SOILS MANAGEMENT PLAN

TRINIDAD PARK
237 KENSINGTON AVENUE
BUFFALO, NEW YORK

Prepared for:

City of Buffalo Department of Public Works
Parks and Streets

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1.0 INTRODUCTION

1.1 Site Description and History

Trinidad Park is a City maintained small neighborhood park located along Kensington Avenue (237 Kensington Avenue) in the City of Buffalo, Erie County, New York (Refer to Figure 1-1).

The Park is a single 3.68+/- acre parcel (refer to Figure 1-2) located on the south side of Kensington Avenue and is adjacent to Trinidad Place. Active railroad track system bound the Park to the east. The property was occupied in the early 1900's by asphalt manufacturing, paving, and construction firms. Products manufactured included asphalt, tar, concrete and other products used for paving and road construction. As part of these operations the property contained a series of buildings, including two asphalt manufacturing plants, all of which have since been demolished. The property was converted to a city park around 1970 and currently contains a basketball court, playground, wading pool and open sports/play fields. An approximate 30 foot by 30 foot single story building containing restrooms, storage/utility rooms and a general meeting room as well as an adjacent small wading pool are also located on the property.

1.2 Objectives of the Soils Management Plan

The objective of this Soils Management Plan (SMP) is to provide a description of how environmentally impacted soil materials at the site will be handled during any future site development activities requiring soil excavation or disturbance to minimize any potential risks to human health and the environment.

1.3 Organization of the Soils Management Plan

Section 2 presents an overview of existing site conditions and discusses the nature and extent of contaminants detected in the surface and subsurface materials. The soils management strategies are outlined in Section 3, and contractor requirements are outlined in Section 4.

