Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision
A. K. Allen Site
North Hempstead, Nassau County, New York
Site Number 1-30-100

March 2006

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor*   DENISE M. SHEEHAN, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

A. K. Allen Inactive Hazardous Waste Disposal Site
North Hempstead, Nassau County, New York
Site No. 1-30-100

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the A. K. Allen site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the A. K. Allen inactive hazardous waste disposal site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing 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 releases of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation and Feasibility Study (RI/FS) for the A. K. Allen site and the criteria identified for evaluation of alternatives, the NYSDEC has selected Excavation, Soil Vapor Extraction, Engineering and Institutional Controls and Monitoring as the remedy for the Site. The components of the remedy are as follows:

1. A remedial design program to provide the details necessary to implement the remedial program.

2. Construction of a soil vapor extraction system to remediate the VOCs in the unsaturated soil and to minimize the potential for impacts to indoor air.

3. Excavation and off-site disposal of the site-related contaminated soil above soil cleanup objectives within the LIRR right-of-way.

4. Maintenance of the asphalt cover in the area of residual on-site PCB soil contamination.

5. Groundwater profiling and construction of a monitoring well, depending upon profiling results, at one additional off-site location.

6. Development of a site management plan to address residual contamination and any use restrictions.

7. Imposition of an environmental easement which would include restriction of the site to commercial or industrial use and a restriction on the use of groundwater.

8. Periodic certification of the institutional and engineering controls.

9. Operation, monitoring and maintenance of the remedy.

10. Monitoring of groundwater quality.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is 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. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 2 2 2006

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

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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 this remedy for the A. K. Allen Site. The presence of hazardous waste has created significant threats to human health and/or the environment that are addressed by this remedy. As more fully described in Sections 3 and 5 of this document, improper staging of drums containing metal shavings from the machining processes and discharges to a floor drain and storm drains have resulted in the disposal of hazardous wastes, including inorganics (metals), volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). These wastes have contaminated the soil, groundwater, and soil vapor at the site, and have resulted in:

- a significant threat to human health associated with potential exposure to contaminated soil, groundwater, and soil vapor.
- a significant environmental threat associated with the impacts of contaminants to groundwater by VOCs.

To eliminate or mitigate these threats, the NYSDEC has selected the following:

- A remedial design program to provide the details necessary to implement the remedial program.
- Construction of a soil vapor extraction system to remediate the VOCs in the unsaturated soil and to minimize the potential for impacts to indoor air.
- Excavation and off-site disposal of the site-related contaminated soil above soil cleanup objectives within the LIRR right-of-way.
- Maintenance of the asphalt cover in the area of residual on-site PCB soil contamination.
- Groundwater profiling and construction of a monitoring well, depending upon profiling results, at one additional off-site location.

- Development of a site management plan to address residual contamination and any use restrictions.

- Imposition of an environmental easement which would include restriction of the site to commercial or industrial use and a restriction on the use of groundwater.

- Periodic certification of the institutional and engineering controls.

- Operation, monitoring and maintenance of the remedy.

- Monitoring of groundwater quality.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

The site is located on approximately 4.5 acres adjacent to the Long Island Railroad in an urban part of Mineola, Town of North Hempstead, in Nassau County. The site address is 255 East Second Street, and is east of Roslyn Road. One other inactive hazardous waste disposal site and one voluntary cleanup site are located within one mile of the site, the Old Roosevelt Field site (1-30-051), and the LIRR Mineola site (V-00398-1), respectively. Figure 1 shows the site location.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

A. K. Allen Company, Inc., is a manufacturer of precision-machined metal cylinders and valves, and has been in operation at 255 East Second Street in Mineola on Long Island since 1957.

The areas where the greatest volume of contaminated soil and highest contaminant concentrations were found are a historic drum storage area and an area east of the drum storage area. These two areas were located along the southern property line, adjacent to a LIRR right-of-way (see Figure 2).

Drums of liquid wastes and metal shavings from the machining operations were staged in the drum storage area. The cutting oils and fluids were present on the metal shavings in the drums. There was no secondary containment in the drum storage area. Reportedly, some of the drums leaked and/or were not sealed to prevent precipitation from contacting the waste. This caused the cutting oils and fluids to be discharged from the drums. This waste contaminated the on-site soil and migrated from the site to the adjacent Long Island Railroad property.

Similar contamination was identified in the area east of the drum storage area, however, the source of this contamination is not known. Drums may have been stored there as well.

Storm drains near the above contaminated soil areas were also impacted by similar contaminants. The source of this contamination is likely to have been surface run-off from the these areas.

One floor drain inside the facility was also contaminated with similar contaminants. The mechanism for contamination of this floor drain is unclear.

3.2: Remedial History

In June and July 1992, the Nassau County Department of Health collected soil samples from the rear of the facility. Analysis of these samples confirmed the presence of petroleum and chlorinated VOCs and metals.

In November 1993, additional soil samples were collected for waste characterization analysis.

An investigation work plan was prepared in 1994. In November 1995, the investigation was undertaken under the oversight of the Nassau County Department of Health.

In 2000, the NYSDEC listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

SECTION 4: ENFORCEMENT STATUS

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

The NYSDEC and the A. K. Allen Company, Inc. entered into a Consent Order on January 2, 2003. The Order obligates the responsible parties to implement a full remedial program.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between March 2003 and April 2004. The field activities and findings of the investigation are described in the RI report.

The RI conducted under this Consent Order was a supplemental RI. Much of the RI work was performed in 1995. RI work in 2003 was conducted during an interim remedial measure (IRM), and included the following:

- Installation of 13 soil borings and 5 monitoring wells for analysis of soils and groundwater;

- Sampling of 5 monitoring wells;

- Collection of 5 soil vapor samples.

To determine whether the soil and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

- NOTE: There are no SCGs for soil gas. The soil gas sample results, however, indicate residual soil contamination. They are also used to assess the potential for impacts to indoor air. The results of the soil gas sampling are discussed in Section 5.1.3.

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

5.1.1: <u>Site Geology and Hydrogeology</u>

According to the United States Geologic Survey (USGS) document entitled *Hydrologic Framework of Long Island, New York*, the Site is situated on unconsolidated coastal plain deposits of the Cretaceous to Quaternary age. Glacial outwash soil deposits known as the Upper Glacial Aquifer of Long Island underlie the area in which the Site is located to a thickness of approximately 50 feet below ground surface.

In this area, the Upper Glacial Aquifer is underlain by approximately 500 feet of the fully saturated Magothy Formation, the principal water supply aquifer for most of Nassau County. The Magothy Formation is, in turn, underlain by approximately 150 feet of the Raritan Formation. The Raritan Formation is composed of the upper Raritan Clay, a regional confining layer, followed by approximately 250 feet of the more permeable Lloyd Sand. Underlying the Lloyd Sand is bedrock composed of igneous and metamorphic rocks of Precambrian age.

Site-specific soils encountered during the RI were characterized generally as unconsolidated glacial sediments consisting of medium to coarse-grained sands, as well as interbedded fine grained sands, silts and clays to depths of 30 feet below ground surface.

Site specific shallow groundwater flow is to the south-southwest (see Figure 3). Regional groundwater flow in the area of the Site is generally to the southwest. The site lies within a deep recharge area of Long Island. The depth to the water table is approximately 55 to 60 feet below ground surface.

5.1.2: Nature of Contamination

As described in the RI report, soil, groundwater and soil vapor samples were collected to characterize the nature and extent of contamination. As summarized in Tables 1, 2 and 3, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and inorganics (metals).

The VOCs of concern are tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), cis-1,2-dichloroethene (1,2-DCE), and 1,1-dichloroethane (1,1-DCA). 2-Butanone (MEK) was also a concern in soil vapor.

The PCB isomer of concern is Arochlor-1254.

The metals of concern include arsenic, cadmium, and chromium.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for soil, and micrograms per cubic meter ($\mu g/m^3$) for air samples. For comparison purposes, where applicable, SCGs are provided for each medium.

Tables 1, 2 and 3 summarize the degree of contamination for the contaminants of concern in soil, groundwater, and soil vapor and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Contaminated surface soil, identified in 1992 and 1993, was excavated and disposed off-site during the IRM.

Subsurface Soil

The supplemental remedial investigation (RI) which was performed under the January 2003 consent order was used to complete the delineation of the contamination which was previously identified. Limited investigation was performed in the known contaminated soil areas due to a planned soil excavation IRM (discussed in Section 5.2 below) which was conducted concurrently with the RI.

The subsurface soil was sampled from depths ranging from less than 1 foot to 54 feet below the ground surface. The samples were targeted towards the known and suspected source areas, including the areas of known surface spills and storm and floor drains. Suspected source areas are shown on Figure 2.

This investigation revealed previously unknown PCB contamination exceeding SCGs (See Table 1). The concentrations of detected PCBs ranged from non-detect to greater than 91 ppm (SB-3 24-28 inches below ground surface, off-site). The PCB contamination had a substantial impact on the delineation of contamination and the extent of the IRM. The concentrations of PCBs in the subsurface soil exceeded the SCGs of 1 ppm for less than 1 foot below ground surface and 10 ppm for greater than 1 foot below ground surface. While these PCBs are relatively immobile, there is the potential for a direct contact and ingestion exposure if the soils are disturbed or exposed via excavation. (See Tables 1 and 3, and Figures 4 through 7 for the IRM end-point and off-site PCB concentrations)

VOC contamination was confirmed in the subsurface soil. The contamination was found primarily shallow, however, VOCs have been documented to exceed SCGs to at least 20 feet below ground surface. Concentrations ranged from non-detect to 159 ppm. The three VOCs which were found in the greatest concentrations were tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene. These and other VOCs exceeded their SCGs. (See Tables 1 and 3, and Figures 8 through 11 for the IRM end-point and off-site VOC concentrations)

Limited semi-volatile organic compound (SVOC) and metals exceedances remain subsequent to the IRM. These exceedances are shown on Figures 12 and 13 and in Table 1.

On-site subsurface soil deeper than the IRM will require remediation to eliminate the potential source of the soil vapor. Off-site shallow subsurface soil will require remediation to eliminate the potential future direct contact exposure pathway.

Groundwater

Groundwater was sampled at 5 locations, including one off-site location and one source area, on-site location. The samples were obtained from newly installed groundwater monitoring wells. The wells are screened from about 48 feet to 65 feet below ground surface to intersect the water table. The well locations are shown on Figure 3.

No PCBs were detected. Only one SVOC [bis(2-ethylhexel)phthalate] was detected, but was below its SCG. The only inorganics detected above SCGs were naturally occurring, and included iron, manganese, and sodium.

Several VOCs were detected above SCGs, but only marginally (see Table 1). These included1,1-dichloroethane, trichloroethene, tetrachloroethene, and m,p-xylene. The SCG for each of these is 5 ppb. The highest detected concentration on-site was 14 ppb for tetrachloroethene. No VOCs were detected in the upgradient well, and no VOCs exceeded SCGs in the downgradient well.

Groundwater will not likely require active remediation due to the low concentrations of VOCs and the removal of source soil.

Soil Vapor

No sub-slab, ambient air or indoor air samples were collected. Soil vapor was sampled at 5 locations, including two off-site locations (SG-1 and SG-2) in the Railroad right-of-way which were biased towards the residential properties. The three other samples included one in the former drum storage area and two adjacent to the building at a depth just below the bottom of the footing.

The only compounds detected in the off-site samples was methyl tertiary butyl ether (MTBE). This is a compound found in oxygenated gasoline, and is not known or suspected to be a site related compound of concern. Compounds detected in the on-site samples included acetone, MTBE (at one location), 2 -Butanone (MEK), 1,1-dichloroethane, 1,1,1-trichloroethane, benzene, toluene, tetrachloroethene, ethylbenzene, xylenes, and 1, 2, 4-trimethylbenzene. The soil vapor sample results are shown on Figure 14.

The acetone, 2-Butanone (MEK), 1,1,1-trichloroethane, and tetrachloroethene were found in the greatest concentrations. These compounds and the 1,1-dichloroethane are likely to be site related. The MTBE, benzene, toluene, ethylbenzene, xylenes, and 1, 2, 4-trimethylbenzene are components of gasoline and may be present due to the incidental use of vehicles in the parking lot below which the samples were collected.

There are no SCGs for soil vapor, and their impact is evaluated to determine the potential for vapor intrusion and exposure. This media will require remediation to reduce the potential for completing the vapor intrusion exposure pathway.

5.2: <u>Interim Remedial Measures</u>

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

An IRM was conducted at this site during the RI. The IRM included excavation and off-site disposal of contaminated soil from the drum storage area, the area east of the drum storage area, nearby off-site areas on adjacent LIRR property, and the targeted storm and floor drains. Acceptable end-point bottom samples were generally reached at less than four feet below grade (except in drainage structures).

The soil excavation extended to the off-site LIRR right-of-way, but was terminated prior to reaching acceptable end-point analytical results due to the proximity to the railroad tracks. The contamination is known to extend beneath the northern track, but not beyond the southern track. Subsequent to the IRM, this remains a particular concern for railroad workers during future maintenance work.

Extensive end-point soil sampling was performed to verify the effectiveness of the excavation. Seventy-six (76) PCB end-point samples, forty-nine (49) VOC end-point samples, fifty-one (51) SVOC end-point samples, and fifty-two (52) metals end-point samples, end-point samples were collected and analyzed. The excavation end-point samples met SCGs at less than 4 feet below ground surface at most locations. Only two on-site PCB end-point samples did not meet the guidance number of 1ppm for soil less than one foot deep. Only one on-site PCB end-point sample did not meet the guidance number of 10ppm for soil greater than one foot deep. All other on-site end-point analytical results met or only slightly exceeded SCGs (see Table 2). From deep soil boring samples, it is known that some limited deep soil VOC contamination exists.

The floor drain and storm drains which were remediated met USEPA underground injection control requirements. Some of these were permanently closed, including the floor drain and storm drains SD-2 and SD-3.

5.3: 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 human exposure pathways can be found in Section 4 of the RI report. This report can be found at the document repository.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

A potential for dermal contact exposures to off-site contamination is restricted to the Long Island Railroad (LIRR) right of way behind the property. Access to this area is limited; therefore, exposures to contaminants in this area to the general public are not likely. LIRR workers, however, could be exposed during construction or maintenance work in this area.

On-site groundwater is not used for potable purposes or other uses, making this an incomplete exposure pathway. Public water serves the area, which must meet federal and New York State drinking water SCGs prior to distribution.

The proposed Soil Vapor Extraction (SVE) system is expected to minimize potential exposures to VOCs due to soil vapor intrusion to indoor air in the on-site building.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

There were no threats to habitat or wildlife identified relative to this site.

Site contamination has impacted the groundwater resource in the upper glacial aquifer. The upper glacial aquifer is a sole source aquifer. The upper glacial aquifer recharges the magothy aquifer, which is a sole source aquifer and which is also the primary source of drinking water in the area.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to VOCs in soil vapor on-site, VOCs in groundwater, PCBs in on-site soil, and VOCs, PCBs, and metals in off-site soil.

- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and

- the release of contaminants from subsurface soil into indoor air through soil vapor.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality; and

- recommended soil cleanup objectives for soil.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the A. K. Allen Site were identified, screened and evaluated in the FS report which is available at the document repositories identified in Section 1.

Residual VOCs in soil likely contribute to the generation of VOC soil vapor and could contribute to groundwater contamination. For this contamination, soil vapor extraction (SVE) was the only active remedial technology considered because it is a presumptive remedy.

A summary of the remedial alternatives that were considered for this site are discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soils, groundwater, and soil vapor at the site. The FS evaluated separate alternatives for on-site and off-site. The on-site alternatives are described first, below, followed by the off-site alternatives.

On-site Alternative 1: No Further Action

The No Further Action alternative recognizes remediation of the site conducted under a previously completed IRM. To evaluate the effectiveness of the remediation completed under the IRM, only continued monitoring is necessary.

This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Present Worth: *$77,000*
Capital Cost: *$0*
Annual OM&M: *$5,000*

This alternative is the least disruptive remedial approach. Except for monitoring, it involves no further action beyond the already accomplished source removal in the completed IRM. The IRM removed most of the contaminated on-site soil mass. This soil was located in the upper 4 feet of site soil. Some shallow PCB soil contamination, deep VOC soil contamination, VOC soil vapor contamination, and minor VOC groundwater contamination remain.

Under existing conditions, the existing asphalt serves as an engineering control to prevent direct contact with the residual PCB contaminated soil. There is, however, no related institutional control to enforce maintenance of this cover or to properly and safely manage future excavation work in this area.

Presently, the industrial use of the site and the absence of the use of groundwater reduce the likelihood of coming in contact with the residual contamination. Again, however, there are no related institutional controls contemplated in this alternative to restrict future use of the site or groundwater.

The absence of an active component in this remedy to address contaminated soil vapor results in a potentially complete exposure pathway.

On-site Alternative 2: No Further Action plus EC/ICs with Continued On-site Soil Gas Monitoring

Present Worth: *$263,000*
Capital Cost: *$0*
Annual OM&M:
(Years 1-30): *$16,000*

This alternative also involves no further source removal action beyond the already completed IRM, but adds Engineering Controls/Institutional Controls (EC/ICs) and continued monitoring of existing soil vapor points SG-3, SG-4 and SG-5.

The existing asphalt and clean backfilled materials overlying the remediated area would serve as an engineering control (cover) to reduce water infiltration and direct contact with contaminated soil.

An institutional control (IC) in the form of an environmental easement would provide a mechanism for the following:

- restriction on the use of the property;
- restriction on the use of groundwater below the property;
- implementation of a site management plan;
- implementation of monitoring of soil vapor and groundwater; and
- periodic certification that the EC/ICs are in place and effective.

On-site Alternative 3: Design, Installation, and Operation of an On-site Soil Vapor Extraction (SVE) System plus EC/ICs

Present Worth:	*$205,000*
Capital Cost:	*$50,000*
Annual OM&M:	
(Years 1-5):	*$43,000*
(Years 6-9):	*$16,000*
(Years 10-30):	*$1,000*

This alternative would provide all of the elements described in On-site Alternative 2, and would add a component to actively address soil vapor and deep VOC contamination in the unsaturated soil.

A soil vapor extraction system (SVE) would be designed, constructed, and operated to control the contaminated soil vapor and remediate the residual VOCs in the unsaturated soil column from the depth of the bottom of the IRM excavation to the water table. Conceptually, this system would include a limited number of nested (shallow and deep) SVE wells located between the former drum storage area and the building. This would eliminate the potentially complete soil vapor exposure pathway. It would also reduce the potential for VOCs to leach from the soil to the groundwater.

The existing asphalt and clean backfilled materials overlying the remediated area would serve as an engineering control (cover) to reduce water infiltration and direct contact with contaminated soil.

An institutional control (IC) in the form of an environmental easement would provide a mechanism for the following:

- restriction on the use of the property;
- restriction on the use of groundwater below the property;
- implementation of a site management plan;
- implementation of monitoring of soil vapor and groundwater; and

- periodic certification that the EC/ICs are in place and effective.

The following are the Off-site Alternatives.

Off-site Alternative 1: No Action

Present Worth: $28,900
Capital Cost: $0
Annual OM&M: $1,880

The No Action Alternative is 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.

This alternative is the least disruptive remedial approach. It involves no further action beyond the excavation already completed as part of the IRM. The IRM removed contaminated soil in the Railroad right-of-way which was accessible without interrupting the rail line. Some shallow PCB, VOC, and metals contaminated soil remains under the rail lines.

Under existing conditions, the industrial use (railroad), the limited access, and the reduced likelihood of trespassers would reduce the potential for direct contact exposure to the remaining contaminated soil. Only railroad workers would have a potential to come into contact with the remaining soil contamination. There is, however, no related institutional control to enforce limited access to the soil or to properly and safely manage future excavation work in this area.

The industrial use of the site and the absence of use of groundwater would reduce the likelihood of coming in contact with the contaminated groundwater. Again, however, there are no related institutional controls contemplated in this alternative to restrict future use of the site or groundwater.

Off-site Alternative 2: Long-Term Groundwater Monitoring with EC/ICs

Present Worth: $187,000
Capital Cost: $10,000
Annual OM&M:
(Years 1-30): $11,500

This alternative adds to the protection offered by the existing conditions by incorporating groundwater monitoring and engineering and institutional controls (EC/ICs). The contaminated soil is presently covered by a permeable cover consisting of the track ballast. The potential exposure in the rail corridor reduced due to its industrial use and by its limited access. The limited access and the ballast cover reduce the potential for direct contact exposure to the public. A potential exposure to railroad workers during construction activities remains.

Under this alternative, the ballast cover would be considered to be an engineering control which would protect against direct contact. A related institutional control would ensure that the ballast cover remains in place and that if the material under the cover is disturbed, the workers are made aware of the contamination. It would also ensure that the contaminated soil is properly managed to protect the workers, the public, and the environment.

The industrial use of the site and the absence of use of groundwater would reduce the likelihood of coming in contact with the contaminated groundwater. Groundwater use is unlikely and would not be restricted, however, this alternative includes long-term monitoring of downgradient groundwater quality through a monitoring well network. This would determine if contamination leaching from the soil is migrating to the groundwater.

This alternative could be implemented within one year. Groundwater monitoring would continue as long as required.

Off-site Alternative 3: Removal of Impacted Soils Below the LIRR and Post Remediation Groundwater Monitoring

Present Worth: *$1,813,000*
Capital Cost: *$1,776,000*
Annual OM&M:
(Years 1-2): *$20,000*

This alternative would potentially return the site to pre-disposal and/or background conditions through the physical removal of the contaminated soil. Based upon the remedial investigation, the remaining contaminated soil is limited both areally and vertically. This alternative would eliminate all threats to human health and the environment. All potential exposure concerns would be eliminated.

Implementation of this alternative would require temporarily suspending rail service, removing the tracks, ties, and ballast, excavation and off-site disposal of the contaminated soil, and restoration of the site.

Groundwater would be monitored to evaluate the effectiveness of the remediation. It is anticipated that monitoring would only be needed for up to two years after the excavation is completed unless a negative effect on the groundwater is seen.

It is anticipated that the excavation could be completed within one week.

Off-site Alternative 4: Removal of Impacted Soils Below the LIRR During Future Track Maintenance and Post-Remediation Groundwater Monitoring with EC/ICs

Present Worth: *$593,000*
Capital Cost: *$556,000*
Annual OM&M:
(Years 1-2): *$20,000*

This Alternative is the same as Alternative 3 except that the excavation would take place during a scheduled track outage which is required by LIRR for other work. Remedy costs would include primarily those costs such as excavation, disposal, and restoration of soil that would not be incurred by the LIRR for their planned work.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of inactive hazardous waste disposal sites in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the NYSDEC has determined to be applicable on a case-specific basis.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

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.

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 engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these 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.

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

7. Cost-Effectivness. Capital costs and operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are presented in Table 4.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance. Concerns of the community regarding the RI/FS reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected On-site Alternative 3, Design, Installation and Operation of an On-site Soil Vapor Extraction (SVE) System plus EC/ICs with Additional Monitoring as the on-site remedy for this site. The NYSDEC has also selected Off-site Alternative 4, Removal of Impacted Soils Below the LIRR During Future Track Maintenance and Post-Remediation Groundwater Monitoring as the off-site remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the RI and the evaluation of alternatives presented in the FS.

Alternative 3 was selected for on-site because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by reducing the volume and mobility of the residual VOC contamination in the unsaturated soil. This will reduce or eliminate the threat to public health from the VOCs by permanently removing the VOCs which could potentially cause soil vapor and/or indoor air and groundwater contamination. It will also create the conditions needed to restore groundwater quality to the extent practicable. Alternative 2 would also comply with the threshold selection criteria but to a lesser degree or with lower certainty.

Because Alternative 2 also satisfies the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the on-site.

Alternative 2 (EC/ICs plus monitoring) has no short-term impacts. Alternative 3 (SVE plus EC/ICs and monitoring) has only minor short-term impacts which can easily be controlled. The time needed to achieve the remediation goals would be longer for Alternative 2 than Alternative 3.

Achieving long-term effectiveness is best accomplished by actively removing the residual VOC contamination in the unsaturated soils and ensuring that engineering and institutional controls are enforced. Alternative 3 is favorable because it will result in the removal of the unsaturated soil VOC contamination which could be creating soil vapor and potentially indoor air. This will also reduce the potential for VOCs to migrate from the soil to the groundwater. Monitoring of, and the restriction on the use, of groundwater are expected to be required only until the groundwater quality meets SCGs. Alternative 2 could require monitoring of soil vapor and groundwater for much longer as no further remediation takes place.

Alternatives 2 and 3 are both readily implementable, however, Alternative 3 requires design and construction of an active remedial system.

Alternative 3, will reduce the volume of waste on-site by removing VOCs from the unsaturated soil. The other alternatives do not actively remove residual contamination. Limited areas of residual PCB contamination in shallow soils would remain. Therefore, more stringent engineering and institutional controls and restrictions on the use of the property would be needed.

Alternative 3 will reduce the mobility of contaminants by preventing the VOCs from migrating through the unsaturated soil to groundwater or indoor air.

The present worth costs of Alternatives 2 and 3 do not vary significantly. Alternative 2 is less expensive initially, but long-term monitoring costs make this alternative's costs similar to the overall cost of Alternative 3.

Alternative 4 was selected for off-site because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by eliminating the site-related contaminated soil. It will eliminate the threat to public health by removing the remaining site-related contaminated soil in the LIRR right-of-way. The contaminated soil will be excavated and disposed off-site. It will also create the conditions needed to restore groundwater quality to the extent practicable by reducing or eliminating the possibility of VOCs leaching from the soil to the groundwater. Alternative 3 would comply with the threshold selection criteria equally well. Alternative 2 would not meet the standards, criteria , and guidance.

Because Alternative 3 also satisfies the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the on-site.

Alternative 2 (EC/ICs plus monitoring) has no short-term impacts. Alternatives 3 and 4 have very significant short-term impacts because they involve the removal of impacted soil in the LIRR right-of-way. This LIRR corridor is a major commuter line between Long Island and New York City. Temporary shut-down of this line and removal of the tracks would cause a major disruption to the community. If the work was scheduled for a weekend and including night work, the commuter impact would be reduced, but the impact to local residents due to the noise would be significant.

Achieving long-term effectiveness and permanence is best accomplished by actively removing the remaining contaminated soil. Alternatives 3 and 4 would be equally effective. The intent of both alternatives is to excavate all of the remaining site-related soil contamination. This would also reduce the potential for VOCs to migrate from the soil to the groundwater. Alternative 2 does not permanently remediate the contamination.

Alternative 2 is readily implementable. Alternatives 3 and 4 are not as easily implemented because the shut-down and removal of the tracks, removal of the third-rail for each track, and logistics of getting the soil out of the right-of-way are difficult. Alternative 4 is easier to implement than Alternative 3 because Alternative 4 will be implemented during a planned shutdown of the LIRR. This could allow for additional time for excavation.

Alternatives 3 and 4 would reduce the volume of waste off-site equally. Alternative 2 would not reduce volume, toxicity or mobility.

The present worth costs of the alternatives vary significantly. Alternative 2 is the least costly, but does not meet both threshold criteria. Alternative 3 is the most costly because it results in an unplanned shut-down of the LIRR. Alternative 4 results in less costs because the excavation occurs during a planned LIRR track outage.

Based upon the above comparisons, the NYSDEC is proposing the combination of Alternative 3 for on-site remediation and Alternative 4 for off-site remediation. The estimated present worth cost to implement the combined remedy (on-site Alternative 3 and off-site Alternative 4) is $798,000. The cost to construct the remedy is estimated to be $606,000 and the estimated average annual operation, maintenance, and monitoring costs for 5 years is $63,000. Annual OM&M costs decrease after shut-down of the SVE, which is assumed to be in year 5. Figure 15 shows the anticipated area of off-site excavation and a preliminary layout of the SVE.

The elements of the selected remedy are as follows:

1. Implementation of a remedial design program to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. For on-site, this will include a pilot test for the SVE. For off-site, this will include the detailed plan for excavation of the soil in the LIRR right-of-way.

2. Construction of a soil vapor extraction system to remediate the residual VOCs in the unsaturated soil near the former disposal area and to minimize the potential for impacts to indoor air.

3. Excavation and off-site disposal of the remaining contaminated soil within the LIRR right-of-way during a planned LIRR service suspension.

4. Maintenance of the asphalt parking area on the south side of the building as an engineering control to eliminate direct contact with residual soil contamination.

5. Undertaking of one additional groundwater profile boring off, and downgradient, of the site. Depending upon the results, a monitoring well could be installed at this location and incorporated into the monitoring network for long-term monitoring.

6. Development of a site management plan to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) identify any use restrictions; and (d) provide for the operation and maintenance of the components of the remedy.

7. Imposition of an institutional control in the form of an environmental easement that will (a) require compliance with the approved site management plan; (b) limit the use and development of the property to commercial or industrial uses only; (c) restrict the use of groundwater as a source of potable water, without necessary water quality treatment as determined by NYSDOH; (d) restrict the use of groundwater for any non-potable use without necessary water quality treatment as determined by NCDOH; and (e) require the property owner to complete and submit to the NYSDEC a periodic certification.

8. The property owner will provide a periodic certification, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls and engineering controls are still in place, allow the NYSDEC access to the site, and that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan.

9. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the NYSDEC determines that continued operation is technically impracticable or not feasible.

10. Since the remedy results in untreated hazardous waste remaining at the site, a long term monitoring program will be instituted. Groundwater will be monitored at some or all of the existing monitoring wells and any wells installed during the remedial action. This program will allow the effectiveness of the on-site source soil removal and SVE, and the off-site source soil removal to be monitored and will be a component of the operation, maintenance, and monitoring for the site.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken 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:

- Repositories for documents pertaining to the site were established.

- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.

