfill was assigned a site number (# 915029).

Also in 1983, the United States Geological Survey (USGS) drilled and sampled seven test borings on the north side of the Union Ship canal. Samples from these borings were analyzed for a short list of heavy metals. In their report entitled "Draft Report of Preliminary Evaluation of Chemical Migration to the Niagara River from Hazardous Waste Disposal Sites in Erie and Niagara Counties," the USGS concluded that there was potential for lateral migration of contaminants at and away from the site. No samples were collected in the Former Production Area during this investigation.

1985

In 1985, a site inspection and Phase I investigation was performed for the NYSDEC by Engineering-Science and Dames & Moore. The Phase I investigation was limited to areas north of the Union Ship Canal and included a records search and scoring the site using the Hazard Ranking Scoring (HRS) system. The study area was assigned a score of 8.73 out of 100 in the Phase I report. Sites with scores greater than 28.5 are generally considered to pose an immediate threat to human health and the environment and are recommended for placement on the National Priorities List. Additional data needs were identified by the Phase I investigation and a Phase II investigation was recommended and outlined.

1988

In 1988, Recra Environmental, Inc. (Recra) performed a "Site Characterization and Environmental Assessment" for the New York State Department of Transportation. The characterization and assessment included the entire 113-acre site. The work involved the collection of samples of surface and subsurface soil/fill, surface water, sediment and groundwater, performance of a risk assessment, and an evaluation of remedial alternatives. The investigation included the collection and analysis of eight surface soil samples, six subsurface soil samples, and two groundwater samples in the Former Production Area. The soil and groundwater samples were analyzed for arsenic, chromium, copper, lead, cyanide, oil and grease, ammonia, and PCBs. Analytical results indicated elevated levels of metals and low (less than 1 part per million) concentrations of PCBs in the soil samples. Groundwater samples from the monitoring wells contained arsenic, chromium, lead, and cyanide at concentrations above the class GA standards. The pH of the groundwater was also above the range of the class GA standard. The HRS score of the Hanna Furnace site was recalculated using the data collected from the site characterization. The revised HRS, as scored by Recra, remained low at 12.28 out of 100, and Recra concluded that the site does not pose an immediate threat to human health

and the environment.

1990

In 1990, The NYSDEC collected two surface soil samples (one composite and one discrete) from the Former Production Area for analysis of PCBs. The composite sample was collected from three locations in the vicinity of the oil shack building where it was identified that transformer salvaging apparently had been conducted. The discrete sample was collected from oil-stained soil in the vicinity of a suspected transformer pen in the southwest corner of the site, near the former office building. PCBs were not detected in either sample.

1994

In 1994, the NYSDEC collected 36 surface soil samples from the Hanna Furnace Site, of which 13 were collected in the Former Production Area. The thirteen samples were analyzed for PCBs using immunoassay techniques, and were analyzed for metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, and selenium) using standard laboratory methodologies. PCBs were not detected in the samples, and all the metals except for silver were detected at concentrations exceeding the current NYSDEC soil cleanup guidelines in at least one sample.

1995

In 1995, ABB Environmental Services performed a Preliminary Site Assessment (PSA) for the NYSDEC at the site. The PSA included not only the 113-acre Hanna Furnace site but also the adjacent Shenango Steel Site. The purpose of the PSA was to more thoroughly characterize the site, recalculate the site score using the HRS system, and reclassify the site. Of the sampling conducted during the PSA, five surface soil, two subsurface soil, and two groundwater samples were collected from the Former Production Area. The soil and groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), SVOCs, pesticides/PCBs, and Target Analyte List (TAL) metals plus cyanide. The surface soil samples were also analyzed for EPTox metals.

Analytical results for the surface soil samples indicated that SVOCs, primarily polycyclic aromatic hydrocarbons (PAHs), and a number of metals were detected at concentrations exceeding the TAGM 4046 soil cleanup guidelines. Metals were detected in the EPTox analysis at low concentrations. The analytical results for the two subsurface samples indicated that no VOCs, SVOCs, pesticides, or PCBs were detected, and a number of metals were detected at concentrations exceeding the soil cleanup guidelines

Analysis of the groundwater samples indicated that only iron, magnesium, manganese, and sodium were detected at concentrations exceeding the NYSDEC Glass GA Groundwater Quality Standards. VOCs, SVOCs, and pesticides/PCBs were not detected in the groundwater samples.

No disposal of listed or characteristic hazardous waste was documented at the site. Therefore, the NYSDEC removed the Hanna Furnace Site from its Registry of Inactive Hazardous Waste Disposal Sites.

