39-40 30th STREET
QUEENS NEW YORK
Block 399 Lot 34

REMEDIAL ACTION WORK PLAN

AUGUST 2016

Prepared for:
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CERTIFICATIONS

I, Ariel Czemerinski, certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

076508	08/06/2016	
NYS Professional Engineer #	Date	Signature

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ATTACHMENTS

LIST OF ACRONYMS

Acronym	Definition
AMC	AMC Engineering
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CQMP	Construction Quality Management Plan
DUSR	Data Usability Statement Report
EBC	Environmental Business Consultants
FER	Final Engineering Report
HDPE	High Density Polyethylene
IRM	Interim Remedial Measure
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PS	Public School
PVC	Polyvinyl Chloride
RAO	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RSCOs	Recommended Site Cleanup Objectives
SCG	Standards, Criteria, and Guidelines
SMMP	Soil/Materials Management Plan
SMP	Site Management Plan
SSDS	Sub-slab Depressurization System
SWPPP	Stormwater Pollution Prevention Plan
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Site Description/Physical Setting/Site History

This Remedial Action Work Plan has been prepared by Environmental Business Consultants (EBC) and AMC Engineering (AMC) for a commercial property located 39-40 30th Street in the Long Island City section of Queens (**Figure 1**). The Site has been formally presented for entry into to the New York State Department of Environmental Conservation (NYSDEC) Brownfields Cleanup Program (BCP) through an application submitted in June 11 2014. The applicant has applied to this program as a Volunteer.

The Site address is 39-40 30th Street, Queens, New York 11101. It is located on the northwest corner of the intersection between 40th Avenue and 30th Street in Queens, New York. The site is designated as Block 399 Lot 34 on the Queens Tax Map. The Site consists of a single tax parcel with 133 feet of street frontage on 30th Street and 100 feet of street frontage on 40th Avenue for a for a total of 14,000 square feet (0.32 acres). The lot is currently developed with a two-story commercial warehouse which occupies approximately 70% of the lot.

The property has an elevation of approximately 28 feet above the National Geodetic Vertical Datum (NGVD) feet. The depth to groundwater beneath the site, as determined from field measurements, is approximately 20 feet below grade. Based on regional groundwater contour maps, groundwater flows to the west toward the East River.

Historic records show the subject site as being developed with a gas station in 1936. The property was redeveloped by 1947 onto a two-story warehouse utilized by Optical Products Corporation for manufacturing, shipping, and as an office. The building has remained since, with several other occupants including Union Wire Die Corp (1960s), National Tea Packaging Co. Inc. (1962-1991), and a warehouse (1991-2006).

Summary of the Remedial Investigation

The remedial investigation was performed during several mobilizations; the initial mobilization from December 9, 2013 to December 20, 2013, in accordance with the Remedial Investigation Work Plan approved by the NYCOER as part of the E-designation review process, and the

supplemental mobilization from December 15, 2014 through December 26, 2014 in accordance with the Remedial Investigation Work Plan approved by the NYSDEC. A third mobilization was conducted on August 5, 2015. A fourth mobilization was performed on October 29, 2015 and a fifth mobilization was conducted on November 24, 2015. The goals of the Remedial Investigation were to define the nature and extent of contamination in soil, groundwater and any other impacted media; to identify the source(s) of the contamination; to assess the impact of the contamination on public health and/or the environment; and to provide information to support the development of a Remedial Work Plan to address the contamination.

Activities completed under the RI:

- Soil sampling and analysis for volatile and semi-volatile organic compounds (VOCs, SVOCs), pesticides / PCBs and metals in 29 soil samples from 14 soil boring locations;
- The installation of seven groundwater monitoring wells;
- The collection and analysis of a groundwater samples for volatile and semi-volatile organic compounds, pesticides / PCBs and metals; and,
- The collection of analysis of nine soil gas samples for VOCs.

To additionally evaluate the presence of VOCs in the soil vapor beneath the site the following samples were collected:

- Installation of six (6) sub-slab soil gas implants (SG10 to SG15), six (6) indoor air samples (SG16 to SG21) and one outdoor ambient air sample (AA01).
- Sampling of previously installed soil vapor points; SG1 and SG2
- Four indoor air samples were collected on the 2nd floor (Indoor Air Second Floor #1, Indoor Air Second Floor #2, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4) and one out door air sample (AA 2) was collected in October 2015
- Seven indoor air samples (SG-16, SG-17, SG-18, SG-19, SG-20, SG-21, SG-22) were re-collected on the 1st floor, two indoor air samples (Indoor Air Second Floor # 3, Indoor Air Second Floor # 4) were re-collected on the 2nd floor and one out door air sample (AA-03) was collected in November 2015.

The results of sampling performed during this RI, identified elevated levels of CVOCs in shallow soils and soil gas, mainly TCE, related to the historical occupancy of the Site as a wire die company from the 1960's through 1983. The contaminants were found to be limited to the top 6 to 10-12 feet of soil along the south and east portions of the building. The direction of groundwater flow was confirmed to be generally south.

Chlorinated VOCs including tetrachloroethene (PCE) and TCE were detected throughout the Site above NYSDEC groundwater standards. The PCE, TCE, cis-DCE and petroleum VOCs reported in groundwater at the Site are related to the on-site migration of an off-site plume. This was determined using multiple lines of evidence as follows:

- The absence of TCE in deeper soils at the Site;
- The absence of TCE in soil in the upgradient areas of the Site and at locations with the highest TCE concentrations in groundwater;
- The presence of PCE at significantly higher concentrations in off-site upgradient groundwater samples;
- The presence of the highest concentration of on-site PCE at an upgradient well;
- The presence of both PCE and TCE in off-site upgradient groundwater samples;
- The presence of multiple upgradient potential historic sources of chlorinated solvents;
- The groundwater flow direction with respect to upgradient sources;
- The presence of petroleum VOCs in both off-site upgradient and on-site upgradient wells as an anthropogenic carbon source to drive reductive dechlorinization;
- The highest concentrations of PCE and TCE are located in wells that are
- The lowest concentration of TCE and PCE in monitoring wells are located downgradient of the Site;
- The presence of cis-DCE in on-site upgradient wells confirming that reductive dechlorinization is occurring;
- Common distribution of PCE and TCE on-site.

The elevated TCE levels reported in soil gas are associated with off-gassing from the TCE impacted soil. It would not be expected to be related to off-gassing from the TCE impacted groundwater since the TCE concentrations in groundwater are relatively low. The elevated PCE levels in soil gas are either related to off-gassing from the PCE plume beneath the site or from the migration of vapors from PCE impacted soil on the adjacent Bridge Cleaners property.

Shallow soil samples collected reported elevated levels of some metals and SVOCs are consistent with that associated with historic fill throughout the area.

Qualitative Human Health Exposure Assessment

The qualitative exposure assessment identified potential completed routes of exposure to construction workers and remediation workers through inhalation, ingestion and dermal contact during excavation activities. The Construction Health and Safety Plan prepared for the site identifies such exposures and provides instructions for on-site workers to minimize potential exposure. There is a completed exposure pathway for occupants in the existing commercial building, these occupants are exposed to CVOC vapors migrating into the building. Occupants in the proposed on-site commercial buildings will be exposed to VOCs through the vapor intrusion pathway if VOCs in source area soil and slab areas are not remediated, or if preventive measures such as vapor barriers or sub-slab ventilation are not employed.

Potential environmental impacts through the groundwater to surface water discharge were not expected based on the distance and location of the nearest surface water receptor.

Summary of the Remedy

The remedy recommended for the site is a Track 4 alternative (Alternative 2) which consists of the installation of a soil vapor extraction (SVE) system beneath the building slab. The remedy will include the following items:

1. Installation of a Soil Vapor Extraction (SVE) system beneath the existing basement foundation;

2. Implementation of a groundwater remediation contingency if TCE in groundwater is found to be Site related;
3. Implementation of a Site Management Plan (SMP) for long term maintenance of the Engineering Controls;
4. An Environmental Easement will be filed against the Site to ensure implementation of the SMP.

All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP. All deviations from the RAWP will be promptly reported to NYSDEC for approval and fully explained in the FER.

REMEDIAL ACTION WORK PLAN

1.0 INTRODUCTION

In March 2014, Ganesh Management, LLC filed an application with the New York State Department of Environmental Conservation (NYSDEC) to investigate and remediate a 0.32-acre property located at 39-40 30th Street in Queens County, New York as a Volunteer in the New York State Brownfield Cleanup Program (BCP). No redevelopment is planned at this time. Redevelopment of the property may occur in the future.

This Remedial Action Work Plan (RAWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), performed between December 9, 2013 and December 20, 2013. A second mobilization occurred on December 15, 2014, December 17, 2014, and December 26, 2014. A third mobilization was conducted on August 5, 2015. A fourth mobilization was performed on October 29, 2015 and a fifth mobilization was conducted on November 24, 2015. This data provides an evaluation of a Track 1 cleanup and other applicable Remedial Action alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have not yet determined whether this Site poses a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

1.1 SITE LOCATION AND DESCRIPTION

The Site address is 39-40 30th Street, Queens, New York 11101. It is located on the northwest corner of the intersection between 40th Avenue and 30th Street in Queens, New York. The site is designated as Block 399 Lot 34 on the Queens Tax Map. The Site consists of a single tax parcel with 133 feet of street frontage on 30th Street and 100 feet of street frontage on 40th Avenue for a total of 14,000 square feet (0.32 acres). The lot is currently developed with a two-story commercial warehouse which occupies 70% of the lot.

A boundary map is provided as **Figure 2**. The 0.32-acre property is fully described in **Attachment A – Metes and Bounds.**

1.2 CONTEMPLATED REDEVELOPMENT PLAN

No redevelopment or excavation for the Site is planned at this time. Redevelopment of the property may occur in the future.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The surrounding land use includes commercial properties and a NYS BCP site to the north, a taxi / vehicle storage yard and a hotel to the west, a commercial warehouse office building and a hotel to the south and a church and commercial building to the east (see **Figure 3**).

The area surrounding the property is highly urbanized and predominantly consists of commercial, industrial and residential buildings with mixed-use buildings (residential w/ first floor retail) along main corridors thoroughfares. Residential buildings including 1-2 family and multi-family are located on predominantly residential blocks located to the north and west and are also interspersed throughout the predominantly commercial areas. Areas south and east of the Site were historically characterized by heavy industry and manufacturing. Following a steady decline of manufacturing in the area from the late 1960's through the 1980's, many of the industrial properties were vacated leaving the buildings to be vandalized and become derelict. Conditions continued to decline throughout the 1980's and 1990's.

The community and area have seen a resurgence in recent years following the rezoning of former industrial properties to residential use during a series of rezoning actions completed within the last 10 years.

2.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The field work portion of the RI was conducted by EBC during several mobilizations to the site: the initial RI mobilization in December 2013 and a supplemental mobilization concluding on December 15, 2014, December 17, 2014 and December 26, 2014. A third mobilization was conducted on August 5, 2015. A fourth mobilization was performed on October 29, 2015 and a fifth mobilization was conducted on November 24, 2015. The field investigation consisted of the environmental sampling, field observations and measurements to determine:

- Local geologic/hydrogeologic conditions
- Definition of source areas
- Potential migration of contaminants from the site to surrounding areas
- Overall characterization of site-related contamination in all media

The field effort included the collection and analysis of soil, groundwater and soil vapor samples. Drilling services were provided by Eastern Environmental Services (Eastern) of Manorville, NY and C^2 of Jericho, NY. Laboratory services were provided by Phoenix Environmental Laboratories of Manchester, CT. A sample matrix showing the number, type and analysis of samples collected during the Remedial Investigation is provided as **Table 2**.

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS PERFORMED

2.1.1 Borings

A total of 8 soil borings, B1 through B8, were advanced during the initial site mobilization in December 2013. An additional six soil borings (B9 through B13) were installed in December 2014.

For soil borings B1, B3, B4, B5, B6 and B8, soil samples were collected continuously from grade to a final depth of 12 feet below existing grade using a five-foot steel macro-core sampler with acetate liners and Geoprobe direct-push equipment. For soil borings B2 and B7, soil samples were collected continuously from grade to a final depth of 6 feet below existing grade using a five-foot steel macro-core sampler with acetate liners and Geoprobe direct-push equipment. Soil samples from soil borings B1, B3, B4, B5, B6 and B8 were retained from 0 to 2 feet below grade and 10 to 12 feet below grade. An additional soil samples was retained from

soil boring B5 from the 4-6 foot interval that exhibited the highest photo-ionization detector (PID) response. Soil samples from the soil borings B2 and B7 were retained from 0 to 2 feet below grade and 4 to 6 feet below grade.

Based upon the results from the initial sampling, which reported elevated levels of TCE in shallow soil, six additional borings, B9 through B13, were advanced to a depth of 15 feet with samples retained from 0-2 feet and 13-15ft. Boring B14 was advanced to a maximum depth of 10 feet due to the presence of refusal.

Each soil sample recovered from the soil borings was characterized by an experienced geologist qualified environmental professional (QEP) and field screened for the presence of VOCs using a PID. The geologist's field observations and PID readings were recorded for each boring in a soil boring log. The location of soil borings are shown on **Figure 4**.

2.1.2 Monitoring Wells

EBC collected a groundwater sample from five temporary groundwater monitoring wells (MW-1 through MW-5) installed during the initial site mobilization in December 2013. Two additional monitoring wells, MW-6 and MW-7, were installed in December 2014. Groundwater was encountered at approximately 20 feet below grade.

The monitoring wells were installed to a total depth of 24-30 ft, approximately 5-7 feet below the water table. A No. 00 Morie filter sand was placed in the borehole to within 2 feet above the top of the screen. A 1-foot hydrated bentonite seal was then placed on top of the filter sand and the remainder of the borehole was backfilled to grade. Monitoring well locations are shown in **Figure 5A**.

2.1.3 Samples Collected

A summary of the sampling performed during the RI is provided in **Table 2**.

2.1.3.1 Soil Samples

Soil samples were collected from grade to a depth of 12 ft below grade for borings B1, B3, B4, B5, B6 and B8, six feet below grade for borings B2 and B7, 15 feet below grade for borings B9 through B13 and 10 feet below grade for boring B14. All soil samples were collected utilizing

five-foot steel macro-core samplers with acetate liners and Geoprobe direct-push equipment. Each soil sample recovered from the soil borings was characterized by a qualified environmental professional (QEP) and field screened for the presence of VOCs using PID. Retained samples were submitted for laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, TAL Metals, pesticides and PCBs by EPA Methods 8081/8082.

2.1.3.2 Groundwater Samples

A groundwater sample was obtained from each of the seven temporary monitoring wells, MW-1 through MW-7. Samples were collected from wells MW-1 through MW-5 during the December 2013 mobilization and wells MW-6 and MW-7 during the secondary mobilization in December 2014.

A peristaltic pump and polyethylene tubing were used to purge and collect samples from the well. The sample was collected directly into pre-cleaned laboratory supplied glassware, stored in a cooler with ice and submitted to Phoenix Environmental Laboratories of Manchester, CT, a New York State ELAP certified environmental laboratory (ELAP Certification No. 11301).

The groundwater sample was analyzed for VOCs / SVOCs by EPA method 8260 / 8270, target analyte list (TAL) metals (total and dissolved) and pesticides/PCBs by Method 8081/8082.

2.1.3.3 Soil Gas Samples

To assess the presence of VOCs in soil vapor beneath the site, five soil vapor samples (SG1-SG5) were collected at the site during the initial mobilization in December 2013. To supplement the previously collected soil gas data, two soil vapor implants (SG6 and SG7) and two sub-slab points (SG8 and SG9) were collected in December 2014.

To additionally evaluate the presence of VOCs in the soil vapor beneath the site the following samples were collected:

- Installation of six (6) sub-slab soil gas implants (SG10 to SG15), six (6) indoor air samples (SG16 to SG21) and one outdoor ambient air sample (AA01).
- Sampling of previously installed soil vapor points; SG1 and SG2

- Four indoor air samples were collected on the 2nd floor (Indoor Air Second Floor #1, Indoor Air Second Floor #2, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4) and one out door air sample (AA 2) was collected in October 2015
- Seven indoor air samples (SG-16, SG-17, SG-18, SG-19, SG-20, SG-21, SG-22) were re-collected on the 1st floor, two indoor air samples (Indoor Air Second Floor # 3, Indoor Air Second Floor # 4) were re-collected on the 2nd floor and one out door air sample (AA-03) was collected in November 2015.

Soil vapor and sub-slab sampling locations are shown on **Figure 8a, 8b, 8c and 8d**. Soil vapor samples collected in 2013 and 2014 were collected over a 2 hr sampling period. Samples collected in 2015 were collected over an 8-hr sampling period.

Soil vapor samples were collected in accordance with the procedures as described in the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH 10/06)*.

2.1.4 Chemical Analytical Work Performed

Each soil and groundwater sample was placed in pre-cleaned laboratory supplied glassware, and placed in a cooler packed with ice for transport to the laboratory. Sample analysis was provided by Phoenix Environmental Laboratories of Manchester, CT, a New York State ELAP certified environmental laboratory (ELAP Certification No. 11301).

Soil samples were analyzed for the following parameters: VOCs / SVOCs by EPA method 8260 / 8270, target analyte list (TAL) metals and pesticides/PCBs by Method 8081/8082. The groundwater sample was analyzed for VOCs / SVOCs by EPA method 8260 / 8270, target analyte list (TAL) metals (total, dissolved) and pesticides/PCBs by Method 8081/8082.
Soil gas and sub-slab samples were analyzed for VOCs by EPA method TO-15.

2.1.5 Documentation

Maps showing the locations of the soil borings, monitoring well and soil gas collection points are provided in **Figures 4**, **5a and 5b**. The results of soil, groundwater and soil gas samples collected during the RI are summarized in **Tables 3** through **14**. Below is a summary of RI findings.

The results of sampling performed during this RI, identified CVOCs in shallow soil and soil gas which are likely related to an on-site release, which could have included minor surface spills from the storage of spent or new TCE solvent. The timing and scenario of the release(s) are unknown.

Based upon the concentration distribution of TCE, the spill(s) likely occurred along the south and eastern portions of the building. TCE contamination is present in shallow soil at a depth of 2 ft below grade extending to 6 ft and 12 ft in the southeast and southwest corners of the site respectively. Chlorinated VOCs including TCE and PCE were detected throughout the Site above NYSDEC groundwater standards. Petroleum VOCs were reported above standards in the upgradient well location.

PCE in groundwater was reported in all of the locations greater than the TCE concentrations suggesting that the TCE is related to dechlorinization of PCE and not a TCE release. Additionally the highest concentrations of PCE and TCE were reported in an upgradient location which is adjacent to and downgradient of the property to the north. This property is known as the Former Bridge Cleaners Site which is a NYS Brownfield Cleanup Program Site. This property has PCE contamination with a known off-site PCE plume.

Based on the absence of TCE in soil in deeper intervals and the relatively low concentrations reported in groundwater, 20 feet below grade, it is unlikely that the on-site TCE migrated to the groundwater. The TCE contamination in groundwater beneath the Site is likely related to the degradation of the Bridge Cleaners PCE plume which is migrating beneath the Site.

Both TCE and PCE were reported in soil gas above mitigation levels established within the State DOH soil vapor guidance matrix.

The elevated TCE levels reported in soil gas are associated with off-gassing from the TCE impacted soil. It would not be expected to be related to off-gassing from the TCE impacted groundwater since the TCE concentrations in groundwater are relatively low. The elevated PCE levels in soil gas are either related to off-gassing from the PCE plume beneath the site or from the migration of vapors from PCE impacted soil on the adjacent Bridge Cleaners property.

No other source areas were identified or indicated during this RI. Elevated levels of SVOCs, pesticides and some metals reported in shallow soil are characteristic of the historic fill materials present at the site and throughout the area.

2.2 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have determined the site poses a significant threat to human health and the environmental.

2.3 SITE HISTORY

2.3.1 Past Uses and Ownership

Previous owners and operators of the property are shown in Tables 1 and 2 below. Information regarding ownership of the property was obtained from online property records maintained by the NYC Department of Finance Office of the City Register under its Automated City Register Information System (ACRIS) and from hard copy records at the agency's regional office. Information regarding past operators was obtained from Sanborn Fire Insurance maps, from telephone directory listings and from an internet search of the property address.

The property is currently owned by the requestor Ganesh Management LLC. The existing building is currently occupied by Personal Communications, Inc. a distributer of wireless communications equipment.

The Site was originally developed sometime between 1915 and 1936. By 1936, a gas station with two gasoline tanks occupied the Site. The property was redeveloped by 1947 into a 2-story warehouse utilized by Optical Products Corporation for manufacturing, shipping, and as an office. The building has remained to the present with several other occupants including Union Wire Die Corp (1960s), National Tea Packaging Co. Inc. (1962-1991), and a warehouse (1991-2006).

A listing of previous owners and operators for the property is as follows:

Table 1 – Previous Owners

Dates	Name	Comments	Contact Info
Prior to 2/23/1972	National Tea Packaging Company, Inc.	Deed	39-40 30th Street, Long Island City, NY 11101 DOS Address: 288 Southern Boulevard Bronx, NY 10454
From 2/23/72 to 8/12/1974	E&M Realty Co.	Deed	46-01 20th Avenue, Long Island City, NY 11101
From 8/12/1974 to 8/12/1974	YEM Realty Corp.	Deed	46-01 20th Avenue, Long Island City, NY 11101
From 8/12/1974 to 5/19/1982	E&M Realty Co.	Deed	46-01 20th Avenue, Long Island City, NY 11101
From 5/19/1982 to 10/15/1986	John Shanker Samuel Singer Herbert Fisher Joseph Isaacs	Deed	620 Chauncey Ln, Lawrence, NY 11559 82 Winding Way, Woodcliff Lake, NJ 07677 994 Wildwood Road, Oradell, NJ 07649 1002 Wildwood Road, Oradell, NJ 07649
From 10/15/1986 to 10/15/1986	Zeki Kochisarli	Deed	2 Wagamon Drive, Woodbury, NY 11797
From 10/15/1986 to 8/29/1989	Z&S Realty Corp.	Deed	39-40 30th Street, Long Island City, NY 11101 DOS Address: C/O Bryan Cave Llp 1290 Ave Of The Americas New York, NY, 10104
From 8/29/1989 to 6/4/2003	Zeki Kochisarli	Deed	2 Wagamon Drive, Woodbury, NY 11797
From 6/4/2003 to Present	Ganesh Management, LLC	Deed	39-40 30th Street, Long Island City, NY 11101

Table 2 – Previous Operators

Dates	Name	Comments	Contact Info
From sometime between 1915 and 1936 to sometime prior to 1947	Unidentified Gas Station	Sanborn Maps	Unknown 39-40 30th Street, Long Island City, NY 11101
From sometime prior to 1936 to sometime between 1950 and 1962	Optical Products Co.	Sanborn Maps	Unknown (No DOS listing) 39-40 30th Street, Long Island City, NY 11101
From sometime between 1962 and 1967 to 1983	Union Wire Die Corp.	City Directory	C/O Lynton Klein Opton & Saslow 100 Park Ave. New York, NY, 10017
From sometime between 1950 and 1962 to 1990	National Tea Packaging Co.	Deed Sanborn Maps City Directory	39-40 30th Street, Long Island City, NY 11101 DOS Address: 288 Southern Boulevard Bronx, NY 10454
1991	Z&S Manufacturing Corp.	City Directory	Unknown (No DOS listing) 39-40 30th Street, Long Island City, NY 11101
2000	Z&Y Manufacturing Corp.	City Directory	Unknown (No DOS listing) 39-40 30th Street, Long Island City, NY 11101
2000	Oro Italy Manufacturing Corp.	City Directory	C/O Jacob Nizhberg, CPA 2269 East 28th Street Brooklyn, NY, 11229
2000	Avraham & Sons Manufacturing Corp.	City Directory	Isaac S. Canetti, Esq. 330 West 42nd Street New York, NY, 10036
From 2002 to Present	Personal Communications, Inc.	City Directory Deed	39-40 30th Street, Long Island City, NY 11101

2.3.2 Phase I Reports

September 2013 – Phase I Environmental Site Assessment Report (Galli)
A Phase I was competed by Galli Engineering, P.C. (Galli) in September, 2013. A history dating back to 1887 was established. According to a review of Sanborn maps, as well as personal interviews, the Site was undeveloped from 1887 to sometime between 1915 and 1936. By 1936, a gas station with two gasoline tanks occupied the site. The property was redeveloped by 1947 into a 2-story warehouse utilized by Optical Products Corporation for manufacturing, shipping, and as an office. The building has remained since, with several other occupants including Union Wire Die Corp (1960s-1980s), National Tea Packaging Co. Inc. (1962-1991), and a warehouse (1991-2006).

Based upon the Phase I Investigation, Galli listed the following "site environmental conditions":

- The subject property currently contains one warehouse used as an office space and distribution center for electronic goods.
- The property is an E Designation site for hazardous materials, requiring Phase I and Phase II Testing Protocol.
- The subject property was previously used as a gas station and automotive repair shop; an optical product manufacturing facility; a tea packaging facility; and a jewelry manufacturing facility.
- Expected chemicals previously used on the subject property include: petroleum, motor oil, nitrogen and sulfur oxides, TCA, arsenic, ammonia, ammonium chloride, sulfates, cyanide stripping solutions, silica and metallic fine posers, acid and alkaline cleaning solutions, CFCs, HCFCs, cadmium, and chlorinated solvents.
- The property has an active violation in place from the Department of Buildings pertaining to an elevator (Violation Number 9027/416426).
- The property had a boiler removed in 2003. The property is currently serviced with natural gas.
- Asbestos containing materials (ACMs) in roofing and floor tiles, and lead based paint may exist on the subject property.
- No mold or water damage was observed during the site inspection.
- No storage of hazardous materials, distressed vegetation or other adverse environmental conditions were observed on the subject property at the time of inspection.

January 2014 - Preliminary RI Data Summary (EBC)

The remedial investigation was performed from December 9 - 20, 2013 in accordance with the Remedial Action Work Plan approved by the NYCOER as part of the E-designation review process. The investigation included the installation of 8 soil borings to collect 16 soil samples, the installation of five temporary monitoring wells to collect groundwater samples and the installation of five soil gas implants to collect soil gas samples.

The results of the RI identified elevated levels of trichloroethene (TCE) in shallow soil (above the water table), in three of the boring locations at concentrations above unrestricted soil cleanup objectives (SCOs).

Groundwater was encountered at a depth of approximately 20 feet below grade. Chlorinated VOCs including tetrachloroethene (PCE) and TCE were detected within all five groundwater samples above NYSDEC groundwater standards. Cis-1,2-dichloroethene (DCE) was reported above groundwater standards in one sample. In addition petroleum (gasoline) related VOCs including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene and mixed xylenes were also reported above standards in one sample.

Both PCE and TCE were reported in soil gas above mitigation levels established within the State DOH soil vapor guidance matrix. TCE concentrations in soil gas ranged from 232 µg/m3 to a high of 9,400 µg/m3. PCE concentrations ranged from 3,520 µg/m3 to 9,760 µg/m3. TCE was reported at elevated concentrations in all 5 samples obtained. Elevated PCE concentrations were reported in 3 of the 5.

SVOCs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and ideno(1,2,3-cd)pyrene, were reported above restricted soil cleanup objectives (SCOs) in shallow soil (0-2ft, or 4-6ft) at three of the boring locations.

Metals including arsenic, lead and mercury were reported above restricted residential SCOs in shallow soil in one boring location. Lead, chromium, copper, mercury and Zinc were reported above unrestricted SCOs in many of the boring locations. Elevated SVOCs and metals are

commonly associated with historic fill and are not believed to be related to historic use of the property.

The historical use of the site as a wire die manufacturer combined with shallow the site-wide TCE detections in soil, groundwater and soil gas is evidence that it is related to an on-site release and historic use. TCE is known to have been commonly and extensively used to clean and degrease metals and would be expected to be used in a die manufacturing operation.

Since PCE was not reported in soil above unrestricted SCOS, it is likely that the PCE reported in groundwater and soil gas is related to the adjacent property to the north, the Former Bridge Cleaners Site which is a NYS Brownfield Cleanup Program Site. This property has PCE contamination with a known off-site PCE plume.

December 18 2015 - Immediate Action Report (AMC)

An Immediate Action Report (IA) was prepared on December 18, 2015 by AMC elevated indoor air concentrations of Trichloroethene (TCE) were reported above 20 ug/m3 which exceeded NYSDOH guidelines and triggered an immediate action.

In a conference call held on October 27, 2015, NYSDEC, NYSDOH, EBC, AMC Engineering and Ganesh Management (owner) representatives discussed immediate actions:

1. AMC to conduct an inspection to determine slab conditions, assess the interior spaces of the building and inspect the existing HVAC system.
2. Purchase and install an activated carbon system to filter out the indoor air to reduce the TCE concentrations to below action levels.
3. Conduct indoor air sampling in the second floor offices.

The site inspection was conducted. No significant areas of potential sources were identified. Various slab cracks and penetrations were identified and subsequently repaired. A sump pit and a floor drain were identified as potential sources. All identified slab deficiencies were addressed by sealing with non-shrink concrete sealers.

Results from the Indoor air sampling event revealed levels of TCE above the NYSDOH guidelines in all cases. Values ranged from 11.8 µg/m3 to 8.81 µg/m3.

The immediate action recommended installing a packaged air purification system in the first floor to scrub TCE from the air by filtering through vapor phase carbon. This would provide a quick method to improve air quality in the both the first and second floor of the building while a comprehensive remedial plan is being developed for the Site.
A site inspection was conducted on Monday, November 16, to assess the installation. The unit was fully functional, all identified cracks and openings in the floor were sealed.

On November 24, 2015, 12 days after the carbon filter was started up, a second sampling event was conducted at the site to assess the effectiveness of the immediate actions taken. Samples were obtained from the same areas that had been sampled during the remedial investigation event in August 2015.

While the results demonstrate a significant reduction of TCE concentration in all indoor air samples, they still exceeded the NYSDOH guideline for indoor air in the first floor. First floor TCE concentrations ranged from 8.65 to 6.39 µg/m3, exceeding the 2 µg/m3 guideline for TCE indoor air concentration. Out of the two samples collected in the second floor, one resulted in 4.99 µg/m3 (Classroom by elevator) and the one in the hallway measured 5.64 µg/m3 exceeding the 2 µg/m3 guideline). Air quality is expected to improve as the system continues to operate.

In addition, HVAC filters were installed, in the HVAC units servicing the first floor during the week of December 7. The two HVAC units servicing the first floor were be retrofitted with inline carbon filters. The three HVAC units in servicing the second floor have been fitted with fresh air make up and are currently providing up to 20% outside fresh air.

The IA also recommends follow up indoor air sampling in January 2016 and February 2016. Currently immediate action measures remain in place and will continue until approval from the NYS to discontinue their use is granted.

2.3.3 Sanborn Maps

Sanborn Fire Insurance Maps - Sanborn Fire Insurance Maps - Sanborn fire insurance maps for the subject site and surrounding area were reviewed for the years 1924 through 2011, as outlined in the September 2013 Phase I ESA prepared by Galli. Copies of Sanborn maps are included as **Attachment B**.

1898

Subject Site:

- The majority of the subject property is not developed on this map. The subject property appears as it has in 1898, but is located on Block 93, Lots 35, 36, 37 and 38. Lockwood Street is renamed 1st Avenue.

1936

Subject Site:

- The subject property is not developed. The lots described on the 1898 and 1915 Sanborn Maps are combined to form one lot. 1st Avenue is renamed 30th Street, and Paynter Avenue, 40th Avenue. The property is described as a store. The lots along the north and the west of the perimeter of the subject property are designated "A" for auto and the space connection the two lots is an auto repair garage. Two gas tanks are on subject property. The subject property appears to be a gas station. Surrounding properties include a church, garage, welding facility, and a cleaning and dyeing facility.

1970, 1977, 1979, 1980, 1985, 1986, 1988, 1989 and 1990

Subject Site:

- The subject property is operated by the National Tea Packaging Co., Inc. Surrounding properties include a church, garage, auto repair shop, taxi garage and a taxi parking lot.

1991, 1992, 1993, and 1994

Subject Site:

- The subject property is listed as a warehouse. No operations are specified on the map. Nearby properties remain the same.

1995, 1996, 2001, 2002, 2003, 2004, 2005, and 2006

Subject Site:

- The subject property is listed as a warehouse, No operations are specified on the map. A nearby gas station on 40th Avenue is no longer there and the lot appears to be vacant.

2.4 GEOLOGICAL CONDITIONS

The geologic setting of Long Island is well documented and consists of crystalline bedrock overlain by layers of unconsolidated deposits. According to geologic maps of the area created by the United States Geologic Survey (USGS), the bedrock in this area of Queens is an igneous intrusive classified as the Ravenswood grano-diorite of middle Ordovician to middle Cambrian age. Unconsolidated sediments overlie the bedrock and consist of Pleistocene aged sand, gravel and silty clays, deposited by glacial-fluvial activity. Non-native fill materials consisting of dredge spoils, rubble and / or other materials have historically been used to raise and improve the drainage of low lying areas.

Subsurface soils at the Site consists of a mixture of a silty non-native fill, to a depth of approximately 6 feet below grade followed by sandy-silt to a depth of approximately 15 feet below grade. Groundwater is present under water table conditions at a depth of approximately 20 feet below the surface and is flows south.