- Fact sheets were sent to the mailing list on three occasions, prior to the IRM, at the conclusion of the IRM, and at the time of the PRAP.

- A public meeting was held on January 18, 2006 to discuss the results of the investigation and IRM and to present and receive comment on the PRAP.

- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
June 1992-April 2004

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo(a) pyrene	ND[c] - 104	0.061	1 of 2
Inorganic Compounds	Arsenic	ND - 9.5	7.5	1 of 2

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	trans-1,2-Dichloroethene	ND[c] - 0.39	0.3	1 of 55
	1,1-Dichloroethane	ND - 6.24	0.2	6 of 55
	1,1,1-Trichloroethane	ND - 54.8	0.8	6 of 55
	1,2-Dichloroethane	ND - 0.16	0.1	1 of 55
	Trichloroethene	ND - 30.3	0.7	6 of 55
	Tetrachloroethene	ND - 88.4	1.4	12 of 55
Semivolatile Organic Compounds (SVOCs)	4-Chlor-3-methylphenol	ND - 1.4	0.24	1 of 20
	Benzo(a)anthracene	ND - 1.3	0.224	7 of 20
	Chrysene	ND - 2.2	0.4	6 of 20
	Benzo(b)fluoranthene	ND - 1.9	1.1	5 of 20
	Benzo(k)fluoranthene	ND - 1.45	1.4	1 of 20
	Benzo(a)pyrene	ND - 1.0	0.061	7 of 20
	Dibenzo(a,h)anthracene	ND - 0.28	.014	4 of 20

TABLE 1 (cont)
Nature and Extent of Contamination
June 1992-April 2004

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
PCB/Pesticides	Arochlor-1254	4.25 - 91.7	10	9 of 21
Inorganic Compounds	Arsenic	ND - 91.8	7.5	8 of 38
	Cadmium	ND - 25.1	10	2 of 38
	Chromium	ND - 1910	50	8 of 38
	Copper	8.8 - 77.6	25	1 of 38
	Lead	1.2 - 768	500	2 of 38
	Mercury	ND - 2.7	0.1	4 of 38
	Nickel	5.2 - 41.7	13	1 of 38

SUBSURFACE SOIL SPLP METHOD[d]	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1-Dichloroethane	17	5	1 of 1
	1,1,1-Trichloroethane	100	5	1 of 1
	Trichloroethene	38	5	1 of 1
	Tetrachloroethene	56	5	1 of 1
PCBs	Arochlor-1254	1.25	0.09	1 0f 1

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1-Dichloroethane	ND[c] - 6	5	1 of 5
	Trichloroethene	ND - 9	5	1 of 5
	Tetrachloroethene	ND - 14	5	3 of 7
	m,p-Xylene	ND - 10	5	1 of 5
	0-Xylene	ND - 3	5	1 of 5

TABLE 1 (cont)
Nature and Extent of Contamination
June 1992-April 2004

SOIL GAS	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[a]	SCG[b] ($\mu g/m^3$)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Acetone	760 - 1,900	N/A[e]	N/A
	2-Butanone (MEK)	360 - 7,300	N/A	N/A
	1,1-Dichloroethane	ND[c] - 540	N/A	N/A
	1,1,1-Trichloroethane	16 - 4,400	N/A	N/A
	Benzene	ND - 200	N/A	N/A
	Toluene	79 - 140	N/A	N/A
	Tetrachloroethene	ND - 9,400	N/A	N/A
	Ethylbenzene	ND - 20	N/A	N/A
	m-Xylene & p-Xylene	ND - 77	N/A	N/A
	o-xylene	ND - 25	N/A	N/A
	1,2,4-Trimethylbenzene	ND - 21	N/A	N/A
	MTBE	ND - 97	N/A	N/A

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water; ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil; ug/m^3 = micrograms per cubic meter;
[b] SCG = standards, criteria, and guidance values;
[c] ND = Not Detected;
[d] SPLP = Synthetic Precipitation Leaching Procedure - Used to evaluate what could leach from the remaining contaminated soil by rainfall. SCG used is Groundwater Standards;
[e] N/A = Not Applicable. There are no SCGs for indoor air.

TABLE 2
Pre-IRM Sample Data
June 1992-April 2004

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1-Dichloroethane	ND - 24	0.2	8 of 18
	cis-1,2-Dichloroethene	ND - 1.2	0.25	1 of 18
	Ethylbenzene	ND - 30	5.5	1 of 18
	1,1,1-Trichloroethane	ND - 28	0.8	10 of 18
	Trichloroethene	ND - 1.7	0.7	1 of 18
	1,2,4-Trimethylbenzene	ND - 300	10	4 of 18
	1,3,5-Trimethylbenzene	ND - 94	3.3	4of 18
	Xylene	ND - 27	1.2	8 of 18
	Toluene	ND - 7.4	1.5	2 of 18
	Tetrachloroethene	ND - 15	1.4	5 of 18
	n-propylbenzene	ND - 20	3.7	1 of 15
	isopropylbenzene	ND - 9.3	2.3	1 of 15
	n-butylbenzene	ND - 110	10	3 of 15
Semivolatile Organic Compounds (SVOCs)	Naphthalene	ND - 24	13	1 of 15
Inorganic Compounds	Arsenic	ND - 29.1	7.5	4 of 15
	Barium	29 - 2300	300	4 of 15
	Cadmium	0.6 - 880	10	9 of 15
	Chromium	5.1 - 1700	50	14 of 15
	Copper	125 - 8200	25	2 of 2
	Lead	52 - 2300	500	6 of 15

TABLE 2 (cont)
Pre-IRM Sample Data
June 1992-April 2004

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1-Dichloroethane	ND - 0.54	0.2	3 of 16
	1,1,1-Trichloroethane	ND - 34	0.8	5 of 16
	Trichloroethene	ND - 1.2	0.7	2 of 16
	Tetrachloroethene	ND - 4.3	1.4	3 of 16
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	0.754 - 2.580	0.224	2 of 2
	Benzo(a)pyrene	0.755 - 1.680	0.061	2 of 2
	Benzo(b)fluoranthene	1.100 - 2.620	1.1	1 of 2
	Benzo(k)fluoranthene	0.969 - 1.450	1.1	1 of 2
	Chrysene	0.860 - 2.850	0.4	2 of 2
Inorganic Compounds	Cadmium	0.19 - 24	10	2 of 14
	Chromium	4.1 - 1300	50	3 of 14
	Copper	14.5 - 1150	25	1 of 2
	Lead	2.1 - 990	500	2 of 14
	Mercury	ND - 2.6	0.1	6 of 14
	Nickel	5.4 - 255	13	1 of 2
	Zinc	18.9 - 449	20	1 of 2

SURFACE SOIL TCLP METHOD[d]	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency of Exceeding SCG
Inorganic Compounds	Cadmium	5 - 105,000	1000	5 of 14

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water; ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil; ug/m^3 = micrograms per cubic meter;
[b] SCG = standards, criteria, and guidance values;
[c] ND = Not Detected;
[d] TCLP =Toxicity Characteristic Leaching Procedure - Used to evaluate if a soil meets the criteria of hazardous waste by the characteristic of toxicity.

TABLE 3
Post-IRM Sample Data
June 1992-April 2004

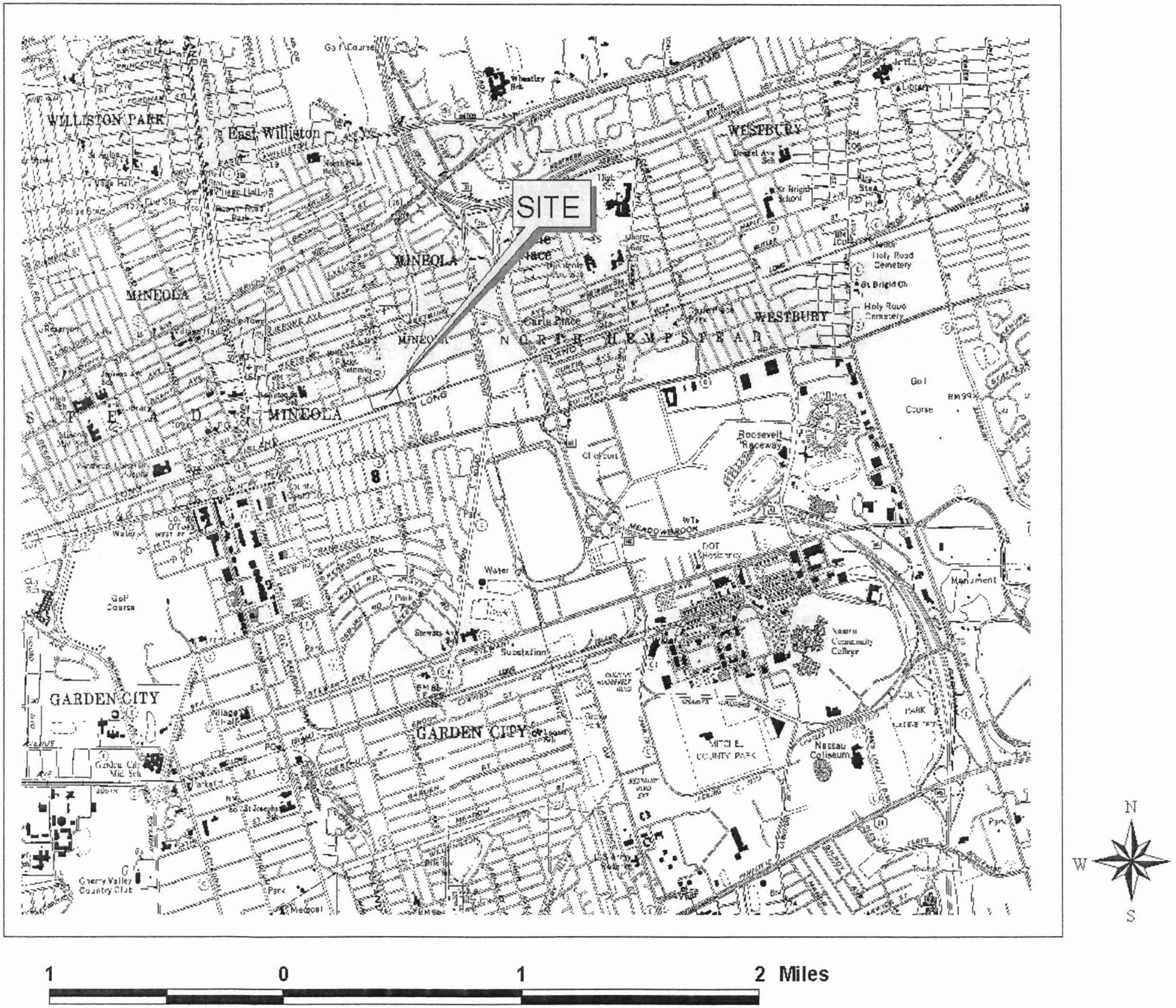
SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency of Exceeding SCG
PCBs[d]				
0-1' bgs	Arochlor - 1254	ND[c] - 3.27	1	2 of 15
>1' bgs	Arochlor - 1254	ND - 16.7	10	1 of 49
Inorganic Compounds	Arsenic	ND - 15.2	7.5	3 of 47
	Cadmium	ND - 4.4	10	1 of 47
	Mercury	ND - 0.15	0.1	1 of 47

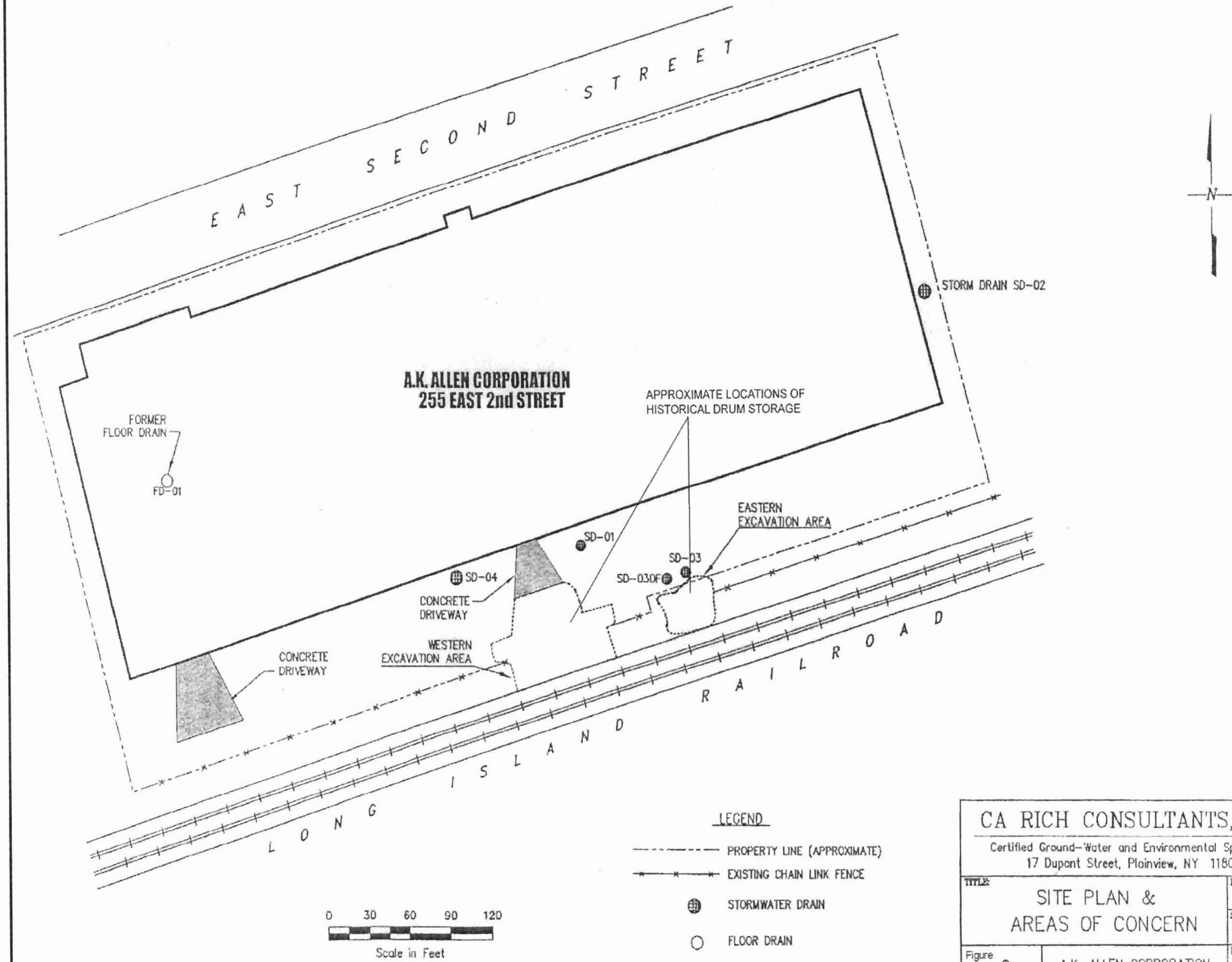
[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water; ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil; ug/m^3 = micrograms per cubic meter;
[b] SCG = standards, criteria, and guidance values;
[c] ND = Not Detected;
[d] There were no pre-IRM PCB samples