1997

In 1997, Ecology and Environment, Inc., performed an Environmental Site Assessment for the Buffalo Urban Renewal Agency. The objective of the assessment was to summarize all available and pertinent environmental information, to identify variations in current site conditions relative to those defined in earlier investigations, and to identify potential areas of concern. The assessment involved a review of records as well as the performance of three site inspections.

The assessment report presented the findings in order of environmental concern by area. The only environmental concern associated with the railroad yard area was solid waste disposal. Several waste piles of railroad ties, tires, C&D debris, household trash, firebrick and black material were noted in the report. Only those debris piles with black material were considered to have potential contamination by E & E.

Present

The Hanna Furnace Site has been essentially unoccupied and unsecured since 1986. A site reconnaissance conducted on May 27, 1999 indicated that the site is regularly used for dumping of tires, construction debris, unspecified containers, household trash, and other materials.

Based on the historical use of the site as a manufacturing area and historical analytical results of sampling in and near the manufacturing area, Malcolm Pirnie developed an investigation scope to more thoroughly characterize Subparcel 2 commensurate with the property's proposed intended end use. The proposed investigation includes a drilling program to collect 36 surface and subsurface soil samples for analysis of Target Compound List (TCL) volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and PCBs, and Target Analyte List (TAL) metals plus cyanide. Two new monitoring wells will also be installed during this investigation, and these wells and the two existing wells in the Former Manufacturing Area will be sampled for the same analytes. The results of this sampling will be summarized and discussed in a report for submission to the NYSDEC. If no further sampling is warranted, the report

will also include a Qualitative Risk Assessment.

A.2. Previous Owners and Operators

Owner (1929-1983)

Hanna Furnace Corporation
Subsidiary of National Steel Corp.
P.O. Box 1207 — As of August 1979
Buffalo, New York 14024
716-827-9311

National Steel Corp.
20 Stanwik Street — As of April 1985
Pittsburgh, PA 15222

Relationship to Volunteer: None

Owner (1983 – date unknown, filed for bankruptcy in 1986)

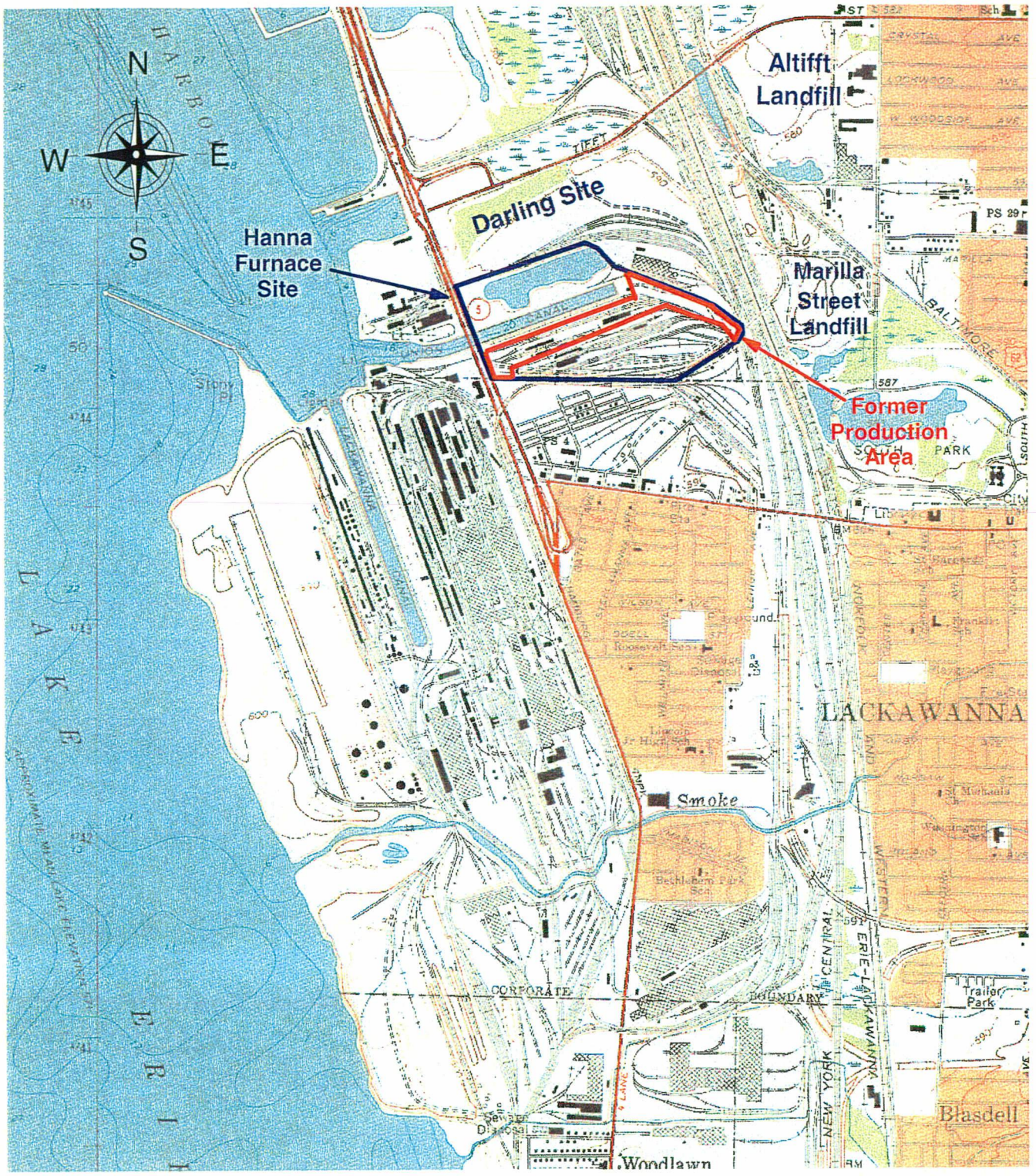
Jordan Foster Scrap Corporation/
Jordan Foster Association
P.O. Box 1207 — As of October 1983
Buffalo, New York 14024