According to the USGS topographic map for the area (Brooklyn Quadrangle), the elevation of the property 28 feet above the National Geodetic Vertical Datum (NGVD). The area topography gradually slopes to the southeast.

2.5 CONTAMINATION CONDITIONS

2.5.1 Conceptual Model of Site Contamination

CVOC contamination at the Site consists of trichloroethene (TCE) in shallow soil along the south and east portions of the building to a depth of 2 ft below grade extending to 6 ft and 12 ft

in the southeast and southwest corners of the site respectively. TCE was not reported above USCOs in any of the deeper samples. PCE was not reported above USCOs in any of the soil samples collected.

Groundwater is present at a depth of approximately 20 feet below grade. Chlorinated VOCs including tetrachloroethene (PCE), and degradants TCE and cis-dichloroethene (cis-DCE), were detected beneath the site in both upgradient and downgradient locations above NYSDEC groundwater standards. Petroleum VOCs were reported above standards in the upgradient well location.

Both PCE and TCE were reported in soil gas above mitigation levels established within the State DOH soil vapor guidance matrix. TCE was present in higher concentrations in soil gas than PCE reflecting the fact that TCE was present in soil while PCE was not. This suggests that TCE is off-gassing from the shallow impacted soil while PCE is off-gassing from the groundwater or impacted soil located off-site.

The historical use of the subject Site as a wire die manufacturer combined with the shallow TCE detections in soil is evidence that this contamination is related to an on-site release and historic use. TCE is known to have been commonly and extensively used to clean and degrease metals and would be expected to be used in a die manufacturing operations although the actual nature of these operations on-site is unknown.

Consequently the release scenario for TCE at the Site is unknown but could have occurred at any time during the occupancy of the wire die company from the 1960's through 1983. Releases would be expected to be from incidental spillage related to milling operations and / or storage of TCE solvent. Under this scenario TCE may have entered the subsurface through cracks or other voids in the concrete floor. Based on the absence of TCE in soil in the 10-12 and 13-15 foot intervals and the relatively low concentrations reported in groundwater, 20 feet below grade, there is no evidence that TCE migrated to the groundwater.

PCE and TCE reported in groundwater at the Site are related to the on-site migration of an off-site plume. This has been determined using multiple lines of evidence as follows:

- The absence of TCE in soil in the upgradient areas of the Site and at locations with the highest TCE concentrations in groundwater;
- The absence of TCE in soil at deeper intervals at the Site;
- The presence of PCE at significantly higher concentrations in off-site upgradient groundwater samples;
- The presence of the highest concentration of on-site PCE at an upgradient well;
- The presence of PCE and TCE in off-site upgradient groundwater samples;
- The presence of multiple upgradient potential historic sources of chlorinated solvents;
- The groundwater flow direction with respect to upgradient sources;
- The presence of petroleum VOCs in both off-site upgradient and on-site upgradient wells as an anthropogenic carbon source to drive reductive dechlorinization;
- The highest concentrations of PCE and TCE are located in wells that are
- The lowest concentration of TCE and PCE in monitoring wells are located downgradient of the Site;
- The presence of cis-DCE in on-site upgradient wells confirming that reductive dechlorinization is occurring;
- The common distribution pattern of both PCE and TCE on-site.

2.5.2 Description of Areas of Concern

The primary area of concern is CVOC impacted soil beneath the southern portion of the Site. TCE was detected within six of the fourteen soil borings at depths as great at 10-12 feet below grade.

Elevated levels of SVOCs, pesticides and metals reported in shallow soil throughout the site are generally characteristic of the historic fill materials present at the Site and throughout the area.

Contaminated media documented at the site includes soil and soil gas which was found to be contaminated with CVOCs during the RI.

2.5.3 Soil/Fill Contamination

SVOCs including benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene were reported above restricted soil cleanup objectives (SCOs) in soil samples ranging from 0-6ft at four boring locations, B1, B5, B7 and B13.

One or more metals including arsenic, chromium, copper, lead, mercury, nickel, silver and zinc were reported above unrestricted and restricted residential SCOs in all soil samples collected from the site at depths ranging from 0-6 feet below grade. The elevated levels of SVOCs, pesticides and metals reported in shallow soil throughout the site is consistent with historic fill materials present throughout the area.

2.5.3.1 Summary of Soil/Fill Data

Soil sample results from the RI are summarized in **Tables 3-6**. Further information on soil sample collection, handling and analysis can be found in the RI Report (EBC 1/16).

2.5.3.2 Comparison of Soil/Fill with SCGs

Table 15 shows soil sample results above Track 1 Unrestricted SCOs for all overburden soil at the Site. Sample results above Track 1 Unrestricted SCOs for all overburden soil are posted on **Figure 6**.

2.5.4 On-Site Groundwater Contamination

CVOCs (PCE and TCE) impacts are present within a majority of the ground water samples. The highest PCE and TCE concentrations reported during the 2013 sampling on the Union Wire Site was in wells MW2 (PCE-730 ug/L) and MW3 (TCE 100 ug/L), respectively, which are located in upgradient positions. PCE and TCE were also reported in relatively high concentrations in MW4 in 2013 (PCE - 200 ug/L, TCE-63 ug/L) and in 2014 (PCE-670 ug/L, TCE, 150 ug/L). PCE and TCE were reported at significantly lower concentrations in downgradient wells MW5 in 2013 and in MW5, MW6 and MW7 during the 2014 sampling round.

Petroleum VOCs were also reported in MW3 during the 2013 sampling event including trimethylbenzenes (total- 234 ug/L), ethylbenzene (130 ug/L), isopropylbenzene (39 ug/L) and total xylenes (1,090 ug/L). These are very similar parameters, concentrations and component ratios to those reported in the Site Characterization report for the Bridge Cleaners Site. SVOC

parameters were detected across most of the site but appear to be representative of general groundwater quality in the area. No PCB impacts were present within any of the groundwater samples and elevated metals appear to be representative of general groundwater quality in the area.

2.5.4.1 Summary of Groundwater Data

The results of groundwater sample collected during the RI are summarized in **Tables 7-10**. Further information on groundwater sample collection, handling and analysis can be found in the RI Report (EBC 1/16).

2.5.4.2 Comparison of Groundwater with SCGs

Sample results above GA groundwater standards in the monitoring well prior to the remedy are shown in **Table 16**. A spider map which shows the groundwater sampling location and summarizes results above GA groundwater standards prior to the remedy are shown in **Figure 7a and 7b**.

2.5.5 On-Site Soil Vapor Contamination

Total petroleum related volatile organic compounds in the 2013 and 2014 were generally low ranging from 17.86 µg/m^3 in SG6 located along the sidewalk of 40th Avenue to 1146.31 µg/m^3 in SG2 located in the north corner of the of the building.

Total petroleum related volatile organic compounds in the sub slab August 2015 samples were generally low ranging from 11.3 µg/m^3 in SG2 located on the north corner of the site to 43.26 µg/m^3 in SG1 located on the east side of the site. Petroleum related volatile organic compounds in the indoor air August 2015 samples were generally low ranging from 24.38 µg/m^3 in SG17 located on the north west side of the site to 36.08 µg/m^3 in SG18 also located on the northwest side of the site.

Total petroleum related VOCs in the indoor air samples collected in October 2015 were generally low, ranging from 11.5 µg/m^3 in Indoor Air Second Floor # 2 to 13.64 µg/m^3 in Indoor Air Second Floor # 3. Indoor Air Samples collected in November 2015 noted generally low total petroleum related VOCs, which ranged from 13.49 µg/m^3 in SG-21 to 20.4 µg/m^3 in SG-22.

Chlorinated VOCs were reported in all soil gas locations from 2013 and 2014. Trichloroethene (TCE) was noted above 2 µg/m^3 to a maximum concentration of 9,400 µg/m^3. Tetrachloroethene (PCE) was noted above 30 µg/m3 in four sample locations (SG1, SG2, SG3 and SG6) with a maximum concentration of 9,760 µg/m^3 at SG-2. 1,1,1-Trichloroethane was noted in all of the soil gas implant samples (SG1 to SG5) below its NYSDOH matrix guideline standard. Cis-1,2-dichloroethene was noted in three soil vapor implant samples (SG-2, SG3, SG4) and one sub-slab sample (SG-7) ranging from 3.76 µg/m^3 to 33 µg/m^3. Carbon tetrachloride was noted in all samples expect SG-5 and was below its NYSDOH matrix guideline standard. Vinyl chloride and 1,1-dichloroethane were non detect in all samples.

Samples collected in August 2015 noted chlorinated VOCs at all locations. TCE was noted above 2 µg/m^3 to maximum concentration of 27,700 µg/m^3 at SG11 (sub slab location). PCE was noted above 30 µg/m^3 at six sample locations (SG1, SG2, SG10, SG11, SG14 and SG15) with a maximum concentration of 3,880 µg/m^3 at SG-2. 1,1,1-Trichloroethane was noted in two soil vapor implant samples (SG-1 and SG-2) and in the six sub-slab samples (SG-10, SG-11, SG-12, SG-13, SG-14 and SG-15); all results were below the NYSDOH matrix guideline standard. Carbon tetrachloride was noted in all samples and was below its NYSDOH matrix guideline standard. Cis-1,2-dichloroethene was noted in one soil vapor implant sample (SG-2) and in five sub-slab samples (SG-10, SG-11, SG-12, SG-13 and SG-14); with a maximum concentration of 16.1 µg/m^3. Vinyl chloride and 1,1-dichloroethene were non detect in all samples. Results for TCE exceeded the NYSDOH indoor air immediate action level of 20 µg/m^3 and additional actions (including additional indoor air sampling in October 2015 and November 2015) were taken.

Samples collected in October 2015 noted CVOCs in all samples. TCE was noted from above 2 µg/m^3 in all samples. The maximum concentration of TCE was 27,700 µg/m^3 at SG-11. PCE was detected in all samples below 30 µg/m^3. Tetrachloroethene and carbon tetrachloride were both detected at concentrations below their respective NYSDOH matrix guideline standards. 1,1-dichloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene and vinyl chloride were non-detect in all samples.

The indoor air samples collected in November 2015 noted TCE in all samples above 5 µg/m^3. The maximum concentration of 8.65 µg/m^3 was noted in indoor air sample SG-16. Tetrachloroethene and carbon tetrachloride were both detected at concentrations below their respective NYSDOH matrix guideline standards. 1,1-Dichloroethene, 1,1,1-Trichloroethane, cis-1,2-Dichloroethene and vinyl chloride were non-detect in all samples.

Figure 8a, 8b, 8c and 8d shows posted soil gas results from the RI.

2.5.5.1 Summary of Soil Vapor Data

A table of soil vapor data collected prior to the remedy is shown in **Table 11 to Table 14**. Further information on soil gas sample collection, handling and analysis can be found in the RI Report (EBC 1/16).

2.6 ENVIRONMENTAL AND PUBLIC HEALTH ASSESSMENTS

2.6.1 Qualitative Human Health Exposure Assessment

The objective of the qualitative exposure assessment under the BCP is to identify potential receptors to the contaminants of concern (COC) that are present at, or migrating from, the site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur. An exposure pathway has five elements; a contaminant source, release and transport mechanisms, point of exposure, route of exposure and a receptor population.

Exposure pathways identified below represent both current and future exposure scenarios. A complete exposure pathway for soil vapor exists and is further described below.

Contaminant Source

Source areas of the Site include TCE in shallow soil and deep soil on the southern half of the Site. The contamination is largely limited to the upper 2 feet beneath the building slab though it extends to a depth of 10-12 feet in a southern boring.

Elevated levels of metals and PAHs are also present in fill materials throughout the Site.

Contaminant Release and Transport Mechanism

TCE contamination is present in shallow (0-12 feet) subsurface soil in the southern portion of the Site. The contamination extends vertically to a depth of 2 feet throughout most of the impacted area, extending to a depth of 10-12 feet in the southern corner.

There is no evidence of transfer of VOC contaminants in soil to the groundwater. TCE is transferring to the vapor phase in the vicinity of the contaminated soil. TCE has not been transported to or transferred to groundwater. PCE, TCE and petroleum VOC impacted groundwater at relatively low concentrations appears to be migrating onto the Site from the north (upgradient). PCE is in groundwater is also transferring to the vapor phase though at a lower concentration then that of the TCE due to the absence of PCE in soil at the Site.

Point of Exposure, Route of Exposure and Potentially Exposed Populations

On-Site Exposures: There is a confirmed exposure pathway for office and warehouse workers in the existing commercial building; they are exposed to CVOC vapors migrating into the building. Intermediate actions consisting of sealing cracks and seams in the building slab, operation of a vapor phase carbon air purification system and HVAC system adjustment to create a positive pressure environment, have been taken to mitigate the condition. Remediation of impacted soil with the installation of long term mitigation measures would be required to eliminate future exposures.

Remediation workers engaged in the installation of remedial systems beneath the building slab may be exposed to CVOCs, SVOCs and heavy metals through inhalation, ingestion and dermal contact. Workers excavating non-impacted soil may be exposed to CVOCs in soil vapor through inhalation. A site specific Health and Safety Plan has been developed to identify and minimize the potential hazards to on-site workers.

Off-Site Exposures: The entire area is serviced by the New York City Water System which distributes water from the Croton Reservoir system. Since there are no public or private potable supply wells in the area, exposure from contact with tap water is not a concern. Off-site exposure is therefore limited to vapor intrusion from CVOCs migrating from the site and off-site sources. Potential off-site exposure related to CVOC vapor intrusion is a concern. The potentially

exposed population in this case would include residents and commercial workers in adjacent buildings.

Off-Site Environmental Impacts: Since CVOCs and petroleum VOCs may be passing beneath the site, the groundwater to surface water pathway was evaluated. Potential environmental impacts through the groundwater to surface water discharge not likely since the Dutch Kills Canal is located approximately 4,000 ft south of the Site. Based on this information; no impacts to surface water environments is expected.

2.6.2 Fish & Wildlife Remedial Impact Analysis

Since CVOCs may be passing beneath the site, the groundwater to surface water pathway was evaluated. Potential environmental impacts through the groundwater to surface water discharge not likely since the East River is located approximately 0.84 miles northwest (up to cross-gradient of the Site). Based on this information; no impacts to surface water environments is expected.

2.7 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.7.1 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater, surface water, or sediment contamination.

2.7.2 Soil Vapor

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the site.

2.7.3 Groundwater

RAOs for Public Health Protection

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.
- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable (if found to be related to an on-site release).
- Remove the source of ground or surface water contamination ((if found to be related to an on-site release).

3.0 ALTERNATIVES ANALYSIS

The goal of the remedy selection process under the BCP is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of NYSDEC standards, criteria and guidance values (SCGs). A remedy is then developed based on the following nine criteria:

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance; and
- Land use.

The following is a detailed description of the alternatives analysis and remedy selection to address impacted media at the Site. This analysis was prepared in accordance with 6 NYCRR Part 375-1.8(f) and Part 375-3.8(f) and Section 4.3(c) of NYSDEC DER-10. As required, a minimum of two remedial alternatives (including a Track 1 scenario) are evaluated, as follows:

- Alternative 1 - Track 1, remediation of all soils above bedrock to unrestricted use criteria. Due to elevated levels of SVOCs and CVOCs in the native soils at the Site in the 0 to 6 foot interval and elevated levels of heavy metals extending to 12 ft below grade in some areas, it is expected that a Track 1 alternative will require excavation of the entire site to a minimum depth of 6 feet across the Site with additional excavation to 12 feet or more in some areas. This would require building demolition or some other drastic measure to allow full excavation of the Site while supporting the existing building. This alternative

does not allow the use of long-term institutional /engineering controls to address impacted media or prevent exposures which may be required beneath the proposed building. Since it is likely that CVOC vapors will continue to impact the building from an adjacent, upgradient source, it is likely that a long term engineering control in the form of an SSDS system will be required.

- Alternative 2 - Track 4, would include the installation of a soil vapor extraction (SVE) system. The Track 4 alternative will allow the use of site specific SCOs for remaining fill materials as a result of the minimal excavation due to the use of the original structure. This will result in SVOCs and metals above restricted residential SCOs remaining in soil. If the results of the supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, then a design document will be submitted to DEC for implementing an enhanced biological degradation (ERD) program.

3.1 REMEDIAL ALTERNATIVE 1

The following sections provide an evaluation of Alternative 1 based on the nine evaluation criteria as previously discussed.

3.1.1 Overall Protection of Human Health and the Environment

Alternative 1 would be protective of human health and the environment by eliminating the CVOC concentrations present in all subsurface affected soils at the site and by eliminating constituents in soil related to historic fill. The potential for human and environmental exposure to these constituents on-site would be eliminated by excavation of all historic fill soils with parameters in excess of unrestricted criteria, disposing of excavated materials off-site and backfilling as needed with certified clean fill, virgin mined materials or recycled concrete materials from a NYSDEC permitted recycling facility.

During remedial and construction activity workers and area residents may be exposed to impacted soil and vapors. Worker exposure to soil and vapors will be minimized through implementation of a Health and Safety Plan. Exposures to area residents from dust and/or vapors

will be minimized through the use of engineering controls and through implementation of a Community Air Monitoring Plan (CAMP).

3.1.2 Compliance with Remedial Goals, SCGs and RAOs

Alternative 1 would achieve compliance with the remedial goals, SCGs and RAOs for soil through source removal to Track 1 unrestricted cleanup levels. SCGs for groundwater may not be achieved as impacted groundwater is related to offsite contamination in the vicinity of the Site. Compliance with SCGs for soil vapor is expected following completion of the remedial action.

3.1.3 Long-Term Effectiveness and Permanence

Alternative 1 achieves long term effectiveness and permanence by permanently removing and/or remediating all soils affected by Site contaminants or historic fill materials. Under this Alternative, risk from soil and soil gas impacts is eliminated. Alternative 1 will continue to meet RAOs for soil in the future, providing a permanent long-term solution for the Site.

3.1.4 Reduction in Toxicity, Mobility or Volume Through Treatment

Alternative 1 would permanently eliminate the toxicity, mobility, and volume of contaminants from on-site soil by meeting unrestricted objectives. The removal/remediation of on-site soil would also reduce the toxicity, mobility, and volume of contaminants within on-site soil vapor.

3.1.5 Short-Term Effectiveness

The potential for short-term adverse impacts and risks to the workers, the community, and the environment during the implementation of Alternative 1 is minimal.

Short-term exposure to on-site workers during excavation and loading activities will be addressed with a HASP and mitigated through the use of personal protective equipment, monitoring and engineering controls. Potential short-term exposure to the surrounding community will be addressed through the use of odor and dust-suppression techniques and

through the implementation of a CAMP which will require air monitoring activities during all excavation and soil disturbance activities.

Other potential impacts to the community such as construction-related noise, vibrations and traffic, would be controlled and regulated under the terms of the NYS Department of Buildings issued building permit which can place a Stop Work Order on the property for unsafe conditions, community impacts or violation of the terms and conditions of the permit. Decontamination procedures of equipment, including trucks transporting soil to off-site disposal facilities, would minimize the potential for impacted soil to be dispersed beyond the Site boundary. A truck traffic plan has also been prepared to minimize disturbance to the local roads and community.

3.1.6 Implementability

The techniques, materials and equipment to implement Alternative 1 are readily available and have been proven effective in remediating the contaminants associated with the Site. Excavation for the remediation of soils is both a "low tech" and reliable method which has a long and proven track record on the remediation of hazardous waste and petroleum spill sites. However, since the there are no current plans for redevelopment, this Alternative, which requires demolition of the existing building or other drastic measures to facilitate excavation to meet Unrestricted Use SCOs, is not a feasible option.

3.1.7 Cost

Costs associated with Alternative 1 are estimated at approximately $1,743,549.50. This cost estimate includes the following elements and assumptions:

- Demolition of existing structure;
- Replacement of existing structure;
- Excavation to a depth of 6 feet across the entire site to removal all historic fill material to meet Track 1 Unrestricted Use SCOs;
- Disposal of approximately 3,000 cy of historic fill soil as non-hazardous;
- Import of 3,000 cy of clean fill to restore the site to grade;
- Installation of a vapor barrier beneath the new structure;
- HASP and CAMP monitoring for the duration of the remedial activities.

3.1.8 Compatibility with Land Use

Following remediation, the Site will meet unrestricted use objectives which will exceed the objectives for any future planned residential use. A groundwater use restriction will be required to prevent future exposure to affected groundwater.

3.1.9 Community Acceptance

This RAWP will be subject to a 45-day public comment period to determine if the community has comments on the presented remedial alternatives and selected remedy. If no comments are received regarding Alternative 1, it will be considered to be acceptable to the community. However, as there are no current redevelopment plans for this site, this Alternative, which includes demolition of the existing building to facilitate excavation to meet Unrestricted Use SCOs, is not a feasible option.

3.2 REMEDIAL ALTERNATIVE 2

The following sections provide an evaluation of Alternative 2 based on the nine evaluation criteria as previously discussed.

3.2.1 Overall Protection of Human Health and the Environment

Alternative 2 will be protective of human health and the environment by eliminating the CVOC concentrations present in shallow subsurface soil and soil gas at the Site via installation of an SVE system. If the results of the supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, then an enhanced biological degradation (ERD) program will be implemented. As no excavation is currently planned at the Site, the potential for human and environmental exposure to these constituents on-site will be lessened by limited soil disturbance for installation of SVE wells, disposing of excavated materials off-site and backfilling as needed with certified clean fill, virgin mined materials or recycled concrete materials from a NYSDEC permitted recycling facility.

Potential post-remediation exposures to on-site residents from soil vapors would be addressed through the use of a SVE system beneath the footprint of the building. Groundwater use will be restricted at the Site until groundwater quality recovers.

During remedial and construction activity, workers and area residents may be exposed to impacted soil and vapors. Worker exposure to soil and vapors will be minimized through implementation of a HASP. Exposures to area residents from dust and or vapors will be minimized through the use of engineering controls and through implementation of a CAMP.

3.2.2 Compliance with Remedial Goals, SCGs and RAOs

Alternative 2 will achieve compliance with the remedial goals, SCGs and RAOs for soil through source removal to site specific cleanup levels. SCGs for groundwater may not be achieved as impacted groundwater has been shown to be migrating onsite from an off-site source in the vicinity of the Site. Compliance with SCGs for soil vapor is expected following completion of the remedial action.

3.2.3 Long-term Effectiveness and Permanence

Alternative 2 achieves long term effectiveness and permanence by permanently removing and/or remediating all soils affected by Site contaminants above site-specific cleanup levels for soils within the SVE system area. Under this Alternative, risk from soil and soil gas impacts is eliminated for on-site residents. Alternative 2 will continue to meet RAOs for soil in the future, providing a permanent long-term solution for the Site.

3.2.4 Reduction in Toxicity, Mobility or Volume through Treatment

Alternative 2 will permanently eliminate the toxicity, mobility, and volume of contaminants from on-site soil by meeting site specific cleanup levels through SVE remediation. The removal/remediation of on-site soil and operation of the SVE will also reduce the toxicity, mobility, and volume of contaminants within on-site soil vapor.

3.2.5 Short-term Effectiveness

The potential for short-term adverse impacts and risks to the workers, the community, and the environment during the implementation of Alternative 2 is minimal. Short-term exposure to on-site workers during excavation and loading activities will be addressed with a HASP and

mitigated through the use of personal protective equipment, monitoring and engineering controls. Potential short-term exposure to the surrounding community will be addressed through the use of odor and dust-suppression techniques and through the implementation of a CAMP which will require air monitoring activities during all excavation and soil disturbance activities.

Other potential impacts to the community such as construction-related noise, vibrations and traffic will be controlled and regulated under the terms of the NYS Department of Buildings issued building permit which can place a Stop Work Order on the property for unsafe conditions, community impacts or violation of the terms and conditions of the permit. Decontamination procedures of equipment, including trucks transporting soil to off-site disposal facilities will minimize the potential for impacted soil to be dispersed beyond the Site boundary. A truck traffic plan will also be prepared to minimize disturbance to the local roads and community.

3.2.6 Implementability

The techniques, materials and equipment to implement Alternative 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. Excavation for the remediation of soils is both a "low tech" and reliable method which has a long and proven track record on the remediation of hazardous waste and petroleum spill sites.

3.2.7 Cost

Costs associated with Alternative 2 are estimated at approximately $316,520.25. This cost estimate includes the following elements and assumptions:

- Installation and operation of a Soil Vapor Extraction system and Sub Slab Depressurization System (SSDS) beneath renovated building;
- If the results of the supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, then a enhanced biological degradation (ERD) program will be implemented
- HASP and CAMP monitoring for the duration of the remedial activities;
- Final Engineering Report, Site Management Plan, Environmental Easement and Final Closure costs.

3.2.8 Compatibility with Land Use

Following remediation, the Site will meet site-specific cleanup levels for soils within the SVE system area; which will meet the objectives for current use. A groundwater use restriction will be required to prevent future exposure to affected groundwater.

3.2.9 Community Acceptance

This RAWP will be subject to a 45-day public comment period to determine if the community has any comments on the presented remedial alternatives and selected remedy. If no comments are received, Alternative 2 will be considered to be acceptable to the community.

4.0 DESCRIPTION OF REMEDIAL ACTION PLAN

4.1 EVALUATION OF REMEDIAL ALTERNATIVES

The goal of the remedy selection process under the BCP is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing remedial action objectives (RAOs) for media in which chemical constituents were found in exceedance of NYSDEC standards, criteria and guidance values (SCGs). A remedy is then developed based on the following nine criteria:

- Protection of human health and the environment;
- Compliance with standards, criteria, and guidelines (SCGs);
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance; and
- Land use.

4.2 STANDARDS, CRITERIA AND GUIDANCE (SCG)

A criterion for remedy selection is evaluation for conformance with SCGs that are applicable, relevant and appropriate. Principal SCGs that are applicable, relevant and appropriate for evaluating the alternatives for remediation of this BCP site include the following:

- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response
- 10 NYCRR Part 67 – Lead
- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)
- 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)

- 6 NYCRR Subpart 374-1 - Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities (November 1998)
- 6 NYCRR Part 375 - 6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1, 375-3 and 375-6 (December 2006)
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 608 - Use and Protection of Waters
- 6 NYCRR Parts 700-706 - Water Quality Standards (June 1998)
- 6 NYCRR Part 750 through 758 - Implementation of NPDES Program in NYS ("SPDES Regulations")
- 6 NYCRR Part 375-6 Soil Cleanup Objectives
- New York State Groundwater Quality Standards – 6 NYCRR Part 703;
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1;
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation - May 2010;
- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004;
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYS Waste Transporter Permits – 6 NYCRR Part 364;
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364.
- TAGM 4059 - Making Changes To Selected Remedies (May 1998)
- STARS #1 - Petroleum-Contaminated Soil Guidance Policy
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- DER-10, Technical Guidance for Site Investigation and Remediation, May 2010
- DER-23 / Citizen Participation Handbook for Remedial Programs, January 2010
- OSWER Directive 9200.4-17 - Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites (November 1997)

Additional regulations and guidance are applicable, relevant, and appropriate to the remedial alternatives and will be complied in connection with implementation of the remedial program;

however, the list above is intended to represent the principal SCGs which should be considered in evaluating the remedial alternatives for the BCP site.

Conformance with the appropriate standards for remediation of contaminated soil is an important criterion in evaluating the remedial alternatives for the BCP site. Presently, in New York State 6 NYCRR Part 375 establishes the primary SCGs associated with remediation of contaminated soil at sites which are in the BCP. If proposing remediation pursuant to a Track other than Track 1 (Unrestricted Use), 6 NYCRR Part 375 requires evaluation of at least one remedial alternative pursuant to Track I (Unrestricted Use) and one other alternative developed by the applicant for the proposed use of the BCP site. The remedial alternatives presented in Section 3.0 of this work plan have been prepared in conformance with this requirement.

4.3 SELECTION OF THE PREFERRED REMEDY

The remedy recommended for the site is a Track 4 alternative (Alternative 2) which consists of the installation of a soil vapor extraction (SVE) system. If the results of the supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, an enhanced biological degradation (ERD) program will additionally be implemented for the Site. The Track 4 alternative will allow the use of site specific SCOs for remaining fill materials as a result of the minimal soil excavation due to installation of SVE wells and plans not to redevelop the site at the present time. This will result in some SVOCs and metals above restricted residential SCOs remaining in soil.

Overall Protection of Public Health and the Environment

The recommended remedial action achieves protection of the public health and the environment by eliminating soil/fill material in the limited excavation areas and remediating residual soil gas contamination below the existing slab which will eliminate the potential for vapor intrusion in the current building and prevent the potential for migration of soil vapor offsite. The recommended action further achieves protection of the public health and the environment by eliminating the potential for human and environmental exposure to surficial soils related to historic fill by excavation of the soils with parameters in excess of site specific cleanup levels in the limited excavation areas, disposing of excavated materials off-site, backfilling as needed with certified clean fill and installation of SVE system. Although affected groundwater would not

directly affect human health, groundwater use will be restricted at the Site until groundwater quality recovers.

During remedial and construction activity workers and area residents may be exposed to impacted soil and vapors. Worker exposure to soil and vapors will be minimized through implementation of a Health and Safety Plan. Exposures to area residents from dust and/or vapors will be minimized through the use of engineering controls and through implementation of a Community Air Monitoring Plan (CAMP).

The remedy will meet all of the RAOs established for soil and soil gas at the site.

Compliance with Standards, Criteria and Guidance

The recommended remedial action meets the objectives of the RAOs by removing the potential for human and environmental exposures to chemical constituents above SCGs in soil and soil gas. The proposed action will effectively remove the source area and limited historic fill soils.

Long-term Effectiveness and Permanence

The remedial action achieves long term effectiveness and permanence by permanently removing and/or remediating all soils affected by Site contaminants and removing a portion of historic fill material. Contaminated groundwater is currently migrating onto the Site from an off-site source. Under this remedy, risk from soil and soil vapor impacts is eliminated. The selected remedy will continue to meet RAOs for soil and soil gas in the future, providing a permanent long-term solution for the Site.

Reduction of Toxicity, Mobility and Volume

The recommended action will reduce the toxicity, mobility and volume of the chemical constituents by removing the source area of contamination and removing a limited amount of historic fill material. The removal/remediation of on-site soil will also reduce the toxicity, mobility, and volume of contaminants within on-site soil vapor.

Short-term Effectiveness

The potential for short-term adverse impacts and risks to the workers, the community, and the environment during the implementation of Alternative 2 is minimal.

Short-term exposure to on-site workers during excavation and loading activities will be addressed with a HASP and mitigated through the use of personal protective equipment, monitoring and engineering controls. Potential short-term exposure to the surrounding community will be addressed through the use of odor and dust-suppression techniques and through the implementation of a CAMP which will require air monitoring activities during all excavation and soil disturbance activities.

Other potential impacts to the community such as construction-related noise, vibrations and traffic, will be controlled and regulated under the terms of the NYS Department of Buildings issued building permit which can place a Stop Work Order on the property for unsafe conditions, community impacts or violation of the terms and conditions of the permit. Decontamination procedures of equipment, including trucks transporting soil to off-site disposal facilities, will minimize the potential for impacted soil to be dispersed beyond the Site boundary. A truck traffic plan will also be prepared to minimize disturbance to the local roads and community.

Implementability

The techniques, materials and equipment to implement Alternative 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. Installation of an SVE system is reliable method which has a long and proven track record on the remediation of hazardous waste and petroleum spill sites. No issues related to the design, availability or implementation of the selected remedy are anticipated.

Cost

Costs associated with Alternative 2 are estimated at approximately $316,520.25. This cost estimate includes the following elements and assumptions:

- Installation (including limited soil excavation in this area) and operation of a Soil Vapor Excavation (SVE) beneath current building;

- HASP and CAMP monitoring for the duration of the remedial activities;
- Final Engineering Report, Site Management Plan, Environmental Easement and Final Closure costs.

Community Acceptance

Public participation plays a large role in the BCP process. A fact sheet will be prepared and sent out to all interested parties as identified in the site contact list. A draft version of this document will be placed in a local repository (NYSDEC Region 2 office and the Queens Library at Long Island City Public Library) and made available for public review and comment for a period of 45 days. The RAWP is subject to a 45-day public comment period to determine if the community has comments on the selected remedy.

Compatibility with Land Use

The proposed remedy will not prevent or otherwise interfere with the intended and planned future use of the site. There are currently no proposed redevelopment plans for the Site. Following remediation, the Site will meet restricted residential use objectives. A groundwater use restriction may be required to prevent future exposure to affected groundwater.

4.3.1 Preferred Remedy Land Use Factor Evaluation

As required by Article 27, Title 14 of the Environmental Conservation Law 27-1415, the following land use factor evaluation examines whether the preferred alternative is acceptable based on the 14 criteria presented in the following subsections.

Zoning

There are currently no proposed redevelopment plans for the Site. Future redevelopment plans for the project Site will be constructed as-of-right regardless of the remedy implemented. The preferred remedy will comply with current zoning.

Applicable Comprehensive Community Master Plans or Land Use Plans

There are currently no proposed redevelopment plans for the Site. Future redevelopment plans for the project and selected remedy will be consistent with comprehensive master and land use

plans, specifically the Dutch Kills rezoning action. This area-wide comprehensive re-zoning, completed by the New York City Department of City Planning and adopted by the City Council in October 2008, re-zoned the property to M1-3/RX-7. The preferred remedy will comply with applicable land use plans.