Table 4
Remedial Alternative Costs

Alternative Number	Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
On-site				
Alternative 1	No Further Action	$0	$5,000	$77,000
Alternative 2	No Further Action Plus EC/ICs with Continued On-site Soil Gas Monitoring	$0	$16,000	$263,000
Alternative 3	Design, Installation, and Operation of an On-site Soil Vapor Extraction (SVE) System plus EC/ICs	$50,000	$43,000 (years 1-5) $16,000 (Years 6-9) $1,000 (Years 10 - 30)	$205,000
Off-site				
Alternative 1	No Action	$0	$1,880	$28,900
Alternative 2	Long-Term Groundwater Monitoring with EC/ICs	$10,000	$11,500	$187,000
Alternative 3	Removal of Impacted Soils Below the LIRR and Post Remediation Groundwater Monitoring	$1,776,000	$10,000	$1,773,000
Alternative 4	Removal of Impacted Soils Below the LIRR During Future Track Maintenance and Post Remediation Groundwater Monitoring with EC/ICs	$556,000	$10,000	$515,000
Total Cost - Proposed Remedy				
On-site Alternative 3 plus Off-site Alternative 4	Design, Installation, and Operation of an On-site Soil Vapor Extraction (SVE) System. Removal of Impacted Soils Below the LIRR During Future Track Maintenance and Post Remediation Groundwater Monitoring, EC/ICs	$606,000	$53,000 (years 1-2) $43,000 (years 3-5) $16,000 (Years 6-9) $1,000 (Years 10 - 30)	$720,000

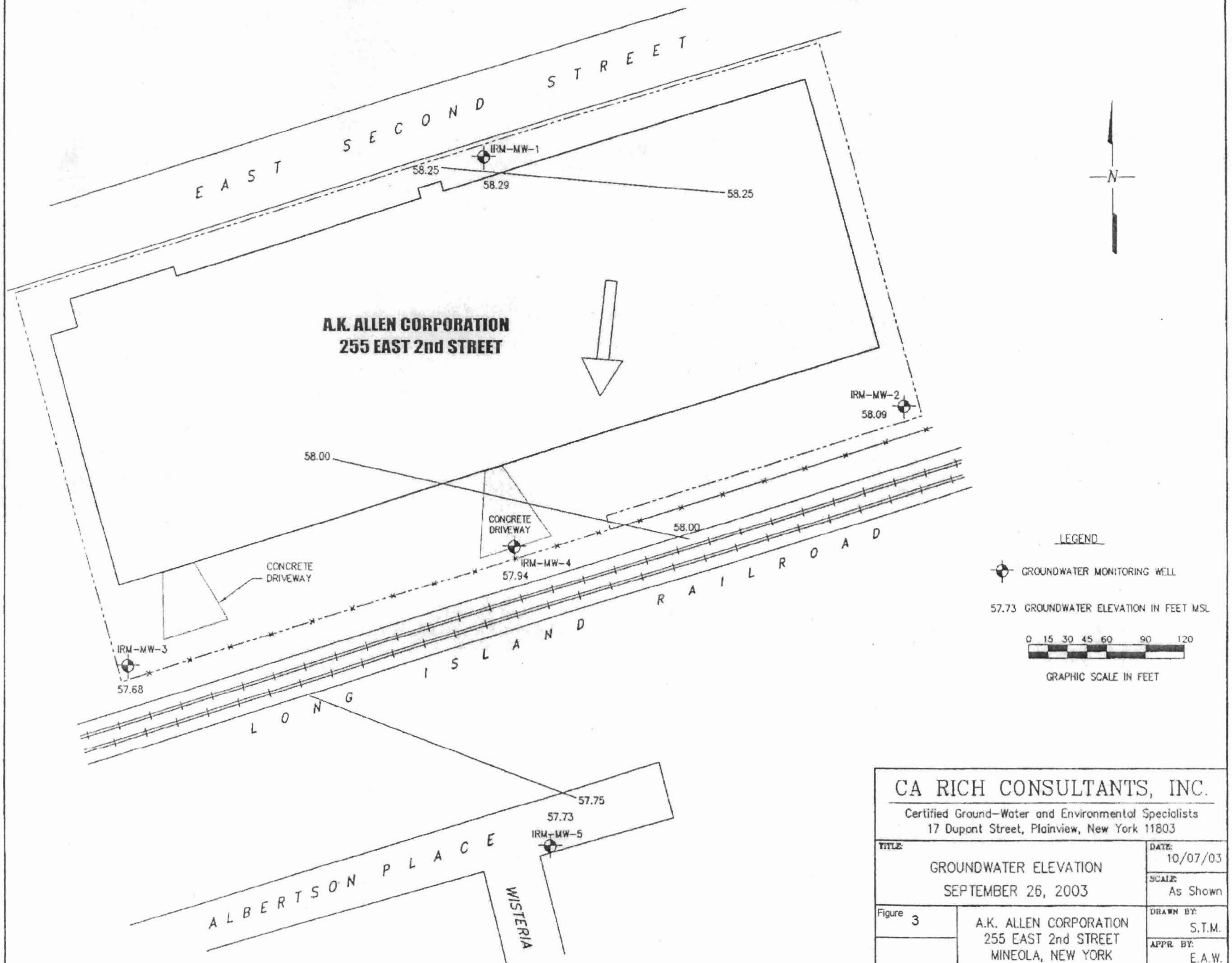
Figure 1 - Site Location





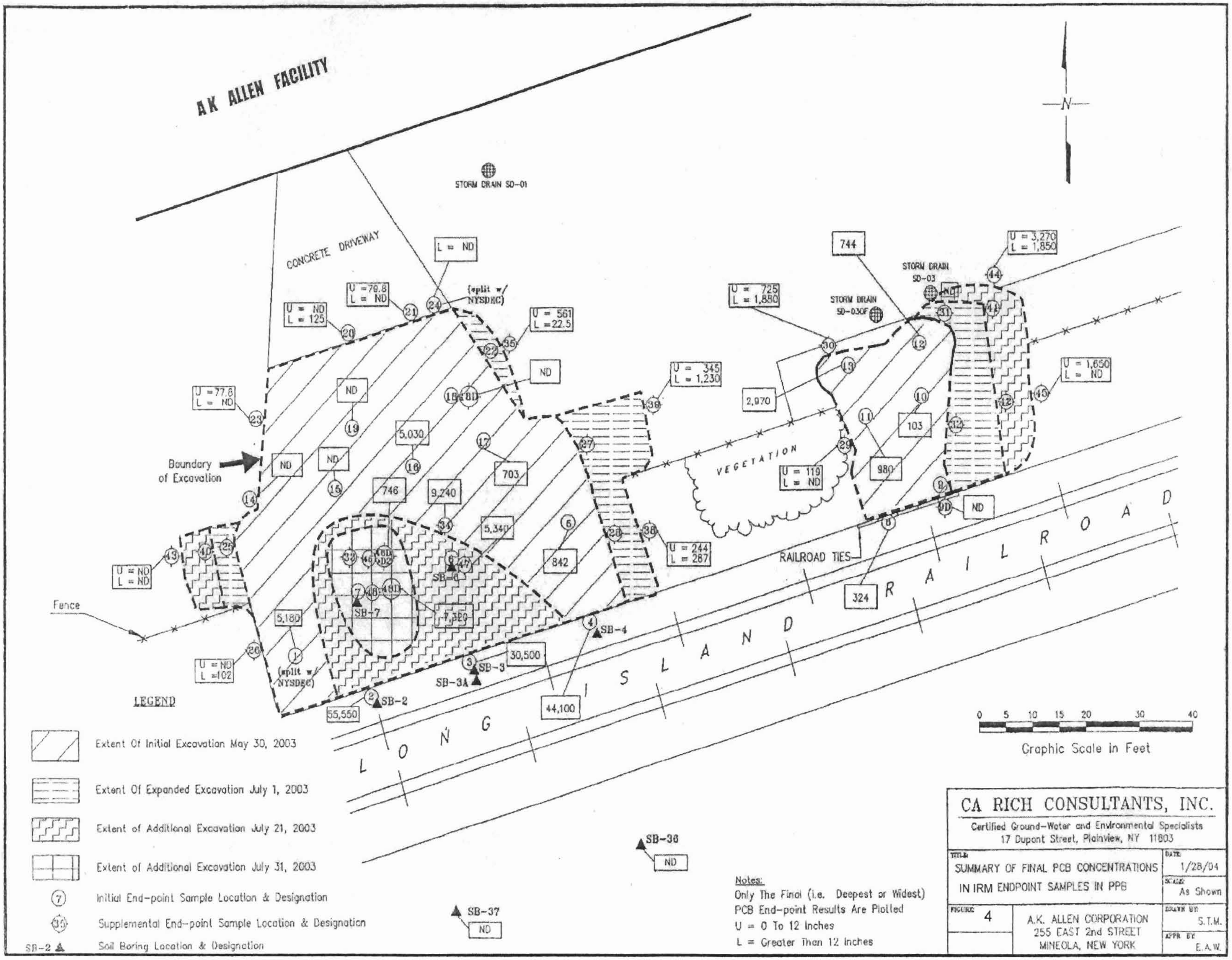
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803

TITLE: SITE PLAN & AREAS OF CONCERN	DATE: 9/16/03
	SCALE: As Shown
Figure 2	A.K. ALLEN CORPORATION 255 EAST 2nd STREET MINEOLA, NEW YORK
DRAWN BY: S.T.M.	APPR. BY: E.A.W.
DRAWING NO:	

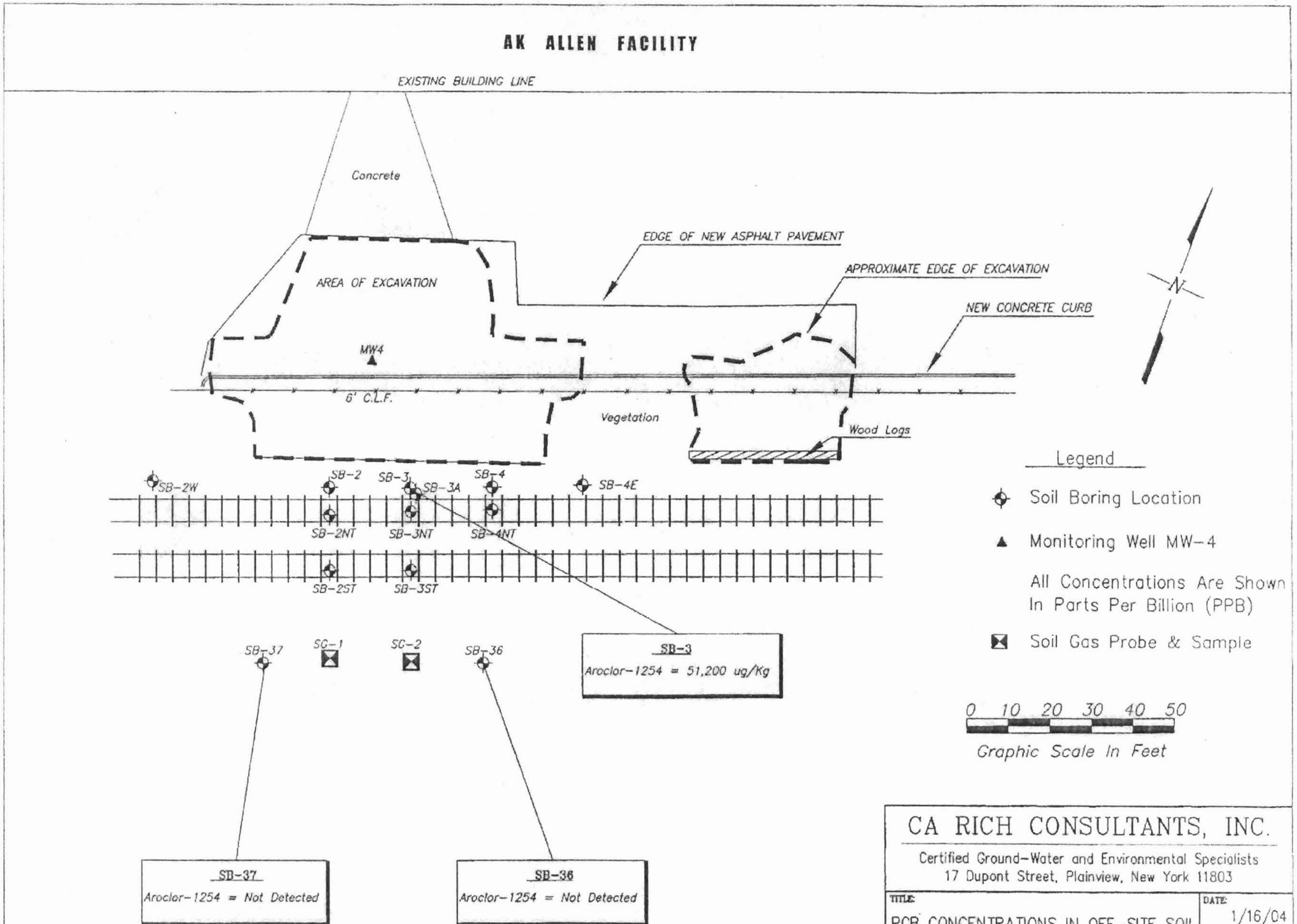


CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: GROUNDWATER ELEVATION SEPTEMBER 26, 2003	DATE: 10/07/03
	SCALE: As Shown
Figure 3 — A.K. ALLEN CORPORATION 255 EAST 2nd STREET MINEOLA, NEW YORK	DRAWN BY: S.T.M.
	APPR. BY: E.A.W.