Relationship to Volunteer: None

Operator (leased from Jordan Foster Scrap Corporation, date unknown)

Equity Scrap Processing Company
Address Unknown

Relationship to Volunteer: None



Source: Buffalo SE, NY USGS Quadrangle

MALCOLM PIRNIE

HANNA FURNACE SITE - FORMER PRODUCTION AREA (SUBPARCEL 2)
BUFFALO, NEW YORK

SITE LOCATION

MALCOLM PIRNIE, INC.

FIGURE 1-1

Projects\3587001\Hanna Furnace\Supple Report\Report\Fig1-1 Site Loca.pre

MALCOLM PIRNIE

ATTACHMENT A

RESPONSE TO NYSDEC SEPTEMBER 19, 2000 COMMENT LETTER

SUPPLEMENTAL INVESTIGATION

Comment 1: *Figure 2-1 Site Map. The map would be easier to read if different symbols were used to differentiate the boring, monitoring well and debris pile sample locations. It would be helpful if the sample locations for the 1999 site investigation were included in Figure 2-1.*

Response: Figure 2-1 has been revised to incorporate clearer symbols to better differentiate the sampling locations. Additionally, the revised figure includes the sampling locations from previous site investigations.

Comment 2: *In Figure 2 of the October 1999 site characterization report, and in earlier reports, there are two former buildings depicted as being within Parcel 1. Information should be obtained regarding the operations conducted within the two structures and a determination made as to the likelihood of subsurface structures or buried storage tanks being present.*

Response: As described in Recra Environmental's 1988 Site Characterization and Environmental Assessment Report for the New York State Department of Transportation, the two former buildings are the boiler house and the pig casting mill. The pig casting mill is the southernmost building of the pair.

According to the report, the casting mill received molten pig metal from the blast furnaces, and the molten metal was placed in casting molds. While in the molds, the molten metal was cooled using a recirculating water system. The molds were emptied and sprayed with whitewash (80% revived clay and 20% sea coal) so that the molten iron in the next batch would not stick to the mold.

Little is known about the boiler house except that blow-down from the boilers and recirculating water was discharged to separation basins located between the two buildings according to the report. The sludge reportedly consisted of water, iron oxides, oxides of phosphates, calcium, magnesium, silicon, iron, and aluminum, phosphates of calcium and magnesium, magnesium silicate, and calcium carbonate. Fuel oil was used as the primary fuel source in the boiler house.

Based on the current site information, it is not known if subsurface structures or buried tanks are present in the area of these two former buildings. However, analytical results for a groundwater sample collected from this area (MW-105) during the 2000 Supplemental Investigation indicate that only iron, selenium, and lead were detected at concentrations slightly above the Class GA Standards. Volatile and semivolatile organic compounds, pesticides, and polychlorinated benzenes were not detected in the sample collected from this well. Therefore, no further investigation in this area is considered necessary. As stated in the Remedial Work Plan, if buried tanks or other signs of contamination are encountered during development, further investigation will be performed at that time.

Comment 3: *Page 5, Section 2.1.1 Additional Characterization of Blue-Colored Fill Material. There is a typographic error: the soil borings were labeled in Figure 2-1 as SB-37 through SB-40.*

Response: Figure 2-1 has been modified to show the correct nomenclature.