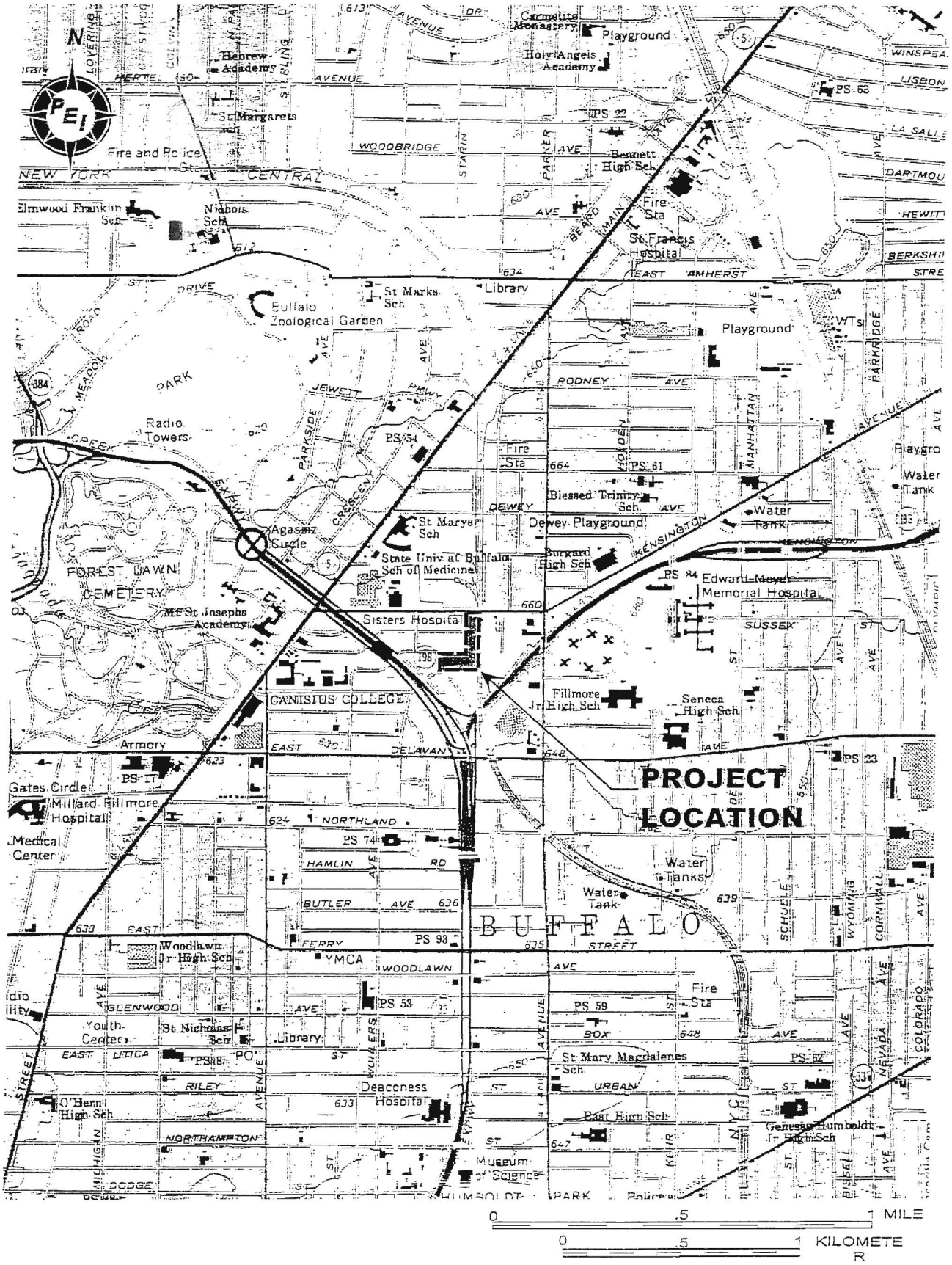

Figure 1-1. Trinidad Park project location map *(USGS 7.5' Quadrangle, Buffalo NE, 1965).*

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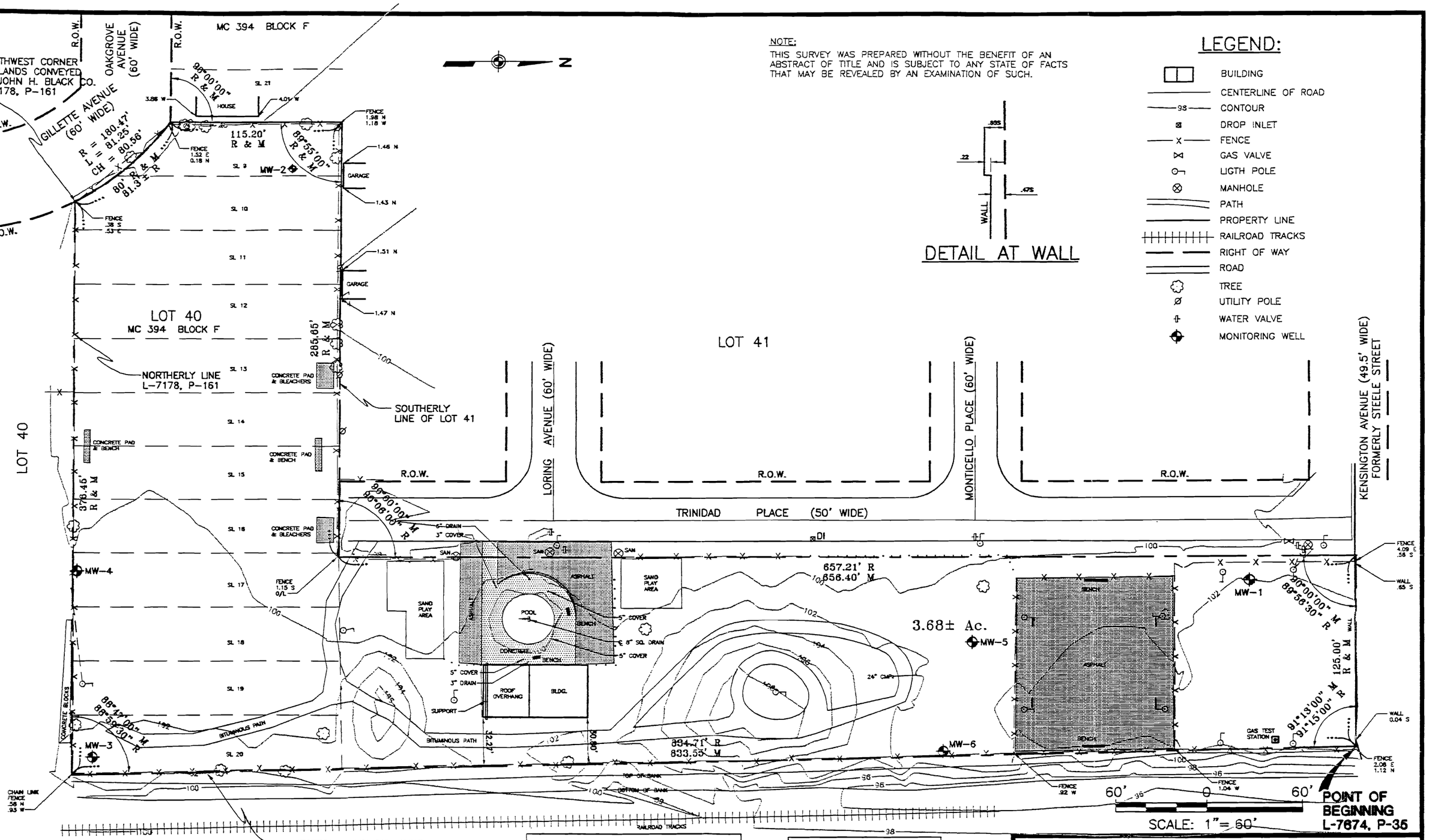
NOTE:
THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