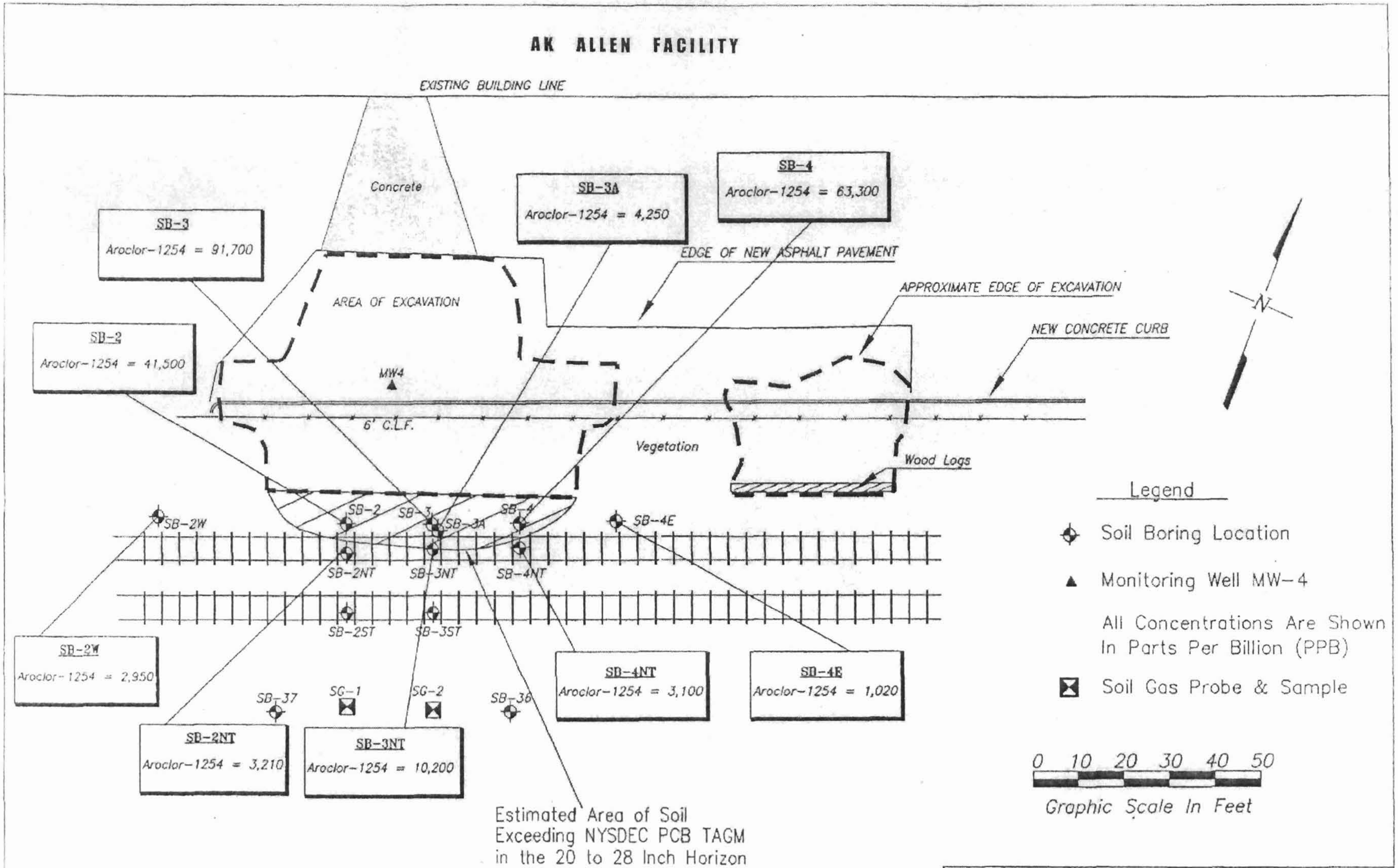
A K ALLEN FACILITY
N
STORM DRAIN SD-01
CONCRETE DRIVEWAY
Boundary of Excavation
Fence
VEGETATION
RAILROAD TIES
STORM DRAIN SD-03
STORM DRAIN SD-03OF
LONG ISLAND RAILROAD
(split w/ NYSDEC)
SB-2
SB-3
SB-3A
SB-4
SB-7
SB-36
SB-37
55,550
44,100
30,500
7,320
5,180
5,030
9,240
5,340
746
703
842
2,970
744
980
103
324
U = 77.6 L = ND
U = ND L = 125
U = 79.8 L = ND
L = ND
U = 561 L = 22.5
U = 345 L = 1,230
U = 244 L = 287
U = 725 L = 1,880
U = 119 L = ND
U = 3,270 L = 1,850
U = 1,650 L = ND
U = ND L = ND
U = ND L = 102
ND
0 5 10 15 20 30 40
Graphic Scale in Feet
LEGEND
Extent Of Initial Excavation May 30, 2003
Extent Of Expanded Excavation July 1, 2003
Extent of Additional Excavation July 21, 2003
Extent of Additional Excavation July 31, 2003
Initial End-point Sample Location & Designation
Supplemental End-point Sample Location & Designation
SB-2 Soil Boring Location & Designation
Notes:
Only The Final (i.e. Deepest or Widest) PCB End-point Results Are Plotted
U = 0 To 12 Inches
L = Greater Than 12 Inches
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803
TITLE: SUMMARY OF FINAL PCB CONCENTRATIONS IN IRM ENDPOINT SAMPLES IN PPB
DATE: 1/28/04
SCALE: As Shown
FIGURE: 4
A.K. ALLEN CORPORATION
255 EAST 2nd STREET
MINEOLA, NEW YORK
DRAWN BY: S.T.M.
APPR BY: E.A.W.



CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

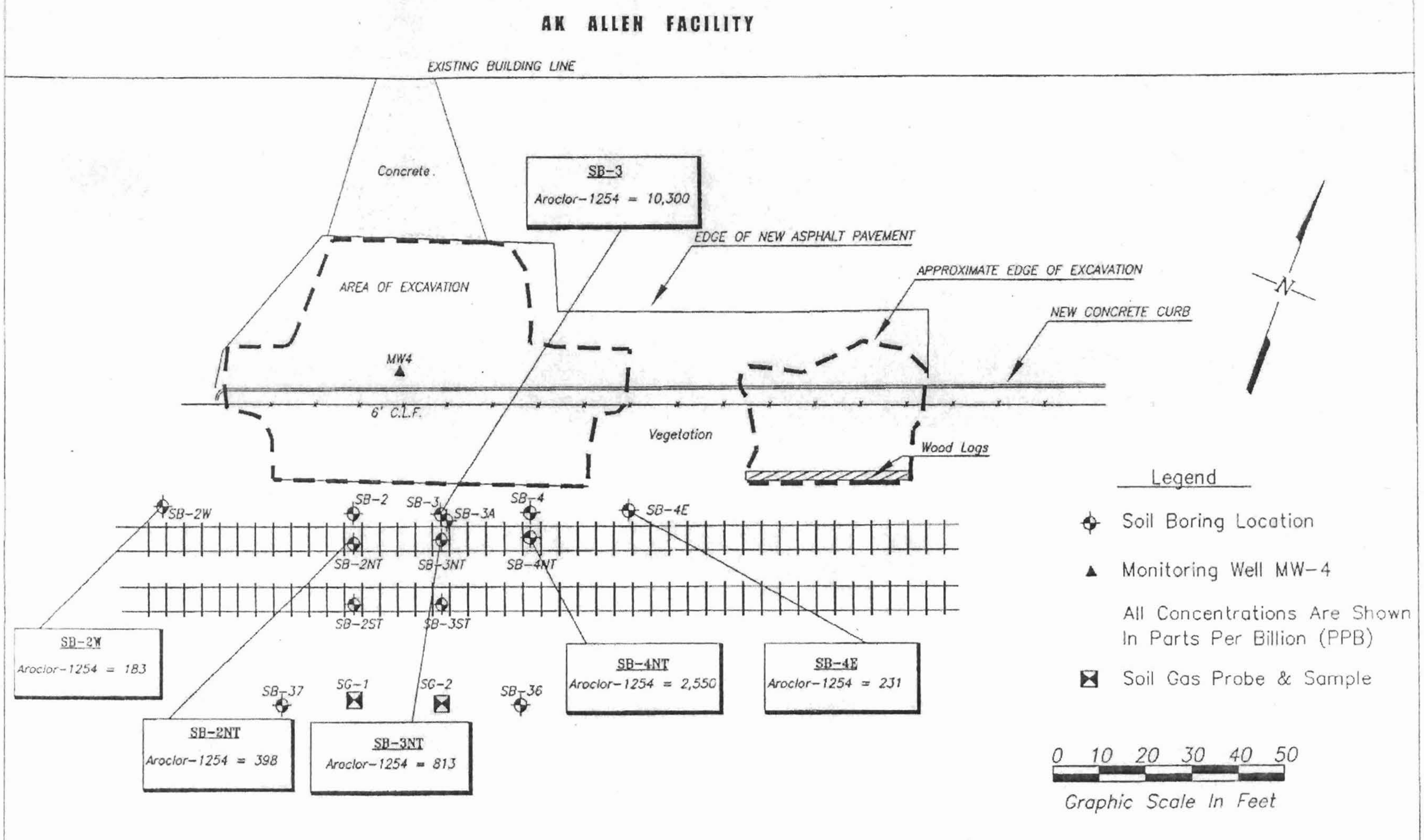
TITLE: PCB CONCENTRATIONS IN OFF-SITE SOIL BORINGS 0 to 12 INCHES BELOW GRADE	DATE: 1/16/04
	SCALE: 1" = 30'
FIGURE: 5	DRAWN BY: S.T.M.
AK ALLEN CORPORATION 255 EAST 2ND STREET MINEOLA, NEW YORK	APPR. BY: E.A.W.



CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

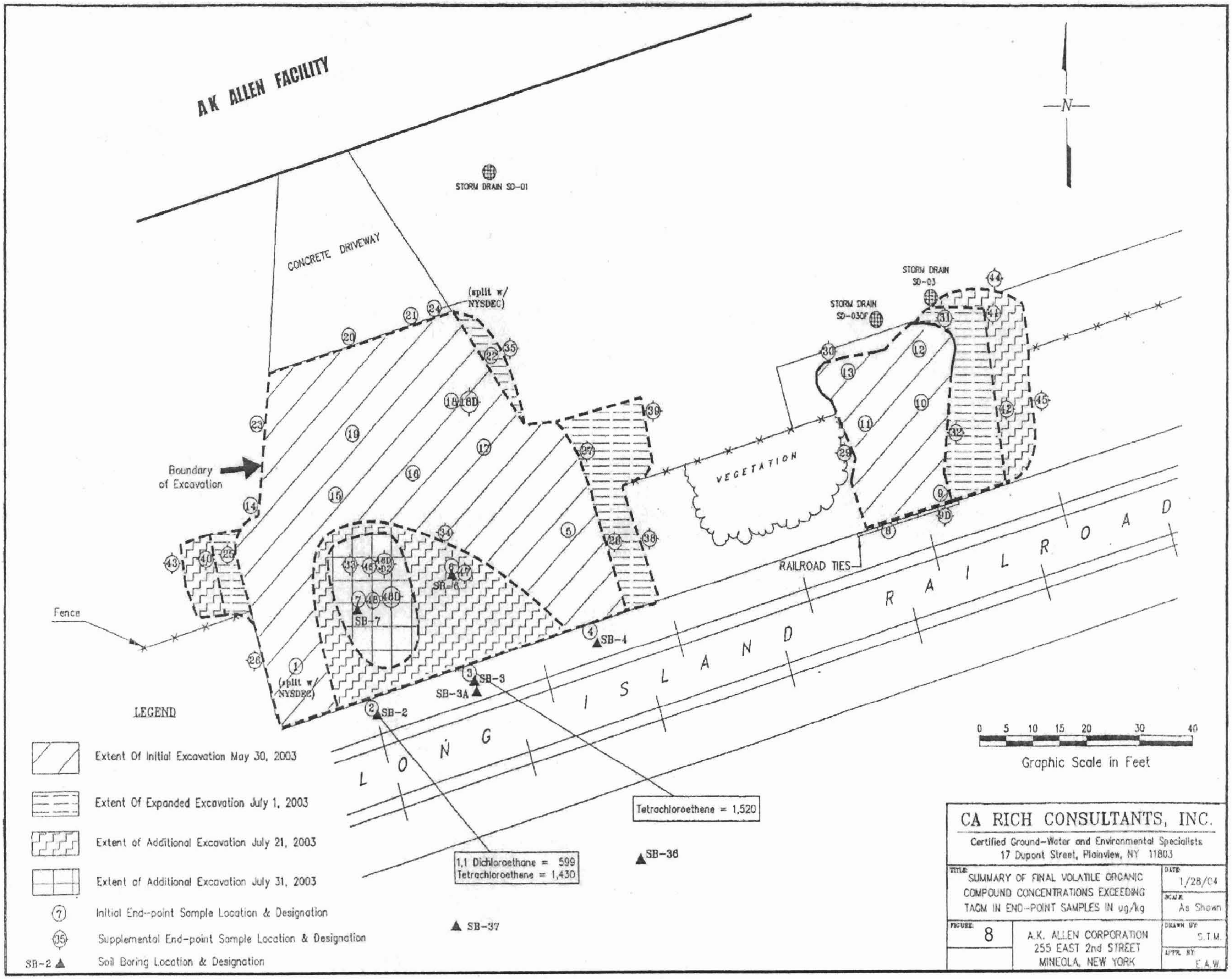
TITLE: PCB CONCENTRATIONS IN OFF-SITE SOIL BORINGS 20 to 28 INCHES BELOW GRADE		DATE: 1/19/04
		SCALE: 1" = 30'
FIGURE: 6	AK ALLEN CORPORATION 255 EAST 2ND STREET MINEOLA, NEW YORK	DRAWN BY: S.T.M.
		APPR. BY: E.A.W.

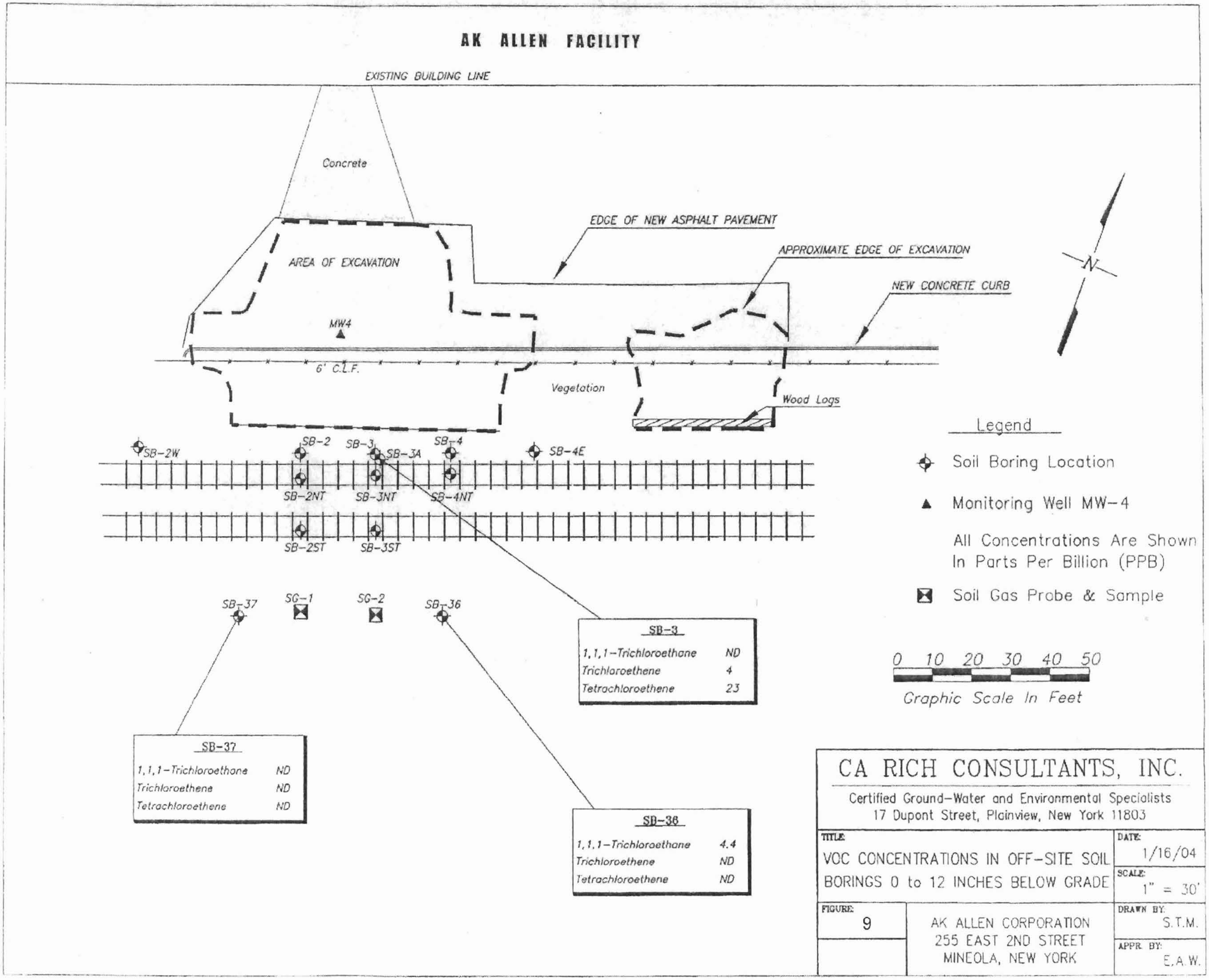


CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: PCB CONCENTRATIONS IN OFF-SITE SOIL BORINGS 36 to 42 INCHES BELOW GRADE	DATE: 1/16/04
	SCALE: 1" = 30'
FIGURE: 7 — AK ALLEN CORPORATION 255 EAST 2ND STREET MINEOLA, NEW YORK	DRAWN BY: S.T.M.
	APPR. BY: E.A.W.