Comment 4: *Table 2-2 Summary of Well Development Field Measurements. The average pH measured in monitoring wells MW-104 and -105 during redevelopment and sampling was quite high. The report, however, does not offer an assessment. Is the high pH evidence of an unidentified waste in the vicinity? Is the high pH likely to have an impact on off-site areas (i.e. Parcel 2 of the Hanna property)? More investigation is required.*

Response: Because high pH values were not observed during the sampling of the new monitoring wells in the Former Railyard Area, it is likely that the high pH values are due to grout contamination in the older wells sampled. A one-day investigation using a drilling rig has been proposed to evaluate the high pH measured in MW-104 and MW-105. Hollow stem augers will be advanced to a depth of ten feet below grade (the midpoint of the screened interval in each of the two wells) and the pH of groundwater withdrawn using a bailer will be measured. The first locations will be near each of the wells, but upgradient so that grout contamination will not affect the samples. If groundwater pH values over 9.5 are measured, additional borings will be advanced to delineate the area affected by high pH.

Comment 5: *Section 2.3.3 Site Boundary Survey - The survey map is not included in the report. A legal survey map or boundary description based on a survey will have to be attached to the Voluntary Cleanup agreement.*

Response: A legal survey map or boundary description based on the recent site survey will be attached to the Voluntary Cleanup agreement.

Comment 6: *The estimates of the railroad yard acreage have changed: in the October 1999 investigation report and the Supplemental Investigation work plan, the railroad yard is estimated to be 35 acres of the 131 acre Hanna property. In this report, the railroad yard is described as a 43-acre subparcel of a total 113-acre property. The concern is that the site investigation work plan developed for the 35-acre area may not have adequately characterized the 43-acre site. A site map indicating both the 1999 and 2000 sampling locations would be helpful.*

Response: The latter areal figures are correct and are based on a site survey completed following the preparation of the Draft Supplemental Investigation Work Plan. As discussed in the response to Comment 1, Malcolm Pirnie has included the 1999 and 2000 sampling locations on Figure 2-1.

Comment 7: *Page 10, Section 2.4.2 Analysis/Data Usability -This section discusses only the data gathered during the supplemental investigation. A DUSR should be prepared for the 1999 data as well.*

Response: A DUSR has been prepared for the 1999 analytical results (see Attachment A1).

Comment 8: *It is stated in Section 2.4.2 that the analyses were "generally" performed within the ASP. This section could be somewhat more specific without repeating the DUSR that is appended. Perhaps the report could point out which data were rejected or deemed unusable. The "R" qualifier was found in the summary of analytical results for only one sample, the subsurface soil from location MW-002. Was this the only instance of rejected data?*

Response: The Supplemental Investigation Report has been revised to include specific references to qualified data based on the results of the data validation.

Comment 9: *Tables 3-1, -2 and -3. Footnote. The definition given here for the "B" qualifier is for <u>organic</u> results; for inorganics, the letter generally means that the result is between the IDL and CRDL.*

Response 9: Acknowledged. The report tables have been revised to include this definition.

Comment 10: *Tables 3-1, -2 and -3. The shading, used to indicate results, which exceeded guidance criteria, was too faint to see.*

Response: The report tables have been revised to include darker shading, and the values that exceed the guidance values are shown in bold font.

Comment 11: *Appendix A, Boring Logs. An "oil-like" sheen was noted on one of the subsurface soil samples from location MW-003. Is this evidence of petroleum contamination? Further discussion and/or investigation is warranted.*

Response: Although no soil samples were collected for analysis from this well boring, the oil-like sheen was observed at a depth of approximately 7.3 feet below grade. This depth is in the screened interval of the well, and was below the water table during the groundwater sampling event. No volatile organic compounds were detected in the groundwater sample from MW-003, and only one semivolatile organic compound (di-n-butylphthalate) was detected in the sample. Di-n-butylphthalate was detected at a concentration of 4 ug/L. Based on the groundwater sampling results, the oil-like sheen does not appear to be due to petroleum contamination. Section 3.4 has been revised to include this discussion.

REMEDIAL WORK PLAN

Comment 12: *The intended future use of Parcel No. 1 is described in the as being "Commercial and Industrial purposes". Any additional information regarding the final use of the property would be useful at this juncture, particularly when considering the operation and maintenance of the final cover system. It is understood that the City of Buffalo (COB) does not currently have any tenants for the property. However, it does not seem unreasonable for the COB to provide information regarding the ultimate development plans and the nature of the development in Parcel No. 1.*

Response: Ciminelli Development is proposing a transitional development plan for the site which would include lower profile, flex-type product in closest proximity to the canal and high-bay distributors/light manufacturing buildings on the outer perimeter of the site. Ciminelli is estimating an average land coverage of 25 percent at buildout.