Surrounding Property Uses

The area surrounding the property is highly urbanized and predominantly consists of commercial, industrial and residential buildings with mixed-use buildings (residential w/first floor retail) along main corridors / thoroughfares. Residential buildings including 1-2 family and multi-family are located on predominantly residential blocks located to the north and west and are also interspersed throughout the predominantly commercial areas. Areas south and east of the Site were historically characterized by heavy industry and manufacturing. Following a steady decline of manufacturing in the area from the late 1960's through the 1980's, many of the industrial properties were vacated leaving the buildings to be vandalized and become derelict. Conditions continued to decline throughout the 1980's and 1990's.

The community and area have seen a resurgence in recent years following the rezoning of former industrial properties to residential use during a series of rezoning actions completed within the last 10 years. Future development will be compatible with the surrounding land use and will be in compliance with the current zoning.

Citizen Participation

Citizen participation for implementation of the preferred alternative will be performed in accordance with DER 23 and NYCRR Part 375-1.10 and Part 375-3.10. A Citizen Participation Plan will be prepared and available for public review at the identified document repositories (NYSDEC Region 2 Office, Queens Library at Long Island City Public Library).

Environmental Justice Concerns

The Site is located within a potential environmental justice area. The NYSDEC defines a potential environmental justice area as a "minority or low-income community that may bear a disproportionate share of the negative environmental consequences resulting from industrial,

municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies".

Environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Land use designations

The proposed remedy is consistent with land-use designations.

Population growth patterns

Population growth patterns support future redevelopment of the Site. The preferred remedy will not negatively affect on population growth patterns.

Accessibility to existing infrastructure

The Site is accessible to existing infrastructure. The close proximity of the Site to the Long Island Expressway will assist soil transportation and contractor access to the Site. The Site is also accessible to mass transit and is within walking distance to bus on Northern Boulevard. The preferred remedy will not alter accessibility to existing infrastructure.

Proximity to cultural resources

The proposed remedy will not negatively impact cultural resources

Proximity to natural resources

The proposed remedy will improve the local environment and will not negatively impact affect natural resources.

Off-Site groundwater impacts

The proposed remedy will improve off-site groundwater impacts by removing a potential source of groundwater contamination at the site. Groundwater in the vicinity of the site has been impacted by the property is known as the Former Bridge Cleaners Site which is a NYS Brownfield Cleanup Program Site. This property has PCE contamination with a known off-site PCE plume.

Proximity to floodplains

No portion of the Site is located within a designated flood zone area. The nearest moderate risk flood zone is located 700 feet to the south.

Geography and geology of the Site

The selected remedy will excavate limited soil from the Site to depths of approximately 2 feet below grade. The selected alternative and development of the site have considered the geography and geology of the Site.

Current Institutional Controls

The Site was assigned an E-designation for hazardous materials as part of the rezoning action completed by the City. The compliance with the E-designation for hazardous materials will require the approval of the NYC Office of Environmental Remediation (NYCOER) of this RAWP. NYCOER must approve this RAWP in the form of a Notice to Proceed (NTP) letter before building permits will be released by the NYC Department of Buildings (DOB). Documentation in the form of a Final Engineering Report (FER) for site remediation must be approved by NYCOER in the form of a Notice of Satisfaction (NOS) before the NYCDOB will issue permanent Certificates of Occupancy for the new buildings.

4.4 SUMMARY OF SELECTED REMEDIAL ACTIONS

The remedy recommended for the site is a Track 4 alternative (Alternative 2) which consists of the installation of a soil vapor extraction (SVE) system. The Track 4 alternative will allow the use of site specific SCOs for remaining fill materials as a result of the minimal soil disturbance due to installation of the SVE wells and no plans for redevelopment. This will result in some SVOCs and metals above restricted residential SCOs remaining in soil. The remedy will include the following items:

1. Installation of a Soil Vapor Extraction (SVE) system beneath the existing foundation. The system will consist of 4 vapor extraction wells connected by a 8 inch vent line; all of which will be connected to General Carbon Corp of equivalent GAC Vapor Phase Carbon Canister and a 2 inch discharge line;
2. Implementation of a groundwater remediation contingency, if TCE in groundwater is found to be Site related;
3. Implementation of a Site Management Plan (SMP) for long term maintenance of the Engineering Controls; and
4. An Environmental Easement will be filed against the Site to ensure implementation of the SMP.

All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP. All deviations from the RAWP will be promptly reported to NYSDEC for approval and fully explained in the FER.

5.0 REMEDIAL ACTION PROGRAM

The objective of this section of the Remedial Action Work Plan, is to present a scope of work which will be approved by NYSDEC and when completely implemented will ready the BCP site for development under the Contemplated Use, which is restricted residential use, consistent with the requirements of the Brownfield Cleanup Program.

5.1 GOVERNING DOCUMENTS

Governing documents and procedures included in the Remedial Work Plan include a Site-specific Health and Safety Plan (HASP), a Community Air Monitoring Plan (CAMP), a Citizen Participation Plan, a Soil Management Plan (SoMP) analytical quality assurance/quality control (QA/QC), fluid management procedures, and contractors' site operations and quality control procedures. Highlights of these documents and procedures are provided in the following sections.

5.1.1 Health & Safety Plan (HASP)

Contractors and subcontractors will have the option of adopting this HASP or developing their own site-specific document. If a contractor or subcontractor chooses to prepare their own HASP, the Project Remedial Engineer will insure that it meets the minimum requirements as detailed in the site HASP prepared by EBC and must be made submitted to and approved by the NYSDEC.

Activities performed under the HASP will comply with applicable parts of OSHA Regulations, primarily 29 CFR Parts 1910 and 1926. Modifications to the HASP may be made with the approval of the Project Remedial Engineer (RE), Site Safety Manager (SSM) and/or Project Manager (PM).

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Volunteer and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an

appropriate Health and Safety Plan and for the appropriate performance of work according to that plan and applicable laws.

The Health and Safety Plan (HASP) and requirements defined in this Remedial Action Work Plan pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion.

The Site Safety Coordinator will be Mr. Kevin Waters. A resume will be provided to NYSDEC prior to the start of remedial construction. Confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gasses. A copy of the Site Specific Health and Safety Plan is provided in **Attachment C.**

5.1.2 Quality Assurance Project Plan (QAPP)

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for all data generated.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or a cold-pak(s) to maintain a temperature of $4^{o}C$.

Dedicated disposable sampling materials will be used for both soil and groundwater samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected.

Decontamination of non-dedicated sampling equipment will consist of the following:

- Gently tap or scrape to remove adhered soil

- Rinse with tap water
- Wash with alconox® detergent solution and scrub
- Rinse with tap water
- Rinse with distilled or deionized water

Prepare field blanks by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers. Trip blanks will accompany samples each time they are transported to the laboratory. Matrix spike and matrix spike duplicates (MS/MSD) will be collected at the rate of one per 20 samples submitted to the laboratory. Laboratory reports will be upgradeable to ASP category B deliverables for use in the preparation of a data usability report (DUSR). The QAPP for the Site is provided in **Attachment D**.

5.1.3 Construction Quality Assurance Plan (CQAP)

All construction work related to the remedy (i.e. soil excavation) will be monitored by EBC field personnel under the direct supervision of the Remedial Engineer. Monitoring during soil excavation will be performed to protect the health of site workers and the surrounding community. A Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) have been specifically developed for this project. These plans specify the monitoring procedures, action levels, and contingency measures that are required to protect public health.

All intrusive and soil disturbance activities will be monitored by a qualified environmental professional (QEP) under the direct supervision of the Remedial Engineer who will record observations in the site field book and complete a photographic log of the daily activities. The QEP will provide daily updates to the Project Manager and Remedial Engineer who will both make periodic visits to the site as needed to assure construction quality.

5.1.4 Soil/Materials Management Plan (SoMP)

An SMP was prepared for excavation, handling, storage, transport and disposal of all soils/materials that are disturbed/excavated at the Site. The SMP includes all of the controls that will be applied to these efforts to assure effective, nuisance-free performance in compliance with all applicable Federal, State and local laws and regulations. The SMP developed for this site is presented in **Section 6** of this RAWP.

5.1.5 Storm-Water Pollution Prevention Plan (SWPPP)

Erosion and sediment controls will be performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Typical measures that will be utilized at various stages of the project to limit the potential for erosion and migration of soil include the use of hay bales, temporary stabilized construction entrances/exits, placement of silt fencing and/or hay bales around soil stockpiles, and dust control measures.

5.1.6 Community Air Monitoring Plan (CAMP)

The CAMP provides measures for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from remedial activities.

The action levels specified require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the remedial work did not spread contamination off-site through the air.

The primary concerns for this site are vapors, nuisance odors and dust particulates. A CAMP was previously prepared for implementation of the RAWP and is provided in **Attachment E**.

5.1.7 Contractors Site Operations Plan (SOP)

The Remedial Engineer has reviewed all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they are in compliance with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor and sub-contractor document submittals, are in compliance with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

5.1.8 Citizen Participation Plan (CPP)

A certification of mailing will be sent by the Volunteer to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the

Fact Sheets were mailed, (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing. The Citizen Participation Plan for this project is provided in **Attachment F**.

Document repositories have been established at the following locations and contain all applicable project documents:

Queens Public Library
Long Island City Branch
37-44 21st Street
Long Island City, NY 11101
(718) 752-3700

Hours:
Mon 12:00 AM - 8:00 PM
Tue 1:00 PM - 6:00 PM
Wed 10:00 AM - 6:00 PM
Thu 12:00 AM - 8:00 PM
Fri 10:00 AM - 6:00 PM
Sat closed
Sun closed

5.2 GENERAL REMEDIAL ACTION INFORMATION

5.2.1 Project Organization

The Project Manager for the Remedial Activity will be Ms. Chawinie Reilly. Overall responsibility for the BCP project will be Mr. Charles B. Sosik, P.G., P.HG. The Remedial

Engineer for this project is Mr. Ariel Czemerinski, P.E.. Resumes of key personnel involved in the Remedial Action are included in **Attachment G**.

5.2.2 Remedial Engineer

The Remedial Engineer for this project will be Mr. Ariel Czemerinski, P.E. The Remedial Engineer is a registered professional engineer licensed by the State of New York. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the Site. The Remedial Engineer will certify in the Final Engineering Report that the remedial activities were observed by qualified environmental professionals under his supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan. Other Remedial Engineer certification requirements are listed later in this RAWP.

The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this Remedial Action Work Plan and will certify compliance in the Final Remediation Report. The Remedial Engineer will provide the certifications listed in Section 10.1 in the Final Engineering Report.

5.2.3 Remedial Action Schedule

The remedial action will begin with mobilization of equipment and material to the Site which will begin approximately 2 weeks following RAWP approval and within 10 days of the distribution of the Construction Fact Sheet. Mobilization will be followed by installation of the SVE system and is anticipated to continue for 3 weeks.

5.2.4 Work Hours

The hours for operation of remedial construction will conform to the New York City Department of Buildings construction code requirements or according to specific variances issued by that agency. DEC will be notified by the Applicant of any variances issued by the Department of Buildings. NYSDEC reserves the right to deny alternate remedial construction hours.

5.2.5 Site Security

A construction fence or security fence will be erected bordering the interior work area. The fence will be maintained as required and secured at the end of each work day.

5.2.6 Traffic Control

Due to the minimal excavation activities required for the remedy, excavated material will likely be temporarily stored in roll-off containers on site prior to removal for offsite disposal. Trucks will back into the Site through gates to be installed in a construction fence along either 30th Street or 40th Avenue. The Volunteer's construction management personnel will direct the arrival or departure of construction vehicles, and provide flag services as needed to maintain safe travel exiting and entering the Site. The soil disposal transport route will be as follows: ENTERING SITE - from the Long Island Expressway take the Borden Avenue Street exit (Exit 13) and head west on Borden Avenue to Jackson Avenue. Turn right, heading northeast on Jackson Avenue to Northern Boulevard (25A). Turn left heading west on 40th Avenue 5 blocks and the Site entrance on the right. EXITING SITE – Turn right out of Site entrance and continue west on 40th Street to 29th Street to 39th Avenue and turn right. Continue on 39th Avenue to Northern Boulevard and turn left. Continue on Northern Boulevard to Jackson Avenue. Turn left on 21st Street and follow signs onto the Long Island Expressway. A map showing the truck routes is included as **Figure 9**.

5.2.7 Worker Training and Monitoring

All field personnel involved in remedial activities will participate in training, if required, under 29 CFR 1910.120, including 24 and 40-hour hazardous waste operator training and annual 8-hour refresher training. The Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment.

All on-site personnel engaged in remedial or sampling activities must receive adequate site-specific training in the form of an on-site Health and Safety briefing prior to participating in field work with emphasis on the following:

- Protection of the adjacent community from hazardous vapors and / or dust which may be released during intrusive activities.
- Identification of chemicals known or suspected to be present on-site and the health effects and hazards of those substances.
- The need for vigilance in personnel protection, and the importance of attention to proper use, fit and care of personnel protective equipment.
- Decontamination procedures.
- Site control including work zones, access and security.
- Hazards and protection against heat or cold.
- The proper observance of daily health and safety practices, such as entry and exit of work zones and site. Proper hygiene during lunch, break, etc.
- Emergency procedures to be followed in case of fire, explosion and sudden release of hazardous gases.

5.2.8 Agency Approvals

The Applicant has addressed all SEQRA requirements for this Site. All permits or government approvals required for remedial construction have been, obtained prior to the start of remedial construction.

The planned end use for the Site is in conformance with the current zoning for the property as determined by New York City Department of Planning. A Certificate of Completion will not be issued for the project unless conformance with zoning designation is demonstrated.

A complete list of all local, regional and national governmental permits, certificates or other approvals or authorizations required to perform the remedial and development work is attached in **Table 17**. This list includes a citation of the law, statute or code to be complied with, the originating agency, and a contact name and phone number in that agency. This list will be updated in the Final Remediation Report.

All planned remedial or construction work in regulated wetlands and adjacent areas will be specifically approved by the NYSDEC Division of Natural Resources to ensure that it meets the requirements for substantive compliance with those regulations prior to the start of construction.

Nothing in the approved Remedial Action Work Plan or its approval by NYSDEC should be construed as an approval for this purpose.

5.2.9 NYSDEC BCP Signage

A project sign will be erected at the main entrance to the Site prior to the start of any remedial activities. The sign will indicate that the project is being performed under the New York State Brownfield Cleanup Program. The sign will meet the detailed specifications provided by the NYSDEC Project Manager and contained in **Attachment H**.

5.2.10 Pre-Construction Meeting with NYSDEC

A pre-construction meeting with the Project Manager, Remedial Engineer, Construction Manager, Owner's Representative and the NYSDEC will take place prior to the start of major construction activities.

5.2.11 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in **Table 18**. That document will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

5.2.12 Remedial Action Costs

The total estimated cost of the Remedial Action is $ 316,520.25. A summary of estimated costs for all remedial activity is attached as **Attachment I**. This will be revised based on actual costs and submitted as an Appendix to the Final Remediation Report.

5.3 SITE PREPARATION

5.3.1 Mobilization

Mobilization will include the delivery of construction equipment and materials to the site. All construction personnel will receive site orientation and training in accordance with the site specific HASP, CAMP and established policies and procedures to be followed during the implementation of the RAWP. The remediation contractor, construction manager and all

associated subcontractors will each receive a copy of the RAWP and the site specific HASP and will be briefed on their contents.

5.3.2 Erosion and Sedimentation Controls

Soil erosion and sediment control measures for management of storm water will not be necessary since the project consists of installing the SVE system.. No redevelopment is currently planned for the site.

5.3.3 Stabilized Construction Entrance(s)

Since the project does not intend to redevelop the property at this time; trucks will not be accessing the Site and a stabilized construction entrance will not be needed. The loading of trucks or roll-off containers will be performed in the street in front of the building.

5.3.4 Utility Marker and Easements Layout

The Applicant and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Applicant and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Applicant and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

5.3.5 Sheeting and Shoring

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities including excavation is the sole responsibility of the Applicant and its contractors. The Applicant and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan. The Applicant and its contractors must obtain any local, State or

Federal permits or approvals that may be required to perform work under this Plan. Further, the Applicant and its contractors are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved Plan.

5.3.6 Equipment and Material Staging

All equipment and work materials will be staged on-Site in areas as designated by the General Contractor, and / or Construction Site Superintendent.

5.3.7 Decontamination Area

Since the project does not currently intend to redevelop the site; trucks will not be accessing the Site and a decontamination area will not be needed. The loading of trucks or roll-off containers will be performed in the street in front of the building. The street will be kept clean by sweeping as needed.

5.3.8 Site Fencing

A temporary construction or security fence will be installed around the interior areas were work is being performed. This fence will be properly secured at the end of the day and supplemented, as needed, by installing orange safety fencing around open excavations to ensure on-site worker safety.

5.3.9 Demobilization

Demobilization will consist of the restoration of material staging areas and the disposal of materials and/or general refuse in accordance with acceptable rules and regulations. Materials used in remedial activities will be removed and disposed properly. All equipment will be decontaminated prior to leaving the Site.

5.4 REPORTING

All daily and monthly Reports will be included in the Final Engineering Report.

5.4.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by the end of each day in which remedial activity takes place. Daily reports will include:

- An update of progress made during the reporting day;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public.

5.4.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers within two weeks following the end of the month of the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e. tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

5.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photos will illustrate all remedial program elements and will be of acceptable quality. Representative photos of the Site prior to any Remedial Actions will be provided. Representative photos will be provided of each contaminant source, source area and Site structures before, during and after remediation. Photos will be submitted to NYSDEC on CD or other acceptable electronic media and will be sent to NYSDEC's Project Manager (2 copies) and to NYSDOH's Project Manager (1 copy). CD's will have a label and a general file inventory structure that separates photos into directories and sub-directories according to logical Remedial Action components. A photo log keyed to photo file ID numbers will be prepared to provide explanation for all representative photos. For larger and longer projects, photos should be submitted on a monthly basis or another agreed upon time interval.

Job-site record keeping for all remedial work will be appropriately documented. These records will be maintained on-Site at all times during the project and be available for inspection by NYSDEC and NYSDOH staff.

5.4.4 Complaint Management Plan

Complaints from the public regarding nuisance or other Site conditions including noise, odor, truck traffic etc., will be recorded in the Site field book and reported to the NYSDEC in the daily status report.

5.4.5 Deviations from the Remedial Action Work Plan

Minor deviations from the RAWP will be identified in the daily update report and will be noted in the Final Engineering Report. When deviations are reported a brief discussion will be provided which will state the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy.

Major changes to the scope of work must be discussed with the NYSDEC and the NYSDOH prior to implementation. If the changes are considered to be significant enough, an addendum to the RAWP Work Plan will be prepared and submitted to NYSDEC / NYSDOH for review.

6.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

The recommended remedy consists of the installation of a soil vapor extraction system (SVE) to remediate TCE in shallow and deep soil in the southern portion of the site. Installation of the system as designed will require minimal excavation as the majority of the piping (main vent line) will be located above ground with only the laterals requiring subslab trenching.

All soil disturbance work will be performed in accordance with the Site-specific HASP and CAMP.

6.1 UST REMOVAL CONFIRMATION METHODS

The site is known to have one 5,000-gallon # 2 fuel oil UST which is reported to be out of service and closed-in-place. To confirm that the tank was properly abandoned an inspection will be performed which will include cutting through the concrete to expose the top of the tank with visual confirmation that it is filled with structural foam or sand.

If the tank was properly closed in place, soil borings will be advanced around the perimeter of the tank (1 per side) to a depth of approximately 2 feet below the tank area with one sample collected from each boring for analysis. Due to overhead ceiling height restrictions and limited access, the borings will be advanced using hand operated tools or a portable probe machine.

If the tank was not closed in place and either contains fluids / sludge or is empty, the tank will be emptied and cleaned (as described below) by an experienced tank removal contractor using fully trained (40 hour HAZWOPER) personnel. Following cleaning, holes will be cut into the base of the tank (one at each end) to allow access to the soil below. A soil sample representing the 2 feet beneath the tank will be collected from each location using hand tooling. One sample will be collected every five feet along the tank centerline. Soil samples collected for tank closure will be analyzed for VOCs (EPA method 8260B) and SVOCs (EPA method 8270BN).

If the above activities indicate the underground storage tank (UST) was not property closed in place, the tank will be cleaned and closed in place in accordance with the NYSDEC

Memorandum for the Permanent Abandonment of Petroleum Storage Tanks and Section 5.5 of Draft DER-10 as follows:

- Remove all product to its lowest draw-off point
- Drain and flush piping into the tank
- Vacuum out the tank bottom consisting of water product and sludge
- Dig down to the top of the tank and expose the upper half of the tank
- Remove the fill tube and disconnect the fill, gauge, product and vent lines and pumps. Cap and plug open ends of lines
- Temporarily plug all tank openings, complete the excavation, remove the tank and place it in a secure location
- Render the tank safe and check the tank atmosphere to ensure that petroleum vapors have been satisfactorily purged from the tank
- Clean tank or remove to a storage yard for cleaning
- Fill the tank with clean sand or structural foam.

During the tank cleaning the following field observations should be made and recorded:

- A description and photographic documentation of the condition of the interior of the tank (pitting, holes, staining, leak points, evidence of repairs, etc.)
- Examination of the soil samples below the bottom of the tank for physical evidence of contamination (odor, staining, sheen, etc.)
- Field screening of the soil samples from the bottom of the tank with a calibrated photoionization detector (PID).

6.2 SOIL CLEANUP OBJECTIVES

The Soil Cleanup Objectives (SCO) for this Site are the Restricted Commercial SCOs as listed in **Table 1**. **Table 15** summarizes all soil samples that exceed the unrestricted SCOs. A spider map that shows all soil samples that exceed the unrestricted SCOs are shown in **Figure 6**.

6.3 REMEDIAL PERFORMANCE EVALUATION (POST EXCAVATION END-POINT SAMPLING)

Since the limited excavation work to install the SVE system laterals is not a remedial element in of itself, end point samples related to excavation will not be collected. Soil samples related to the UST confirmation closure activities will be collected as described in section 6.1 and will be dependent upon whether the tank has been previously closed in place or not.

6.3.1 End-Point Sampling Frequency

If the tank was properly closed in place, soil borings will be advanced around the perimeter of the tank (1 per side) to a depth of approximately 2 feet below the tank area with one sample collected from each boring for analysis.

If the tank was not closed in place then following cleaning as described in Section 6.1 above, a soil sample representing the 2 feet beneath the tank will be collected from each location using hand tooling. One sample will be collected every five feet along the tank centerline. Soil samples collected for tank closure will be analyzed for VOCs (EPA method 8260B) and SVOCs (EPA method 8270BN).

6.3.2 Methodology

If the tank was previously closed in place then borings will be installed around the perimeter of the tank using hand operated tools or a portable probe machine due to overhead ceiling height restrictions and limited access.

If the tank was not closed in place then soil samples will be obtained beneath the tank by advancing hand tooling through the tank bottom.

6.3.3 Reporting of Results

Sample analysis will be provided by a New York State certified environmental laboratory. Laboratory reports will include ASP category B deliverables for use in the preparation of a data usability summary report (DUSR). All results will be provided in accordance with the NYSDEC Environmental Information Management System (EIMS) electronic data deliverable (EDD) format.

6.3.4 QA/QC

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for all data generated.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or cold-pak(s) to maintain a temperature of 4^{o}C. Dedicated disposable sampling materials will be used for both soil samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected. Field blanks will be prepared by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers.

Trip blanks will accompany samples each time they are transported to the laboratory. Matrix spike and matrix spike duplicates (MS/MSD) will be collected at the rate of one per 20 samples submitted to the laboratory.

6.3.5 DUSR

The DUSR provides a thorough evaluation of analytical data without third party data validation. The primary objective of a DUSR is to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use. Verification and/or performance monitoring samples collected under this RAWP will be reviewed and evaluated in accordance with the Guidance for the Development of Data Usability Summary Reports as presented in Appendix 2B of DER-10. The completed DUSR for verification/performance samples collected during implementation of this RAWP will be included in the final Engineering Report.

6.3.6 Reporting of End-Point Data in FER

Confirmatory samples from the UST will be tabulated and reported in the Final Engineering Report prepared for the Site.

6.4 ESTIMATED MATERIAL REMOVAL QUANTITIES

Historic fill materials were documented throughout the site varying in thickness from 0 to 6 feet. Some of this fill may be contaminated with TCE. It is expected that approximately 1.85 cubic yards of historic fill/soil (7 drums) will be excavated during installation of the SVE lateral lines. Some soil may also be removed during the UST confirmation closure investigation and sampling.

6.5 SOIL/MATERIALS MANAGEMENT PLAN

6.5.1 Excavation of Soil for SVE Laterals

Limited excavation (1 ft x 0.5 ft x 100 ft) will be required for installation of the SVE system lateral lines. This material will consist of historic fill some of which may be contaminated with TCE. This material will be excavated and placed in drums for characterization and disposal. It is anticipated that the excavation of the lateral lines will performed by the installation contractor using fully trained (40 hr HAZWOPER) personnel. If it is possible to install the SVE laterals aboveground, then trench excavation will not occur and there will be no excavated materials to be generated for disposal.

6.5.2 Excavation of Native Soils

Native soils are present directly below the fill materials and are not expected to be encountered during installation of the SVE system.

6.5.3 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by an environmental professional during all remedial and development excavations into known or potentially contaminated material (Residual Contamination Zone). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a

surveyor licensed to practice in the State of New York. This information will be provided on maps in the Final Engineering Report.

Screening will be performed by environmental professionals. Resumes will be provided for all personnel responsible for field screening (i.e. those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and development work.

6.5.4 Stockpile Methods

It is anticipated that all soil excavated for installation of the SVE systems lateral lines will be stored on-site in drums until testing and off-site disposal can be arranged.

6.5.5 Materials Excavation and Load Out

The Remedial Engineer or environmental professional under his/her supervision will oversee all invasive work and the excavation and load-out of all excavated material. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

Loaded vehicles leaving the Site will be appropriately manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

The Volunteer and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).

The Remedial Engineer will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this Remedial Action Work Plan.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be located and shown on maps to be reported in the Final Engineering Report.

6.5.6 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

ENTERING SITE - from the Long Island Expressway take the Borden Avenue Street exit (Exit 13) and head west on Borden Avenue to Jackson Avenue. Turn right, heading northeast on Jackson Avenue to Northern Boulevard (25A). Turn left heading west on 40th Avenue 5 blocks and the Site entrance on the right.

EXITING SITE – Turn right out of Site entrance and continue west on 40th Street to 29th Street to 39th Avenue and turn right. Continue on 39th Avenue to Northern Boulevard and turn left. Continue on Northern Boulevard to Jackson Avenue. Turn left on 21st Street and follow signs onto the Long Island Expressway. A map showing the truck routes is included as **Figure 9**.

These are the most appropriate routes to and from the Site and take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development. Material transported by trucks exiting the Site will be secured in drums.

6.5.7 Materials Disposal Off-Site

Multiple disposal facility designations may be employed for the materials removed from the Site. Once final arrangements have been made the disposal location(s) will be reported to the NYSDEC Project Manager.

The total quantity of material expected to be disturbed and disposed off-Site is 1.85 cubic yards of TCE impacted historic fill/soil from the SVE installation area. Soil may be disturbed or additionally excavated during the UST closure confirmation and sampling.

All fill material excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval. It is anticipated that historic fill will be disposed of as a non-hazardous material. Final classification of excavated materials will be dependent upon the results of waste characterization sampling. Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt.

If waste characterization identifies chlorinated solvents in the soil for disposal, it will be classified as a hazardous waste unless a contained-in ruling is issued by the DEC. Non-hazardous historic fill taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360-16 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the Division of Materials Management (DMM) in NYSDEC to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility

without permit modifications only upon prior notification of NYSDEC Region 2 DSHM. This material is prohibited from being sent or redirected to a Part 360-16 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C/D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-Site or off-Site Soil Recycling Facilities. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported.

Concrete demolition material generated on the Site from the building slab and other structures will be segregated, sized and shipped to a concrete recycling facility upon approval by the NYSDEC's Division of Materials Management for Region 2. Concrete crushing or processing on-Site is prohibited.

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a letter from the Remedial Engineer or BCP Applicant to the receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This letter will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the Final Engineering Report. Documentation for materials disposed of at recycling facilities (such as metal, concrete, asphalt) and as non-regulated C&D will include transport tickets for each load stating the origin of the material, the destination of the material and the quantity transported.

Hazardous soil will be transported under a hazardous waste manifest and USEPA ID number.

The Final Engineering Report will include an accounting of the destination of all material removed from the Site during this Remedial Action, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

6.5.8 Materials Reuse On-Site

There are no plans to reuse any of the soil excavated as part of the SVE system installation.

6.5.9 Fluids Management

As the work involves shallow soil excavation within an existing building with the depth to groundwater at approximately 20 feet below grade dewatering operations will not be needed during construction.

6.5.10 Backfill from Off-Site Sources

Off-site fill material may be needed to backfill the trenches for the lateral vent line piping. Recycled Concrete Aggregate (RCA) derived from recognizable and uncontaminated concrete and supplied by facilities permitted by, and in full compliance with Part 360-16 and DSNY regulations, is an acceptable form of backfill material. The Remedial Engineer is responsible for ensuring that the facility is compliant with the registration and permitting requirements of 6 NYCRR Part 360 and DSNY regulations at the time the RCA is acquired. RCA imported from compliant facilities does not require additional testing unless required by NYS DEC and DSNY under its terms of operations for the facility. Documentation of part 360-16 and DSNY compliance must be provided to the Remedial Engineer before the RCA is transported to the Site.

Fill material may also consist of virgin mined sand, gravel or stone products. Materials from a virgin mined source may be imported to the Site without testing provided that that the material meets the specifications of the geotechnical engineer, Remedial Engineer, and Redevelopment Construction Documents and that the source of the material is approved by the Remediation

Engineer and the NYSDEC Project Manager. The source approval process will require a review of the following information:

- The origin of the material;
- The address of the facility which mines/processes the material;
- A letter from the facility stating that the material to be delivered to the site is a virgin mined material and that it has not been co-mingled with other materials during processing or stockpiling.

All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site. Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The Final Engineering Report will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

Under no circumstances will fill materials be imported to the site without prior approval from the NYSDEC Project Manager. If sufficient documentation is not obtained, fill materials will be tested at a frequency consistent with that as specified in Table 4 of NYSDEC CP-51 Soil Cleanup Guidance Policy (see below).

Contaminant	**VOCs**	**SVOCs, Inorganics & PCBs/Pesticides**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
0-50	1	1	Each composite sample for analysis is created from 3-5 discrete samples from representative locations in the fill.
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	

500-800	6	2	
800-1000	7	2	
1000	Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER		

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

6.5.11 Stormwater Pollution Prevention

Soil erosion and sediment control measures for management of storm water will not be necessary since the project does not have any redevelopment plans and will be installing a SVE system within the current structure.

6.5.12 Contingency Plan

If additional underground tanks or other previously unidentified contaminant sources are found during on-Site remedial system installation, sampling will be performed on product, sediment and surrounding soils, etc. Chemical analytical work will be limited to STARS parameters where tanks are identified. Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily and periodic electronic media reports.

6.5.13 Community Air Monitoring Plan

The Community Air Monitoring Plan (CAMP) provides measures for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from remedial activities at construction sites.

The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the remedial

work did not spread contamination off-site through the air. The primary concerns for this site are odors associated with groundwater purging and sampling.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report. The CAMP developed for this site is included in **Attachment F** or this Work Plan.

6.5.14 Odor, Dust and Nuisance Control Plan

The Final Engineering Report will include the following certification by the Remedial Engineer: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

6.5.14.1 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Applicant's Remediation Engineer, who is responsible for certifying the Final Engineering Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close

proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

6.5.14.2 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-Site work, will include, at a minimum, the items listed below:

- Dust suppression will be achieved though spraying water directly onto excavations and stockpiles.

6.5.14.3 Nuisance Control Plan

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work. A plan has been developed and utilized by the contractor for all remedial work and conforms, to NYCDEP noise control standards.

7.0 REMEDIAL ACTION: SOIL VAPOR EXTRACTION

7.1 SOIL VAPOR EXTRACTION SYSTEM

Soil gas testing performed under the RI, identified elevated concentrations of CVOCs in soil gas beneath the building slab, with the highest concentrations reported in the west-central, southwest and northeast areas of the site. The elevated CVOCs in soil gas within the footprint of the building are likely related to isolated and shallow areas of CVOC contaminated soil which were reported in the southern and eastern areas of the Site.

Remediation of the CVOC vapors will be achieved through the installation of a Soil Vapor Extraction (SVE) system beneath the existing foundation. Based on soil type observed at the site and typical SVE system design parameters, the following preliminary design is anticipated:

- Four extraction well system;
- Extraction wells constructed of 2-inch diameter PVC with a 4 foot slotted screen and 2-foot PVC riser for a total depth of 32 feet
- Wells tied to system with a 2-inch diameter PVC extraction line
- 2-hp regenerative blower with particulate filter and vapor trap
- Discharge treatment with General Carbon Corp or equivalent GAC Vapor Phase Carbon Canisters

The anticipated layout of the SVE system is shown in **Figure 11**. Details of the system are provided in **Figures 12** and **13**. The final design and specifications of the system will be made in consultation with the NYSDEC and NYSDOH following the completion of an SVE pilot test. The pilot test will be performed following the installation of the SVE extraction wells. The results will be used to size the blower (vacuum, CFM) for the full system, taking into consideration calculations for friction loss in the main line, elbows, Tees and valves. During the pilot test a VOC emission sample will be collected.