LEGEND:

- BUILDING
- CENTERLINE OF ROAD
- 98 CONTOUR
- DROP INLET
- FENCE
- GAS VALVE
- LIGTH POLE
- MANHOLE
- PATH
- PROPERTY LINE
- RAILROAD TRACKS
- RIGHT OF WAY
- ROAD
- TREE
- UTILITY POLE
- WATER VALVE
- MONITORING WELL

DETAIL AT WALL



WESTERLY LINE OF LANDS NOW OR FORMERLY PENN CENTRAL TRANSPORTATION CO. (FORMERLY NEW YORK CENTRAL AND HUDSON RIVER R.R. BELT LINE)

NOTE:
THE SURVEY INFORMATION HAS NOT BEEN UPDATED. ONLY MONITORING WELLS MW-1 THRU MW-6 HAVE BEEN ADDED, JAN. 10, 2002.

RECORD INFORMATION REFERENCED FROM DEED L-7674, P-35 & MC 861, MC 394

TRINIDAD PARK
SITE PLAN AND BOUNDARY SURVEY

URS

FIGURE 1-2

CC-7234

2.0 EXISTING SITE CONDITIONS

2.1 Soil and Fill Materials

The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Erie County, New York (1986) lists the site area as Urban land (Ud) which is defined as nearly level urbanized areas and areas of disturbed soils. These soils consist of excessively drained to moderately well drained soils near industrial sites, construction sites, and urban developments. In this case, asphalt manufacturing and construction companies were formerly located on the Site. At the time of the soil survey, the property was a park.

Urban land classified soils are invariably man-made cut and fill areas and have little or no profile development. Depth to bedrock and texture are variable. The soils have been extensively reworked in this area and contain fill material due to previous activities and for park construction purposes. Previous subsurface soil investigations indicate that the subsurface geology consists of an approximate 6 inch topsoil layer underlain by 2.5 to 6.5 feet of overburden fill material. The fill material is underlain by 2.0 to 6.0 feet of natural yellow-brown to brown, cohesive clayey silt. The fill material is red-brown and brown to black, with a non-cohesive matrix of silt and fine to coarse sand. Included in the fill are varying amounts of the following; wood and brick fragments, wire and rebar, concrete and asphalt fragments and a fine cindery material mixed in with the silt. The fill material also contains localized occurrences of tar material consisting of lenses or discontinuous layers, varying in thickness, from a few inches to 1.5 feet. The tar material appears to be in isolated areas at varying depths and not consistent across the site. A cohesive clayey silt layer was encountered beneath the fill and above the bedrock.

2.2 Nature and Extent of Contamination

A Site Investigation and Remedial Alternatives Report (SI/RAR) was completed in January 2003. During the Site Investigation (SI) soil and groundwater samples were collected and analyzed to provide an understanding of the site's physical condition and the general distribution, type and level of contamination on site .The SI program identified slightly elevated levels above NYSDEC guidance levels of Polycyclic Aromatic Hydrocarbons (PAHs) and metals in both surface and subsurface soil samples at locations across the property. However, metal and PAH compounds are common constituents of fill material in urban environments. These compounds are typically introduced into the environment by natural (e.g., soil chemistry, forest fires) and human (e.g., automobile, coal or other heating fuel

combustion, railroad and commercial) processes. Similar elevated levels of metals and PAHs were also detected in four background samples obtained from locations west of the property and have also been found at similar or higher levels within the City of Buffalo and other urban areas.

An Interim Remedial Measure (IRM) was undertaken to remove tar/soil material that had surfaced at the southeastern base of the southern mound, near the eastern fence line. The IRM removed the tar/soil material and its source, a tar filled UST discovered during excavation. By removing the tar/soil and source, the dermal route of exposure for this material was eliminated.