Comment 13: *The Department is still evaluating the use of Beneficial Use Determination (BUD) materials and possible issues with respect to the Voluntary Cleanup Program. However, pending the review of the matter it may still be appropriate to provide the following comments regarding the BUD materials.*

The use of water treatment plant (WTP) residuals as cover system material is briefly mentioned. The BUD application states that only three samples were collected from the existing piles at the WTP, which constitute approximately 75,000 cubic yards. The data included the analysis of metals and conventional parameters. This data does not appear to be sufficient for it to be considered representative. Is more data available? If not, more data will be needed. This would require a formal sampling and analysis plan that would specify the location and the appropriate number of samples to be collected. It is necessary that the analysis include TAL/TCL compounds.

Response: The City of Buffalo plans to enter into the voluntary agreement regardless of whether the BUD (for use of WTP residuals as cover system material) is granted by the NYSDEC. Section 5.0 of the BUD petition includes a plan for supplemental sampling and analysis of the water treatment residuals to be land-applied. Specifically, page 16 of the BUD petition states:

> "One sample will be taken for every 5,000 cubic yards of residuals removed from the Sturgeon Point lagoons and storage area. Each sample will be analyzed per methods and laboratories acceptable to the NYSDEC. Residual samples will be analyzed for the parameters identified in the NYSDEC Division of Solid Waste Guidance including: pH, total solids, total volatile solids, total Kjeldahl nitrogen, ammonia nitrogen, nitrate, total phosphorus, total potassium, calcium carbonate equivalence, arsenic, cadmium, total chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. With the exception of pH, total solids, and total volatile solids, all results will be reported on a dry-weight basis. The analytical results for each sample will be compared with the regulatory limits listed in Tables 5 and 6. Residuals will only be transported from the Sturgeon Point WTP to South Buffalo when it is verified that the corresponding analytical results conform to the applicable regulatory limits."

Tables 5 and 6 in the BUD petition include constituent concentration and mass loading limits from NYCRR Part 360, the NYSDEC's guidance document for land application of water treatment residuals,

and USEPA's 40 CFR Part 503. We recommend that technical issues regarding BUD approval be handled through the Division of Solid Waste as part of the BUD approval process.

Comment 14: *It should be noted that WTP residuals can exhibit the characteristic of very fine soil after drying. This should be considered in the HASP, as the blending ratio should ensure that fugitive dust is minimized. The potential for the WTP residuals to mobilize other metals present in soil should be considered, particularly if the soil pH is less than 5.0. It is recommended that soil pH data be collected from the site prior to placing the cover system. WTP residuals can also adsorb the inorganic phosphorous present in soil and this can slow the growth of vegetation. This phenomenon should be considered when developing the procedures for maintaining the cover system.*

Response: The ratio (on a dry-weight basis) of water treatment plant residuals to clean off-site soil material will be 40:60. The Contractor's HASP will include requirements for controlling fugitive dust during soil blending and establishment of vegetative cover, as discussed in Section 2.6 of the Soil/Fill Management Plan. The pH of the water treatment plant residuals varies between 7.0 and 7.5. The pH of the off-site soil material will conform to the TAGM 4046 limits. The procedures for maintaining the cover system will be included in an operations and maintenance plan including methods to handle adsorption of inorganic phosphorous by the WTP residuals. The pH of the off-site borrow material and WTP residuals will be tested prior to transport to the site.

Comment 15: *At a minimum, the plan should include an accurate delineation of areas of soil removal or steps to be taken to define these areas, and a very clear erosion control plan.*

Response: As discussed in the September 26, 2000 meeting, the precise excavation locations cannot be determined at this time. However, the erosion control plan has been modified to incorporate more specific erosion control specifications. The revised erosion control specifications are included in the Soil/Fill Management Plan.

Comment 16: *It is understood that the City is proceeding with the development of an Environmental Impact Statement for this project. Please note that the EIS must include discussion of the voluntary cleanup agreement.*

Response: While the EIS will refer to the VCA as a mitigation measure, it is anticipated that the review of the VCA together with the public comment process will be handled separately from review of any EIS prepared for the overall site.

Comment 17: *The remedial plan must be certified by a New York State registered professional engineer.*

Response: The Final Remedial Work Plan will be stamped by a registered professional engineer.

Comment 18: *The plan must demonstrate that the remedy can achieve the cleanup goals of the agreement, based on an evaluation of the remedy against the factors given in 6NYCRR 375-1.10(c). The factors given in 375-1.10(c) are normally used in a feasibility study of remedial alternatives. For the voluntary cleanup, a comparative analysis is not necessary, but the plan should describe how the proposed remedy would address each factor.*

Response: The Remedial Work Plan has been revised to include an evaluation of how the proposed remedy addresses each of the criteria in 6NYCRR 375-1.10(c). This evaluation is included in Section 5.0 of the Remedial Work Plan.