An EBC field inspector under the direct supervision of a professional engineer will inspect and photograph the installation of the SVE system at several critical stages before during and after

the installation is complete, to assure compliance with design specifications. Detailed specifications of the SVE system will be submitted to the NYSDEC upon completion of pilot testing.

7.1.1 Criteria for Termination

The SVE system will not be discontinued without written approval by the NYSDEC and NYSDOH. Systems will remain in place and operational until permission to discontinue use is granted in writing by NYSDEC and NYSDOH.

8.0 REMEDIAL ACTION: GROUNDWATER TREATMENT CONTINGENCY

A dissolved phase CVOC and petroleum VOC plume is migrating onto and passing beneath the Site from an upgradient source. The plume is currently undergoing reductive dechlorinization as the petroleum VOCs act as a carbon source for the biologically driven process. The presence of the petroleum VOCs are also likely responsible for the anaerobic conditions which are needed for dechlorinization. Degradation has proceeded from PCE to TCE to cis-DCE. Further reductions in both CVOCs and petroleum VOCs are expected if this process is allowed to continue.

To further evaluate and confirm that the TCE contamination in groundwater is related to degradation of TCE coming on to the Site, an additional round of soil and groundwater sampling will be performed on all Site wells and adjacent wells downgradient of the Site. Additional soil samples will be collected in areas as indicated on **Figure 14**. A total of six borings will be advanced to the water table and the following soil sample intervals will be collected 0-2 ft, 5-7 ft, 10-12 ft and 15-17 ft (if possible). All soil samples will be analyzed for VOCs.

8.1 ENHANCED REDUCTIVE DECHLORINIZATION

If the results of this supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, then a design document will be submitted to DEC for implementing an enhanced biological degradation (ERD) program.

The ERD program will consist of injecting a solution to enhance the dechlorinization process such as zero-valent metals, sulphide minerals, nanoscale iron or bimetal particulates, molasses, sodium lactate or a commercially packaged product such as hydrogen release compound (HRC). If remedial actions at the upgradient Site, result in increased oxygen levels in on-site groundwater then consideration will be given to the use of chemical oxidants instead.

Periodic sampling of the monitoring well network for VOCs and relevant attenuation indicator parameters will be included as part of the program.

If the TCE contamination in groundwater at the Site is found to be related to an on-site source requiring implementation of the ERD contingency, at separate design document will be submitted to DEC for approval. The design document will include details on the solution to be applied, injection locations, frequency and groundwater monitoring.

8.1.1 Reporting of Results

Sample analysis will be provided by a New York State ELAP certified environmental laboratory. Laboratory reports will include Analytical Systems Protocol July 2005 (ASP) category B data deliverables for use in the preparation of a data usability summary report (DUSR). All results will be provided in accordance with the NYSDEC Environmental Information Management System (EIMS) electronic data deliverable (EDD) format.

8.1.2 QA/QC

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for all data generated.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be stored in the field in a cooler containing ice or cold-pak(s) to maintain a temperature of 4 degrees C. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or cold-pak(s) to maintain a temperature of $4^{o}C$, +/- $2\ ^{o}C$.

Dedicated disposable sampling materials will be used for both groundwater samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, field rinsate blanks will be prepared at the rate of 1 for every eight samples collected. Field

blanks will be prepared by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers.

Trip blanks will accompany samples each time they are transported to the laboratory. Matrix spike and matrix spike duplicates (MS/MSD) will be collected at the rate of one per 20 samples submitted to the laboratory.

8.1.3 DUSR

The DUSR provides a thorough evaluation of analytical data with full third party data validation. The primary objective of a DUSR is to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use. Verification and/or performance monitoring samples collected under this RAWP will be reviewed and evaluated in accordance with the Guidance for the Development of Data Usability Summary Reports as presented in Appendix 2B of DER-10. The completed DUSR for verification/performance samples collected during implementation of this RAWP will be included in the Final Engineering Report.

8.1.4 Reporting of Performance Data in FER

Chemical labs used for all performance monitoring and final post-remedial sampling analysis will be NYSDOH ELAP laboratory certified in the appropriate categories. The FER will provide a tabular and map summary of all performance monitoring and post-remedial sample results and exceedances of water quality standards.

9.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

Since soil with parameters above Restricted Residential SCOs is expected to exist beneath the Site after the remedy is complete, an Institutional Control (IC) is required to protect human health and the environment. The ICs, Environmental Easement and Site Management Plan, are described hereafter. Long-term management of the IC will be executed under a deed restriction recorded with the NYC Department of Finance, Office of the City Register.

To further evaluate and confirm that the TCE contamination in groundwater is related to degradation of TCE coming on to the Site, an additional round of soil and groundwater sampling will be performed on all Site wells and adjacent wells downgradient of the Site.

Environmental Controls (ECs) will be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have the following EC systems:

1. A soil vapor extraction system.
2. An impervious cap consisting of 4-inch thick concrete building slab (from existing structure).
3. If the results of this supplemental sampling round confirm that all or a significant portion of the TCE in groundwater beneath the Site is Site related, then a design document will be submitted to DEC for implementing an enhanced biological degradation (ERD) program. The ERD program will consist of injecting a solution to enhance the dechlorinization process such as zero-valent metals, sulphide minerals, nanoscale iron or bimetal particulates, molasses, sodium lactate or a commercially packaged product such as hydrogen release compound (HRC). If remedial actions at the upgradient Site, result in increased oxygen levels in on-site groundwater then consideration will be given to the use of chemical oxidants instead. Periodic sampling of the monitoring well network for VOCs and relevant attenuation indicator parameters will be included as part of the program.

The FER will report residual contamination on the Site in tabular and map form.

10.0 ENGINEERING CONTROLS

The intent of this project is to achieve Track 4 Cleanup criteria and the Site will be equipped with engineering controls.

10.1 SITE COVER SYSTEM

A site cover system will be required to allow for restricted residential or commercial use of the Site under the Track 4 cleanup. The cover will consist of the building structure and pavement areas,

A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the soil cover system and underlying residual contamination are disturbed after the Remedial Action is complete. Maintenance of the soil cover system will be described in the Site Management Plan in the FER.

10.2 SOIL VAPOR EXTRACTION SYSTEM

Remediation of the shallow TCE impacted soil will be achieved through the installation of a Soil Vapor Extraction system within the building. The system will be operated during building occupation.

Long term operation and maintenance of the system (if required) including system start-up, periodic testing and system shut down will be specified in the Site Management Plan.

10.3 CONTINGENT GROUNDWATER TREATMENT

If additional groundwater treatment is required following the supplemental sampling round, the Site Management Plan will include provisions for continuing to monitor the reductive dechlorinization process.

Further details on scheduling, monitoring and reporting will be specified in the Site Management Plan.

11.0 INSTITUTIONAL CONTROLS

After the remedy is complete, the Site will have residual contamination remaining in place. Engineering Controls (ECs) will be incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and an SMP.

A Site-Specific Environmental Easement will be recorded with Queens County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs/ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs.

The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

11.1 ENVIRONMENTAL EASEMENT

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. If the Site will have residual contamination after completion of all Remedial Actions than an Environmental Easement is required. If an Environmental Easement is needed following completion of the remedy an Environmental Easement approved by NYSDEC will be filed and recorded with the City of New York. The Environmental Easement (if needed) will be submitted as part of the Final Remediation Report.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the City of New York before the Certificate of Completion can be issued by NYSDEC. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with the Site Management Plan (SMP), which provides all of the methods and procedures to be followed to comply with this remedy.

The Institutional Controls which will be needed to support Engineering Controls are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;

- All Engineering Controls must be operated and maintained as specified in this SMP;

- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;

- Groundwater, soil vapor, and other environmental or public health monitoring must be performed as defined in the SMP;

- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

- On-Site environmental monitoring devices, including but not limited to, groundwater monitor wells and soil vapor probes, must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP;

- Engineering Controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

Adherence to these ICs for the Site is mandated by the Environmental Easement and will be implemented under the SMP. The Controlled Property (Site) may also have a series of ICs in the form of Site restrictions and requirements. The Site restrictions that may apply to the Controlled Property are:

- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;

- The Controlled Property may be used for restricted residential use provided that the EC/ICs included in this SMP are employed.

- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

11.2 SITE MANAGEMENT PLAN

Site Management is the last phase of remediation and begins with the approval of the Final Engineering Report and issuance of the Certificate of Completion (COC) for the Remedial Action. The Site Management Plan is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the Site Management Plan are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated [month, year], and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The Site Management Plan will be based on a calendar year and will be due for submission to NYSDEC by March 1 of the year following the reporting period.

No exclusions for handling of residual contaminated soils will be provided in the Site Management Plan (SMP). All handling of residual contaminated material will be subject to provisions contained in the SMP.

12.0 FINAL ENGINEERING REPORT

A Final Engineering Report (FER) and Certificate Of Completion (COC) will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The Final Engineering Report will include as-built drawings for all constructed elements, certifications, manifests, bills of lading as well as the complete Site Management Plan (formerly the Operation and Maintenance Plan). The FER will provide a description of the changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the Site Management Plan and Environmental Easement. This determination will be made by NYSDEC in the context of the Final Engineering Report review.

The Final Engineering Report will include written and photographic documentation of all remedial work performed under this remedy. The FER will include an itemized tabular description of actual costs incurred during all aspects of the Remedial Action.

The FER will provide a thorough summary of all residual contamination left on the Site after the remedy is complete. Residual contamination includes all contamination that exceeds the SCOs defined for the Site in the RAWP and must provide an explanation for why the material was not removed as part of the Remedial Action. A table that shows exceedances from SCOs defined for

the Site and a map that shows the location and summarizes exceedances for all soil/fill remaining at the Site after the Remedial Action will be included in the FER.

The Final Engineering Report will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

Before approval of a FER and issuance of a Certificate of Completion, all project reports must be submitted in digital form on electronic media (PDF).

12.1 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the Final Engineering Report. The certification will be signed by the Remedial Engineer [name] who is a Professional Engineer registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I _____certify that I am currently a NYS registered professional engineer and that this Final Engineering Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

	_____	_____
NYS Professional Engineer #	Date	Signature

13.0 SCHEDULE

The remedial action will begin with mobilization of equipment and material to the Site which will begin approximately 4 weeks following RAWP approval and within 10 days of the distribution of the Construction Fact Sheet. The system installation, completion and testing is expected to take 4-8 weeks to complete. The schedule of tasks completed under this RAWP is as follows:

Conduct a pilot test	Week of August 1, 2016
UST removal confirmation activities	August 2016
Submittal of final design based on the results of the pilot test	Week of August 15, 2016
Conduct pre-construction meeting with NYSDEC	Within 2 weeks of RAWP approval
Mobilize equipment to the site	September 2016
Installation of the SVE system	September 2016
Submission of an operation, maintenance and monitoring plan	By September 30, 2016
Perform Start-up testing / optimization	Week of October 8, 2016
Submittal of the FER	February 2017
Development of an SMP	March 2017

TABLES

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
METALS							
Arsenic	7440-38 -2	16[f]	16[f]	16[f]	16[f]	13[f]	16[f]
Barium	7440-39 -3	350[f]	400	400	10,000 [d]	433	820
Beryllium	7440-41 -7	14	72	590	2,700	10	47
Cadmium	7440-43 -9	2.5[f]	4.3	9.3	60	4	7.5
Chromium, hexavalent [h]	18540-29-9	22	110	400	800	1[e]	19
Chromium, trivalent[h]	16065-83-1	36	180	1,500	6,800	41	NS
Copper	7440-50 -8	270	270	270	10,000 [d]	50	1,720
Total Cyanide [h]		27	27	27	10,000 [d]	NS	40
Lead	7439-92 -1	400	400	1,000	3,900	63[f]	450
Manganese	7439-96 -5	2,000[f]	2,000[f]	10,000 [d]	10,000 [d]	1600[f]	2,000[f]
Total Mercury		0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.18[f]	0.73
Nickel	7440-02 -0	140	310	310	10,000 [d]	30	130
Selenium	7782-49 -2	36	180	1,500	6,800	3.9[f]	4[f]
Silver	7440-22 -4	36	180	1,500	6,800	2	8.3
Zinc	7440-66 -6	2200	10,000 [d]	10,000 [d]	10,000 [d]	109[f]	2,480
PESTICIDES / PCBs							
2,4,5-TP Acid (Silvex)	93-72-1	58	100[a]	500[b]	1,000[c]	NS	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 [e]	17
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 [e]	136
4,4'-DDD	72-54-8	2.6	13	92	180	0.0033 [e]	14
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04[g]	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	5103-71 -9	0.91	4.2	24	47	1.3	2.9
delta-BHC	319-86-8	100[a]	100[a]	500[b]	1,000[c]	0.04[g]	0.25
Dibenzofuran	132-64-9	14	59	350	1,000[c]	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan II	33213-65-9	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan sulfate	1031-07 -8	4.8[i]	24[i]	200[i]	920[i]	NS	1,000[c]
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36 -3	1	1	1	25	1	3.2
SEMI-VOLATILES							
Acenaphthene	83-32-9	100[a]	100[a]	500[b]	1,000[c]	20	98
Acenapthylene	208-96-8	100[a]	100[a]	500[b]	1,000[c]	NS	107
Anthracene	120-12-7	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benz(a)anthracene	56-55-3	1[f]	1[f]	5.6	11	NS	1[f]
Benzo(a)pyrene	50-32-8	1[f]	1[f]	1[f]	1.1	2.6	22
Benzo(b) fluoranthene	205-99-2	1[f]	1[f]	5.6	11	NS	1.7
Benzo(g,h,i) perylene	191-24-2	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benzo(k) fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1[f]	3.9	56	110	NS	1[f]
Dibenz(a,h) anthracene	53-70-3	0.33[e]	0.33[e]	0.56	1.1	NS	1,000[c]
Fluoranthene	206-44-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Fluorene	86-73-7	100[a]	100[a]	500[b]	1,000[c]	30	386
Indeno(1,2,3-cd) pyrene	193-39-5	0.5[f]	0.5[f]	5.6	11	NS	8.2
m-Cresol	108-39-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
Naphthalene	91-20-3	100[a]	100[a]	500[b]	1,000[c]	NS	12
o-Cresol	95-48-7	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
p-Cresol	106-44-5	34	100[a]	500[b]	1,000[c]	NS	0.33[e]
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8[e]	0.8[e]
Phenanthrene	85-01-8	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Phenol	108-95-2	100[a]	100[a]	500[b]	1,000[c]	30	0.33[e]
Pyrene	129-00-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
VOLATILES							
1,1,1-Trichloroethane	71-55-6	100[a]	100[a]	500[b]	1,000[c]	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33
1,2-Dichlorobenzene	95-50-1	100[a]	100[a]	500[b]	1,000[c]	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02[f]
cis-1,2-Dichloroethene	156-59-2	59	100[a]	500[b]	1,000[c]	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100[a]	100[a]	500[b]	1,000[c]	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1[e]	0.1[e]
Acetone	67-64-1	100[a]	100[b]	500[b]	1,000[c]	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100[a]	100[a]	500[b]	1,000[c]	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100[a]	100[a]	500[b]	1,000[c]	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33[e]	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100[a]	100[a]	500[b]	1,000[c]	100[a]	0.12
Methyl tert-butyl ether	1634-04 -4	62	100[a]	500[b]	1,000[c]	NS	0.93
Methylene chloride	75-09-2	51	100[a]	500[b]	1,000[c]	12	0.05
n-Propylbenzene	103-65-1	100[a]	100[a]	500[b]	1,000[c]	NS	3.9
sec-Butylbenzene	135-98-8	100[a]	100[a]	500[b]	1,000[c]	NS	11
tert-Butylbenzene	98-06-6	100[a]	100[a]	500[b]	1,000[c]	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100[a]	100[a]	500[b]	1,000[c]	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5-Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20 -7	100[a]	100[a]	500[b]	1,000[c]	0.26	1.6

All soil cleanup objectives (SCOs) are in parts per million (ppm). NS=Not specified. See Technical Support Document (TSD). Footnotes

a The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

b The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

c The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

d The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

e For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

TABLE 2
SUMMARY OF
SAMPLING PROGRAM RATIONALE AND ANALYSIS

Matrix	Location	Number of Samples	Rationale for Sampling	Laboratory Analysis
Subsurface soil (0 to 15 feet)	14 soil borings throughout the site. Samples collected at 0-2 ft and 13-15 ft intervals (B9-B14), 0-2 ft and 10-12 ft intervals (B1, B3-B6, B8), and 4-6 ft intervals (B5, B7)	29	To evaluate the extent of soil impact and obtain information on soil quality at the Site.	VOCs EPA Method 8260B, SVOCs EPA Method 8270, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Total (Soils)		29		
Groundwater (water table)	From 7 monitoring wells across the Site.	7	To assess groundwater quality at the Site.	VOCs EPA Method 8260B, SVOCs EPA Method 8270, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Total (Groundwater)		7		
Soil Gas (SG1-SG7 10-12 ft below existing grade, SG8 &SG9 below existing slab)	9 soil gas implants installed across the Site.	9	Evaluate soil gas across the Site.	VOCs EPA Method TO15
Soil Gas (SG10-SG15 below exsisting slab, SG16 to SG21 indoor air samples and 1 out door ambient	6 sub slab implants, 6 indoor air samples and 1 outdoor air sample	13	Evaluate soil gas across the Site.	VOCs EPA Method TO15
Indoor Air Samples Indoor Air Second Floor #1, Indoor Air Second Floor #2, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4 and 1 outdoor sample	4 Indoor Air samples on 2nd Floor and 1 outdoor air sample	5	Evaluate indoor air on 2nd floor	VOCs EPA Method TO15
Indoor Air Samples SG-16, SG-17, SG-18, SG-19, SG-20, SG-21, SG-22, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4 and 1 outdoor sample	9 Indoor Air (1st and 2nd Floor) and 1 outdoor air sample	10	Evaluate indoor air on 1st and 2nd floor after remedial actions were taken	VOCs EPA Method TO15
Total (Soil Gas)		37		
MS/MSD	Matrix spike and Matrix spike duplicates at the rate 5%	1	To meet requirements of QA / QC program	1 MS/MSD for VOCs EPA Method 8260B and 1 MS/MSD for SVOCs EPA Method 8270 BN, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Trip Blanks	One laboratory prepared trip blank to accompany samples each time they are delivered to the laboratory.	4	To meet requirements of QA / QC program	VOCs EPA Method 8260B
Total (QA / QC Samples)		4		

TABLE 3
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Volatile Organic Compounds

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B1				B2				B3				B4				B5						B6				B7				B8			
			(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(4-6') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachlorothane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,1,1-Trichloroethane	680	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,1,2,2-Tetrachloroethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 7.0	7	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 2.9	2.9	< 280	280	< 3.0	3	< 3.1	3.1	< 5.2	5.2	< 5.3	5.3	< 3.1	3.1	< 3.5	3.5
1,1,2-Trichloroethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,1-Dichloroethane	270	26,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,1-Dichloroethene	330	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,1-Dichloropropene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2,3-Trichlorobenzene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2,3-Trichloropropane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2,4-Trichlorobenzene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2,4-Trimethylbenzene	3,600	52,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	**630**	270	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2-Dibromo-3-chloropropane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2-Dibromomethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2-Dichlorobenzene	1,100	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2-Dichloroethane	20	3,100	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,2-Dichloropropane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,3,5-Trimethylbenzene	8,400	52,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	**400**	270	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,3-Dichlorobenzene	2,400	4,900	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,3-Dichloropropane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
1,4-Dichlorobenzene	1,800	13,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
2,2-Dichloropropane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
2-Chlorotoluene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
2-Hexanone (Methyl Butyl Ketone)			< 29	29	< 29	29	< 26	26	< 26	26	< 27	27	< 58	58	< 28	28	< 26	26	< 27	27	< 24	24	< 1400	1,400	< 25	25	< 26	26	< 26	26	< 26	26	< 26	26	< 29	29
2-Isopropyltoluene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
4-Chlorotoluene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
4-Methyl-2-Pentanone			< 29	29	< 29	29	< 26	26	< 26	26	< 27	27	< 58	58	< 28	28	< 26	26	< 27	27	< 24	24	< 1400	1,400	< 25	25	< 26	26	< 26	26	< 26	26	< 26	26	< 29	29
Acetone	50	100,000	< 50	50	< 50	50	< 50	50	< 50	50	< 27	27	< 50	50	**13**	50	< 50	50	**49**	27	< 50	50	< 5600	5,600	**92**	30	< 31	31	< 50	50	< 50	50	< 31	31	**11**	35
Acrylonitrile			< 12	12	< 11	11	< 10	10	< 10	10	< 11	11	< 12	12	< 11	11	< 10	10	< 11	11	< 4.9	4.9	< 560	560	< 5.1	5.1	< 5.1	5.1	< 10	10	< 11	11	< 5.2	5.2	< 5.8	5.8
Benzene	60	4,800	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Bromobenzene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Bromochloromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Bromodichloromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Bromoform			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Bromomethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Carbon Disulfide			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Carbon tetrachloride	760	2,400	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Chlorobenzene	1,100	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Chloroethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Chloroform	370	49,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Chloromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
cis-1,2-Dichloroethene	250	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
cis-1,3-Dichloropropene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Dibromochloromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 7.0	7	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 2.9	2.9	< 280	280	< 3.0	3	< 3.1	3.1	< 5.2	5.2	< 5.3	5.3	< 3.1	3.1	< 3.5	3.5
Dibromomethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Dichlorodifluoromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Ethylbenzene	1,000	41,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Hexachlorobutadiene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Isopropylbenzene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
m&p-Xylenes	260	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Methyl Ethyl Ketone (2-Butanone)	120	100,000	< 35	35	< 34	34	< 31	31	< 31	31	< 27	27	< 70	70	< 33	33	< 31	31	< 27	27	< 29	29	< 3400	3,400	< 30	30	< 31	31	< 31	31	< 32	32	< 31	31	< 35	35
Methyl t-butyl ether (MTBE)	930	100,000	< 12	12	< 11	11	< 10	10	< 10	10	< 11	11	< 23	23	< 11	11	< 10	10	< 11	11	< 9.8	9.8	< 280	280	< 10	10	< 10	10	< 10	10	< 11	11	< 10	10	< 12	12
Methylene chloride	50	100,000	**1.3**	5.8	**1.2**	5.7	**1.3**	5.2	**1.4**	5.2	< 5.3	5.3	< 12	12	**1.3**	5.5	**1.2**	5.2	< 5.3	5.3	< 4.9	4.9	< 560	560	< 5.1	5.1	< 5.1	5.1	**1.3**	5.2	**4.2**	5.3	< 5.2	5.2	< 5.8	5.8
Naphthalene	12,000	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	**39**	5.3	< 5.2	5.2	< 5.8	5.8
n-Butylbenzene	12,000	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
n-Propylbenzene	3,900	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
o-Xylene	260	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	**6.5**	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
p-Isopropyltoluene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
sec-Butylbenzene	11,000	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Styrene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
tert-Butylbenzene	5,900	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 280	280	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Tetrachloroethene	1,300	19,000	**16**	5.8	< 5.7	5.7	**18**	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	**4.8**	5.2	< 5.3	5.3	**440**	260	**2.6**	5.8
Tetrahydrofuran (THF)			< 12	12	< 11	11	< 10	10	< 10	10	< 11	11	< 23	23	< 11	11	< 10	10	< 11	11	< 9.8	9.8	< 560	560	< 10	10	< 10	10	< 10	10	< 11	11	< 10	10	< 12	12
Toluene	700	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Total Xylenes			-	-	-	-	-	-	-	-	< 5.3	5.3	< 12	12					< 5.3	5.3	**6.5**	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1					< 5.2	5.2	< 5.8	5.8
trans-1,2-Dichloroethene	190	100,000	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
trans-1,3-Dichloropropene			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
trabs-1,4-dichloro-2-butene			< 12	12	< 11	11	< 10	10	< 10	10	< 11	11	< 23	23	< 11	11	< 10	10	< 11	11	< 9.8	9.8	< 560	560	< 550	550	< 10	10	< 10	10	< 11	11	< 10	10	< 12	12
Trichloroethene	470	21,000	< 5.8	5.8	< 5.7	5.7	**1.2**	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	**1,200**	270	< 280	280	**6,100**	280	**30**	5.1	**6.2**	5.2	< 5.3	5.3	**4,200**	260	**920**	6.5
Trichlorofluoromethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Trichlorotrifluoroethane			< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Vinyl Chloride	20	900	< 5.8	5.8	< 5.7	5.7	< 5.2	5.2	< 5.2	5.2	< 5.3	5.3	< 12	12	< 5.5	5.5	< 5.2	5.2	< 5.3	5.3	< 4.9	4.9	< 280	280	< 5.1	5.1	< 5.1	5.1	< 5.2	5.2	< 5.3	5.3	< 5.2	5.2	< 5.8	5.8
Total BTEX Concentration			0		0		0		0		0		0		0		0		0		6.5		0		0		0		0		0		0		0	
Total VOCs Concentration			17.3		1.2		20.5		1.4		0		0		14.3		1.2		49		2243		0		6192		30		12.3		43.2		4640		920	

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

RL - Reporting Limit

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 3
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Volatile Organic Compounds

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B9				B10				B11				B12			
			(0-2') 12/16/2014 µg/Kg		(13-15') 12/16/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachlorothane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1,1-Trichloroethane	680	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1,2,2-Tetrachloroethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1,2-Trichloroethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1-Dichloroethane	270	26,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1-Dichloroethene	330	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,1-Dichloropropene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2,3-Trichlorobenzene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2,3-Trichloropropane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2,4-Trichlorobenzene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2,4-Trimethylbenzene	3,600	52,000	< 4.4	4.4	< 5.4	5.4	**1.4**	6	< 3.8	3.8	**3.5**	3.9	< 4.2	4.2	**1.8**	4.7	< 5.5	5.5
1,2-Dibromo-3-chloropropane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2-Dibromomethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2-Dichlorobenzene	1,100	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2-Dichloroethane	20	3,100	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,2-Dichloropropane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,3,5-Trimethylbenzene	8,400	52,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	**1.1**	3.9	< 4.2	4.2	**0.62**	4.7	< 5.5	5.5
1,3-Dichlorobenzene	2,400	4,900	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,3-Dichloropropane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
1,4-Dichlorobenzene	1,800	13,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
2,2-Dichloropropane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
2-Chlorotoluene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
2-Hexanone (Methyl Butyl Ketone)			< 22	22	< 27	27	< 30	30	< 19	19	< 20	20	< 21	21	< 23	23	< 28	28
2-Isopropyltoluene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
4-Chlorotoluene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
4-Methyl-2-Pentanone			< 22	22	< 27	27	< 30	30	< 19	19	< 20	20	< 21	21	< 23	23	< 28	28
Acetone	50	100,000	**28**	44	< 50	50	**6**	50	< 38	38	**12**	39	**6.7**	42	**5**	47	< 50	50
Acrylonitrile			< 8.7	8.7	< 11	11	< 12	12	< 7.5	7.5	< 7.8	7.8	< 8.4	8.4	< 9.4	9.4	< 11	11
Benzene	60	4,800	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Bromobenzene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Bromochloromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Bromodichloromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Bromoform			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Bromomethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Carbon Disulfide			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Carbon tetrachloride	760	2,400	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Chlorobenzene	1,100	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Chloroethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Chloroform	370	49,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Chloromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
cis-1,2-Dichloroethene	250	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
cis-1,3-Dichloropropene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Dibromochloromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Dibromomethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Dichlorodifluoromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Ethylbenzene	1,000	41,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	**1.1**	4.7	< 5.5	5.5
Hexachlorobutadiene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Isopropylbenzene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
m&p-Xylenes	260	100,000	< 4.4	4.4	< 5.4	5.4	**4.1**	6	< 3.8	3.8	**2.6**	3.9	< 4.2	4.2	**4.4**	4.7	< 5.5	5.5
Methyl Ethyl Ketone (2-Butanone)	120	100,000	< 26	26	< 32	32	< 36	36	< 23	23	< 23	23	< 25	25	< 28	28	< 33	33
Methyl t-butyl ether (MTBE)	930	100,000	< 8.7	8.7	< 11	11	< 12	12	< 7.5	7.5	< 7.8	7.8	< 8.4	8.4	< 9.4	9.4	< 11	11
Methylene chloride	50	100,000	**1.7**	4.4	**1.8**	5.4	**2**	6	**2**	3.8	**1.5**	3.9	**1.4**	4.2	**1.5**	4.7	**2.2**	5.5
Naphthalene	12,000	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	**1.6**	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
n-Butylbenzene	12,000	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
n-Propylbenzene	3,900	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
o-Xylene	260	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
p-Isopropyltoluene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
sec-Butylbenzene	11,000	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Styrene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
tert-Butylbenzene	5,900	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Tetrachloroethene	1,300	19,000	**55**	260	< 5.4	5.4	**110**	280	< 3.8	3.8	**80**	270	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Tetrahydrofuran (THF)			< 8.7	8.7	< 11	11	< 12	12	< 7.5	7.5	< 7.8	7.8	< 8.4	8.4	< 9.4	9.4	< 11	11
Toluene	700	100,000	**42**	260	< 5.4	5.4	**91**	280	**1.1**	3.8	**62**	270	**56**	280	**74**	290	**50**	300
Total Xylenes			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	190	100,000	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
trans-1,3-Dichloropropene			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
trabs-1,4-dichloro-2-butene			< 8.7	8.7	< 11	11	< 12	12	< 7.5	7.5	< 7.8	7.8	< 8.4	8.4	< 9.4	9.4	< 11	11
Trichloroethene	470	21,000	< 4.4	4.4	< 5.4	5.4	**510**	280	< 3.8	3.8	**2,000**	270	< 4.2	4.2	**250**	290	**9.4**	5.5
Trichlorofluoromethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Trichlorotrifluoroethane			< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Vinyl Chloride	20	900	< 4.4	4.4	< 5.4	5.4	< 6.0	6	< 3.8	3.8	< 3.9	3.9	< 4.2	4.2	< 4.7	4.7	< 5.5	5.5
Total BTEX Concentration			42		0		95.1		1.1		64.6		56		79.5		50	
Total VOCs Concentration			126.7		1.8		724.5		3.1		2164.3		64.1		338.42		61.6	

COMPOUND	B13				B14				High Trip Blank		Low Trip Blank		Duplicate		Low Trip Blank		Low Trip Blank	
	(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(8-10') 12/17/2014 µg/Kg		12/9/2013 µg/Kg		12/9/2013 µg/Kg		12/13/2013 µg/Kg		12/13/2013 µg/Kg		12/13/2013 µg/Kg	
	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachlorothane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,1,1-Trichloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,1,2,2-Tetrachloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 3.1	3.1	< 250	250	< 3.0	3
1,1,2-Trichloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,1-Dichloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,1-Dichloroethene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,1-Dichloropropene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2,3-Trichlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2,3-Trichloropropane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2,4-Trichlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2,4-Trimethylbenzene	**1.1**	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2-Dibromo-3-chloropropane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2-Dibromomethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2-Dichlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2-Dichloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,2-Dichloropropane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,3,5-Trimethylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,3-Dichlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,3-Dichloropropane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
1,4-Dichlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
2,2-Dichloropropane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
2-Chlorotoluene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
2-Hexanone (Methyl Butyl Ketone)	< 17	17	< 24	24	< 26	26	< 23	23	< 1300	1,300	< 25	25	< 26	26	< 1300	1,300	< 25	25
2-Isopropyltoluene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
4-Chlorotoluene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
4-Methyl-2-Pentanone	< 17	17	< 24	24	< 26	26	< 23	23	< 1300	1,300	< 25	25	< 26	26	< 1300	1,300	< 25	25
Acetone	**5.8**	35	< 49	49	**83**	50	< 45	45	< 2500	2,500	**5.6**	50	< 31	31	< 5000	5,000	< 30	30
Acrylonitrile	< 7.0	7	< 9.8	9.8	< 10	10	< 9.1	9.1	< 500	500	< 10	10	< 5.2	5.2	< 500	500	< 5.0	5
Benzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Bromobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Bromochloromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Bromodichloromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Bromoform	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Bromomethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Carbon Disulfide	< 3.5	3.5	< 4.9	4.9	**1.9**	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Carbon tetrachloride	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Chlorobenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Chloroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Chloroform	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Chloromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
cis-1,2-Dichloroethene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
cis-1,3-Dichloropropene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Dibromochloromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 3.1	3.1	< 250	250	< 3.0	3
Dibromomethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Dichlorodifluoromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Ethylbenzene	**0.72**	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Hexachlorobutadiene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Isopropylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
m&p-Xylenes	**2.8**	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Methyl Ethyl Ketone (2-Butanone)	< 21	21	< 29	29	**19**	31	< 27	27	< 1500	1,500	< 30	30	< 31	31	< 3000	3,000	< 30	30
Methyl t-butyl ether (MTBE)	< 7.0	7	< 9.8	9.8	< 10	10	< 9.1	9.1	< 500	500	< 10	10	< 10	10	< 250	250	< 10	10
Methylene chloride	**0.93**	3.5	**1.6**	4.9	**2**	5.2	**1.8**	4.5	**64**	250	**1.7**	5	< 5.2	5.2	< 500	500	< 5.0	5
Naphthalene	**110**	290	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
n-Butylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
n-Propylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
o-Xylene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
p-Isopropyltoluene	< 3.5	3.5	**22**	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
sec-Butylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Styrene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
tert-Butylbenzene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Tetrachloroethene	**0.8**	3.5	< 4.9	4.9	**92**	280	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Tetrahydrofuran (THF)	< 7.0	7	< 9.8	9.8	< 10	10	< 9.1	9.1	< 500	500	< 10	10	< 10	10	< 500	500	< 10	10
Toluene	**80**	290	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Total Xylenes	-	-	-	-	-	-	-	-	-	-	-	-	< 5.2	5.2	< 250	250	< 5.0	5
trans-1,2-Dichloroethene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
trans-1,3-Dichloropropene	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
trabs-1,4-dichloro-2-butene	< 7.0	7	< 9.8	9.8	< 10	10	< 9.1	9.1	< 500	500	< 10	10	< 10	10	< 500	500	< 10	10
Trichloroethene	**2,100**	290	< 4.9	4.9	**120**	280	< 4.5	4.5	< 250	250	< 5.0	5	**64**	5.2	< 250	250	< 5.0	5
Trichlorofluoromethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Trichlorotrifluoroethane	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Vinyl Chloride	< 3.5	3.5	< 4.9	4.9	< 5.2	5.2	< 4.5	4.5	< 250	250	< 5.0	5	< 5.2	5.2	< 250	250	< 5.0	5
Total BTEX Concentration	83.52		0		0		0		0		0		0		0		0	
Total VOCs Concentration	2302.15		23.6		317.9		1.8		64		7.3		64		0		0	