Based on the SI, remedial action alternatives were developed from remedial goals designed to prevent contact, ingestion or inhalation of potentially impacted site soils. The following three remedial alternatives were developed and evaluated to meet these goals:

Alternative 1 - No Action Beyond the IRM ;
Alternative 2 - Institutional Controls/Soils Management Plan Implementation; and
Alternative 3 - Partial Excavation, Off Site Disposal and Institutional Controls.

This SI/RAR report provides an evaluation of these alternatives. To meet remedial goals, Alternative 2-Institutional Controls/Soils Management Plan Implementation, was recommended as the selected remedy. Institutional controls would include deed restrictions that require implementing of this Soils Management Plan (SMP) for future excavation activities that may be required on the property.

3.0 SOILS MANAGEMENT STRATEGIES

3.1 General

This section presents a discussion of the soil management approaches that will be utilized in conjunction with future development activities at the Site. Whereas the soils at the site pose only minimal potential risk to construction workers and/or the public, this potential risk can be further reduced and/or eliminated if proper soil management strategies are employed.

the primary potential exposure routes associated with the PAHs, and metals in the onsite soils include:

- Dermal contact
- Ingestion
- Inhalation

The potential exposure of workers and the public to fill materials at the site via the above exposure routes is low. This is primarily due to the fact that the primary chemicals of concern are some metals and PAHs. These compounds are typically bound up in the soil/fill materials and are not very mobile. They have low solubilities and do not leach readily to groundwater, even at relatively high concentrations. In general, potential for exposure to the fill materials at the site will be limited to future development that may require onsite excavations (i.e., utilities, foundations, gardens, etc.) and/or fugitive dust generated at the site during construction activities.

Consequently, the soils management/handling procedures need to focus on reducing or eliminating the potential for workers and the public to come in contact with the contaminated site soils. Based on the SI/RAR the following general approach will be utilized in managing contaminated soils at the site.

- Existing areas of the site which are covered with asphalt/concrete or have well established grass should be maintained to the maximum extent practicable. Well-established and maintained grass cover usually minimizes human exposures to soil by acting as a barrier to direct contact with the soil.

- All soil materials excavated at the site should be managed as if they are contaminated. This means that any fill materials excavated at the site should be disposed offsite at a facility permitted to accept non-hazardous contaminated soils or should be utilized in regrading the

site and capped with a minimum of 12 inches of clean soil and/or concrete/asphalt.

- All imported fill materials should be obtained from approved "virgin" sources and/or be tested to ensure they are clean and free of contaminants.

- If possible, no basements or other unnecessary excavations should be incorporated in the development. Utilities should be "bundled"and run in dedicated corridors to minimize soil excavation. All utility trenches should be backfilled with clean soils.

- Dust control measures with full-time air monitoring (work areas and site perimeter) should be implemented during all intrusive activities to minimize inhalation exposures and create a public record.

- Full-time oversight should be provided during all intrusive activities to provide air monitoring and to document compliance with the SMP. A final construction monitoring report should be prepared upon project completion.

- Where possible, the existing site grade should be raised rather than lowered. Clean soils from off-site sources should be utilized (minimum 12 inches) in all areas where soil will be left exposed (i.e., not capped with asphalt/concrete) at the surface.

3.2 Soil Management/Handling Procedures

Specific soil management/handling procedures to be implemented at the site are described below. Additionally, prior to the commencement of any construction activities, the contractor shall develop, for review by the City of Buffalo, Department of Public Works, a site specific Health and Safety Plan.

3.2.1 Building Foundations

The materials to be excavated for the foundations will consist of existing fill materials. The fill materials will be managed as if they are non-hazardous contaminated soils. Consequently, the fill materials will be transported and disposed offsite in a permitted disposal facility. Alternatively, the fill materials may be utilized onsite (subsurface only) to re-grade the site. If the fill materials are retained onsite, placement during regrading will be limited to those areas of the site that will be capped with a minimum of 12-inches of clean soil, and/or concrete/asphalt, in order to limit potential exposure to future workers and the

public.

3.2.2 Utility Trenches

To ensure worker safety during installation and for future repair of buried Utility services, the following procedures have been established to ensure proper management of the soils:

- Fill/native materials will be excavated to create a minimum two foot wide trench and one foot below the proposed invert elevation of the deepest utility. The fill materials will be utilized onsite for backfilling and/or regrading as applicable and/or disposed offsite;

- The resultant trench will be backfilled and compacted with clean soils imported from offsite;

- The utilities may be installed prior to backfilling and/or through the clean compacted soils, as necessary.