Comment 19: *The Remedial Work Plan should include a statement that any remedial action that is inconsistent with this work plan and the Soil/Fill Management Plan will void the State's release from liability.*

Response: This statement has been added to Section 1.2 of the Remedial Work Plan.

Comment 20: *The work plan should include a Citizen Participation Plan as an appendix or attachment. The CPP would include: the site background; a summary of the cleanup plan; the NYSDEC and NYSDOH contacts; a mailing list of adjacent property owners; elected officials; community groups and local news media; and a list of the planned CP activities. It should be noted that all CP activities should be coordinated with and approved by the NYSDEC prior to implementation.*

Response: A Citizen Participation Plan that contains the elements listed above has been added to the Remedial Work Plan as Appendix B of the Remedial Work Plan.

Comment 21: *Page 1, Section 1.1 Background. Figure 3-1 provides a better depiction of the four subparcels, and should probably be included in the first section of the plan.*

Response: Figure 3-1 has been included in the Background Section (Section 1.1) of the Introduction.

Comment 22: *Page 7, Section 2.4 Malcolm Pirnie Supplemental Investigation-2000, second paragraph. Typographic error: the report submitted to NYSDEC was dated July 2000.*

Response: The Remedial Work Plan has been revised to include the date of July 2000.

Comment 23: *Page 14, Section 3.2.1 Soil Cover, item 2. Off-site soils used as subgrade material will also need to be tested. Depending on the degree of prior characterization, off-site borrow soils may have to be sampled and analyzed more frequently than once every 5,000 cubic yards. The Soil/Fill Management Plan (Appendix A, Section 2.3, page 2-3) should be modified to indicate that off-site borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products. In addition, off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a). If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use. Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL/TAL parameters. The soil will be acceptable for use as backfill provided that all parameters meet the SSALs or the NYSDEC recommended soil cleanup objectives as noted in TAGM 4046.*

Response: Section 3.2.2 of the Remedial Work Plan and Section 2.2 of the Soil/Fill Management Plan have been revised to include the above requirements.

Comment 24: *Non-virgin soils should be tested via collection of one composite sample per 250 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site source area and all samples of the first 1,000 cubic yards meet SSAL or TAGM 4046 criteria, the sample collection frequency may be reduced to one composite for every 1,000 cubic yards of additional soils from the same source, up to*

5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs or NYSDEC TAGM criteria.

Response: Approximately 70,000 cubic yards of cover soil may need to be obtained just to cover the 43-acre former railyard area. Due to the quantity of soil that will be necessary and the need to control costs, a slightly reduced sampling frequency is proposed. The Remedial Work Plan has been revised to include the following sampling scheme for non-virgin soils brought to the site:

"Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site source area and both samples of the first 1,000 cubic yards meet SSAL or TAGM 4046 criteria, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs or NYSDEC TAGM criteria."

Comment 25: *It is not necessary for sources of material to be pre-approved by the NYSDEC (Section 2.3 Subgrade Material, third bullet), the above documentation and sampling will be sufficient.*

Response: This bullet has been removed from the text.

Comment 26: *Section 3.2.1. It is assumed that, similar to the asphalt and concrete-covered areas, it will be the responsibility of the Volunteer to verify that the soil cover remains in "good condition at all times and sufficiently covers the soil/fill material at the site". [The exact mechanism by which the owner is to provide the NYSDEC with such verification is not described.]*

Response: It is anticipated that there will be an entity responsible for this verification. The volunteer landowner that will be responsible will be resolved through an allocation of responsibilities in the VCA and developers agreement. Negotiations for this allocation are underway.

Comment 27: *Table 5-1 Summary of Analytical Results - It isn't clear if this is a summary of analytical results from just the 1999 and 2000 site investigations or earlier studies (1988-1995) as well. Assuming the former, there are a few errors to the minimum and maximum*

concentrations listed: minimum concentrations of lead, nickel, silver and zinc detected were 2.2, 7.74, 191 and 6.4 mg/kg respectively; the maximum concentrations of barium, chromium, copper, lead and sodium were 428, 193, 504, 1120, and 746 mg/kg respectively. The minimum concentrations of toluene, 2-methylnaphthalene and anthracene were 2, 65 and 62 micrograms per kilogram respectively. The maximum concentrations of toluene and 2-methylnaphthalene were 60 and 430 micrograms per kilogram respectively.