A K ALLEN FACILITY
STORM DRAIN SD-01
CONCRETE DRIVEWAY
(split w/ NYSDEC)
Boundary of Excavation
Fence
VEGETATION
RAILROAD TIES
STORM DRAIN SD-030F
STORM DRAIN SD-03
LONG ISLAND RAILROAD
SB-2
SB-3
SB-3A
SB-4
SB-7
SB-36
SB-37
Tetrachloroethene = 1,520
1,1 Dichloroethane = 599
Tetrachloroethene = 1,430
0 5 10 15 20 30 40
Graphic Scale in Feet
LEGEND
Extent Of Initial Excavation May 30, 2003
Extent Of Expanded Excavation July 1, 2003
Extent of Additional Excavation July 21, 2003
Extent of Additional Excavation July 31, 2003
Initial End-point Sample Location & Designation
Supplemental End-point Sample Location & Designation
SB-2 Soil Boring Location & Designation
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803
TITLE: SUMMARY OF FINAL VOLATILE ORGANIC COMPOUND CONCENTRATIONS EXCEEDING TAGM IN END-POINT SAMPLES IN ug/kg
DATE: 1/28/04
SCALE: As Shown
FIGURE: 8
A.K. ALLEN CORPORATION
255 EAST 2nd STREET
MINEOLA, NEW YORK
DRAWN BY: S.T.M.
APPR. BY: E.A.W.



CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: VOC CONCENTRATIONS IN OFF-SITE SOIL BORINGS 0 to 12 INCHES BELOW GRADE

DATE: 1/16/04

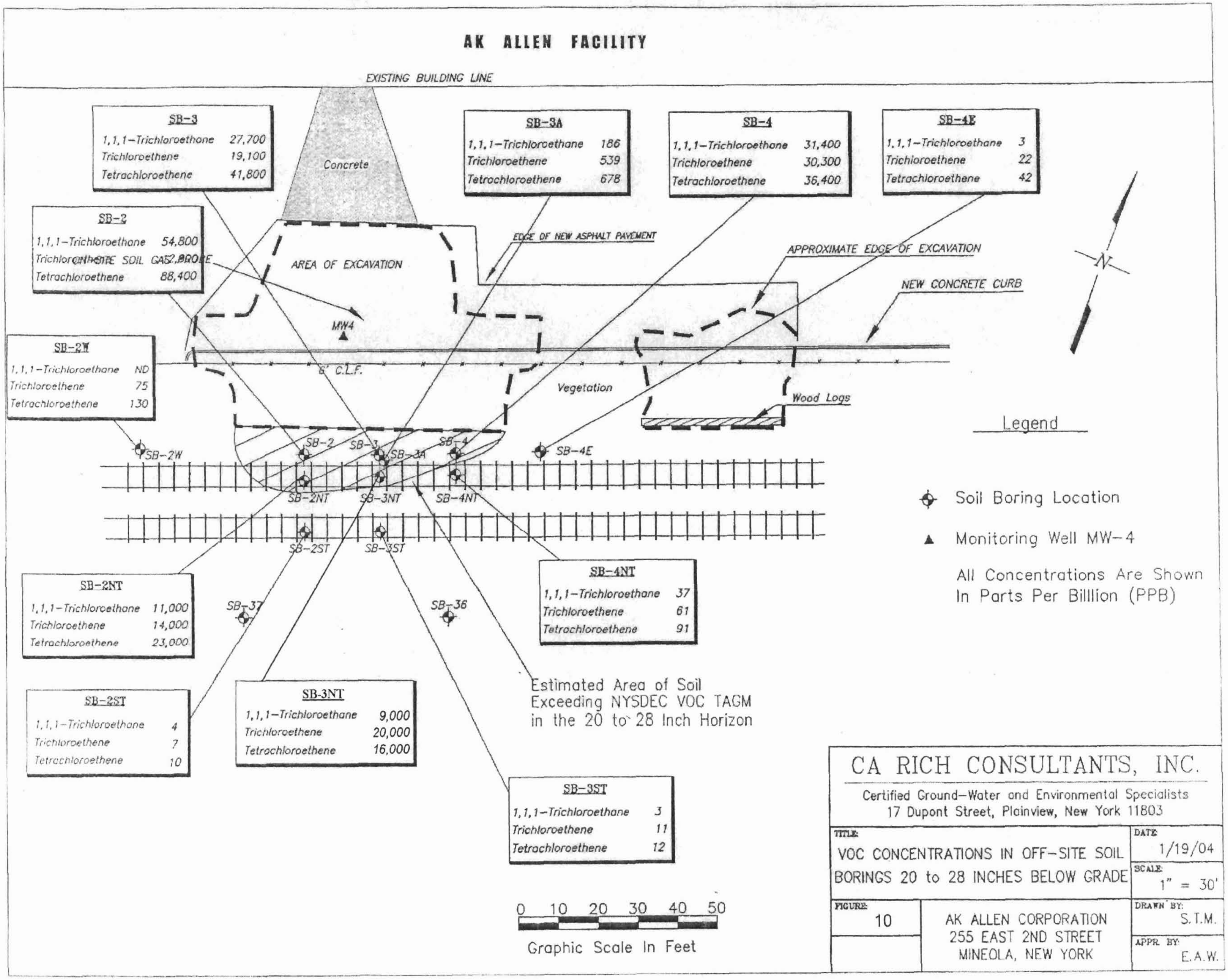
SCALE: 1" = 30'

FIGURE: 9

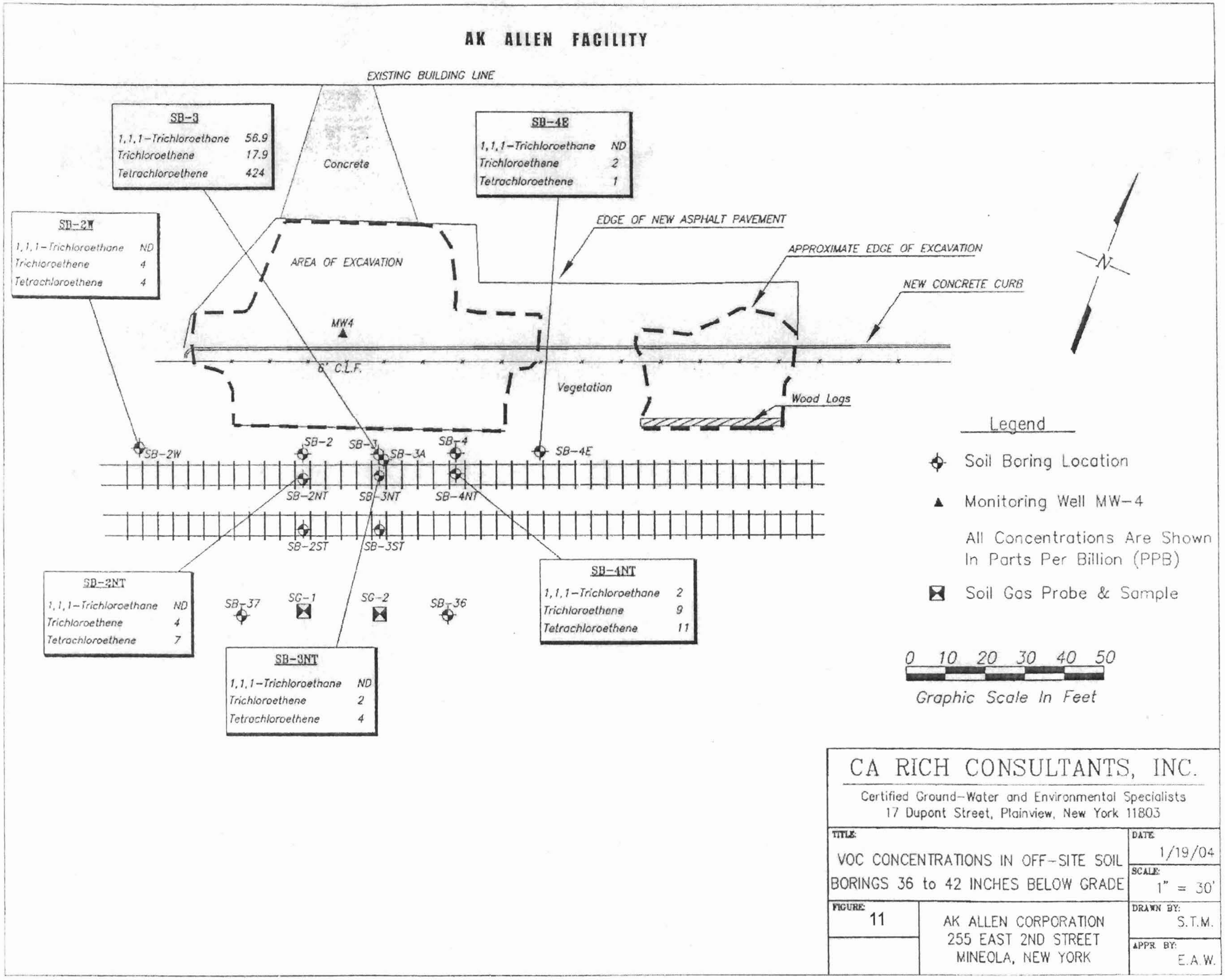
AK ALLEN CORPORATION
255 EAST 2ND STREET
MINEOLA, NEW YORK

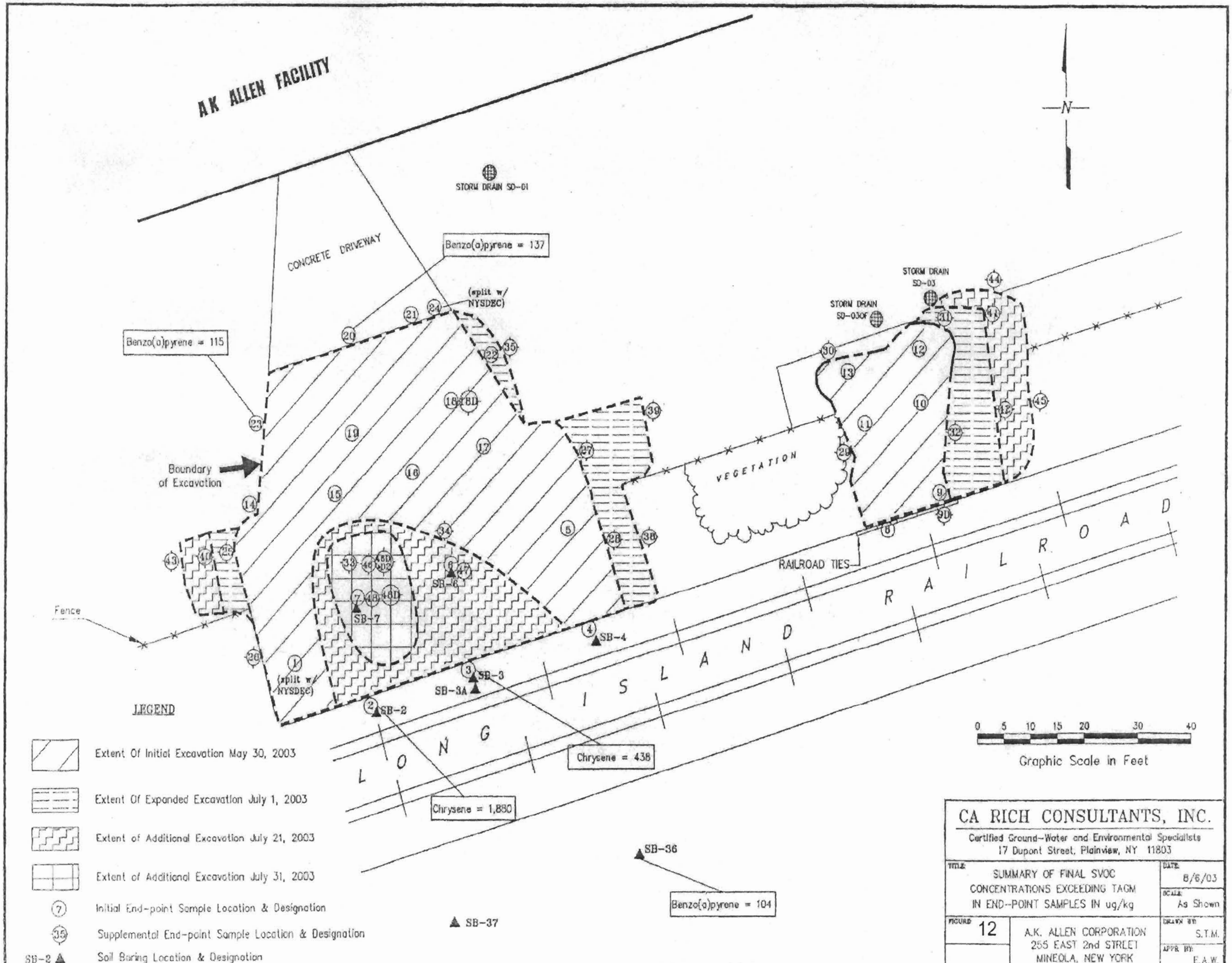
DRAWN BY: S.T.M.

APPR. BY: E.A.W.