3.2.3 Site Grading

In areas to be re-graded, the existing soils/fill will be excavated and repositioned as necessary to achieve the desired subgrade. The subgrade elevation will be maintained 12-inches below the final design elevations except in areas that will be capped with asphalt and/or concrete. In these areas the subgrade and final grade elevations will be the same. The upper 12-inches in the remaining areas will be filled to final grade with clean soils/topsoil imported from offsite sources.
Under no circumstances will the site fill materials occupy the final elevation at the end of construction in any area of the site, except under asphalt or concrete covered areas.

3.2.4 Clean Fill Requirements

Fill materials and topsoil to be imported from offsite will be obtained from existing commercial suppliers and will be certified "clean" by the suppliers. However, should the contractor propose to import materials from other, non-certifiable sources, one representative sample of the material from each proposed source will be obtained and analyzed for TCL Volatile/Semi-Volatile organics, TCL Pesticides/PCBs, Target Analyte List (TAL) metals and Cyanide analysis.

3.2.5 Manifesting of Excavated Fill Materials

The SI/RAR analytical data indicates that the fill materials are slightly impacted by PAHs and metals and are non-hazardous. Consequently, the fill materials will be handled as contaminated, non-hazardous soil. Should it be determined that any of the excavated fill materials are to be disposed off site, each truck will be provided with a "bill of lading" indicating that the soil/fill is non-hazardous.

3.2.6 Construction Observation

For future development, an on-site, independent environmental inspector will be provided throughout any excavation and grading activities to evaluate the soil/fill materials encountered, and verify compliance with this SMP. This individual will be experienced with identification and screening of non-hazardous contaminated soils. The primary role will be to monitor the movement of site soils to assure compliance with the SMP requirements. Additionally, the inspector will monitor air quality to document conditions during construction activities involving movement of soils.

Implementation of a perimeter air quality monitoring program will be required. Perimeter air quality will be measured at upwind and downwind locations to determine the potential offsite impact from onsite construction activities. At a minimum, monitoring for fugitive dust will be required. Real-time fugitive dust monitors should be used continuously throughout the work day. If downwind levels exceed 150 mg/m^3 above ambient levels, dust suppression measures shall be implemented.

Throughout construction, the inspector will prepare daily field reports that document activities performed, equipment and manpower onsite, screening and/or testing results, weather conditions, progress, changes or variances from the SMP, etc.

Following completion of construction activities related to the SMP, a brief Certification Report will be prepared. This report will summarize the construction activities and certify that the work was performed in accordance with the approved SMP. The field reports and other supporting documentation will be appended as necessary.

5.0 CONTRACTOR REQUIREMENTS

During construction, the Contractor will be required to provide an onsite representative who will be responsible for the implementation of this SMP. The responsibilities of the contractor include:

- As a requirement of the SMP, the City of Buffalo DPW will provide an onsite environmental inspector to oversee the contractor's compliance with the SMP. To that end, the contractor will need to coordinate all excavation activities with the inspector.

- Prior to the start of construction, the contractor will be required to prepare a site-specific Health and Safety Plan (HASP). The HASP must be prepared in accordance with applicable USEPA, Occupational Safety and Health Administration (OSHA), American Council of Government Industrial Hygienists (ACGIH), and National Institute of Occupational Safety and Health (NIOSH) standards. The HASP should focus on reducing or eliminating the potential for workers/local residents to come in contact with contaminated soils and/or inhale fugitive dust during construction. The HASP must address all the normal items related to construction activities as well as the environmental issues specific to this project. Additionally, the contractor will need to determine the appropriate level of safety training required for personnel working on this project with respect to the contaminated nature of the materials to be excavated. It is strongly recommended that the contractor's supervisory personnel, at a minimum, be trained and experienced in working with contaminated soils. The contractor must provide a qualified Health and Safety Officer onsite during all excavation and disposal operations.

- The contractor will be responsible for conducting his own air quality monitoring, or other monitoring for his own workers, as deemed necessary by the HASP. This will be independent of any perimeter air monitoring performed by the City of Buffalo, DPW inspector.

- The Contractor must also address erosion/sediment control procedures to be implemented in order to prevent runoff from contaminated areas from impacting adjacent areas.

- The Contractor must develop a work plan which details the excavation, handling, and disposal procedures he will utilize to meet the objectives of this SMP. This plan must be reviewed and approved by the City of Buffalo, DPW prior to moving soil material on site.