Response: To be comprehensive, Malcolm Pirnie used analytical results for samples collected within the Former Railroad Yard during previous investigations including Recra Environmental's 1988 Site Characterization and Environmental Assessment and ABB Environmental Services' 1995 Preliminary Site Assessment. Therefore, the minimum and maximum concentrations shown on Tables 5-1 and 5-2 reflect all the validated analytical information available for the site rather than only that generated during Malcolm Pirnie's 1999 and 2000 investigations. The tables have been modified to show that the analytical results are from all of these investigations.

Comment 28: *The table should also summarize the total VOC, SVOC and carcinogenic PAH concentrations, and compare to the TAGM 4046 values.*

Response: Table 5-1 has been revised to include these items.

Comment 29: *It would be helpful if the table included the frequency at which TAGM 4046 guidance values were exceeded. For analytes where there is no guidance value, the background range recommended in TAGM 4046 would be used.*

Response: As discussed on September 26, 2000, the City, as owner of the property, has requested that detection frequency data not be included in the Remedial Work Plan.

Comment 30: *It should also be clearly noted that the table is a summary of surface and subsurface soil results, and the recent debris pile sampling.*

Response: Table 5-1 has been revised to include these items.

Comment 31: *Typographic errors: the TAGM 4046 values for beryllium, benzo(a)anthracene and heptachlor are 0.16 mg/kg, and 224 and 100 micrograms/kilogram respectively.*

Response: Table 5-1 has been revised to address these typographical errors.

APPENDIX A-SOIL/FILL MANAGEMENT PLAN

Comment 32: *The worker and community HASPS are extremely generic in nature and contain very little site-specific information. The recommended health and safety procedures in the Remedial Work Plan contain generic instructions for conducting invasive work and confined space entries but they do not appear to reflect the carcinogenic nature of the soil contamination. Both documents should specify the action levels to be used during the grading work and any future excavation and the corresponding contingency or response actions. The HASP procedures should also conform to a Community Air Monitoring Plan as required by the NYSDOH and the documentation air monitoring program that includes real-time and documentation monitoring. Attached for the consultant's reference is the air monitoring program specification that was used in a similar project.*

Response: Appendix A of the Soil/Fill Management Plan has been revised to incorporate most of the specific guidelines attached to the NYSDEC September 19, 2000 comments letter. A Community Air Monitoring Program was included in the Soil/Fill Management Plan as Section 4.2 (Community Air Monitoring Program).

Comment 33: *Page 1-2, Section 1.3 Soil/Fill Management Responsibility. It is stated here that it is the responsibility of the owner or the developer to perform excavation, grading or other movement of soils in accordance with the SMP. The Department suggests the initial volunteer shall be responsible for the requirements of this cleanup plan and long term operation and maintenance. In addition, the initial volunteer should be responsible for reimbursement of State oversight costs during development.*

Response: As discussed at our recent meeting on September 26, 2000, the initial volunteer may not have long-term control over the property. Therefore, DDI is proposing that those responsibilities be allocated to co-volunteers or to future land owners who will be better able to maintain compliance as necessary to protect the releases associated therewith. These negotiations are still underway.

Comment 34: *Section 2.1 Excavation of On-site Soil/Fill. The plan should note that any underground storage tanks or piping encountered during the remediation or build out activities shall be removed and properly decommissioned in accordance with 6NYCRR Part 613.9(b). Visually impacted soil/fill around the tank/piping will be handled as described in this section.*

Response: Section 2.1 of the Soil/Fill Management Plan has been revised to incorporate these items.

Comment 35: *Page 2-1, Section 2. Excavation of On-site Soil/Fill. It is stated here that a PE representing the owner or site developer and/or a NYSDEC representative will monitor soil/fill excavations. Again, it should be the responsibility of the initial cleanup volunteer to ensure that the requirements of this plan are being adhered to during remediation and build out.*

Response: As discussed at our recent meeting on September 26, 2000, DDI maintains that there will be a party responsible for complying with the plan; however, that party may be either a volunteer or a subsequent landowner/developer. This issue will be resolved through an allocation of responsibilities in the VCA and developers agreement. These negotiations are underway.

Comment 36: *Page 2-1, Section 2.1, second paragraph - It is stated here that excavated or disturbed soil/fill which exhibits no staining or elevated PID readings could be used as backfill. The plan allows for the possibility that "some quantity of unsuspected contamination may be* encountered during redevelopment..." (ref. Remedial Work Plan, page 17). Contamination *is often unsuspected because there is no staining or elevated PID readings. It therefore seems prudent to conduct some sampling and analysis of the on-site soil/fill being excavated, even if there are no obvious signs of contamination. Given the extent of the site characterization, one sample of every 1,000 cubic yards of apparently "clean" on-site soils excavated would seem sufficient.*

Response: Since the 43-acre former railyard has been well characterized, a reduced frequency of sampling is proposed. The Soil/Fill Management Plan has been revised to include the collection of one sample every 2,000 cubic yards of apparently "clean" excavated on-site soil.