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

RL - Reporting Limit

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 4
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Semi-Volatile Organic Compounds

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B1				B2				B3				B4				B5						B6				B7				B8			
			(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(4-6') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,2,4,5-Tetrachlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
1,2,4-Trichlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
1,2-Dichlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
1,2-Diphenylhydrazine			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
1,3-Dichlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
1,4-Dichlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,4,5-Trichlorophenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,4,6-Trichlorophenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,4-Dichlorophenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,4-Dimethylphenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,4-Dinitrophenol			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 560	560	< 630	630	< 1800	1,800	< 1700	1,700	< 1100	1,100	< 2800	2,800	< 560	560	< 540	540	< 610	610	< 1800	1,800	< 8600	8,600	< 550	550	< 540	540
2,4-Dinitrotoluene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2,6-Dinitrotoluene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2-Chloronaphthalene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2-Chlorophenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2-Methylnaphthalene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**540**	1,200	< 240	240	< 240	240
2-Methylphenol (o-cresol)	330	100,000	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 330	330	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
2-Nitroaniline			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 560	560	< 630	630	< 1800	1,800	< 1700	1,700	< 1100	1,100	< 2800	2,800	< 560	560	< 540	540	< 610	610	< 1800	1,800	< 8600	8,600	< 550	550	< 540	540
2-Nitrophenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
3&4-Methylphenol (m&p-cresol)	330	100,000	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
3,3'-Dichlorobenzidine			< 3800	3,800	< 760	760	< 690	690	< 700	700	< 240	240	< 270	270	< 730	730	< 690	690	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 700	700	< 3500	3,500	< 240	240	< 240	240
3-Nitroaniline			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 560	560	< 630	630	< 1800	1,800	< 1700	1,700	< 1100	1,100	< 2800	2,800	< 560	560	< 540	540	< 610	610	< 1800	1,800	< 8600	8,600	< 550	550	< 540	540
4,6-Dinitro-2-methylphenol			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 1000	1,000	< 1100	1,100	< 1800	1,800	< 1700	1,700	< 2000	2,000	< 5100	5,100	< 1000	1,000	< 990	990	< 1100	1,100	< 1800	1,800	< 8600	8,600	< 1000	1,000	< 980	980
4-Bromophenyl phenyl ether			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
4-Chloro-3-methylphenol			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
4-Chloroaniline			< 3800	3,800	< 760	760	< 690	690	< 700	700	< 240	240	< 270	270	< 730	730	< 690	690	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 700	700	< 3500	3,500	< 240	240	< 240	240
4-Chlorophenyl phenyl ether			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
4-Nitroaniline			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 560	560	< 630	630	< 1800	1,800	< 1700	1,700	< 1100	1,100	< 2800	2,800	< 560	560	< 540	540	< 610	610	< 1800	1,800	< 8600	8,600	< 550	550	< 540	540
4-Nitrophenol			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 1000	1,000	< 1100	1,100	< 1800	1,800	< 1700	1,700	< 2000	2,000	< 5100	5,100	< 1000	1,000	< 990	990	< 1100	1,100	< 1800	1,800	< 8600	8,600	< 1000	1,000	< 980	980
Acenaphthene	20,000	100,000	**1,300**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**840**	1,200	< 240	240	< 240	240
Acenaphthylene	100,000	100,000	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Acetophenone			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Aniline			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 1000	1,000	< 1100	1,100	< 1800	1,800	< 1700	1,700	< 2000	2,000	< 5100	5,100	< 1000	1,000	< 990	990	< 1100	1,100	< 1800	1,800	< 8600	8,600	< 1000	1,000	< 980	980
Anthracene	100,000	100,000	**2,200**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	**140**	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**1,300**	1,200	< 240	240	< 240	240
Benz(a)anthracene	1,000	1,000	**3,900**	1,300	< 260	260	**260**	240	< 250	250	< 240	240	< 270	270	**530**	250	< 240	240	**530**	490	**2,600**	1,200	< 240	240	**340**	240	< 270	270	< 250	250	**3,200**	1,200	< 240	240	< 240	240
Benzidine			< 3800	3,800	< 760	760	< 690	690	< 700	700	< 420	420	< 470	470	< 730	730	< 690	690	< 850	850	< 2100	2,100	< 420	420	< 410	410	< 460	460	< 700	700	< 3500	3,500	< 410	410	< 410	410
Benzo(a)pyrene	1,000	1,000	**3,200**	1,300	< 260	260	**230**	240	< 250	250	< 240	240	< 270	270	**510**	250	< 240	240	< 490	490	**2,200**	1,200	< 240	240	**300**	240	< 270	270	< 250	250	**3,200**	1,200	< 240	240	< 240	240
Benzo(b)fluoranthene	1,000	1,000	**4,100**	1,300	< 260	260	**300**	240	< 250	250	< 240	240	< 270	270	**700**	250	< 240	240	**520**	490	**2,800**	1,200	< 240	240	**420**	240	< 270	270	< 250	250	**4,200**	1,200	< 240	240	< 240	240
Benzo(ghi)perylene	100,000	100,000	**1,700**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	**330**	250	< 240	240	< 490	490	**1,400**	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**2,000**	1,200	< 240	240	< 240	240
Benzo(k)fluoranthene	800	3,900	**1,300**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	**260**	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**1,200**	1,200	< 240	240	< 240	240
Benzoic acid			< 9500	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 1000	1,000	< 1100	1,100	< 1800	1,800	< 1700	1,700	< 2000	2,000	< 5100	5,100	< 1000	1,000	< 990	990	< 1100	1,100	< 1800	1,800	< 8600	8,600	< 1000	1,000	< 980	980
Benzyl butyl phthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	**330**	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Bis(2-chloroethoxy)methane			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Bis(2-chloroethyl)ether			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
Bis(2-chloroisopropyl)ether			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Bis(2-ethylhexyl)phthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	**190**	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	**240**	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Carbazole			**1,600**	9,500	< 1900	1,900	< 1700	1,700	< 1800	1,800	< 520	520	< 590	590	< 1800	1,800	< 1700	1,700	< 1100	1,100	< 2700	2,700	< 520	520	< 510	510	< 570	570	< 1800	1,800	**1,600**	8,600	< 520	520	< 510	510
Chrysene	1,000	3,900	**4,100**	1,300	< 260	260	**300**	240	< 250	250	< 240	240	< 270	270	**640**	250	< 240	240	**580**	490	**2,600**	1,200	< 240	240	**370**	240	< 270	270	< 250	250	**3,800**	1,200	< 240	240	< 240	240
Dibenz(a,h)anthracene	330	330	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 330	330	< 1200	1,200	< 240	240	< 240	240	< 190 (J)	190 (J)	< 250	250	< 1200	1,200	< 240	240	< 240	240
Dibenzofuran	7,000	59,000	**660**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**880**	1,200	< 240	240	< 240	240
Diethyl phthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Dimethylphthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Di-n-butylphthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Di-n-octylphthalate			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Fluoranthene	100,000	100,000	**8,700**	1,300	< 260	260	**420**	240	< 250	250	< 240	240	< 270	270	**1,300**	250	< 240	240	**1,100**	490	**6,400**	1,200	**270**	240	**800**	240	< 270	270	**170**	250	**9,500**	1,200	< 240	240	< 240	240
Fluorene	30,000	100,000	**890**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**940**	1,200	< 240	240	< 240	240
Hexachlorobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Hexachlorobutadiene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Hexachlorocyclopentadiene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Hexachloroethane			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Indeno(1,2,3-cd)pyrene	500	500	**1,500**	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	**290**	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**1,700**	1,200	< 240	240	< 240	240
Isophorone			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Naphthalene	12,000	100,000	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	**1,700**	1,200	< 240	240	< 240	240
Nitrobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
N-Nitrosodimethylamine			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
N-Nitrosodi-n-propylamine			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 490	490	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
N-Nitrosodiphenylamine			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
Pentachloronitrobenzene			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
Pentachlorophenol	800	6,700	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340
Phenanthrene	100,000	100,000	**9,300**	1,300	< 260	260	**240**	240	< 250	250	< 240	240	< 270	270	**800**	250	< 240	240	**960**	490	**5,200**	1,200	< 240	240	**590**	240	< 190 (J)	190 (J)	**100**	250	**9,400**	1,200	< 240	240	< 240	240
Phenol	330	100,000	< 1300	1,300	< 260	260	< 240	240	< 250	250	< 240	240	< 270	270	< 250	250	< 240	240	< 330	330	< 1200	1,200	< 240	240	< 240	240	< 270	270	< 250	250	< 1200	1,200	< 240	240	< 240	240
Pyrene	100,000	100,000	**7,600**	1,300	< 260	260	**450**	240	< 250	250	< 240	240	< 270	270	**1,100**	250	< 240	240	**1,300**	490	**5,900**	1,200	**250**	240	**840**	240	< 270	270	**140**	250	**8,200**	1,200	< 240	240	< 240	240
Pyridine			< 1300	1,300	< 260	260	< 240	240	< 250	250	< 350	350	< 390	390	< 250	250	< 240	240	< 710	710	< 1800	1,800	< 350	350	< 340	340	< 380	380	< 250	250	< 1200	1,200	< 340	340	< 340	340

Notes:
* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives
RL - Reporting Limit
Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value
Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 4
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Semi-Volatile Organic Compounds

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B9				B10				B11				B12				B13				B14			
			(0-2') 12/16/2014 µg/Kg		(13-15') 12/16/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(8-10') 12/17/2014 µg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,2,4,5-Tetrachlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
1,2,4-Trichlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
1,2-Dichlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
1,2-Diphenylhydrazine			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
1,3-Dichlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
1,4-Dichlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,4,5-Trichlorophenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,4,6-Trichlorophenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,4-Dichlorophenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,4-Dimethylphenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,4-Dinitrophenol			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
2,4-Dinitrotoluene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2,6-Dinitrotoluene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2-Chloronaphthalene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2-Chlorophenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2-Methylnaphthalene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2-Methylphenol (o-cresol)	330	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
2-Nitroaniline			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
2-Nitrophenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
3&4-Methylphenol (m&p-cresol)	330	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
3,3'-Dichlorobenzidine			< 710	710	< 680	680	< 730	730	< 730	730	< 710	710	< 670	670	< 720	720	< 800	800	< 710	710	< 690	690	< 720	720	< 690	690
3-Nitroaniline			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
4,6-Dinitro-2-methylphenol			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
4-Bromophenyl phenyl ether			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
4-Chloro-3-methylphenol			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
4-Chloroaniline			< 710	710	< 680	680	< 730	730	< 730	730	< 710	710	< 670	670	< 720	720	< 800	800	< 710	710	< 690	690	< 720	720	< 690	690
4-Chlorophenyl phenyl ether			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
4-Nitroaniline			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
4-Nitrophenol			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
Acenaphthene	20,000	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	**240**	250	< 240	240	< 250	250	< 240	240
Acenaphthylene	100,000	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Acetophenone			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Aniline			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
Anthracene	100,000	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	**140**	250	< 280	280	**520**	250	< 240	240	**140**	250	< 240	240
Benz(a)anthracene	1,000	1,000	**310**	250	< 240	240	**220**	250	< 260	260	**290**	250	< 230	230	**530**	250	< 280	280	**980**	250	< 240	240	**480**	250	< 240	240
Benzidine			< 710	710	< 680	680	< 730	730	< 730	730	< 710	710	< 670	670	< 720	720	< 800	800	< 710	710	< 690	690	< 720	720	< 690	690
Benzo(a)pyrene	1,000	1,000	**430**	250	< 240	240	**230**	250	< 260	260	**320**	250	< 230	230	**510**	250	< 280	280	**880**	250	< 240	240	**470**	250	< 240	240
Benzo(b)fluoranthene	1,000	1,000	**470**	250	< 240	240	**290**	250	< 260	260	**430**	250	< 230	230	**680**	250	< 280	280	**1,200**	250	< 240	240	**740**	250	< 240	240
Benzo(ghi)perylene	100,000	100,000	**370**	250	< 240	240	**150**	250	< 260	260	**190**	250	< 230	230	**330**	250	< 280	280	**550**	250	< 240	240	**230**	250	< 240	240
Benzo(k)fluoranthene	800	3,900	**150**	250	< 240	240	**130**	250	< 260	260	**160**	250	< 230	230	**260**	250	< 280	280	**420**	250	< 240	240	**270**	250	< 240	240
Benzoic acid			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
Benzyl butyl phthalate			< 250	250	< 240	240	< 250	250	< 260	260	**4,400**	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	**240**	250	< 240	240
Bis(2-chloroethoxy)methane			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Bis(2-chloroethyl)ether			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Bis(2-chloroisopropyl)ether			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Bis(2-ethylhexyl)phthalate			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	**420**	250	< 240	240
Carbazole			< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1800	1,800	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 2000	2,000	< 1800	1,800	< 1700	1,700	< 1800	1,800	< 1700	1,700
Chrysene	1,000	3,900	**330**	250	< 240	240	**250**	250	< 260	260	**380**	250	< 230	230	**610**	250	< 280	280	**1,000**	250	< 240	240	**560**	250	< 240	240
Dibenz(a,h)anthracene	330	330	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Dibenzofuran	7,000	59,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	**160**	250	< 240	240	< 250	250	< 240	240
Diethyl phthalate			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Dimethylphthalate			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	**450**	250	< 240	240
Di-n-butylphthalate			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	**110**	250	< 280	280	< 250	250	< 240	240	**130**	250	< 240	240
Di-n-octylphthalate			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Fluoranthene	100,000	100,000	**390**	250	< 240	240	**470**	250	< 260	260	**790**	250	< 230	230	**1,200**	250	< 280	280	**2,600**	250	< 240	240	**1,100**	250	< 240	240
Fluorene	30,000	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	210	250	< 240	240	< 250	250	< 240	240
Hexachlorobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Hexachlorobutadiene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Hexachlorocyclopentadiene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Hexachloroethane			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Indeno(1,2,3-cd)pyrene	500	500	**310**	250	< 240	240	**140**	250	< 260	260	**180**	250	< 230	230	**290**	250	< 280	280	**530**	250	< 240	240	**180**	250	< 240	240
Isophorone			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	**< 250**	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Naphthalene	12,000	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Nitrobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
N-Nitrosodimethylamine			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
N-Nitrosodi-n-propylamine			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
N-Nitrosodiphenylamine			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Pentachloronitrobenzene			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Pentachlorophenol	800	6,700	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Phenanthrene	100,000	100,000	**160**	250	< 240	240	**300**	250	< 260	260	**510**	250	< 230	230	**810**	250	< 280	280	**2,400**	250	< 240	240	**770**	250	< 240	240
Phenol	330	100,000	< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240
Pyrene	100,000	100,000	**390**	250	< 240	240	**450**	250	< 260	260	**750**	250	< 230	230	**1,200**	250	< 280	280	**2,200**	250	< 240	240	**940**	250	< 240	240
Pyridine			< 250	250	< 240	240	< 250	250	< 260	260	< 250	250	< 230	230	< 250	250	< 280	280	< 250	250	< 240	240	< 250	250	< 240	240

Notes:
* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives
RL - Reporting Limit
Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value
Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 5
39-40 30th Street
Long Island City, New York
Soil Analytical Results
Pesticides PCBs

	COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B1				B2				B3				B4			
				(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(10-12') 12/9/2013 µg/Kg	
				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Pesticides	4,4' -DDD	3.3	13,000	< 2.8	2.8	< 2.7	2.7	< 2.5	2.5	< 2.5	2.5	< 2.1	2.1	< 2.4	2.4	6.7	2.6	< 2.5	2.5
Pesticides	4,4' -DDE	3.3	8,900	< 2.8	2.8	< 2.7	2.7	< 2.5	2.5	< 2.5	2.5	< 2.1	2.1	< 2.4	2.4	6.5	2.6	< 2.5	2.5
Pesticides	4,4' -DDT	3.3	7,900	< 2.8	2.8	< 2.7	2.7	< 2.5	2.5	< 2.5	2.5	< 2.1	2.1	< 2.4	2.4	7.2	2.6	< 2.5	2.5
Pesticides	a-BHC	20	480	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 3.4	3.4	< 3.8	3.8	< 1.8	1.8	< 1.7	1.7
Pesticides	Alachlor			-	-	-	-	-	-	-	-	< 3.4	3.4	< 3.8	3.8	-	-	-	-
Pesticides	a-Chlordane	94	4,200	< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	-	-	-	-	5.5	3.6	< 3.4	3.4
Pesticides	Aldrin	5	97	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 1.0	1	< 1.2	1.2	< 1.8	1.8	< 1.7	1.7
Pesticides	b-BHC	36	360	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 3.4	3.4	< 3.8	3.8	< 1.8	1.8	< 1.7	1.7
Pesticides	Chlordane	94	4,200	< 23	23	< 22	22	< 21	21	< 21	21	< 10	10	< 12	12	37	22	< 21	21
Pesticides	d-BHC	40	100,000	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 3.4	3.4	< 3.8	3.8	< 1.8	1.8	< 1.7	1.7
Pesticides	Dieldrin	5	200	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 1.0	1	< 1.2	1.2	2.8	1.8	< 1.7	1.7
Pesticides	Endosulfan I	2,400	24,000	< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	< 3.4	3.4	< 3.8	3.8	< 3.6	3.6	< 3.4	3.4
Pesticides	Endosulfan II	2,400	24,000	< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	< 6.7	6.7	< 7.6	7.6	< 3.6	3.6	< 3.4	3.4
Pesticides	Endosulfan sulfate	2,400	24,000	< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	< 6.7	6.7	< 7.6	7.6	< 3.6	3.6	< 3.4	3.4
Pesticides	Endrin	14	11,000	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 6.7	6.7	< 7.6	7.6	< 1.8	1.8	< 1.7	1.7
Pesticides	Endrin aldehyde			< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	< 6.7	6.7	< 7.6	7.6	< 3.6	3.6	< 3.4	3.4
Pesticides	Endrin ketone			< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 6.7	6.7	< 7.6	7.6	< 1.8	1.8	< 1.7	1.7
Pesticides	g-BHC			< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 1.0	1	< 1.2	1.2	< 1.8	1.8	< 1.7	1.7
Pesticides	g-Chlordane			< 3.8	3.8	< 3.7	3.7	< 3.4	3.4	< 3.5	3.5	-	-	-	-	9.2	3.6	< 3.4	3.4
Pesticides	Heptachlor	42	2,100	< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 2.1	2.1	< 2.4	2.4	< 1.8	1.8	< 1.7	1.7
Pesticides	Heptachlor epoxide			< 1.9	1.9	< 1.9	1.9	< 1.7	1.7	< 1.8	1.8	< 3.4	3.4	< 3.8	3.8	< 1.8	1.8	< 1.7	1.7
Pesticides	Methoxychlor			< 7.7	7.7	< 7.4	7.4	< 6.9	6.9	< 7.0	7	< 34	34	< 38	38	< 7.2	7.2	< 6.9	6.9
Pesticides	Toxaphene			< 37	37	< 36	36	< 33	33	< 34	34	< 34	34	< 38	38	< 35	35	< 33	33
PCBs	PCB-1016	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1221	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1232	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1242	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1248	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1254	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1260	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1262	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34
PCBs	PCB-1268	100	1,000	< 38	38	< 37	37	< 34	34	< 35	35	< 70	70	< 79	79	< 36	36	< 34	34

	COMPOUND	B5						B6				B7				B8			
		(0-2') 12/13/2013 µg/Kg		(4-6') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg		(0-2') 12/9/2013 µg/Kg		(4-6') 12/9/2013 µg/Kg		(0-2') 12/13/2013 µg/Kg		(10-12') 12/13/2013 µg/Kg	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Pesticides	4,4' -DDD	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.3	2.3	< 2.5	2.5	< 2.4	2.4	< 2.1	2.1	< 2.0	2
Pesticides	4,4' -DDE	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.3	2.3	< 2.5	2.5	< 2.4	2.4	< 2.1	2.1	< 2.0	2
Pesticides	4,4' -DDT	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.3	2.3	2.7	2.5	< 2.4	2.4	< 2.1	2.1	< 2.0	2
Pesticides	a-BHC	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	< 1.7	1.7	< 1.7	1.7	< 3.4	3.4	< 3.3	3.3
Pesticides	Alachlor	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	-	-	-	-	< 3.4	3.4	< 3.3	3.3
Pesticides	a-Chlordane	-	-	-	-	-	-	-	-	-	-	4	3.5	< 3.4	3.4	-	-	-	-
Pesticides	Aldrin	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.7	1.7	< 1.7	1.7	< 1.0	1	< 1.0	1
Pesticides	b-BHC	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	< 1.7	1.7	< 1.7	1.7	< 3.4	3.4	< 3.3	3.3
Pesticides	Chlordane	< 10	10	< 11	11	< 10	10	< 10	10	< 11	11	24	21	< 20	20	< 10	10	< 10	10
Pesticides	d-BHC	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	< 1.7	1.7	< 1.7	1.7	< 3.4	3.4	< 3.3	3.3
Pesticides	Dieldrin	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.7	1.7	< 1.7	1.7	< 1.0	1	< 1.0	1
Pesticides	Endosulfan I	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	< 3.5	3.5	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3
Pesticides	Endosulfan II	< 6.7	6.7	< 6.8	6.8	< 6.7	6.7	< 6.7	6.7	< 7.3	7.3	< 3.5	3.5	< 3.4	3.4	< 6.8	6.8	< 6.6	6.6
Pesticides	Endosulfan sulfate	< 6.7	6.7	< 6.8	6.8	< 6.7	6.7	< 6.7	6.7	< 7.3	7.3	< 3.5	3.5	< 3.4	3.4	< 6.8	6.8	< 6.6	6.6
Pesticides	Endrin	< 6.7	6.7	< 6.8	6.8	< 6.7	6.7	< 6.7	6.7	< 7.3	7.3	< 1.7	1.7	< 3.1	3.1	< 6.8	6.8	< 6.6	6.6
Pesticides	Endrin aldehyde	< 6.7	6.7	< 6.8	6.8	< 6.7	6.7	< 6.7	6.7	< 7.3	7.3	< 3.5	3.5	< 3.4	3.4	< 6.8	6.8	< 6.6	6.6
Pesticides	Endrin ketone	< 6.7	6.7	< 6.8	6.8	< 6.7	6.7	< 6.7	6.7	< 7.3	7.3	< 1.7	1.7	< 1.7	1.7	< 6.8	6.8	< 6.6	6.6
Pesticides	g-BHC	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.7	1.7	< 1.7	1.7	< 1.0	1	< 1.0	1
Pesticides	g-Chlordane	-	-	-	-	-	-	-	-	-	-	4.4	3.5	< 3.4	3.4	-	-	-	-
Pesticides	Heptachlor	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.1	2.1	< 2.3	2.3	< 1.7	1.7	6.6	1.7	< 2.1	2.1	< 2.0	2
Pesticides	Heptachlor epoxide	< 3.3	3.3	< 3.4	3.4	< 3.4	3.4	< 3.3	3.3	< 3.7	3.7	< 1.7	1.7	< 1.7	1.7	< 3.4	3.4	< 3.3	3.3
Pesticides	Methoxychlor	< 33	33	< 34	34	< 34	34	< 33	33	< 37	37	< 7.0	7	< 6.8	6.8	< 34	34	< 33	33
Pesticides	Toxaphene	< 33	33	< 34	34	< 34	34	< 33	33	< 37	37	< 34	34	< 33	33	< 34	34	< 33	33
PCBs	PCB-1016	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1221	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1232	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1242	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1248	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1254	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1260	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1262	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68
PCBs	PCB-1268	< 70	70	< 71	71	< 70	70	< 69	69	< 76	76	< 35	35	< 34	34	< 70	70	< 68	68

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

RL- Reporting Limit

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 5
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Pesticides PCBs

	COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B9				B10				B11				B12				B13				B14			
				(0-2') 12/16/2014 µg/Kg		(13-15') 12/16/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(13-15') 12/17/2014 µg/Kg		(0-2') 12/17/2014 µg/Kg		(8-10') 12/17/2014 µg/Kg	
				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Pesticides	4,4' -DDD	3.3	13,000	< 2.1	2.1	< 2.1	2.1	< 2.2	2.2	< 2.2	2.2	< 2.1	2.1	< 2.0	2	< 2.1	2.1	< 2.4	2.4	< 2.1	2.1	< 2.1	2.1	< 2.2	2.2	< 2.1	2.1
	4,4' -DDE	3.3	8,900	< 2.1	2.1	< 2.1	2.1	< 2.2	2.2	< 2.2	2.2	< 2.1	2.1	< 2.0	2	< 2.1	2.1	< 2.4	2.4	< 2.1	2.1	< 2.1	2.1	< 2.2	2.2	< 2.1	2.1
	4,4' -DDT	3.3	7,900	< 2.1	2.1	< 2.1	2.1	< 2.2	2.2	< 2.2	2.2	< 2.1	2.1	< 2.0	2	< 2.1	2.1	< 2.4	2.4	< 2.1	2.1	< 2.1	2.1	< 4.0	4	< 2.1	2.1
	a-BHC	20	480	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	a-Chlordane	94	4,200	< 3.5	3.5	< 3.4	3.4	< 3.6	3.6	< 3.7	3.7	< 3.6	3.6	< 3.4	3.4	< 3.5	3.5	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 15	15	< 3.4	3.4
	Aldrin	5	97	< 3.5	3.5	< 3.4	3.4	< 3.6	3.6	< 3.7	3.7	< 3.6	3.6	< 3.4	3.4	< 3.5	3.5	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 3.6	3.6	< 3.4	3.4
	b-BHC	36	360	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Chlordane			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 36	36	-	-
	d-BHC	40	100,000	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Dieldrin	5	200	< 3.5	3.5	< 3.4	3.4	< 3.6	3.6	< 3.7	3.7	< 3.6	3.6	< 3.4	3.4	< 3.5	3.5	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 6.0	6	< 3.4	3.4
	Endosulfan I	2,400	24,000	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Endosulfan II	2,400	24,000	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Endosulfan sulfate	2,400	24,000	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Endrin	14	11,000	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Endrin aldehyde			< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Endrin ketone			< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	g-BHC			< 1.4	1.4	< 1.4	1.4	< 1.5	1.5	< 1.5	1.5	< 1.4	1.4	< 1.3	1.3	< 1.4	1.4	< 1.6	1.6	< 1.4	1.4	< 1.4	1.4	< 1.5	1.5	< 1.4	1.4
	g-Chlordane			< 3.5	3.5	< 3.4	3.4	< 3.6	3.6	< 3.7	3.7	< 3.6	3.6	< 3.4	3.4	< 3.5	3.5	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 15	15	< 3.4	3.4
	Heptachlor	42	2,100	< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Heptachlor epoxide			< 7.0	7	< 6.9	6.9	< 7.3	7.3	< 7.5	7.5	< 7.2	7.2	< 6.7	6.7	< 7.1	7.1	< 7.8	7.8	< 7.1	7.1	< 6.9	6.9	< 7.3	7.3	< 6.9	6.9
	Methoxychlor			< 35	35	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	Toxaphene			< 140	140	< 140	140	< 150	150	< 150	150	< 140	140	< 130	130	< 140	140	< 160	160	< 140	140	< 140	140	< 150	150	< 140	140
PCBs	PCB-1016	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1221	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1232	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1242	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1248	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1254	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1260	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	**100**	36	< 34	34
	PCB-1262	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34
	PCB-1268	100	1,000	< 60	60	< 34	34	< 36	36	< 37	37	< 36	36	< 34	34	< 35	35	< 39	39	< 35	35	< 35	35	< 36	36	< 34	34

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

RL- Reporting Limit

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 6
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Metals

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B1				B2				B3				B4			
			(0-2') 12/9/2013 mg/Kg		(10-12') 12/9/2013 mg/Kg		(0-2') 12/9/2013 mg/Kg		(4-6') 12/9/2013 mg/Kg		(0-2') 12/13/2013 mg/Kg		(10-12') 12/13/2013 mg/Kg		(0-2') 12/9/2013 mg/Kg		(10-12') 12/9/2013 mg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Aluminum			8,120	40	10,700	38	6,390	33	6,360	38	6,810	50	16,100	57	7,350	37	4,410	37
Antimony			< 2.0	2	< 1.9	1.9	< 1.6	1.6	< 1.9	1.9	< 3.4	3.4	< 3.8	3.8	< 1.8	1.8	< 1.8	1.8
Arsenic	13	16	75.7	0.8	1.6	0.8	2.1	0.7	1.1	0.8	2.1	0.7	1.6	0.8	5.1	0.7	0.9	0.7
Barium	350	350	163	0.8	38	0.8	54.5	0.7	42.6	0.8	60.4	0.34	76.3	0.38	114	0.7	23.4	0.7
Beryllium	7.2	14	0.53	0.32	0.41	0.3	0.35	0.26	0.38	0.3	0.32	0.27	0.65	0.3	0.38	0.29	0.22	0.29
Cadmium	2.5	2.5	0.58	0.4	< 0.38	0.38	0.25	0.33	< 0.38	0.38	< 0.34	0.34	< 0.38	0.38	0.44	0.37	< 0.37	0.37
Calcium			14,400	40	812	3.8	3,060	3.3	1,220	3.8	3,490	5	1,630	5.7	6,400	3.7	747	3.7
Chromium	30	180	17.2	0.4	20.6	0.38	15.7	0.33	16.7	0.38	16.1	0.34	36.3	0.38	74.3	0.37	8.58	0.37
Cobalt			6.35	0.4	6.08	0.38	5.14	0.33	5.08	0.38	4.12	0.34	12.6	0.38	8.06	0.37	3.09	0.37
Copper	50	270	253	4	17.6	0.38	161	3.3	20.4	0.38	18	0.34	134	0.38	107	0.37	11.6	0.37
Iron			19,900	40	15,300	38	11,300	33	11,600	38	11,800	50	24,100	57	14,200	37	7,320	3.7
Lead	63	400	525	8.1	4.9	0.8	82.3	0.7	3.7	0.8	73.7	0.34	5.38	0.38	292	7.3	2.7	0.7
Magnesium			2,250	4	4,010	3.8	2,870	3.3	2,870	3.8	2,570	5	8,480	57	3,550	3.7	1,690	3.7
Manganese	1,600	2,000	289	4	350	3.8	291	3.3	288	3.8	316	3.4	495	3.8	263	3.7	316	3.7
Mercury	0.18	0.81	0.48	0.08	< 0.07	0.07	0.12	0.07	< 0.06	0.06	0.25	0.07	< 0.08	0.08	1.75	0.07	0.09	0.07
Nickel	30	140	15	0.4	16.2	0.38	11.7	0.33	13.6	0.38	11.8	0.34	302	3.8	24.2	0.37	9.42	0.37
Potassium			1,180	8	1,190	8	975	7	1,080	8	956	5	2,520	5.7	1,180	7	526	7
Selenium	3.9	36	< 1.6	1.6	< 1.5	1.5	< 1.3	1.3	< 1.5	1.5	< 1.3	1.3	< 1.5	1.5	< 1.5	1.5	< 1.5	1.5
Silver	2	36	0.39	0.4	< 0.38	0.38	< 0.33	0.33	< 0.38	0.38	< 0.50	0.5	< 0.38	0.38	1.06	0.37	< 0.37	0.37
Sodium			510	8	137	8	132	7	114	8	106	5	397	5.7	629	7	137	7
Thallium			< 1.6	1.6	< 1.5	1.5	< 1.3	1.3	< 1.5	1.5	< 0.5	0.5	< 0.6	0.6	< 1.5	1.5	< 1.5	1.5
Vanadium			24.2	0.4	24.8	0.4	17.9	0.3	20.8	0.4	16.3	0.34	40.1	0.38	49.1	0.4	10.7	0.4
Zinc	109	2,200	284	8.1	28.3	0.8	118	0.7	20.3	0.8	57	0.34	67.5	0.38	292	7.3	36.4	0.7