AK ALLEN FACILITY
EXISTING BUILDING LINE
SB-3
1,1,1-Trichloroethane 27,700
Trichloroethene 19,100
Tetrachloroethene 41,800
Concrete
SB-3A
1,1,1-Trichloroethane 186
Trichloroethene 539
Tetrachloroethene 678
SB-4
1,1,1-Trichloroethane 31,400
Trichloroethene 30,300
Tetrachloroethene 36,400
SB-4E
1,1,1-Trichloroethane 3
Trichloroethene 22
Tetrachloroethene 42
SB-2
1,1,1-Trichloroethane 54,800
Trichloroethene
ON-SITE SOIL GAS PROBE
Tetrachloroethene 88,400
AREA OF EXCAVATION
EDGE OF NEW ASPHALT PAVEMENT
APPROXIMATE EDGE OF EXCAVATION
NEW CONCRETE CURB
N
MW4
SB-2W
1,1,1-Trichloroethane ND
Trichloroethene 75
Tetrachloroethene 130
6' C.L.F.
Vegetation
Wood Logs
Legend
SB-2W
SB-2
SB-3
SB-3A
SB-4
SB-4E
SB-2NT
SB-3NT
SB-4NT
SB-2ST
SB-3ST
Soil Boring Location
Monitoring Well MW-4
All Concentrations Are Shown In Parts Per Billlion (PPB)
SB-2NT
1,1,1-Trichloroethane 11,000
Trichloroethene 14,000
Tetrachloroethene 23,000
SB-37
SB-36
SB-4NT
1,1,1-Trichloroethane 37
Trichloroethene 61
Tetrachloroethene 91
Estimated Area of Soil Exceeding NYSDEC VOC TAGM in the 20 to 28 Inch Horizon
SB-2ST
1,1,1-Trichloroethane 4
Trichloroethene 7
Tetrachloroethene 10
SB-3NT
1,1,1-Trichloroethane 9,000
Trichloroethene 20,000
Tetrachloroethene 16,000
SB-3ST
1,1,1-Trichloroethane 3
Trichloroethene 11
Tetrachloroethene 12
0 10 20 30 40 50
Graphic Scale In Feet
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803
TITLE:
VOC CONCENTRATIONS IN OFF-SITE SOIL BORINGS 20 to 28 INCHES BELOW GRADE
DATE:
1/19/04
SCALE:
1" = 30'
FIGURE:
10
AK ALLEN CORPORATION
255 EAST 2ND STREET
MINEOLA, NEW YORK
DRAWN BY:
S.T.M.
APPR. BY:
E.A.W.

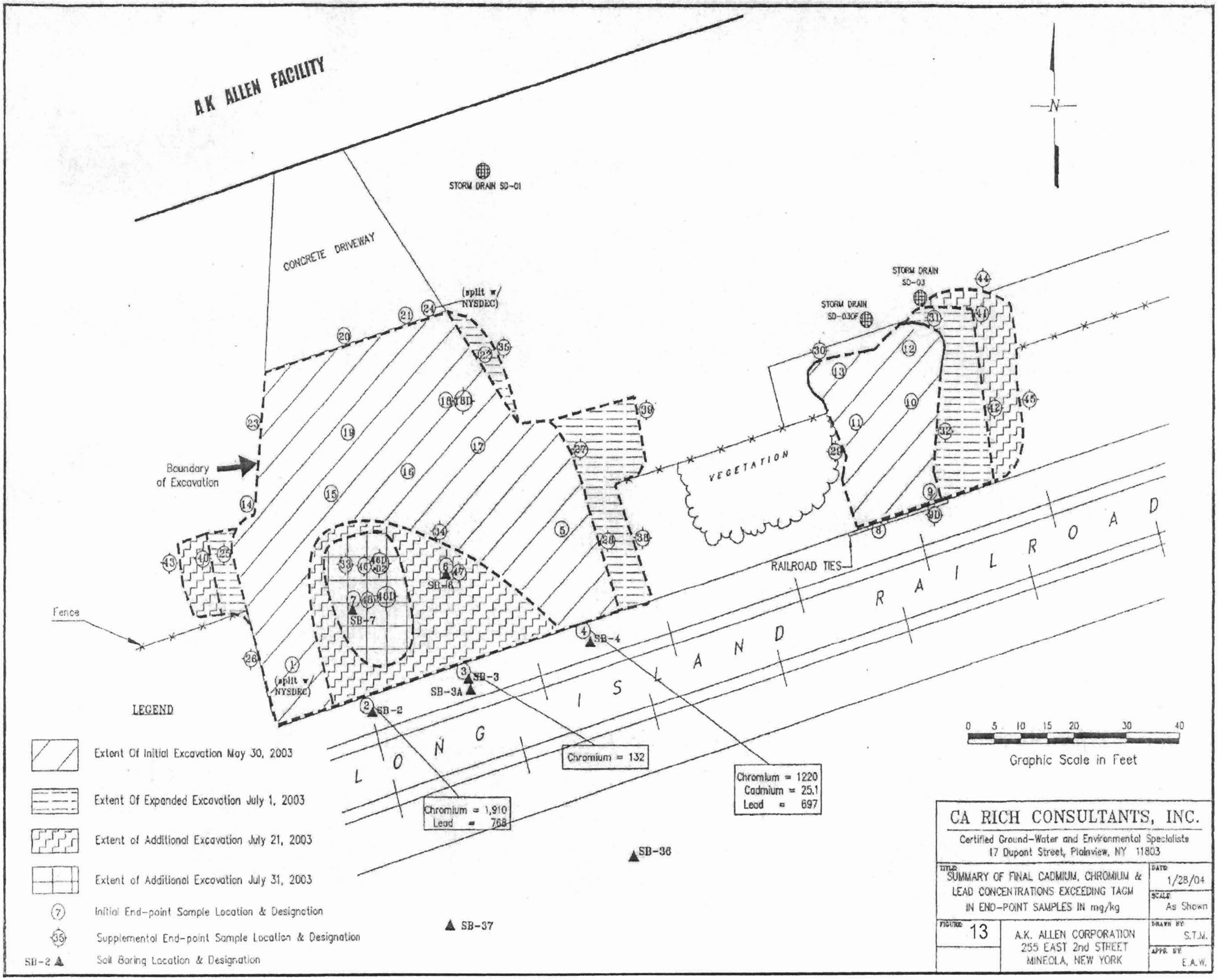

AK ALLEN FACILITY
EXISTING BUILDING LINE
SB-3
1,1,1-Trichloroethane 56.9
Trichloroethene 17.9
Tetrachloroethene 424
Concrete
SB-4E
1,1,1-Trichloroethane ND
Trichloroethene 2
Tetrachloroethene 1
SB-2W
1,1,1-Trichloroethane ND
Trichloroethene 4
Tetrachloroethene 4
EDGE OF NEW ASPHALT PAVEMENT
AREA OF EXCAVATION
APPROXIMATE EDGE OF EXCAVATION
NEW CONCRETE CURB
N
MW4
6' C.L.F.
Vegetation
Wood Logs
SB-2W
SB-2
SB-3
SB-3A
SB-4
SB-4E
SB-2NT
SB-3NT
SB-4NT
SB-2ST
SB-3ST
SB-2NT
1,1,1-Trichloroethane ND
Trichloroethene 4
Tetrachloroethene 7
SB-37
SG-1
SG-2
SB-36
SB-4NT
1,1,1-Trichloroethane 2
Trichloroethene 9
Tetrachloroethene 11
SB-3NT
1,1,1-Trichloroethane ND
Trichloroethene 2
Tetrachloroethene 4
Legend
Soil Boring Location
Monitoring Well MW-4
All Concentrations Are Shown In Parts Per Billion (PPB)
Soil Gas Probe & Sample
0 10 20 30 40 50
Graphic Scale In Feet
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803
TITLE:
VOC CONCENTRATIONS IN OFF-SITE SOIL BORINGS 36 to 42 INCHES BELOW GRADE
DATE: 1/19/04
SCALE: 1" = 30'
FIGURE: 11
AK ALLEN CORPORATION
255 EAST 2ND STREET
MINEOLA, NEW YORK
DRAWN BY: S.T.M.
APPR BY: E.A.W.



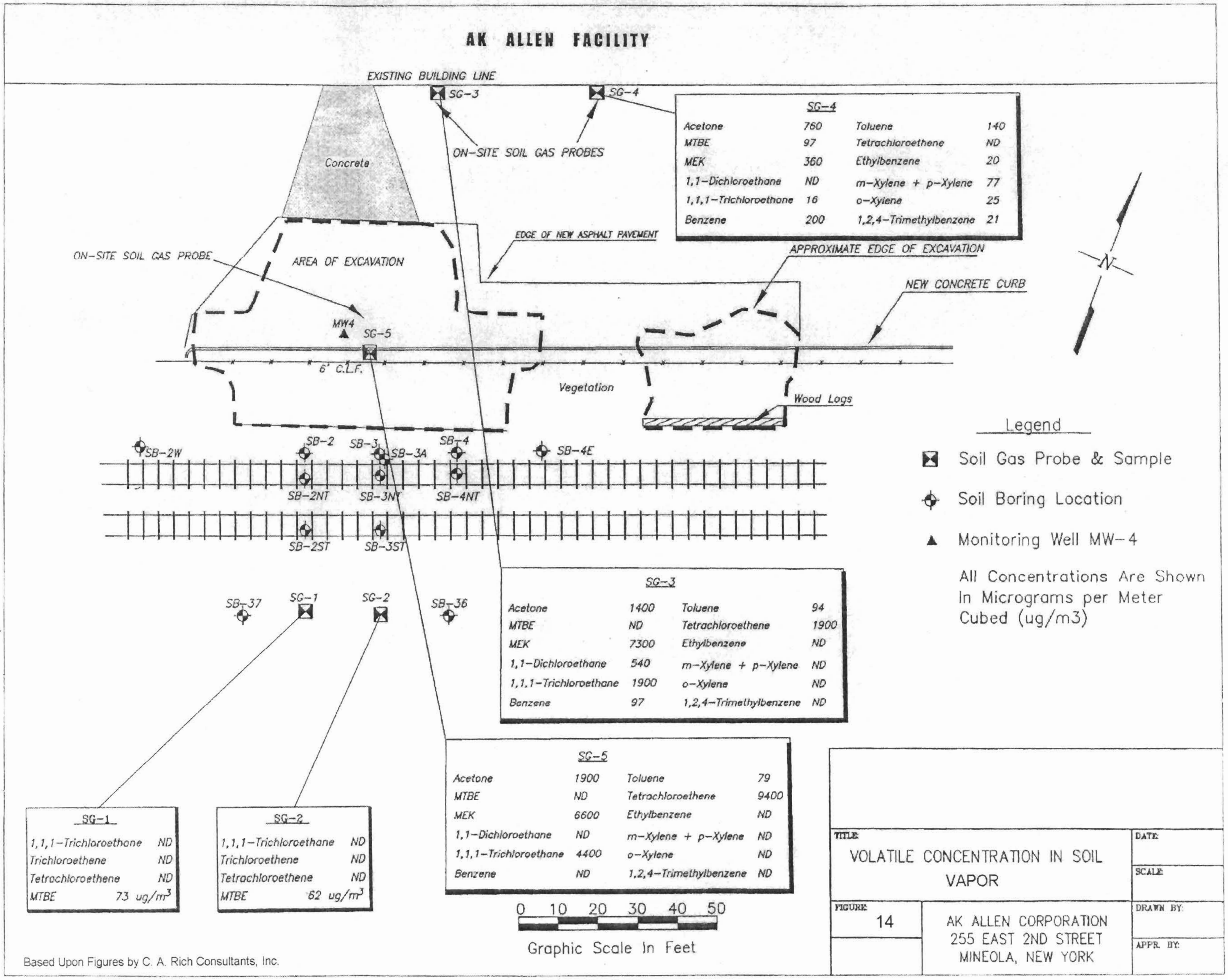
CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803

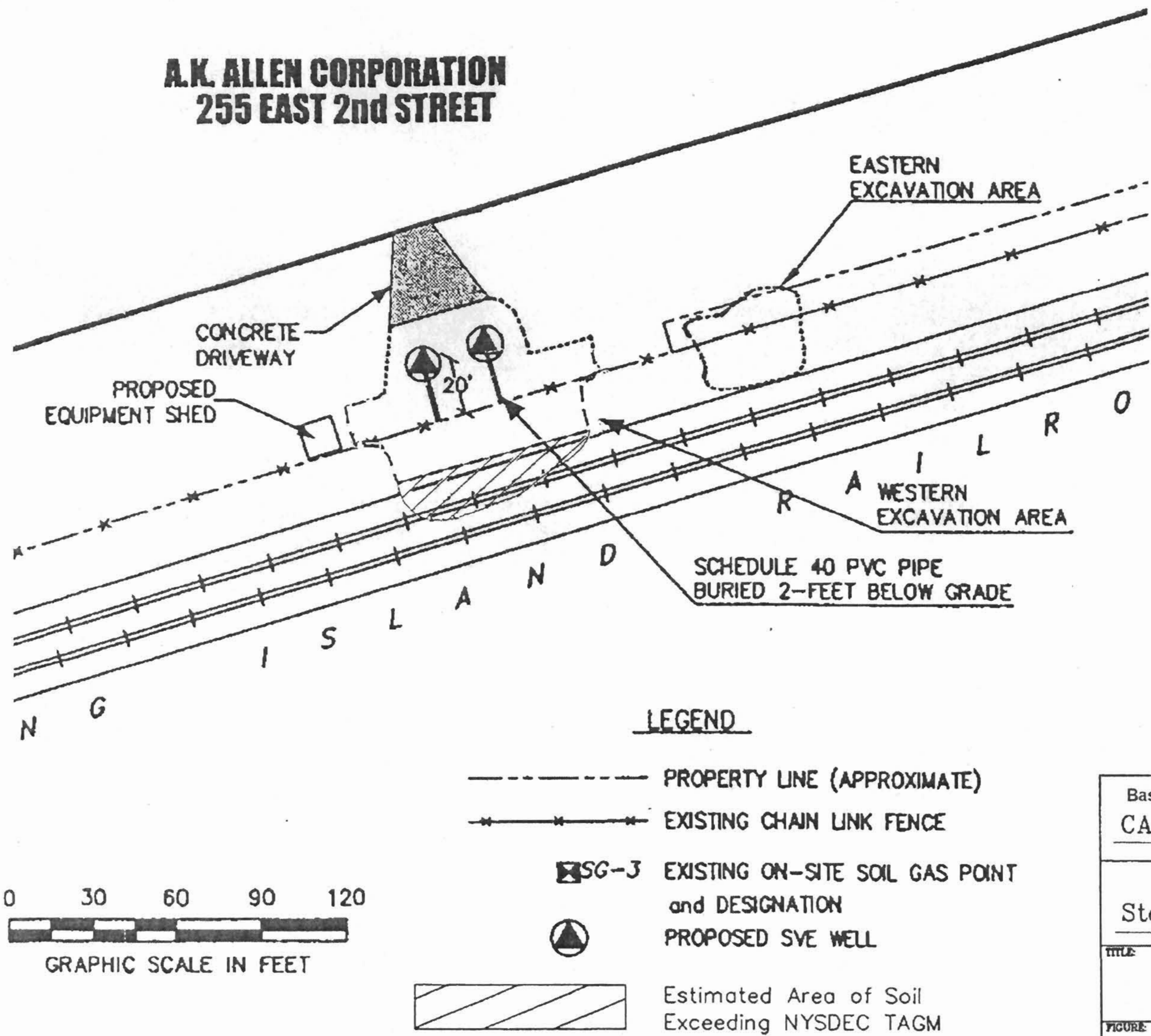
TITLE: SUMMARY OF FINAL SVOC CONCENTRATIONS EXCEEDING TAGM IN END-POINT SAMPLES IN ug/kg	DATE: 8/6/03
	SCALE: As Shown
FIGURE 12 — A.K. ALLEN CORPORATION 255 EAST 2nd STREET MINEOLA, NEW YORK	DRAWN BY: S.T.M.
	APPR BY: E.A.W.