Comment 37: *Page 2-1, Section 2.1, Second paragraph. Typographic error: the sampling and analysis protocols are delineated in Section 2.2.*

Response: The Soil/Fill Management Plan has been revised to include referral to Section 2.2.

Comment 38: *Table 2-1, Site-Specific Action Levels - The SSALs listed for some of the inorganics are set quite high and perhaps should be reexamined. The SSAL for chromium (4700 mg/kg) and lead (3,300 mg/kg) appear to be based on the maximum detected during the 1988 site investigation; the more recent investigations found that none of the soil samples contained more than 200 mg/kg chromium or 1,120 mg/kg lead. The SSAL for mercury (10 mg/kg) and barium (1,000 mg/kg) are considered elevated since site values never exceeded 0.67 mg/kg and 428 mg/kg respectively. The SSALs for potassium (43,000 mg/kg), sodium (8,000) and cyanide (1,600 mg/kg) appear to be derived from the upper range of Eastern US background levels and USEPA soil screening guidelines even though the maximum concentrations actually found on site were only 6120, 1400 and 43 mg/kg respectively. The development of SSALS are to be based upon concepts of feasibility and not simply determination of the highest values found on-site.*

Response: Based on this comment and discussions with the NYSDEC/NYSDOH, the Site-Specific Action Levels (SSALs) shown in Table 2-1 have been revised to reflect the following:

- All references to the LTV SSALs have been removed from the Soil/Fill Handling Plan.

- A number of the SSALs developed for the Site are based on the highest analyte concentrations detected during various site investigatory activities or alternative numbers suggested by the NYSDOH. Since the Risk Assessment for the Site indicated that these highest concentrations will be adequately addressed by the planned remedial activities (as described in the Remedial Work Plan), we believe that the use of these concentrations as SSALs is valid.

- The proposed SSALs for potassium and sodium have been revised to 8,500 and 6,000 mg/kg, respectively. These concentrations are higher than those detected in samples collected on-site, but they are the values included as the low end of the background concentration range in TAGM 4046.

- The proposed SSAL for cyanide was taken from USEPA's July 1996 Soil Screening Guidance: Technical Background Document (Document Number EPA/540/R-95/128). The guidance document states that these values are conservative and are likely to be protective

for the majority of sites across the nation.

- The proposed SSAL for polychlorinated biphenyls (PCBs) employs the Soil Cleanup Objectives in NYSDEC TAGM 4046. The proposed SSAL for PCBs for surface soils (the ground surface to one foot below grade) is 1.0 mg/kg, and for subsurface soils (greater than one foot below grade) the SSAL is 10.0 mg/kg.

Comment 39: *Section 2.4 Final Cover. Any final slopes greater than 33% (i.e. terms) should be reinforced or have a demarcation layer under the clean cover to indicate if erosion has extended into the subgrade.*

Response: The Soil/Fill Management Plan has been revised to include this item in Section 2.5.

Comment 40: *Page 2-3, Section 2.5 Erosion and Dust Controls. The Soil/Fill Management Plan (S/FMP) should clarify what is meant be placing stockpiles a minimum of fifty feet "...inside the Union Ship Canal and parcel boundaries".*

Response: The Soil/Fill Management Plan has been revised to clarify that stockpiles will be located a minimum of 50 feet inside the parcel property boundaries.

Comment 41: *Page 2-4, Section 2.5 Erosion and Dust Controls. Typographic error: the Community Air Monitoring Plan is detailed in Section 4.2.*

Response: The Soil/Fill Management Plan has been revised to include referral to Section 4.2.

Comment 42: *Page 2-4, Section 2.7 Property Use Limitations. The industrial/commercial use of the site must be controlled by zoning <u>and deed restriction</u>.*

Response: DDI anticipates that the future uses of the site will be controlled through zoning, land use and design guidelines, and deed restrictions, and Section 2.7 has been revised accordingly.

Comment 43: *Page 2-4, Section 2.8 Notification and Reporting Requirements, first bullet. The State will require a minimum of five days prior notification of construction.*

Response: The Soil/Fill Management Plan has been revised to include this request.

Comment 44: *Section 4.2 Community Air Monitoring Program. The S/FMP should require that dust suppression be used at all times, even if monitoring is below action levels. It is suggested that a paragraph be added to state that "...there shall be no visible dust generated during build out activities...".*

Response: The S/FMP has been modified to include a statement that dust control measures shall be utilized at all times, even if monitoring is below action levels.