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B5						B6				B7				B8				Duplicate 1	
			(0-2') 12/13/2013 mg/Kg		(4-6') 12/13/2013 mg/Kg		(10-12') 12/13/2013 mg/Kg		(0-2') 12/13/2013 mg/Kg		(10-12') 12/13/2013 mg/Kg		(0-2') 12/9/2013 mg/Kg		(4-6') 12/9/2013 mg/Kg		(0-2') 12/13/2013 mg/Kg		(10-12') 12/13/2013 mg/Kg		12/13/2013 mg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Aluminum			6,090	50	5,700	48	7,980	54	7,150	48	13,900	53	4,890	35	6,360	32	8,050	55	5,440	47	5,500	45
Antimony			< 3.4	3.4	< 3.2	3.2	< 3.6	3.6	< 3.2	3.2	< 3.5	3.5	< 1.8	1.8	< 1.6	1.6	< 3.7	3.7	< 3.1	3.1	< 3.0	3
Arsenic	13	16	2	0.7	4.5	0.6	3.6	0.7	6.1	0.6	3	0.7	2.3	0.7	1.7	0.6	2.5	0.7	1.5	0.6	1.3	0.6
Barium	350	350	46.2	0.34	79.3	0.32	49.4	0.36	92.4	0.32	60	0.35	84.3	0.7	39.8	0.6	44.9	0.37	19.8	0.31	20.9	0.3
Beryllium	7.2	14	0.3	0.27	0.33	0.26	0.33	0.29	0.38	0.25	0.56	0.28	0.29	0.28	0.29	0.26	0.37	0.3	< 0.25	0.25	0.24	0.24
Cadmium	2.5	2.5	0.63	0.34	< 0.32	0.32	< 0.36	0.36	0.44	0.32	< 0.35	0.35	0.61	0.35	0.17	0.32	< 0.37	0.37	< 0.31	0.31	< 0.30	0.3
Calcium			7,770	5	19,600	48	1,220	5.4	22,500	48	1,330	5.3	8,320	3.5	653	3.2	2,740	5.5	3,650	4.7	2,970	4.5
Chromium	30	180	11.8	0.34	11.6	0.32	14.8	0.36	17.2	0.32	23.2	0.35	12.4	0.35	12.2	0.32	14.1	0.37	12.7	0.31	11.4	0.3
Cobalt			4.07	0.34	3.72	0.32	4.39	0.36	4.76	0.32	5.91	0.35	4.41	0.35	3.94	0.32	4.81	0.37	4.06	0.31	4.11	0.3
Copper	50	270	21.6	0.34	35.8	0.32	30.4	0.36	46.2	0.32	18.7	0.35	32.6	0.35	19.5	0.32	18.1	0.37	14	0.31	14.2	0.3
Iron			14,000	50	12,400	48	13,000	54	13,600	48	18,200	53	11,100	35	9,320	32	13,200	55	11,000	47	9,650	45
Lead	63	400	74.9	0.34	157	3.2	59.1	0.36	147	3.2	34.3	0.35	71.2	0.7	52.6	0.6	28.7	0.37	4.37	0.31	3.75	0.3
Magnesium			2,570	5	4,310	4.8	2,470	5.4	5,360	48	3,000	5.3	3,930	3.5	1,950	3.2	2,560	5.5	2,970	4.7	2,800	4.5
Manganese	1,600	2,000	243	3.4	197	3.2	104	0.36	233	3.2	386	3.5	383	3.5	478	3.2	289	3.7	212	3.1	220	3
Mercury	0.18	0.81	0.1	0.07	0.12	0.06	0.14	0.06	0.29	0.07	0.33	0.07	0.06	0.07	0.24	0.07	0.2	0.06	< 0.06	0.06	< 0.07	0.07
Nickel	30	140	9.89	0.34	9.74	0.32	11.3	0.36	11.7	0.32	13.8	0.35	12.3	0.35	10.4	0.32	11.5	0.37	10.8	0.31	10.7	0.3
Potassium			1,060	5	1,240	4.8	1,060	5.4	1,550	4.8	994	5.3	937	7	594	6	1,030	5.5	678	4.7	720	4.5
Selenium	3.9	36	< 1.3	1.3	< 1.3	1.3	< 1.4	1.4	< 1.3	1.3	< 1.4	1.4	< 1.4	1.4	< 1.3	1.3	< 1.5	1.5	< 1.3	1.3	< 1.2	1.2
Silver	2	36	< 0.34	0.34	< 0.32	0.32	< 0.36	0.36	< 0.50	0.5	< 0.35	0.35	0.27	0.35	< 0.32	0.32	< 0.37	0.37	< 0.31	0.31	< 0.30	0.3
Sodium			168	5	371	4.8	83.5	5.4	449	4.8	98.7	5.3	154	7	164	6	151	5.5	93.9	4.7	90.6	4.5
Thallium			< 0.5	0.5	< 0.5	0.5	< 0.6	0.6	< 0.5	0.5	< 0.6	0.6	< 1.4	1.4	< 1.3	1.3	< 0.6	0.6	< 0.5	0.5	< 0.5	0.5
Vanadium			17	0.34	18.5	0.32	19.1	0.36	19.2	0.32	32.4	0.35	16.6	0.4	16.4	0.3	19.9	0.37	20.6	0.31	16.1	0.3
Zinc	109	2,200	242	3.4	73.5	0.32	107	0.36	133	3.2	55.3	0.35	159	7	63.3	0.6	31.7	0.37	22.9	0.31	23.2	0.3

Notes:
* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives
RL- Reporting Limit
Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value
Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

TABLE 6
39-40 30th Street,
Long Island City, New York
Soil Analytical Results
Metals

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B9 (0-2') 12/16/2014 mg/Kg		B9 (10-12') 12/16/2014 mg/Kg		B10 (0-2') 12/17/2014 mg/Kg		B10 (13-15') 12/17/2014 mg/Kg		B11 (0-2') 12/17/2014 mg/Kg		B11 (13-15') 12/17/2014 mg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Aluminum			6,750	38	4,200	32	11,400	35	12,800	39	8,500	34	3,580	33
Antimony			< 1.9	1.9	< 1.6	1.6	< 1.8	1.8	< 2.0	2	< 1.7	1.7	< 1.7	1.7
Arsenic	13	16	2.2	0.8	< 0.6	0.6	2.2	0.7	2.3	0.8	2.9	0.7	< 0.7	0.7
Barium	350	350	58.2	0.8	18.3	0.6	84	0.7	34.7	0.8	67	0.7	23.9	0.7
Beryllium	7.2	14	0.31	0.31	0.2	0.26	0.52	0.28	0.46	0.31	0.41	0.28	0.16	0.27
Cadmium	2.5	2.5	0.24	0.38	< 0.32	0.32	< 0.35	0.35	< 0.39	0.39	< 0.34	0.34	< 0.33	0.33
Calcium			19,400	38	639	3.2	8,520	35	1,240	3.9	6,010	3.4	1,020	3.3
Chromium	30	180	23.5	0.38	11.3	0.32	21.9	0.35	22.7	0.39	16.9	0.34	9.93	0.33
Cobalt			5.25	0.38	3.55	0.32	7.74	0.35	7.61	0.39	7.1	0.34	4.6	0.33
Copper	50	270	27.2	0.38	9.89	0.32	28.8	0.35	15.4	0.39	28.5	0.34	13	0.33
Iron			11,400	38	7,700	3.2	17,000	35	18,400	39	13,500	34	7,600	33
Lead	63	400	78	0.8	3	0.6	73.8	0.7	5.1	0.8	90.4	0.7	2.5	0.7
Magnesium			4,150	3.8	1,490	3.2	4,250	3.5	3,000	3.9	3,210	3.4	1,770	3.3
Manganese	1,600	2,000	323	3.8	233	3.2	341	3.5	363	3.9	343	3.4	248	3.3
Mercury	0.18	0.81	0.04	0.06	< 0.07	0.07	0.41	0.07	< 0.07	0.07	0.37	0.07	< 0.06	0.06
Nickel	30	140	13.5	0.38	9.3	0.32	15.1	0.35	15.5	0.39	13.6	0.34	9.86	0.33
Potassium			1,270	8	560	6	1,170	7	808	8	1,220	7	444	7
Selenium	3.9	36	< 1.5	1.5	< 1.3	1.3	< 1.4	1.4	< 1.6	1.6	< 1.4	1.4	< 1.3	1.3
Silver	2	36	< 0.38	0.38	< 0.32	0.32	0.47	0.35	< 0.39	0.39	< 0.34	0.34	< 0.33	0.33
Sodium			181	8	67	6	352	7	115	8	462	7	98	7
Thallium			< 1.5	1.5	< 1.3	1.3	< 1.4	1.4	< 1.6	1.6	< 1.4	1.4	< 1.3	1.3
Vanadium			20.6	0.4	13	0.3	25.6	0.4	30.1	0.4	21.8	0.3	12.5	0.3
Zinc	109	2,200	106	0.8	18.7	0.6	59.1	0.7	28.1	0.8	54.5	0.7	16.1	0.7

COMPOUND	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	NYDEC Part 375.6 Restricted Residential Soil Cleanup Objectives*	B12 (0-2') 12/17/2014 mg/Kg		B12 (13-15') 12/17/2014 mg/Kg		B13 (0-2') 12/17/2014 mg/Kg		B13 (13-15') 12/17/2014 mg/Kg		B14 (0-2') 12/17/2014 mg/Kg		B14 (8-10') 12/17/2014 mg/Kg	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Aluminum			9,050	34	14,300	37	7,830	34	5,590	35	5,710	32	4,980	31
Antimony			< 1.7	1.7	< 1.9	1.9	< 1.7	1.7	< 1.7	1.7	< 1.6	1.6	< 1.5	1.5
Arsenic	13	16	9.1	0.7	3.3	0.7	3.1	0.7	0.8	0.7	4.2	0.6	0.7	0.6
Barium	350	350	393	0.7	58	0.7	105	0.7	17.8	0.7	135	0.6	36.1	0.6
Beryllium	7.2	14	0.47	0.27	0.46	0.3	0.39	0.27	0.26	0.28	0.27	0.26	0.26	0.25
Cadmium	2.5	2.5	0.79	0.34	< 0.37	0.37	0.24	0.34	< 0.35	0.35	2.49	0.32	0.33	0.31
Calcium			12,400	34	924	3.7	6,170	3.4	1,460	3.5	36,200	32	3,740	3.1
Chromium	30	180	23.7	0.34	22.2	0.37	16.6	0.34	12.7	0.35	45.1	0.32	9.66	0.31
Cobalt			8.22	0.34	6.01	0.37	7.2	0.34	6.48	0.35	12.9	0.32	5.88	0.31
Copper	50	270	153	3.4	9.85	0.37	33.5	0.34	14.4	0.35	111	0.32	13.3	0.31
Iron			26,600	34	20,400	37	13,600	34	10,700	35	15,100	32	11,500	31
Lead	63	400	655	6.8	10.3	0.7	117	0.7	3	0.7	230	6.5	22.2	0.6
Magnesium			3,090	3.4	2,950	3.7	2,660	3.4	3,210	3.5	6,610	32	3,610	3.1
Manganese	1,600	2,000	337	3.4	279	3.7	322	3.4	244	3.5	284	3.2	286	3.1
Mercury	0.18	0.81	0.14	0.08	< 0.07	0.07	0.26	0.09	< 0.09	0.09	0.3	0.07	< 0.07	0.07
Nickel	30	140	19.6	0.34	12.2	0.37	14.2	0.34	11.9	0.35	27.5	0.32	11.2	0.31
Potassium			1,690	7	835	7	1,170	7	621	7	1,160	6	1,320	6
Selenium	3.9	36	< 1.4	1.4	< 1.5	1.5	< 1.4	1.4	< 1.4	1.4	< 1.3	1.3	< 1.2	1.2
Silver	2	36	0.35	0.34	< 0.37	0.37	< 0.34	0.34	< 0.35	0.35	2.38	0.32	< 0.31	0.31
Sodium			204	7	58	7	159	7	93	7	187	6	160	6
Thallium			< 1.4	1.4	< 1.5	1.5	< 1.4	1.4	< 1.4	1.4	< 1.3	1.3	< 1.2	1.2
Vanadium			23.3	0.3	27.8	0.4	22	0.3	17.9	0.3	33.9	0.3	13.4	0.3
Zinc	109	2,200	1,060	6.8	47.9	0.7	90.5	0.7	24.4	0.7	928	6.5	75.2	0.6

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

RL- Reporting Limit

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Bold/highlighted- Indicated exceedance of the NYSDEC RRSCO Guidance Value

Table 7
39-40 30th Street,
Long Island City, New York
Ground Water Analytical Results
Volatile Organic Compounds

Compound	NYSDEC Groundwater Quality Standards	MW1 12/20/2013 µg/L		MW2 12/20/2013 µg/L		MW3 12/20/2013 µg/L		MW4 12/20/2013 µg/L		MW5 12/20/2013 µg/L		MW1 12/26/2014 µg/L		MW2 12/26/2014 µg/L		MW3 12/26/2014 µg/L		MW4 12/26/2014 µg/L		MW5 12/26/2014 µg/L		MW6 12/26/2014 µg/L		MW7 12/26/2014 µg/L		Duplicate 1 (MW1) 12/20/2013 µg/L		Duplicate 2 (MW6) 12/26/2014 µg/L		Trip Blank 1 12/20/2013 µg/L		Trip Blank 2 12/26/2014 µg/L	
	µg/L	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
1,1,1,2-Tetrachlorothane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,1,1-Trichloroethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
1,1,2,2-Tetrachloroethane	5	< 0.50	0.5	< 2.5	2.5	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 0.50	0.5	< 1.0	1	< 0.50	0.5	< 1.0	1
1,1,2-Trichloroethane	1	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,1-Dichloroethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
1,1-Dichloroethene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	**0.43**	1	**0.48**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,1-Dichloropropene		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2,3-Trichlorobenzene		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2,3-Trichloropropane	0.04	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2,4-Trichlorobenzene		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2,4-Trimethylbenzene	5	< 1.0	1	**170**	50	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2-Dibromo-3-chloropropane	0.04	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2-Dibromoethane		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2-Dichlorobenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,2-Dichloroethane	0.6	< 0.60	0.6	< 3.0	3	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6	< 0.60	0.6
1,2-Dichloropropane	0.94	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,3,5-Trimethylbenzene	5	< 1.0	1	**64**	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,3-Dichlorobenzene		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,3-Dichloropropane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
1,4-Dichlorobenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
2,2-Dichloropropane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
2-Chlorotoluene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
2-Hexanone (Methyl Butyl Ketone)		< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1
2-Isopropyltoluene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	**0.32**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
4-Chlorotoluene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
4-Methyl-2-Pentanone		< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1
Acetone		< 25	25	< 130	130	< 25	25	< 25	25	< 25	25	**1.9**	5	**1.5**	5	**1.4**	5	**1.8**	5	**2.7**	5	**1.6**	5	**2**	5	< 25	25	**2.1**	5	< 25	25	**1.4**	5
Acrolein		-	-	-	-	-	-	-	-	-	-	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	-	-	< 5.0	5	-	-	< 5.0	5
Acrylonitrile	5	< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5
Benzene	1	< 0.70	0.7	< 3.5	3.5	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7	< 0.70	0.7
Bromobenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Bromochloromethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Bromodichloromethane		< 0.50	0.5	< 2.5	2.5	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 0.50	0.5	< 1.0	1	< 0.50	0.5	< 1.0	1
Bromoform		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
Bromomethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
Carbon Disulfide	60	< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1
Carbon tetrachloride	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Chlorobenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
Chloroethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
Chloroform	7	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	**0.33**	5	**0.5**	5	**0.29**	5	< 5.0	5	< 5.0	5	**0.39**	5	< 5.0	5	**0.37**	5	< 1.0	1	**0.37**	5	< 1.0	1	< 5.0	5
Chloromethane	60	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	**0.32**	5	**0.26**	5	**0.3**	5	**0.39**	5	**0.37**	5	< 5.0	5	**0.53**	5	< 1.0	1	**0.35**	5	< 1.0	1	< 5.0	5
cis-1,2-Dichloroethene	5	< 1.0	1	< 5.0	5	**2.6**	1	**9.7**	1	< 1.0	1	< 1.0	1	**0.32**	1	**5.1**	1	**10**	1	**0.23**	1	**0.81**	1	**2.4**	1	< 1.0	1	**0.76**	1	< 1.0	1	< 1.0	1
cis-1,3-Dichloropropene		< 0.40	0.4	< 2.0	2	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4
Dibromochloromethane		< 0.50	0.5	< 2.5	2.5	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 0.50	0.5	< 1.0	1	< 0.50	0.5	< 1.0	1
Dibromomethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Dichlorodifluoromethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Ethylbenzene	5	< 1.0	1	**130**	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Hexachlorobutadiene	0.5	< 0.40	0.4	< 2.0	2	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.40	0.4	< 0.5	0.5	< 0.40	0.4	< 0.5	0.5
Isopropylbenzene	5	< 1.0	1	**39**	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
m&p-Xylenes	5	< 1.0	1	**790**	50	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Methyl Ethyl Ketone (2-Butanone)		< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1
Methyl t-butyl ether (MTBE)	10	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	**1.8**	1	< 1.0	1	< 1.0	1	< 1.0	1	**0.34**	1	**3.9**	1	**12**	1	**53**	5	< 1.0	1	**12**	1	< 1.0	1	< 1.0	1
Methylene chloride	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 1.0	1	< 3.0	3	< 1.0	1	< 3.0	3
Naphthalene	10	< 1.0	1	**5**	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
n-Butylbenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
n-Propylbenzene	5	< 1.0	1	**41**	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
o-Xylene	5	< 1.0	1	**300**	50	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
p-Isopropyltoluene		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
sec-Butylbenzene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	**1.2**	1	**0.32**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Styrene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
tert-Butylbenzene	5	< 1.0	1	< 5.0	5	**1.4**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	**1.4**	1	**0.83**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Tetrachloroethene	5	**210**	10	**730**	50	**260**	10	**200**	50	**29**	1	**160**	10	**65**	5	**210**	20	**670**	40	**30**	1	**81**	5	**57**	5	**210**	10	**69**	5	< 1.0	1	< 1.0	1
Tetrahydrofuran (THF)		< 2.5	2.5	< 13	13	< 2.5	2.5	< 2.5	2.5	< 2.5	2.5	< 5.0	5	< 5.0	5	**2.7**	5	**0.91**	5	< 5.0	5	< 5.0	5	< 5.0	5	< 2.5	2.5	< 5.0	5	< 2.5	2.5	< 5.0	5
Toluene	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Total Xylenes		< 2.0	2	**1,090**	100	< 2.0	2	< 2.0	2	< 2.0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2.0	2	-	-	< 2.0	2	-	-
trans-1,2-Dichloroethene	5	< 1.0	1	< 5.0	5	< 1.0	1	**1.3**	1	< 1.0	1	< 5.0	5	< 5.0	5	**0.29**	5	**1.7**	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5
trans-1,3-Dichloropropene	0.4	< 0.40	0.4	< 2.0	2	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4
trans-1,4-dichloro-2-butene	5	< 5.0	5	< 25	25	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1	< 5.0	5	< 1.0	1
Trichloroethene	5	**55**	10	**39**	5	**100**	10	**63**	10	**5.1**	1	**29**	1	**2.1**	1	**280**	20	**150**	10	**3.6**	1	**11**	1	**3.5**	1	**54**	10	**10**	1	< 1.0	1	< 1.0	1
Trichlorofluoromethane	5	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Trichlorotrifluoroethane		< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1
Vinyl Chloride	2	< 1.0	1	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	**0.15**	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1.0	1

Notes:
RL- Reporting Limit
Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

TABLE 8
39-40 30th Street,
Long Island City, New York
Groundwater Analytical Results
Semi-Volatile Organic Compounds

Compound	NYSDEC Groundwater Quality Standards	MW1 12/20/2013		MW2 12/201/2013		MW3 12/20/2013		MW4 12/20/2013		MW5 12/20/2013		MW1 12/26/2014		MW2 12/26/2014		MW3 12/26/2014		MW4 12/26/2014		MW5 12/26/2014		MW6 12/26/2014		MW7 12/26/2014		Duplicate 1 (MW1) 12/20/2013		Duplicate 2 (MW6) 12/26/2014	
	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
1,2,4-Trichlorobenzene		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
1,2-Dichlorobenzene		< 3	3	< 3	3	< 3	3	< 3	3	< 3	3	< 1.0	1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.0	1	< 3	3	< 1.0	1
1,2-Diphenylhydrazine		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
1,3-Dichlorobenzene	3	< 3	3	< 3	3	< 3	3	< 3	3	< 3	3	< 1.0	1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.0	1	< 3	3	< 1.0	1
1,4-Dichlorobenzene		< 3	3	< 3	3	< 3	3	< 3	3	< 3	3	< 1.0	1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.0	1	< 3	3	< 1.0	1
2,4,5-Trichlorophenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2,4,6-Trichlorophenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2,4-Dichlorophenol		< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2,4-Dimethylphenol		< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2,4-Dinitrophenol	5	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2,4-Dinitrotoluene	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
2,6-Dinitrotoluene	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
2-Chloronaphthalene	10	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
2-Chlorophenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2-Methylnaphthalene		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
2-Methylphenol (o-cresol)	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
2-Nitroaniline	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5.0	5
2-Nitrophenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
3&4-Methylphenol (m&p-cresol)		< 10	10	< 10	10	< 10	10	< 10	10	< 10	10	< 1.0	1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.0	1	< 10	10	< 1.0	1
3,3'-Dichlorobenzidine	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5.0	5
3-Nitroaniline	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5.0	5
4,6-Dinitro-2-methylphenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
4-Bromophenyl phenyl ether		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
4-Chloro-3-methylphenol	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
4-Chloroaniline	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 3.5	3.5	< 3.6	3.6	< 3.6	3.6	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 3.6	3.6	< 5	5	< 3.5	3.5
4-Chlorophenyl phenyl ether		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
4-Nitroaniline	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5.	5	< 5	5	< 5.0	5
4-Nitrophenol		< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
Acetophenone		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Aniline	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 3.5	3.5	< 3.6	3.6	< 3.6	3.6	< 3.9	3.9	< 3.5	3.5	< 3.5	3.5	< 3.6	3.6	< 5	5	< 3.5	3.5
Anthracene	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Benzidine	5	< 5	5	< 5	5	< 5	5	< 5	5	< 5	5	< 4.5	4.5	< 4.7	4.7	< 4.6	4.6	< 5.0	5	< 4.5	4.5	< 4.5	4.5	< 4.6	4.6	< 5	5	< 4.5	4.5
Benzoic acid		< 50	50	< 50	50	< 50	50	< 50	50	< 50	50	< 25	25	< 26	26	< 26	26	< 28	28	< 25	25	< 25	25	< 26	26	< 50	50	< 25	25
Benzyl butyl phthalate	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Bis(2-chloroethoxy)methane	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
Bis(2-chloroethyl)ether	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
Bis(2-chloroisopropyl)ether		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Carbazole		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 25	25	< 26	26	< 26	26	< 28	28	< 25	25	< 25	25	< 26	26	< 5.0	5	< 25	25
Dibenzofuran		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
Diethyl phthalate	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Dimethylphthalate	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Di-n-butylphthalate	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Di-n-octylphthalate	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Fluoranthene	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Fluorene	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Hexachlorobutadiene	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	0.5	< 0.40	0.4	< 0.42	0.42	< 0.41	0.41	< 0.44	0.44	< 0.40	0.4	< 0.40	0.4	< 0.41	0.41	< 0.5	0.5	< 0.40	0.4
Hexachlorocyclopentadiene	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
Isophorone	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Naphthalene	10	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5	5	< 5	5	< 5	5	< 5.0	5	< 5.0	5	< 5	5	< 5.0	5	< 5.0	5
Nitrobenzene	0.4	< 0.4	0.4	< 0.4	0.4	< 0.4	0.4	< 0.4	0.4	< 0.4	0.4	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.11	0.11	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.4	0.4	< 0.10	0.1
N-Nitrosodimethylamine		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 1.0	1	< 1.0	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	< 1.0	1	< 5.0	5	< 1.0	1
N-Nitrosodi-n-propylamine		< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
N-Nitrosodiphenylamine	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
Phenol	50	< 1	1	< 1	1	< 1	1	< 1	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1	< 1.0	1	< 1.0	1	< 1	1	< 1.0	1
Pyrene	50	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 5.0	5	< 5.0	5
1,2,4,5-Tetrachlorobenzene		< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 0.50	0.5	< 0.52	0.52	< 0.51	0.51	< 0.56	0.56	< 0.50	0.5	< 0.50	0.5	< 0.51	0.51	< 1.6	1.6	< 0.50	0.5
Acenaphthene	20	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 5.0	5	< 5.2	5.2	< 5.1	5.1	< 5.6	5.6	< 5.0	5	< 5.0	5	< 5.1	5.1	< 0.050	0.05	< 5.0	5
Acenaphthylene		< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.11	0.11	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.05	0.05	< 0.10	0.1
Benz(a)anthracene	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	**0.02**	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(a)pyrene		< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(b)fluoranthene	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	**0.02**	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(ghi)perylene		< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 3.0	3	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 3.0	3	< 0.02	0.02
Benzo(k)fluoranthene	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Bis(2-ethylhexyl)phthalate	5	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.0	1	**1.4**	1	< 1.0	1	< 1.1	1.1	< 1.0	1	< 1.0	1	**4.6**	1	< 1.6	1.6	< 1.0	1
Chrysene	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Dibenz(a,h)anthracene		< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Hexachlorobenzene	0.04	< 0.04	0.04	< 0.04	0.04	< 0.04	0.04	< 0.04	0.04	< 0.04	0.04	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.04	0.04	< 0.02	0.02
Hexachloroethane	5	< 2.4	2.4	< 2.4	2.4	< 2.4	2.4	< 2.4	2.4	< 2.4	2.4	< 0.50	0.5	< 0.52	0.52	< 0.51	0.51	< 0.56	0.56	< 0.50	0.5	< 0.50	0.5	< 0.51	0.51	< 2.4	2.4	< 0.50	0.5
Indeno(1,2,3-cd)pyrene	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Pentachloronitrobenzene		< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.11	0.11	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1
Pentachlorophenol	1	< 0.80	0.8	< 0.80	0.8	< 0.80	0.8	< 0.80	0.8	< 0.80	0.8	< 0.80	0.8	< 0.83	0.83	< 0.82	0.82	< 0.89	0.89	< 0.80	0.8	< 0.80	0.8	< 0.82	0.82	< 0.80	0.8	< 0.80	0.8
Phenanthrene	50	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.10	0.1	**0.14**	0.1	< 0.10	0.1	< 0.11	0.11	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.05	0.05	< 0.10	0.1
Pyridine	50	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 0.50	0.5	< 10	10	< 10	10	< 10	10	< 11	11	< 10	10	< 10	10	< 10	10	< 0.50	0.5	< 10	10

Notes:
RL- Reporting Limit
Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

TABLE 9
39-40 30th Street,
Long Island City, New York
Groundwater Analytical Results
Pesticides/PCBs

	Compound	NYSDEC Groundwater Quality Standards µg/L	MW1 12/20/2013 µg/L		MW2 12/201/2013 µg/L		MW3 12/20/2013 µg/L		MW4 12/20/2013 µg/L		MW5 12/20/2013 µg/L		MW1 12/26/2014 µg/L		MW2 12/26/2014 µg/L		MW3 12/26/2014 µg/L		MW4 12/26/2014 µg/L		MW5 12/26/2014 µg/L		MW6 12/26/2014 µg/L		MW7 12/26/2014 µg/L		Duplicate 1 (MW1) 12/20/2013 µg/L		Duplicate 2 (MW6) 12/26/2014 µg/L	
			Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
PCBs	PCB-1016	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1221	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1232	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1242	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1248	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1254	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1260	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1262	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
	PCB-1268	0.09	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05
Pesticides	4,4-DDD	0.3	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	4,4-DDE	0.2	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	4,4-DDT	0.11	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	a-BHC	0.94	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.010	0.01	< 0.005	0.005
	a-Chlordane		-	-	-	-	-	-	-	-	-	-	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	-	-	< 0.010	0.01
	Alachlor		< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075	< 0.075	0.075
	Aldrin		< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.005	0.005	< 0.002	0.002	< 0.002	0.002	< 0.005	0.005
	b-BHC	0.04	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
	Chlordane	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.050	0.05	< 0.05	0.05
	d-BHC	0.04	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.005	0.005	< 0.020	0.02	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.025	0.025	< 0.005	0.005
	Dieldrin	0.004	< 0.002	0.002	**0.018**	0.002	**0.004**	0.002	**0.007**	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	**0.008**	0.002	**0.02**	0.002	< 0.002	0.002	< 0.004	0.004	< 0.002	0.002	< 0.002	0.002	< 0.004	0.004
	Endosulfan I		< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.050	0.05	< 0.010	0.01
	Endosulfan II		< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.050	0.05	< 0.010	0.01
	Endosulfan Sulfate		< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.050	0.05	< 0.010	0.01
	Endrin		< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	Endrin aldehyde	5	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.050	0.05	< 0.010	0.01
	Endrin ketone		< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.050	0.05	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.050	0.05	< 0.010	0.01
	gamma-BHC	0.05	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.025	0.025	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.025	0.025	< 0.005	0.005
	g-Chlordane		-	-	-	-	-	-	-	-	-	-	< 0.010	0.01	**0.021**	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	-	-	< 0.010	0.01
	Heptachlor	0.04	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	Heptachlor epoxide	0.03	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01	< 0.010	0.01
	Methoxychlor	35	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1	< 0.10	0.1
	Toxaphene		< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25

Notes:
RL- Reporting limit
ND - Non-detect
ND* - Due to matrix interference from non target compounds in the sample
Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

Table 10
39-40 30th Street,
Long Island City, New York
Groundwater Analytical Results
TAL Filtered Metals

Compound	NYSDEC Groundwater Quality Standards mg/L	MW1 12/20/2013 mg/L		MW2 12/201/2013 mg/L		MW3 12/20/2013 mg/L		MW4 12/20/2013 mg/L		MW5 12/20/2013 mg/L		MW1 12/26/2014 mg/L		MW2 12/26/2014 mg/L		MW3 12/26/2014 mg/L		MW4 12/26/2014 mg/L		MW5 12/26/2014 mg/L		MW6 12/26/2014 mg/L		MW7 12/26/2014 mg/L		Duplicate 1 (MW1) 12/20/2013 mg/L		Duplicate 2 (MW6) 12/26/2014 mg/L	
		Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
Aluminum	NS	**0.02**	0.01	< 0.01	0.01	**0.07**	0.01	< 0.01	0.01	**0.12**	0.01	**0.058**	0.011	**0.058**	0.011	**0.042**	0.011	**0.024**	0.011	**0.081**	0.011	**0.108**	0.011	**0.077**	0.011	< 0.01	0.01	**0.077**	0.011
Antimony	0.003	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003	< 0.005	0.005	< 0.003	0.003
Arsenic	0.025	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.003	0.003	**0.005**	0.003	**0.002**	0.003	**0.002**	0.003	< 0.003	0.003	**0.001**	0.003	< 0.003	0.003	< 0.004	0.004	< 0.003	0.003
Barium	1	**0.171**	0.002	**0.221**	0.002	**0.188**	0.002	**0.06**	0.002	**0.112**	0.002	**0.163**	0.011	**0.072**	0.011	**0.159**	0.011	**0.075**	0.011	**0.104**	0.011	**0.122**	0.011	**0.095**	0.011	**0.171**	0.002	**0.119**	0.011
Beryllium	0.003	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001
Cadmium	0.005	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.001	0.001	< 0.004	0.004
Calcium	NS	**198**	0.11	**125**	0.01	**145**	0.01	**126**	0.01	**184**	0.11	**144**	0.11	**134**	0.11	**142**	0.11	**121**	0.11	**200**	0.11	**168**	0.11	**189**	0.11	**189**	0.11	**175**	0.11
Chromium	0.05	**0.001**	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	**0.003**	0.001	< 0.001	0.001	< 0.001	0.001	**0.005**	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	**0.001**	0.001	< 0.001	0.001
Cobalt	NS	< 0.001	0.001	< 0.001	0.001	**0.003**	0.001	**0.002**	0.001	**0.003**	0.001	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	**0.002**	0.005	< 0.005	0.005	**0.002**	0.005	< 0.001	0.001	< 0.005	0.005
Copper	0.2	< 0.005	0.005	< 0.005	0.005	**0.006**	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	**0.002**	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
Iron	0.5	**0.064**	0.011	**0.015**	0.011	**0.078**	0.011	**0.019**	0.011	**0.218**	0.011	**0.01**	0.01	**0.02**	0.01	**0.09**	0.01	< 0.01	0.01	**0.06**	0.01	**0.13**	0.01	**0.04**	0.01	< 0.011	0.011	**0.02**	0.01
Lead	0.025	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	**0.002**	0.002	**0.001**	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	**0.002**	0.002
Magnesium	35	**35.6**	0.01	**48.3**	0.01	**46.4**	0.01	**44.4**	0.01	**46**	0.01	**30**	0.01	**22.2**	0.01	**46.3**	0.01	**42.5**	0.01	**54.3**	0.01	**58**	0.01	**68.7**	0.01	**35.1**	0.01	**57.7**	0.01
Manganese	0.3	**0.032**	0.001	**1.61**	0.001	**1.85**	0.001	**5.81**	0.011	**2.06**	0.001	**0.031**	0.005	**0.046**	0.005	**1.64**	0.005	**1.6**	0.005	**2.11**	0.053	**0.951**	0.005	**2.28**	0.053	**0.013**	0.001	**0.937**	0.005
Mercury	0.0007	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002
Nickel	0.1	**0.002**	0.001	**0.003**	0.001	**0.038**	0.001	**0.002**	0.001	**0.008**	0.001	**0.001**	0.004	< 0.004	0.004	**0.058**	0.004	**0.002**	0.004	**0.004**	0.004	**0.002**	0.004	**0.003**	0.004	< 0.001	0.001	**0.002**	0.004
Potassium	NS	**16.3**	0.1	**4.6**	0.1	**8.4**	0.1	**7.1**	0.1	**5.6**	0.1	**14.9**	0.1	**5.5**	0.1	**5.2**	0.1	**6.2**	0.1	**4**	0.1	**7.1**	0.1	**6.1**	0.1	**16**	0.1	**6.9**	0.1
Selenium	0.01	< 0.011	0.011	< 0.011	0.011	< 0.011	0.011	< 0.011	0.011	< 0.011	0.011	**0.006**	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004	< 0.011	0.011	< 0.004	0.004
Silver	0.05	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001	**0.002**	0.001	**0.001**	0.001	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005	< 0.001	0.001	< 0.005	0.005
Sodium	2	**188**	1.1	**126**	1.1	**131**	1.1	**115**	1.1	**123**	1.1	**190**	1.1	**150**	1.1	**123**	1.1	**109**	1.1	**122**	1.1	**106**	1.1	**130**	1.1	**180**	1.1	**103**	1.1
Thallium	0.0005	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.002	0.002	< 0.0005	0.0005
Vanadium	NS	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	0.002	< 0.011	0.011	< 0.011	0.011	< 0.011	0.011	**0.002**	0.011	< 0.011	0.011	< 0.011	0.011	**0.002**	0.011	< 0.002	0.002	**0.001**	0.011
Zinc	2	< 0.002	0.002	< 0.002	0.002	**0.038**	0.002	< 0.002	0.002	**0.043**	0.002	**0.003**	0.011	< 0.011	0.011	**0.008**	0.011	**0.012**	0.011	**0.005**	0.011	**0.001**	0.011	**0.001**	0.011	< 0.002	0.002	**0.001**	0.011