A K ALLEN FACILITY
STORM DRAIN SD-01
CONCRETE DRIVEWAY
(split w/ NYSDEC)
Boundary of Excavation
Fence
STORM DRAIN SD-03
STORM DRAIN SD-03OF
VEGETATION
RAILROAD TIES
LONG ISLAND RAILROAD
SB-2
SB-3
SB-3A
SB-4
SB-6
SB-7
SB-36
SB-37
Chromium = 132
Chromium = 1,910
Lead = 768
Chromium = 1220
Cadmium = 25.1
Lead = 697
N
0 5 10 15 20 30 40
Graphic Scale in Feet
LEGEND
Extent Of Initial Excavation May 30, 2003
Extent Of Expanded Excavation July 1, 2003
Extent of Additional Excavation July 21, 2003
Extent of Additional Excavation July 31, 2003
Initial End-point Sample Location & Designation
Supplemental End-point Sample Location & Designation
Soil Boring Location & Designation
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803
TITLE SUMMARY OF FINAL CADMIUM, CHROMIUM & LEAD CONCENTRATIONS EXCEEDING TAGM IN END-POINT SAMPLES IN mg/kg
DATE 1/28/04
SCALE As Shown
FIGURE 13
A.K. ALLEN CORPORATION
255 EAST 2nd STREET
MINEOLA, NEW YORK
DRAWN BY S.T.M.
APPR BY E.A.W.



AK ALLEN FACILITY
EXISTING BUILDING LINE
SG-3
SG-4
ON-SITE SOIL GAS PROBES
Concrete
ON-SITE SOIL GAS PROBE
AREA OF EXCAVATION
EDGE OF NEW ASPHALT PAVEMENT
APPROXIMATE EDGE OF EXCAVATION
NEW CONCRETE CURB
N
MW4
SG-5
6' C.L.F.
Vegetation
Wood Logs
SB-2W
SB-2
SB-3
SB-3A
SB-4
SB-4E
SB-2NT
SB-3NT
SB-4NT
SB-2ST
SB-3ST
SB-37
SG-1
SG-2
SB-36
SG-4
Acetone 760 Toluene 140
MTBE 97 Tetrachloroethene ND
MEK 360 Ethylbenzene 20
1,1-Dichloroethane ND m-Xylene + p-Xylene 77
1,1,1-Trichloroethane 16 o-Xylene 25
Benzene 200 1,2,4-Trimethylbenzene 21
SG-3
Acetone 1400 Toluene 94
MTBE ND Tetrachloroethene 1900
MEK 7300 Ethylbenzene ND
1,1-Dichloroethane 540 m-Xylene + p-Xylene ND
1,1,1-Trichloroethane 1900 o-Xylene ND
Benzene 97 1,2,4-Trimethylbenzene ND
SG-5
Acetone 1900 Toluene 79
MTBE ND Tetrachloroethene 9400
MEK 6600 Ethylbenzene ND
1,1-Dichloroethane ND m-Xylene + p-Xylene ND
1,1,1-Trichloroethane 4400 o-Xylene ND
Benzene ND 1,2,4-Trimethylbenzene ND
SG-1
1,1,1-Trichloroethane ND
Trichloroethene ND
Tetrachloroethene ND
MTBE 73 ug/m3
SG-2
1,1,1-Trichloroethane ND
Trichloroethene ND
Tetrachloroethene ND
MTBE 62 ug/m3
Legend
Soil Gas Probe & Sample
Soil Boring Location
Monitoring Well MW-4
All Concentrations Are Shown In Micrograms per Meter Cubed (ug/m3)
0 10 20 30 40 50
Graphic Scale In Feet
Based Upon Figures by C. A. Rich Consultants, Inc.
TITLE: VOLATILE CONCENTRATION IN SOIL VAPOR
DATE:
SCALE:
FIGURE: 14
AK ALLEN CORPORATION
255 EAST 2ND STREET
MINEOLA, NEW YORK
DRAWN BY:
APPR. BY:



Based on a figure by:
CA RICH CONSULTANTS, INC.
&
Stephen J. Osmundsen, P.E.

TITLE: OFF-SITE EXCAVATION AREA, PROPOSED SVE WELLS and PROPOSED EQUIPMENT SHED

DATE:

SCALE: As Shown

FIGURE: 15

DRAWING NO:

A.K. ALLEN CORPORATION
255 EAST 2nd STREET
MINEOLA, NEW YORK

DRAWN BY:

APPR. BY:

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

A. K. Allen Site
North Hempstead, Nassau County, New York
Site No. 1-30-100

The Proposed Remedial Action Plan (PRAP) for the A. K. Allen site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on January 3, 2006. The PRAP outlined the remedial measure proposed for the contaminated soil, soil vapor, and groundwater at the A. K. Allen site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on January 18, 2006, which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on February 3, 2006.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the NYSDEC's responses:

COMMENT 1: Are there any other sites in the area?
RESPONSE 1: Yes, there are additional sites in the area. One other inactive hazardous waste disposal site and one voluntary cleanup site are located within one mile of the site, the Old Roosevelt Field site (1-30-051), and the LIRR Mineola site (V-00398-1), respectively.

COMMENT 2: What other business may have also done similar things as A.K. Allen did?
RESPONSE 2: All businesses are supposed to manage their waste properly.

COMMENT 3: What are the site classification levels?
RESPONSE 3: From New York Code of Rules and Regulations (NYCRR) Part 375-1.8, Site classification:

- A class "1" site is a site at which:

  (a) hazardous waste constitutes a significant threat to the environment, and

  (b) the significant threat to the environment is causing, or presents an imminent danger of causing, either irreversible or irreparable damage to the environment.

- A class "2" site is a site at which hazardous waste constitutes a significant threat to the environment.

- A class "3" site is a site at which hazardous waste does not presently constitute a significant threat to the environment.

- A class "4" site is a site that has been properly closed but that requires continued operation, maintenance, and/or monitoring.

- A class "5" site is a site that has been properly closed and that does not require continued operation, maintenance, and/or monitoring.

COMMENT 4: As a Class 2 site is this considered a Superfund site, a Brownfield site?
RESPONSE 4: This Site is being addressed under the State Superfund Program.

COMMENT 5: Why is there such a long time frame associated with the cleanup of this site?
RESPONSE 5: The investigation and cleanup of contaminated sites follows a systematic process for planning and executing the work. This process allows the State to ensure that the data gathered is adequate and complete to make sound technical judgements regarding the cleanup of the site.

COMMENT 6: Who identified the site? When was the contamination discovered?
RESPONSE 6: Reportedly, the stained soil was observed by Long Island Railroad (LIRR) personnel and reported to the attention of regulators. The exact date is unknown to this agency. The Nassau County Department of Health (NCDOH) was the first regulatory agency to investigate the problem. Samples of contaminated soil were first collected in June 1992 by the NCDOH.

COMMENT 7: Were any fines levied against A.K. Allen?
RESPONSE 7: The NYSDEC is not aware of any fines related to this problem. A. K. Allen has complied with the Administrative Order on Consent (the Order) which requires a complete remedial program for this problem.

COMMENT 8: What has A.K. Allen done to make sure this problem is not ongoing? What precautions have been taken to prevent from happening again?
RESPONSE 8: After this problem was identified, waste storage practices were modified. The drums of metal shavings were no longer stored at that location. There are regulations prescribing how waste must be managed at a facility like A. K. Allen. Because this is an active facility, the NYSDEC, Division of Solid and Hazardous Materials (DSHM) oversees waste treatment, storage and disposal under the Resource Conservation Recovery Act for this facility.

COMMENT 9: Are there any lawsuits against A.K. Allen?
RESPONSE 9: This topic is beyond the scope of this Record of Decision. A. K. Allen should be consulted directly on this issue.

COMMENT 10: Were there any previous attempts to notify Mineola residents about this site?
RESPONSE 10: Yes. A fact sheet was mailed to the site contact list, which includes Mineola residents, in April 2003 to announce the start of the interim remedial measure and supplemental investigation. A fact sheet was also mailed in April 2004 to announce that the IRM was complete.

COMMENT 11: Why are there not more people here?
RESPONSE 11: The NYSDEC makes an effort to involve the public in the remedial program but cannot ensure participation. The site contact list contains over 450 names of potentially interested people, including nearby residents, the media, politicians, regulatory agencies, and community groups. This meeting announcement was sent to all those on the contact list.

COMMENT 12: Have the water districts been notified about this site?
RESPONSE 12: The New York State Water Commission, The Town of Hempstead Department of Water, and the Mineola Water Department are on the site contact list and received notification of this site.

COMMENT 13: What is the groundwater depth at this site?
RESPONSE 13: The depth to the water table is approximately 50 to 55 feet below ground surface.

COMMENT 14: Which way does groundwater flow?
RESPONSE 14: South-Southwest toward the LIRR.

COMMENT 15: How was the sampling done? What were the procedures?
RESPONSE 15: The Interim Remedial Measures Work Plan contains detailed information on the sampling procedures, including quality assurance/quality control (QA/QC) information in the quality assurance project plan in Appendix D. This document can be reviewed at any of the Document Repositories.

COMMENT 16: How far did the soil contamination extend off the site?
RESPONSE 16: The soil contamination is confirmed to be beneath the northern railroad track. It was confirmed not to be as far as the middle of the southern track. Figure 15 in this document shows the estimated extent of off-site contamination.

COMMENT 17: Did you sample south of the tracks for soil vapor, groundwater and for soil contamination? What were the results of off-site investigation south of tracks?
RESPONSE 17: Sampling for soil vapor, groundwater and soil contamination was performed south of the tracks. No groundwater contaminants were found above SCGs south of the tracks. Only MTBE was found in the soil vapor samples south of the tracks. This is not a site-related contaminant of concern and there is no SCG to which it can be compared. Arsenic was detected in one off-site soil sample above the guidance concentration but within the eastern United States background range. Benzo(a)pyrene was detected above the guidance concentration, but this is not site related and is commonly found in urban settings.

COMMENT 18: Did anybody ever get sick as a result of this site?
RESPONSE 18: We are not aware of any sickness related to this site.

COMMENT 19: You excavated 770 tons of material at this site. You must have covered a big area to do this.
RESPONSE 19: Figure 14 in this document shows the area excavated and includes a graphic scale. The depth of the excavation ranged from approximately one to four feet below ground surface.

COMMENT 20: Is the weight of the soil heavier because of the metal contamination?
RESPONSE 20: The concentrations of the metals contamination is not great enough to measurably increase the weight of the soil. The moisture content, soil particle size and density affect the soil weight more.

COMMENT 21: Why are you going to put an asphalt cover over contaminated soil? Won't water go through the cover?
RESPONSE 21: The purpose of the asphalt cover is to prevent direct contact with the soil in the few areas where the end-point confirmation samples did not meet the cleanup objectives. Water will penetrate the asphalt. The asphalt does not need to be impermeable. The residual contamination tends to remain bound to the soil.

COMMENT 22: Why don't you take the waste out at the locations where the cover is being placed?
RESPONSE 22: Removal of this residual contamination is not necessary for the proposed remedy to be protective of human health and the environment.

COMMENT 23: Was anything done about the dry wells?
RESPONSE 23: The dry wells were remediated during the IRM. Soil was excavated from the bottom of the inside of the dry wells. The dry well remediation was completed in compliance with the USEPA underground injection control (UIC) program.

COMMENT 24: How much noise will the SVE system make?
RESPONSE 24: This SVE system is not expected to be loud. The amount of noise depends upon many variables, including the size and type of blower, the vacuum applied, distance from the blower, and the type of blower enclosure. For this application, however, only a small blower is anticipated and the type of blower anticipated is among the quietest. Exhaust silencers can also be added if necessary.

COMMENT 25: How long can we expect for this site to be completely remediated?
RESPONSE 25: The active portion of the remedy, the SVE, is not expected to run longer than approximately two years. The monitoring of groundwater and soil vapor will continue until it is no longer required and this could take many years. The institutional and engineering controls, including the asphalt cover and site use restrictions will run with the land forever, unless additional active remediation is performed.

COMMENT 26: When do you propose to coordinate with the MTA to do this offsite work?
RESPONSE 26: The coordination has already begun to a limited degree. Information from LIRR was required to determine the cost and feasibility of the selected remedy. Successful and timely completion of the off-site soil excavation will require continued coordination with the LIRR.

COMMENT 27: Do you know that a third line is being proposed by the LIRR?
RESPONSE 27: The NYSDEC project manager for this Site was not aware of the contemplated third line at the time of the remedy selection. Adding a third line at this location would not negatively impact the remedy.

COMMENT 28: What can be done to speed up the off-site cleanup in the LIRR right-of-way?
RESPONSE 28: The time required to excavate the contaminated soil is very short, but the excavation can only occur when the rail service is interrupted at that location. As the potential for dermal contact exposures is restricted to the Long Island Railroad (LIRR) right of way behind the property and access to this area is limited, exposures to contaminants in this area to the general public are not likely. LIRR workers, however, could be exposed during construction or maintenance work in this area. Consequently, waiting for a planned shutdown of the rail road to coordinate the removal is preferred as it reduces the cost while reducing the remaining potential for exposure.

Administrative Record

A. K. Allen
Site No. 1-30-100

1. Proposed Remedial Action Plan for the A. K. Allen site, dated January 2006, prepared by the NYSDEC.

2. Order on Consent, Index No. W 1-0932-02-08, between NYSDEC and AK Allen Company, Inc., executed on January 2, 2003.

3. "Remedial Investigation Report", February 1996, Prepared by CA Rich Consultants, Inc.

4. "Interim Remedial Measures Work Plan", March 2003, Prepared by CA Rich Consultants, Inc.

5. "Summary Report, Underground Injection Control (UIC) Clean Out", August 2003, Prepared by CA Rich Consultants, Inc.

6. "Interim Remedial Measures Report", February 2004, Prepared by CA Rich Consultants, Inc.

7. "Supplemental Remedial Investigation Report", April 2004, Prepared by CA Rich Consultants, Inc.

8. Package of copies of MSDSs for chemicals and products reportedly still in use at A. K. Allen, January 2005.

9. "On-Site Feasibility Study", June 2005, Prepared by CA Rich Consultants, Inc.

10. "Off-Site Feasibility Study", June 2005, Prepared by CA Rich Consultants, Inc.