Notes:
RL- Reporting limit
NS - No Standard
Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

TABLE 11
39-40 30th Street,
Long Island City, New York
Soil Gas - Volatile Organic Compounds

COMPOUNDS	NYSDOH Maximum Sub-Slab Value ($\mu g/m^3$) [a]	SG-1 ($\mu g/m3$) Implant 12/20/2013		SG-2 ($\mu g/m3$) Implant 12/20/2013		SG-3 ($\mu g/m3$) Implant 12/20/2013		SG-4 ($\mu g/m3$) Implant 12/20/2013		SG-5 ($\mu g/m3$) Implant 12/20/2013		SG-6 ($\mu g/m3$) Implant 12/26/2014		SG-7 ($\mu g/m3$) Implant 12/26/2014		SG-8 ($\mu g/m3$) Sub-Slab 12/30/2014		SG-9 ($\mu g/m3$) Sub-Slab 12/30/2014	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,1,1-Trichloroethane	100	**5.18**	1	**1.47**	1	**7.52**	1	**1.58**	1	**19.5**	3	**6.16**	1	< 1.00	1	< 1.00	1	< 1.00	1
1,1,2,2-Tetrachloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,1,2-Trichloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,1-Dichloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,1-Dichloroethene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2,4-Trichlorobenzene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2,4-Trimethylbenzene		**163**	1	**131**	1	**252**	1	**145**	1	**177**	3	< 1.00	1	**1.08**	1	**21.7**	1	**63.9**	1
1,2-Dibromoethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2-Dichlorobenzene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2-Dichloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2-Dichloropropane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,2-Dichlorotetrafluoroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,3,5-Trimethylbenzene		**56**	1	**45.8**	1	**69.3**	1	**51.1**	1	**62.9**	3	< 1.00	1	< 1.00	1	**6.14**	1	**17.4**	1
1,3-Butadiene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.01	3.01	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,3-Dichlorobenzene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,4-Dichlorobenzene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
1,4-Dioxane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
2-Hexanone		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
4-Ethyltoluene		**41.3**	1	**33.2**	1	**53.6**	1	**30.6**	1	**51.1**	3	< 1.00	1	< 1.00	1	**2.65**	1	**7.81**	1
4-Isopropyltoluene		**3.62**	1	**2.19**	1	**4.28**	1	**2.58**	1	**3.62**	3	< 1.00	1	< 1.00	1	**1.43**	1	**4**	1
4-Methyl-2-pentanone		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	**4.26**	1	**1.43**	1	**1.15**	1	**10.9**	1
Acetone		**85.9**	1	**44.2**	1	**31.1**	1	**46.5**	1	**61**	2.99	**27.8**	1	**30.1**	1	**110**	1	**175**	1
Acrylonitrile		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 2.99	2.99	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Benzene		**4.98**	1	**4.31**	1	**6.22**	1	**3.42**	1	**15.9**	3	**1.44**	1	**2.94**	1	< 1.00	1	**4.09**	1
Benzyl Chloride		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Bromodichloromethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	**1.67**	1	**1.74**	1
Bromoform		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Bromomethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Carbon Disulfide		**3.14**	1	**3.95**	1	**1.15**	1	< 1.00	1	**6.07**	3	**5.6**	1	< 1.00	1	< 1.00	1	< 1.00	1
Carbon Tetrachloride	5	**0.314**	0.25	**0.44**	0.25	**0.44**	0.25	**0.629**	0.25	< 0.75	0.75	**0.629**	0.25	**0.692**	0.25	**0.44**	0.25	**0.566**	0.25
Chlorobenzene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Chloroethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.01	3.01	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Chloroform		**1.76**	1	**12.5**	1	**20.5**	1	**57.6**	1	< 3.00	3	**22.9**	1	**34.1**	1	**1.51**	1	**7.37**	1
Chloromethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 2.99	2.99	< 1.00	1	< 1.00	1	< 1.00	1	**1.16**	1
cis-1,2-Dichloroethene		< 1.00	1	**33**	1	**20.8**	1	**12.9**	1	< 3.00	3	< 1.00	1	**3.76**	1	< 1.00	1	< 1.00	1
cis-1,3-Dichloropropene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Cyclohexane		**8.29**	1	**12.9**	1	**6.6**	1	**7.16**	1	**238**	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Dibromochloromethane		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Dichlorodifluromethane		**2.27**	1	**2.27**	1	**2.87**	1	**2.62**	1	**3.56**	3	**2.03**	1	**1.98**	1	**2.12**	1	**2.42**	1
Ethanol		**61.8**	1	**84.2**	1	**114**	1	**72.9**	1	**84.7**	2.99	**9.56**	1	**13.4**	1	**20.1**	1	**143**	1
Ethyl Acetate		< 1.00	1	< 1.00	1	**3.35**	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	**160**	1
Ethylbenzene		**120**	1	**131**	1	**114**	1	**120**	1	**93.7**	3	**2.21**	1	**2.3**	1	**3.34**	1	**7.98**	1
Heptane		**30.6**	1	**45**	1	**24.9**	1	**27.2**	1	**196**	3	< 1.00	1	**1.31**	1	< 1.00	1	**3.24**	1
Hexachlorobutadiene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Hexane		**15.4**	1	**7.43**	1	**11.7**	1	**4.58**	1	**38**	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Isopropylalcohol		**2.43**	1	**1.35**	1	**6.8**	1	**1.35**	1	< 3.00	3	< 1.00	1	< 1.00	1	**4.54**	1	**35.4**	1
Isopropylbenzene		**13.8**	1	**12**	1	**15.6**	1	**13.2**	1	**15.6**	3	< 1.00	1	< 1.00	1	< 1.00	1	**1.67**	1
Xylene (m&p)		**447**	1	**555**	1	**495**	1	**456**	1	**388**	3	**8.76**	1	**8.68**	1	**14.8**	1	**32.7**	1
Methyl Ethyl Ketone		**12.3**	1	**2.15**	1	**1.89**	1	**1.65**	1	< 3.01	3.01	**1.18**	1	**1.59**	1	**3.21**	1	**22.1**	1
MTBE		**3.03**	1	**5.19**	1	**3.93**	1	**4.22**	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Methylene Chloride		**1.14**	1	**1.35**	1	**2.32**	1	**3.02**	1	< 3.00	3	< 1.00	1	< 1.00	1	**1.22**	1	**1.87**	1
n-Butylbenzene		**7.62**	1	**5.49**	1	**12**	1	**6.58**	1	**7.57**	3	< 1.00	1	< 1.00	1	**3.35**	1	**12.9**	1
Xylene (o)		**193**	1	**210**	1	**210**	1	**182**	1	**182**	3	**3.08**	1	**3.04**	1	**7.46**	1	**17.4**	1
Propylene		**1.89**	1	**1.31**	1	**9.82**	1	< 1.00	1	**7.02**	2.99	**1.43**	1	< 1.00	1	< 1.00	1	**5.74**	1
sec-Butylbenzene		**1.86**	1	**1.43**	1	**3.02**	1	**21.9**	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	**1.97**	1
Styrene		**1.92**	1	**2.6**	1	**2**	1	**2.13**	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	**1.36**	1
Tetrachloroethene	30	**3,520**	0.25	**9,760**	0.25	**5,530**	0.25	**92.2**	0.25	**77.3**	0.75	**560**	0.25	**50.4**	0.25	**73.2**	0.25	**67.4**	0.25
Tetrahydrofuran		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.01	3.01	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Toluene		**168**	1	**246**	1	**146**	1	**165**	1	**247**	3	**2.37**	1	**12**	1	**3.54**	1	**15.2**	1
trans-1,2-Dichloroethene		< 1.00	1	**1.86**	1	**2.22**	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
trans-1,3-Dichloropropene		< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1	< 3.00	3	< 1.00	1	< 1.00	1	< 1.00	1	< 1.00	1
Trichloroethene	2	**232**	0.25	**741**	0.25	**9,400**	0.25	**843**	0.25	**1,370**	0.75	**2,750**	0.25	**230**	0.25	**180**	0.25	**31**	0.25
Trichlorofluoromethane		**31.1**	1	**6.06**	1	**20.8**	1	**12.6**	1	**28.1**	3	**6.29**	1	**4.38**	1	**1.24**	1	**2.02**	1
Trichlorotrifluoroethane		< 1.00	1	< 1.00	1	< 1.00	1	**1.76**	1	< 3.00	3	**1.22**	1	**1.15**	1	< 1.00	1	< 1.00	1
Vinyl Chloride		< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.75	0.75	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25
BTEX		**932.98**		**1146.31**		**971.22**		**926.42**		**926.6**		**17.86**		**28.96**		**29.14**		**77.37**	
Total VOCs		**4840.76**		**11990.64**		**7015.07**		**1338.17**		**1605.35**		**636.01**		**134.63**		**267.62**		**651.82**	

Notes:
NA No guidance value or standard available
(a) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006. New York State
(b) NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005, Summary of Background Levels for Selected Compounds (NYSDOH

TABLE 12
39-40 30th Street,
Long Island City, New York
Soil Gas - Volatile Organic Compounds

COMPOUNDS	NYSDOH Maximum Sub-Slab Value ($\mu g/m^3$) [a]	SG-1 ($\mu g/m3$) Implant 8/5/2015		SG-2 ($\mu g/m3$) Implant 8/5/2015		SG-10 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-11 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-12 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-13 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-14 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-15 ($\mu g/m3$) Sub-Slab 8/5/2015		SG-16 ($\mu g/m3$) Indoor Air 8/5/2015		SG-17 ($\mu g/m3$) Indoor Air 8/5/2015		SG-18 ($\mu g/m3$) Indoor Air 8/5/2015		SG-19 ($\mu g/m3$) Indoor Air 8/5/2015		SG-20 ($\mu g/m3$) Indoor Air 8/5/2015		SG-21 ($\mu g/m3$) Indoor Air 8/5/2015		AAO1 ($\mu g/m3$) Outdoor Air 8/5/2015	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,1-Trichloroethane	100	**3.21**	1.00	**1.17**	1.00	**16.4**	1.00	**72.5**	1.00	**6.33**	1.00	**2**	1.00	**36.6**	1.00	**5.45**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2-Trichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trimethylbenzene		**3.39**	1.00	**1.8**	1.00	**3.64**	1.00	**3.92**	1.00	**3.53**	1.00	**3.62**	1.00	**3.82**	1.00	**3.62**	1.00	**3.74**	1.00	**3.63**	1.00	**3.67**	1.00	**3.68**	1.00	**3.65**	1.00	**3.48**	1.00	< 1.00	1.00
1,2-Dibromoethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloropropane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorotetrafluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3,5-Trimethylbenzene		< 1.00	1.00	< 1.00	1.00	**1.13**	1.00	**1.2**	1.00	**1.08**	1.00	**1.08**	1.00	**1.12**	1.00	< 1.00	1.00	**1.05**	1.00	**1.07**	1.00	**1.11**	1.00	**1.07**	1.00	**1.05**	1.00	**1.07**	1.00	< 1.00	1.00
1,3-Butadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dioxane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
2-Hexanone		**1.68**	1.00	**31.2**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Ethyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**1.09**	1.00	< 1.00	1.00	< 1.00	1.00	**1.02**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Isopropyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Methyl-2-pentanone		**13.6**	1.00	< 1.00	1.00	**1.49**	1.00	**1.46**	1.00	**1.85**	1.00	**1.31**	1.00	**1.22**	1.00	< 1.00	1.00	**1.42**	1.00	**1.22**	1.00	**1.56**	1.00	**1.34**	1.00	**1.25**	1.00	**1.29**	1.00	< 1.00	1.00
Acetone		**869**	90.0	**3,010**	90.0	**90.7**	1.00	**264**	90.0	**128**	29.9	**69.1**	1.00	**124**	90.0	**99.9**	9.99	**43.7**	1.00	**45.1**	1.00	**45.3**	1.00	**43.7**	1.00	**42.5**	1.00	**42.5**	1.00	**11.7**	1.00
Acrylonitrile		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Benzene		**30.6**	1.00	**1.27**	1.00	**6.8**	1.00	**6.7**	1.00	**2.48**	1.00	**2.23**	1.00	**9.07**	1.00	**7.85**	1.00	**1.95**	1.00	**2.16**	1.00	**1.98**	1.00	**1.94**	1.00	**1.92**	1.00	**1.89**	1.00	< 1.00	1.00
Benzyl Chloride		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromodichloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromoform		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromomethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Disulfide		**5.32**	1.00	< 1.00	1.00	< 1.00	1.00	**1.64**	1.00	< 1.00	1.00	**1.59**	1.00	**1.37**	1.00	**5.2**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Tetrachloride	5	**0.58**	0.25	**0.61**	0.25	**1**	0.25	**2.06**	0.25	**1.25**	0.25	**0.6**	0.25	**0.51**	0.25	**0.58**	0.25	**0.62**	0.25	**0.62**	0.25	**0.64**	0.25	**0.64**	0.25	**0.62**	0.25	**0.61**	0.25	**0.54**	0.25
Chlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroform		**1.74**	1.00	**9.27**	1.00	**19.4**	1.00	**69.8**	1.00	**27.8**	1.00	**1.16**	1.00	**39.8**	1.00	**12.2**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloromethane		**2.87**	1.00	**1.24**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**1.12**	1.00	**1.13**	1.00	**1.15**	1.00	**1.18**	1.00	**1.16**	1.00	**1.19**	1.00	< 1.00	1.00
cis-1,2-Dichloroethene		< 1.00	1.00	**12.3**	1.00	**2.27**	1.00	**14.3**	1.00	**16.1**	1.00	< 1.00	1.00	**4.16**	1.00	**2.23**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
cis-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Cyclohexane		< 1.00	1.00	< 1.00	1.00	**1.3**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**5.02**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dibromochloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dichlorodifluromethane		**1.73**	1.00	**1.51**	1.00	**1.91**	1.00	**2.26**	1.00	**1.44**	1.00	**1.61**	1.00	**2.21**	1.00	**1.38**	1.00	**1.38**	1.00	**1.63**	1.00	**1.24**	1.00	**1.25**	1.00	**1.33**	1.00	**1.31**	1.00	**1.82**	1.00
Ethanol		**499**	90.0	**103**	90.0	**172**	10.0	**65.5**	1.00	**97.7**	29.9	**140**	10.0	**107**	1.00	**58.4**	1.00	**298**	1.00	**281**	1.00	**296**	1.00	**298**	1.00	**301**	1.00	**286**	1.00	**10.5**	1.00
Ethyl Acetate		**20.6**	1.00	< 1.00	1.00	**21.5**	1.00	**10.9**	1.00	**12.2**	1.00	**27.4**	1.00	**17.8**	1.00	**12**	1.00	**39.6**	1.00	**33**	1.00	**37.5**	1.00	**37.5**	1.00	**40.3**	1.00	**37.5**	1.00	**1.03**	1.00
Ethylbenzene		**1.74**	1.00	< 1.00	1.00	**3.39**	1.00	**3.36**	1.00	**3.2**	1.00	**3.67**	1.00	**3.1**	1.00	**3.22**	1.00	**4.6**	1.00	**2.6**	1.00	**4.64**	1.00	**4.56**	1.00	**4.69**	1.00	**4.43**	1.00	< 1.00	1.00
Heptane		**2.81**	1.00	**6.47**	1.00	**1.84**	1.00	**1.66**	1.00	**1.7**	1.00	**2.21**	1.00	**1.9**	1.00	**1.66**	1.00	**2.67**	1.00	**2.72**	1.00	**2.58**	1.00	**2.43**	1.00	**2.38**	1.00	**2.45**	1.00	**1.09**	1.00
Hexachlorobutadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Hexane		**3.2**	1.00	**11.5**	1.00	**4.19**	1.00	**1.85**	1.00	**1.68**	1.00	**3.21**	1.00	**3.16**	1.00	**1.96**	1.00	**3.48**	1.00	**4.44**	1.00	**4.26**	1.00	**3.87**	1.00	**3.73**	1.00	**3.7**	1.00	**1.06**	1.00
Isopropylalcohol		**14.6**	1.00	**13.5**	1.00	**22**	1.00	**5.01**	1.00	**10.3**	1.00	**10.3**	1.00	**8.25**	1.00	**12.5**	1.00	**16.2**	1.00	**16.2**	1.00	**17.3**	1.00	**16.7**	1.00	**16.8**	1.00	**16.2**	1.00	**2.92**	1.00
Isopropylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (m&p)		**5.47**	1.00	**3.21**	1.00	**10.3**	1.00	**10.3**	1.00	**9.68**	1.00	**11.1**	1.00	**9.46**	1.00	**10.1**	1.00	**14**	1.00	**8.64**	1.00	**14**	1.00	**14.2**	1.00	**14.2**	1.00	**13.4**	1.00	**1.38**	1.00
Methyl Ethyl Ketone		**87.5**	1.00	**675**	89.9	**7.16**	1.00	**9.17**	1.00	**11.9**	1.00	**5.31**	1.00	**9.67**	1.00	**5.6**	1.00	**3.77**	1.00	**3.39**	1.00	**3.74**	1.00	**3.71**	1.00	**3.71**	1.00	< 1.00	1.00	**3.6**	1.00
MTBE		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Methylene Chloride		**2.52**	1.00	**4.17**	1.00	**5.31**	1.00	**3.39**	1.00	**7.6**	1.00	**1.93**	1.00	**10.1**	1.00	< 1.00	1.00	**2.14**	1.00	**2.85**	1.00	**7.46**	1.00	**3.23**	1.00	**4.89**	1.00	**3.39**	1.00	**2.12**	1.00
n-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (o)		**2.21**	1.00	**1.25**	1.00	**3.09**	1.00	**3.18**	1.00	**3.14**	1.00	**3.27**	1.00	**2.99**	1.00	**2.89**	1.00	**3.64**	1.00	**2.96**	1.00	**3.66**	1.00	**3.71**	1.00	**3.67**	1.00	**3.59**	1.00	< 1.00	1.00
Propylene		**25.8**	1.00	**366**	90.0	**1.81**	1.00	**1.58**	1.00	**5.38**	1.00	**1.84**	1.00	< 1.00	1.00	**4.15**	1.00	**2.43**	1.00	**2.13**	1.00	< 1.00	1.00	< 1.00	1.00	**2.15**	1.00	< 1.00	1.00	< 1.00	1.00
sec-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Styrene		**1.23**	1.00	< 1.00	1.00	**2.28**	1.00	**2.48**	1.00	**2.32**	1.00	**2.48**	1.00	**2.51**	1.00	**1.98**	1.00	**2.23**	1.00	**2.79**	1.00	**2.23**	1.00	**2.27**	1.00	**2.15**	1.00	**2.16**	1.00	< 1.00	1.00
Tetrachloroethene	30	**184**	0.25	**3,880**	22.5	**403**	22.5	**474**	22.5	**1,110**	7.52	**18**	0.25	**231**	0.25	**247**	0.25	**13**	0.25	**11.5**	0.25	**12.9**	0.25	**13**	0.25	**13.1**	0.25	**12.7**	0.25	**8.34**	0.25
Tetrahydrofuran		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**2.19**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Toluene		**3.24**	1.00	**5.57**	1.00	**8.47**	1.00	**8.74**	1.00	**3.84**	1.00	**10**	1.00	**4.56**	1.00	**8.1**	1.00	**10.9**	1.00	**8.02**	1.00	**11.8**	1.00	**11.6**	1.00	**10.7**	1.00	**9.11**	1.00	**4.97**	1.00
trans-1,2-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**1.58**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
trans-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Trichloroethene	2	**84.9**	0.25	**395**	22.5	**13,600**	22.5	**27,700**	45.0	**3,590**	7.52	**355**	2.50	**11,800**	22.5	**13,700**	22.5	**47.6**	0.25	**43.2**	0.25	**46.3**	0.25	**45.7**	0.25	**46.8**	0.25	**43.4**	0.25	**0.44**	0.25
Trichlorofluoromethane		**3.92**	1.00	**1.7**	1.00	**7.19**	1.00	**8.09**	1.00	**3.5**	1.00	**4.77**	1.00	**6.12**	1.00	**4.77**	1.00	**4.57**	1.00	**5.2**	1.00	**4.65**	1.00	**4.72**	1.00	**4.45**	1.00	**4.62**	1.00	**1.43**	1.00
Trichlorotrifluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Vinyl Chloride		< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25
BTEX		**43.26**		**11.3**		**32.05**		**32.28**		**22.34**		**30.27**		**29.18**		**32.16**		**35.09**		**24.38**		**36.08**		**36.01**		**35.18**		**32.42**		**6.35**	
Total VOCs		**1761.86**		**8493.24**		**775.97**		**878.29**		**1409.24**		**297.55**		**541.51**		**480.28**		**480.73**		**408.48**		**441.1**		**433.91**		**438.27**		**412.22**		**51.91**	

Notes:
NA No guidance value or standard available
(a) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006. New York State Department of Health.
(b) NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005, Summary of Background Levels for Selected Compounds (NYSDOH Database, Outdoor values)

TABLE 13
39-40 30th Street,
Long Island City, New York
Indoor Soil Gas
Volatile Organic Compounds

COMPOUNDS	NYSDOH Maximum Sub-Slab Value ($\mu g/m^3$) [a]	Indoor Air Second Floor #1 ($\mu g/m3$) Indoor Air 10/29/2015		Indoor Air Second Floor #2 ($\mu g/m3$) Indoor Air 10/29/2015		Indoor Air Second Floor #3 ($\mu g/m3$) Indoor Air 10/29/2015		Indoor Air Second Floor #4 ($\mu g/m3$) Indoor Air 10/29/2015		AA #2 ($\mu g/m3$) Outdoor Air 10/29/2015	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,1-Trichloroethane	100	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2-Trichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trimethylbenzene		**1.87**	1.00	**1.68**	1.00	**2**	1.00	**2.05**	1.00	< 1.00	1.00
1,2-Dibromoethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloropropane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorotetrafluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3,5-Trimethylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3-Butadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dioxane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
2-Hexanone		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Ethyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Isopropyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Methyl-2-pentanone		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Acetone		**34.4**	1.00	**34.7**	1.00	**33.7**	1.00	**31.1**	1.00	**7.91**	1.00
Acrylonitrile		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Benzene		**1.22**	1.00	**1.08**	1.00	**1.28**	1.00	**1.41**	1.00	< 1.00	1.00
Benzyl Chloride		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromodichloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromoform		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromomethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Disulfide		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Tetrachloride	5	**0.52**	0.25	**0.53**	0.25	**0.52**	0.25	**0.53**	0.25	**0.51**	0.25
Chlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroform		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloromethane		**1.51**	1.00	**1.59**	1.00	**1.33**	1.00	**1.43**	1.00	**1.24**	1.00
cis-1,2-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
cis-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Cyclohexane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dibromochloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dichlorodifluromethane		**2.01**	1.00	**1.94**	1.00	**1.94**	1.00	**1.73**	1.00	**1.89**	1.00
Ethanol		**608**	1.00	**608**	1.00	**761**	1.00	**1,610**	1.00	**14.5**	1.00
Ethyl Acetate		**16.6**	1.00	**13.3**	1.00	**15**	1.00	**9.04**	1.00	< 1.00	1.00
Ethylbenzene		**1.15**	1.00	**1.1**	1.00	**1.43**	1.00	**1.35**	1.00	< 1.00	1.00
Heptane		**3.9**	1.00	**19.5**	1.00	**3.86**	1.00	**2.54**	1.00	< 1.00	1.00
Hexachlorobutadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Hexane		**1.16**	1.00	**1.29**	1.00	**1.47**	1.00	**1.29**	1.00	< 1.00	1.00
Isopropylalcohol		**427**	1.00	**31.2**	1.00	**66.6**	1.00	**29**	1.00	**2.14**	1.00
Isopropylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (m&p)		**3.07**	1.00	**2.86**	1.00	**3.97**	1.00	**3.66**	1.00	**1.29**	1.00
Methyl Ethyl Ketone		**2.12**	1.00	**2.2**	1.00	**2.22**	1.00	**2**	1.00	**1.24**	1.00
MTBE		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Methylene Chloride		**1.49**	1.00	**1.64**	1.00	**1.75**	1.00	**2.52**	1.00	**1.23**	1.00
n-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (o)		**1.22**	1.00	**1.07**	1.00	**1.46**	1.00	**1.39**	1.00	< 1.00	1.00
Propylene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
sec-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Styrene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Tetrachloroethene	30	**3.99**	0.25	**4.03**	0.25	**5.17**	0.25	**4.17**	0.25	**1.13**	0.25
Tetrahydrofuran		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Toluene		**4.93**	1.00	**5.39**	1.00	**5.5**	1.00	**4.29**	1.00	**2.52**	1.00
trans-1,2-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
trans-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Trichloroethene	2	**9.45**	0.25	**9.24**	0.25	**11.8**	0.25	**8.81**	0.25	< 0.25	0.25
Trichlorofluoromethane		**3.66**	1.00	**3.06**	1.00	**3.66**	1.00	**2.04**	1.00	**1.47**	1.00
Trichlorotrifluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Vinyl Chloride		< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25
BTEX		**11.59**		**11.5**		**13.64**		**12.1**		**3.81**	
Total VOCs		**1112.67**		**732.10**		**897.01**		**1700.54**		**35.32**	

Notes:
NA No guidance value or standard available
(a) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006. New York State Department of Health.
(b) NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005, Summary of Background Levels for Selected Compounds (NYSDOH Database, Outdoor values)

TABLE 14
39-40 30th Street,
Long Island City, New York
Indoor Soil Gas
Volatile Organic Compounds

COMPOUNDS	NYSDOH Maximum Sub-Slab Value	SG-16 (µg/m3)		SG-17 (µg/m3)		SG-18 (µg/m3)		SG-19 (µg/m3)		SG-20 (µg/m3)		SG-21 (µg/m3)		SG-22 (µg/m3)		Indoor Air Second Floor #3 (µg/m3)		Indoor Air Second Floor #4 (µg/m3)		AA 03 (µg/m3)	
		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Indoor Air		Outdoor Air	
		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015		11/24/2015	
	(µg/m^3) [a]	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,1-Trichloroethane	100	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2,2-Tetrachloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2-Trichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trimethylbenzene		**1.35**	1.00	**1.41**	1.00	**1.44**	1.00	**1.31**	1.00	**1.41**	1.00	**1.02**	1.00	**1.65**	1.00	**1.3**	1.00	**1.25**	1.00	< 1.00	1.00
1,2-Dibromoethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloropropane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorotetrafluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3,5-Trimethylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3-Butadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dichlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dioxane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
2-Hexanone		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Ethyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Isopropyltoluene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Methyl-2-pentanone		**2.21**	1.00	**2.53**	1.00	< 1.00	1.00	**2.08**	1.00	**2.18**	1.00	**1.72**	1.00	**6.71**	1.00	**1.58**	1.00	< 1.00	1.00	< 1.00	1.00
Acetone		**17.2**	1.00	**17.4**	1.00	**17.8**	1.00	**16.5**	1.00	**17.7**	1.00	**16.4**	1.00	**19.7**	1.00	**24.2**	1.00	**35.4**	1.00	**8.02**	1.00
Acrylonitrile		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Benzene		**1.3**	1.00	**1.35**	1.00	**1.35**	1.00	**1.28**	1.00	**1.37**	1.00	**1.24**	1.00	**1.64**	1.00	**1.81**	1.00	**1.98**	1.00	**1.01**	1.00
Benzyl Chloride		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromodichloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromoform		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromomethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Disulfide		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Tetrachloride	5	**0.41**	0.25	**0.42**	0.25	**0.43**	0.25	**0.41**	0.25	**0.42**	0.25	**0.45**	0.25	**0.42**	0.25	**0.45**	0.25	**0.45**	0.25	**0.47**	0.25
Chlorobenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroform		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloromethane		**1.34**	1.00	**1.25**	1.00	**1.19**	1.00	**1.33**	1.00	**1.32**	1.00	**1.19**	1.00	**1.24**	1.00	**1.46**	1.00	**1.88**	1.00	**1.21**	1.00
cis-1,2-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
cis-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Cyclohexane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dibromochloromethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dichlorodifluromethane		**1.88**	1.00	**1.88**	1.00	**1.85**	1.00	**2.02**	1.00	**1.71**	1.00	**2.13**	1.00	**1.6**	1.00	**2.03**	1.00	**1.83**	1.00	**2.11**	1.00
Ethanol		**145**	1.00	**152**	1.00	**140**	1.00	**142**	1.00	**150**	1.00	**122**	1.00	**286**	1.00	**693**	1.00	**2,730**	1.00	**9.83**	1.00
Ethyl Acetate		**7.02**	1.00	**10.3**	1.00	**8.1**	1.00	**6.34**	1.00	**8.17**	1.00	**5.37**	1.00	**44.7**	1.00	**5.87**	1.00	**4.65**	1.00	< 1.00	1.00
Ethylbenzene		**1.86**	1.00	**1.84**	1.00	**1.78**	1.00	**1.69**	1.00	**1.78**	1.00	**1.39**	1.00	**2.38**	1.00	**1.34**	1.00	**1.15**	1.00	< 1.00	1.00
Heptane		< 1.00	1.00	< 1.00	1.00	**1.07**	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	**1.18**	1.00	**1.37**	1.00	**1.12**	1.00	< 1.00	1.00
Hexachlorobutadiene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Hexane		**1.94**	1.00	**1.93**	1.00	**2.08**	1.00	**2.12**	1.00	**2.12**	1.00	**2.3**	1.00	**2.05**	1.00	**2.03**	1.00	**1.92**	1.00	**1.47**	1.00
Isopropylalcohol		**8.62**	1.00	**14.9**	1.00	**15.9**	1.00	**15.8**	1.00	**12.8**	1.00	**16.2**	1.00	**18.5**	1.00	**39.8**	1.00	**113**	1.00	**9.92**	1.00
Isopropylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (m&p)		**6.94**	1.00	**6.73**	1.00	**6.68**	1.00	**6.25**	1.00	**6.64**	1.00	**5.25**	1.00	**8.2**	1.00	**4.69**	1.00	**4.15**	1.00	**1.41**	1.00
Methyl Ethyl Ketone		**1.62**	1.00	**1.67**	1.00	**1.62**	1.00	**1.5**	1.00	**1.82**	1.00	**1.52**	1.00	**1.86**	1.00	**2.15**	1.00	**2.1**	1.00	**1.31**	1.00
MTBE		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Methylene Chloride		**1.07**	1.00	**1.03**	1.00	**1.3**	1.00	**1.44**	1.00	**1.23**	1.00	**2.03**	1.00	**1.34**	1.00	**1.63**	1.00	**1.81**	1.00	**1.17**	1.00
n-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Xylene (o)		**2.37**	1.00	**2.35**	1.00	**2.37**	1.00	**2.17**	1.00	**2.33**	1.00	**1.77**	1.00	**2.68**	1.00	**1.73**	1.00	**1.52**	1.00	< 1.00	1.00
Propylene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
sec-Butylbenzene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Styrene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Tetrachloroethene	30	**6.33**	0.25	**4.52**	0.25	**4.56**	0.25	**4.15**	0.25	**4.56**	0.25	**3.42**	0.25	**4.48**	0.25	**4.19**	0.25	**4.03**	0.25	**1.25**	0.25
Tetrahydrofuran		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Toluene		**4.56**	1.00	**4.56**	1.00	**4.71**	1.00	**4.29**	1.00	**4.67**	1.00	**3.84**	1.00	**5.5**	1.00	**5.46**	1.00	**5.2**	1.00	**3.2**	1.00
trans-1,2-Dichloroethene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
trans-1,3-Dichloropropene		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Trichloroethene	2	**8.65**	0.25	**8.22**	0.25	**8.49**	0.25	**8.49**	0.25	**8.06**	0.25	**6.39**	0.25	**7.63**	0.25	**5.64**	0.25	**4.99**	0.25	< 0.25	0.25
Trichlorofluoromethane		**1.82**	1.00	**1.8**	1.00	**1.75**	1.00	**1.78**	1.00	**1.7**	1.00	**1.8**	1.00	**2.55**	1.00	**2.53**	1.00	**1.42**	1.00	< 1.00	1.00
Trichlorotrifluoroethane		< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Vinyl Chloride		< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25	< 0.25	0.25
BTEX		**17.03**		**16.83**		**16.89**		**15.68**		**16.79**		**13.49**		**20.4**		**15.03**		**14**		**5.62**	
Total VOCs		**216.47**		**227.79**		**206.26**		**206.38**		**214.02**		**191.96**		**376.56**		**790.86**		**2908.99**		**42.12**	

Notes:
NA No guidance value or standard available
(a) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006. New York State Department of
(b) NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005, Summary of Background Levels for Selected Compounds (NYSDOH Database, Outdoor

TABLE 15
39-40 30th Street
Long Island City, NY
Parameters Detected Above Track 1 Soil Cleanup Objectives
Soil Borings B1-B14

COMPOUND	Range in Exceedances	Frequency of Detection	B1 12/9/2013	B2 12/9/2013	B3 12/13/2013		B4 12/9/2013	B5 12/13/2013		B6 12/13/2013		B7 12/9/2013		B8 12/9/2013	
			(0-2')	(0-2')	(0-2')	(10-12')	(0-2')	(0-2')	(4-6')	(0-2')	(10-12')	(0-2')	(4-6')	(0-2')	(10-12')
Sample Results in ug/kg															
Acetone	83-92	2	-	-	-	-	-	-	-	92	-	-	-	-	-
Methylene chloride	64	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Tricholoethene	510-6,100	6	-	-	-	-	-	-	1,200	6,100	-	-	-	4,200	920
Sample Results in ug/kg															
Benzo(a)anthracene	2,600-3,900	3	3,900	-	-	-	-	-	2,600	-	-	-	3,200	-	-
Benzo(a)pyrene	2,200-3,200	3	3,200	-	-	-	-	-	2,200	-	-	-	3,200	-	-
Benzo(b)fluoranthene	1,200-4,200	4	4,100	-	-	-	-	-	2,800	-	-	-	4,200	-	-
Benzo(k)fluoranthene	1,200-1,300	2	1,300	-	-	-	-	-	-	-	-	-	1,200	-	-
Chrysene	2,600-4,100	3	4,100	-	-	-	-	-	2,600	-	-	-	3,800	-	-
Indeno(1,2,3-cd)pyrene	530-1,700	3	1,500	-	-	-	-	-	-	-	-	-	1,700	-	-
Sample Results in ug/kg															
4,4' -DDD	6.7	1	-	-	-	-	6.7	-	-	-	-	-	-	-	-
4,4' -DDE	6.5	1	-	-	-	-	6.5	-	-	-	-	-	-	-	-
4,4' -DDT	7.2	1	-	-	-	-	7.2	-	-	-	-	-	-	-	-
Sample Results in mg/kg															
Arsenic	76	1	76	-	-	-	-	-	-	-	-	-	-	-	-
Barium	393	1													
Chromium	36.3-74.3	3	-	-	-	36.3	74.3	-	-	-	-	-	-	-	-
Copper	73.7-253	7	253	161	73.7	134	107	-	-	-	-	-	-	-	-
Lead	73.8-655	13	525	82.3			292	74.9	157	147		71.2		-	
Mercury	0.2-1.75	11	0.48	-	0.25	-	1.75	-	-	0.29	0.33	-	0.24	0.2	-
Silver	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	302	1	-	-	-	302	-	-	-	-	-	-	-	-	-
Zinc	118-1,060	8	284	118	-	-	292	242	-	133	-	159	-	-	-

TABLE 15
39-40 30th Street
Long Island City, NY
Parameters Detected Above Track 1 Soil Cleanup Objectives
Soil Borings B1-B14

COMPOUND	Range in Exceedances	Frequency of Detection	B9 12/16/2014 (0-2')		B10 12/17/2014 (0-2')		B11 12/17/2014 (0-2')		B12 12/17/2014 (0-2')		B13 12/17/2014 (0-2')		B14 12/17/2014 (0-2')		Trip Blank 12/9/2013	
Sample Results in ug/kg																
Acetone	83-92	2	-		-		-		-		-		83		-	
Methyl chloride	64	1	-		-		-		-		-		-		64	
Trichloroethene	510-6,100	6	-		510		2,000		-		2,100		-		-	
Sample Results in ug/kg																
Benzo(a)anthracene	2,600-3,900	3	-		-		-		-		-		-		-	
Benzo(a)pyrene	2,200-3,200	3	-		-		-		-		-		-		-	
Benzo(b)fluoranthene	1,200-4,200	4	-		-		-		-		1,200		-		-	
Benzo(k)fluoranthene	1,200-1,300	2	-		-		-		-		-		-		-	
Chrysene	2,600-4,100	3	-		-		-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	530-1,700	3	-		-		-		-		530		-		-	
Sample Results in ug/kg																
4,4' -DDD	6.7	1	-		-		-		-		-		-		-	
4,4' -DDE	6.5	1	-		-		-		-		-		-		-	
4,4' -DDT	7.2	1	-		-		-		-		-		-		-	
Sample Results in mg/kg																
Arsenic	76	1	-		-		-		-		-		-		-	
Barium	393	1	-		-		-		393		-		-		-	
Chromium	36.3-74.3	3	-		-		-		-		-		45		-	
Copper	73.7-253	7	-		-		-		153		-		111		-	
Lead	73.8-655	13	78		73.8		90.4		655		117		230		-	
Mercury	0.2-1.75	11	-		0.41		0.37		-		0.26		0.3		-	
Silver	2	1	-		-		-		-		-		2.38		-	
Nickel	302	1	-		-		-		-		-		-		-	
Zinc	118-1,060	8	-		-		-		1,060		-		928		-	

TABLE 16
39-40 30th Street
Long Island City, NY
Parameters Detected Above Ambient Water Quality Standards

VOCs

COMPOUND	Range in Detections	MW1 12/20/2013	MW2 12/20/2013	MW3 12/20/2013	MW4 12/20/2013	MW5 12/20/2013	MW1 12/26/2014	MW2 12/26/2014	MW3 12/26/2014	MW4 12/26/2014	MW5 12/26/2014	MW6 12/26/2014	MW7 12/26/2014	Duplicate 1 12/20/2013	Duplicate 2 12/26/2014
Sample Results in (µg/L)															
1,2,4-Trimethylbenzene	170	-	170	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	64	-	64	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	5.1-10	-	-	-	9.7	-	-	-	5.1	10	-	-	-	-	-
Ethylbenzene	130	-	130	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	39	-	39	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	41	-	41	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylenes	790	-	790	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	300	-	300	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	29-730	210	730	260	200	29	160	65	210	670	30	81	57	210	69
Trichlorothene	5.1-280	55	39	100	63	5.1	29	-	280	150	-	11	-	54	10

SVOCs

COMPOUND	Range in Detections	MW5 12/20/2013
Sample Results in (µg/L)		
Benz(a)anthracene	0.02	0.02
Benzo(b)fluoranthene	0.02	0.02

TABLE 16
39-40 30th Street
Long Island City, NY
Parameters Detected Above Ambient Water Quality Standards

Pesticides/PCBs

COMPOUND	Range in Detections	MW2 12/20/2013		MW4 12/20/2013		MW3 12/26/2014		MW4 12/26/2014	
Sample Results in (µg/L)									
Dieldrin	**0.007-0.02**	**0.018**		**0.007**		**0.008**		**0.02**	

Metals (Dissolved)

COMPOUND	Range in Detections	MW1 12/20/2013		MW2 12/20/2013		MW3 12/20/2013		MW4 12/20/2013		MW5 12/20/2013		MW1 12/26/2014		MW2 12/26/2014		MW3 12/26/2014		MW4 12/26/2014		MW5 12/26/2014		MW6 12/26/2014		MW7 12/26/2014		Duplicate 1 12/20/2013		Duplicate 2 12/26/2014	
Sample Results in (mg/L)																													
Magnesium	**35.1-68.7**	**35.6**		**48.3**		**46.4**		**44.4**		**46**		**-**		**-**		**46.3**		**42.5**		**54.3**		**58**		**68.7**		**35.1**		**57.7**	
Manganese	**0.937-58.1**	**-**		**1.61**		**1.85**		**58.1**		**2.06**		**-**		**-**		**1.64**		**1.6**		**2.11**		**0.951**		**2.28**		**-**		**0.937**	
Sodium	**103-190**	**188**		**126**		**131**		**115**		**123**		**190**		**150**		**123**		**109**		**122**		**106**		**130**		**180**		**103**	

TABLE 17

Project Permit Listing

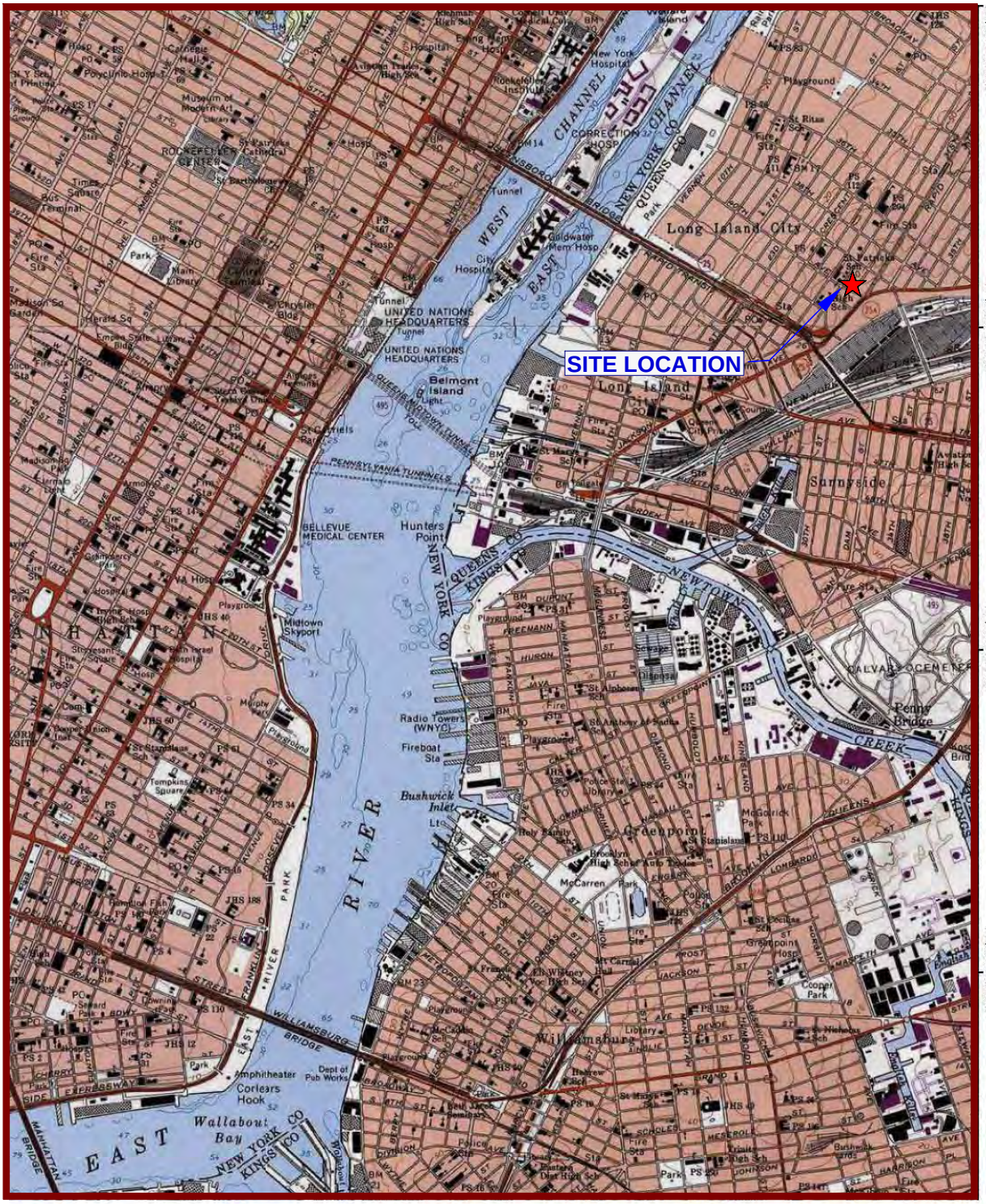
To Be Updated as Project Progresses

Permit	*Permit Number*	*Originating Agency*	*Pursuant to*	*Issued*	*Expires*	*Contact Phone*
No Permits Issued as of February 2016						

Table 18
39-40 30th Street,
Queens, NY
Emergency Contact List

General Emergencies	911
NYC Police	911
NYC Fire Department	911
NY Presbyterian/Weill Cornell Medical Center	(212) 746-5454
NYSDEC Spills Hotline	1-800-457-7362
NYSDEC Project Manager	518-402-9767
NYC Department of Health	(212) 676-2400
National Response Center	1-800-424-8802
Poison Control	1-800-222-1222
EBC Project Manager	1-631-504-6000
EBC BCP Program Manager	1-631-504-6000
EBC Site Safety Officer	1-631-504-6000
Remedial Engineer	1-516-987-1662
Construction Manager	TBD

FIGURES



USGS Brooklyn Quadrangle 1995, Contour Interval = 10 feet

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39-40 30TH AVENUE
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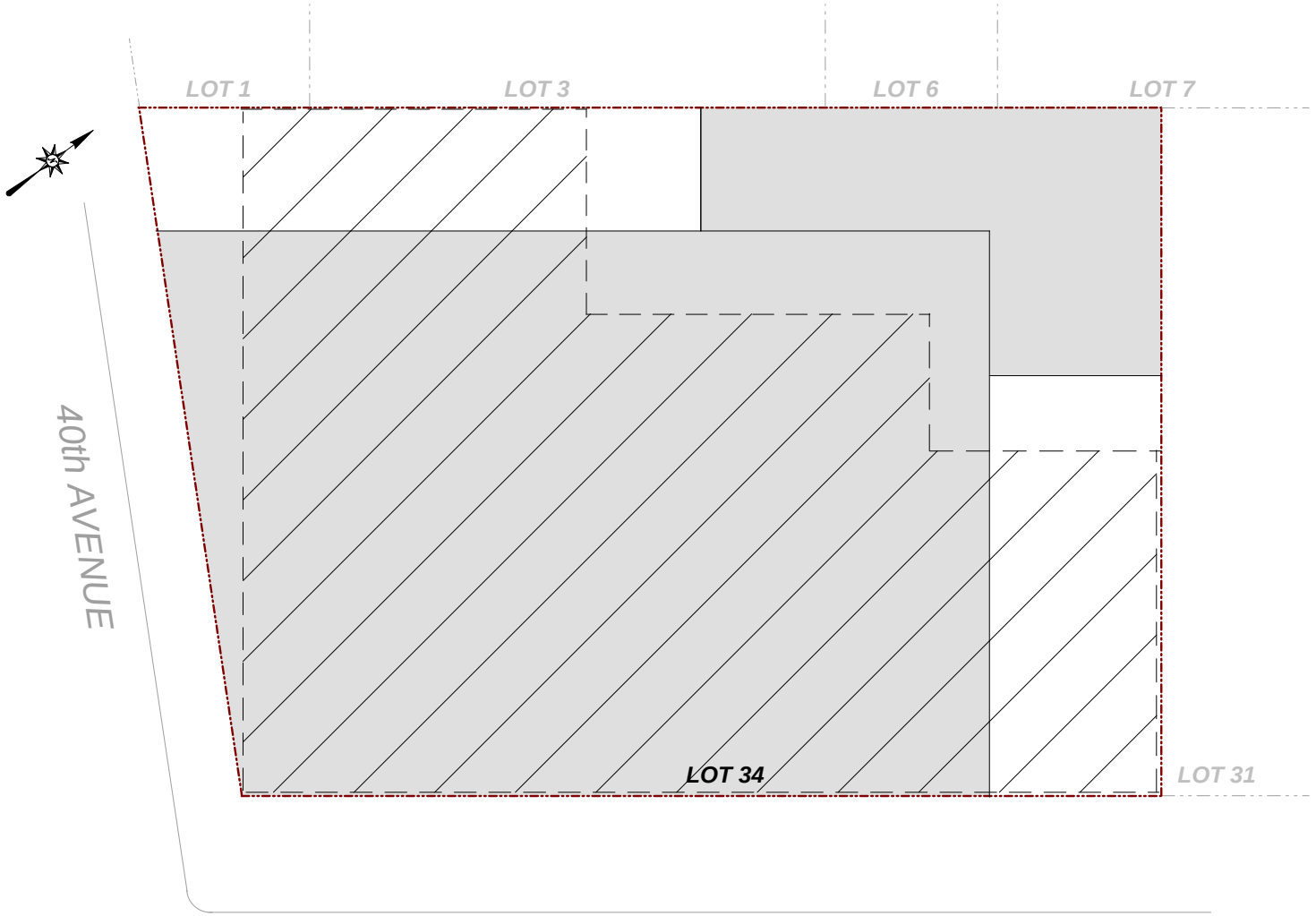
FIGURE 1 SITE LOCATION MAP



*Note - Existing and proposed building dimensions are approximated.

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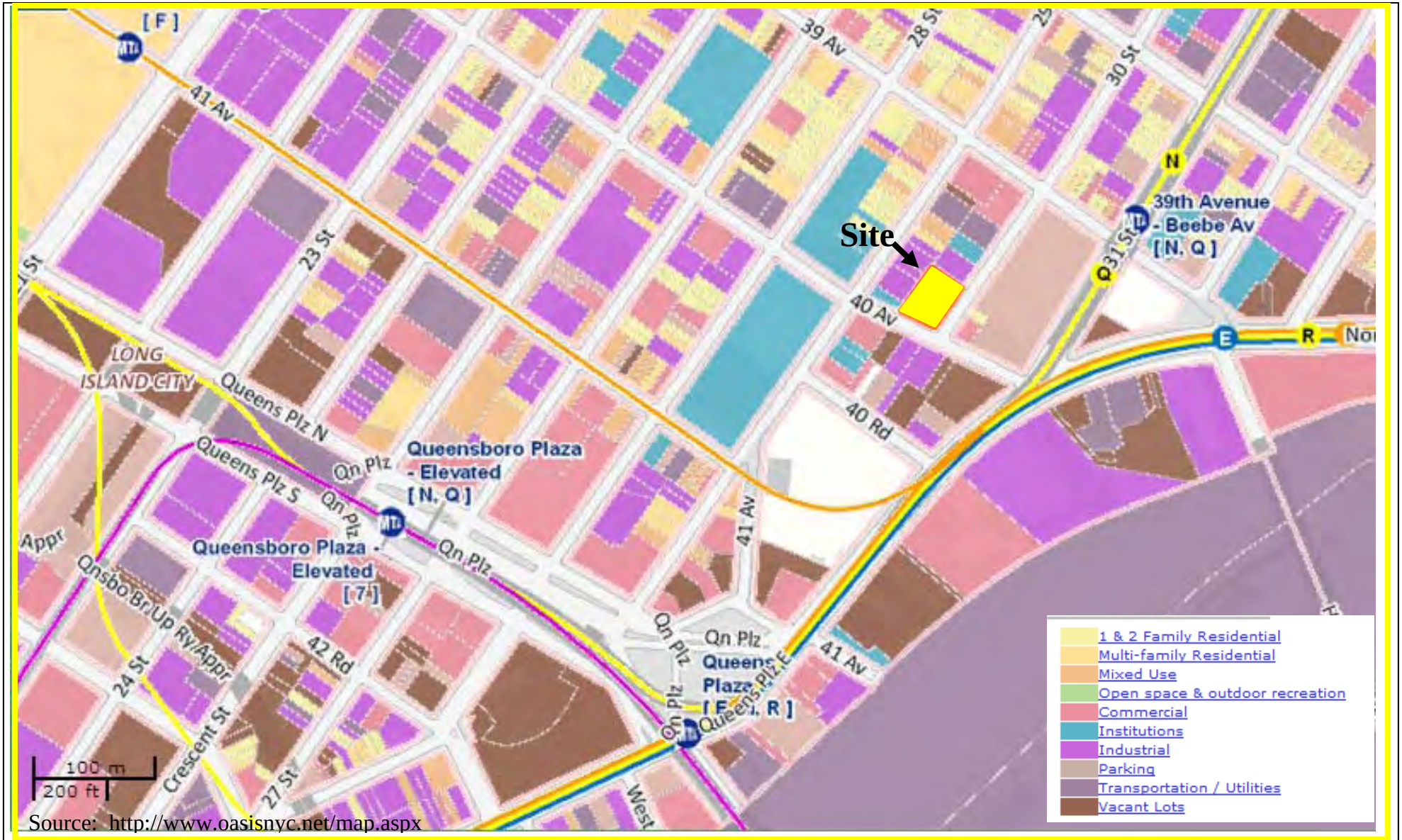
FIGURE 2 Site Plan



Source: http://www.oasisnyc.net/map.aspx

FIGURE 3
SURROUNDING LAND USE MAP

39-40 30TH STREET, QUEENS, NY

REMEDIAL ACTION WORK PLAN

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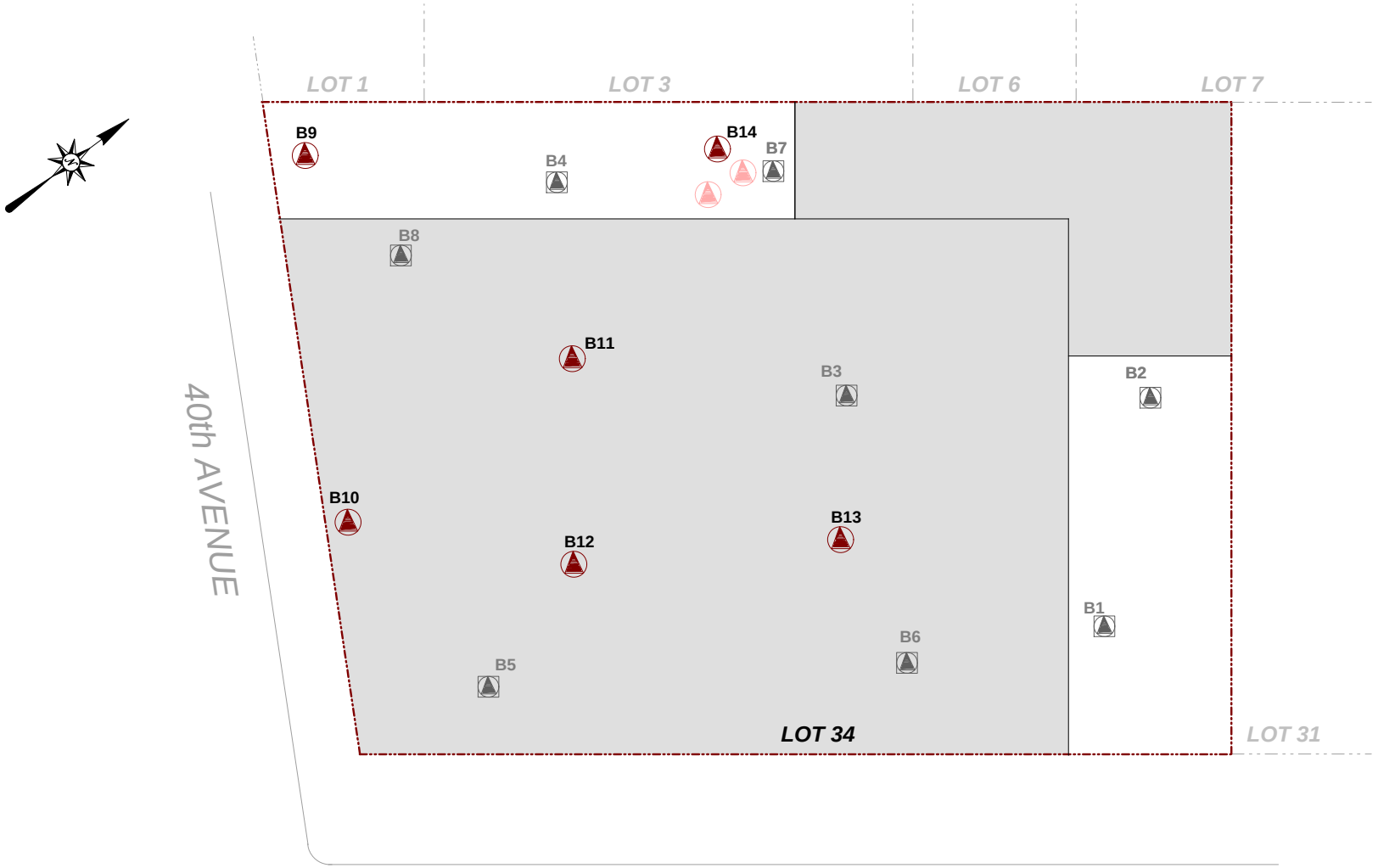

*Note - Existing building dimensions are approximated.

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FIGURE 4 Soil Borings

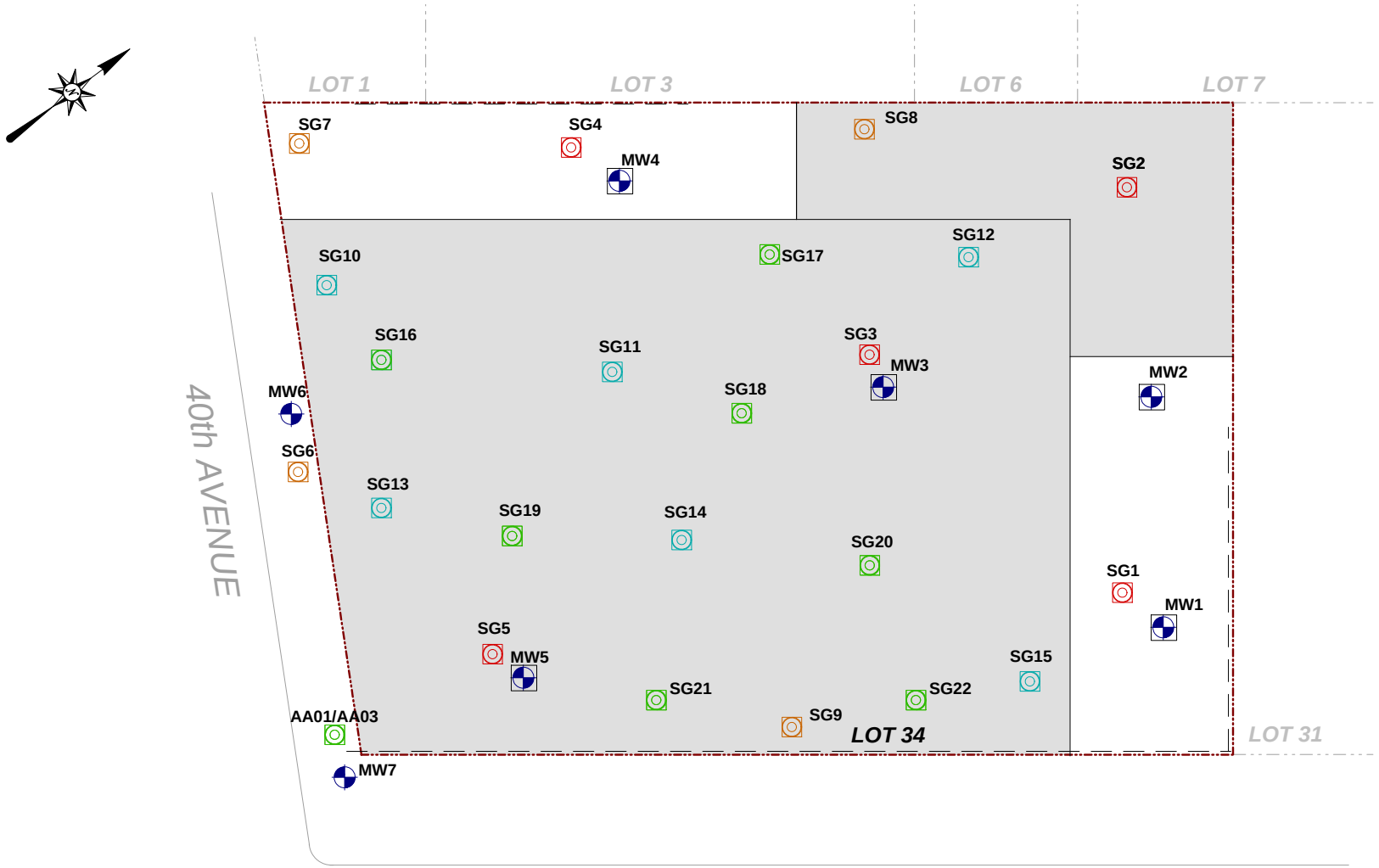

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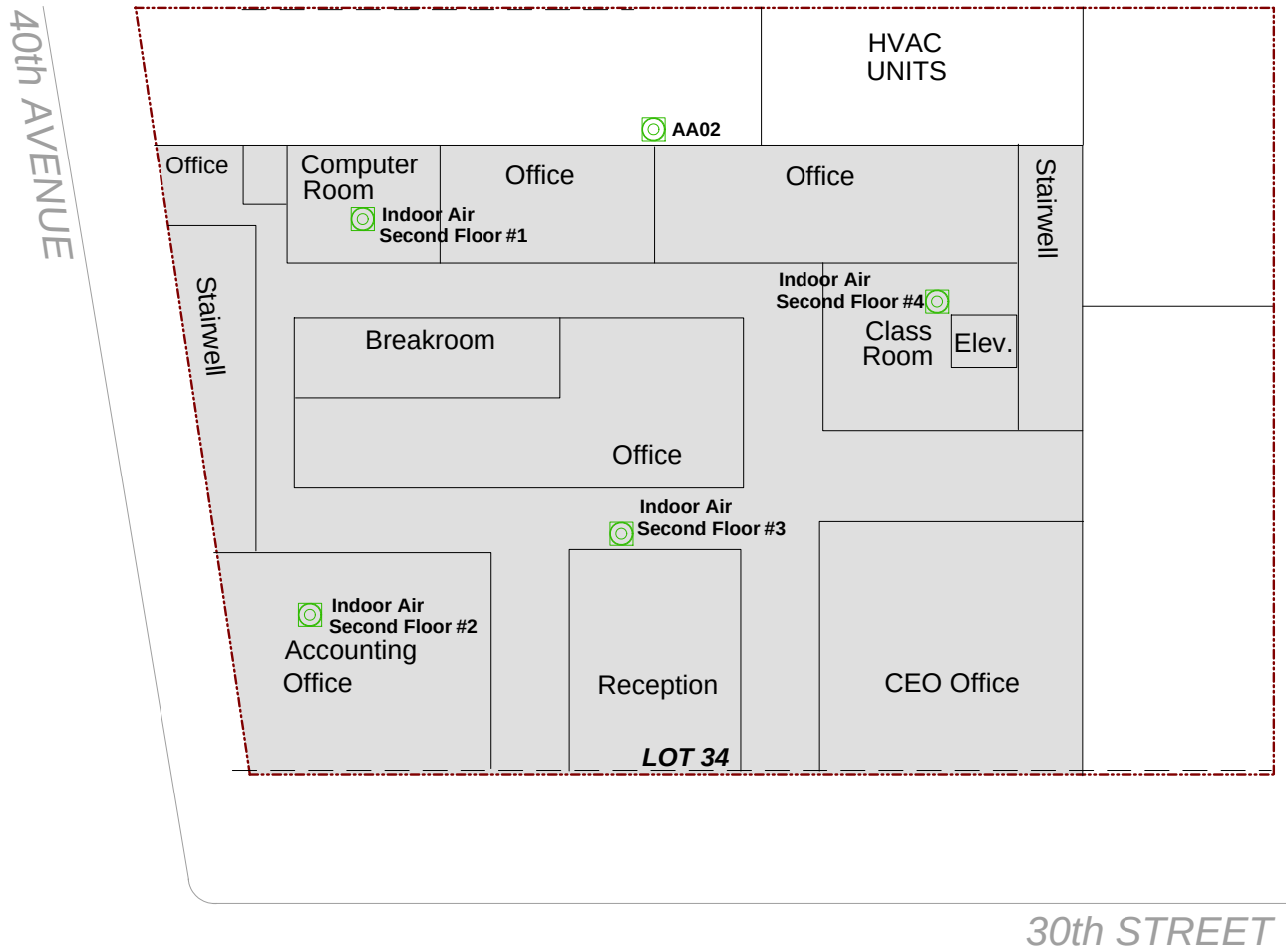
FIGURE 5A
Monitoring Well and 1st Floor Soil Vapor/Air Sampling Locations

Second Floor



KEY:

Property Boundary

Existing Building

2015 Indoor/Outdoor Sampling Locations

SCALE:

0 5 25

1 Inch = 25 feet

*Note - Existing building dimensions are approximated.

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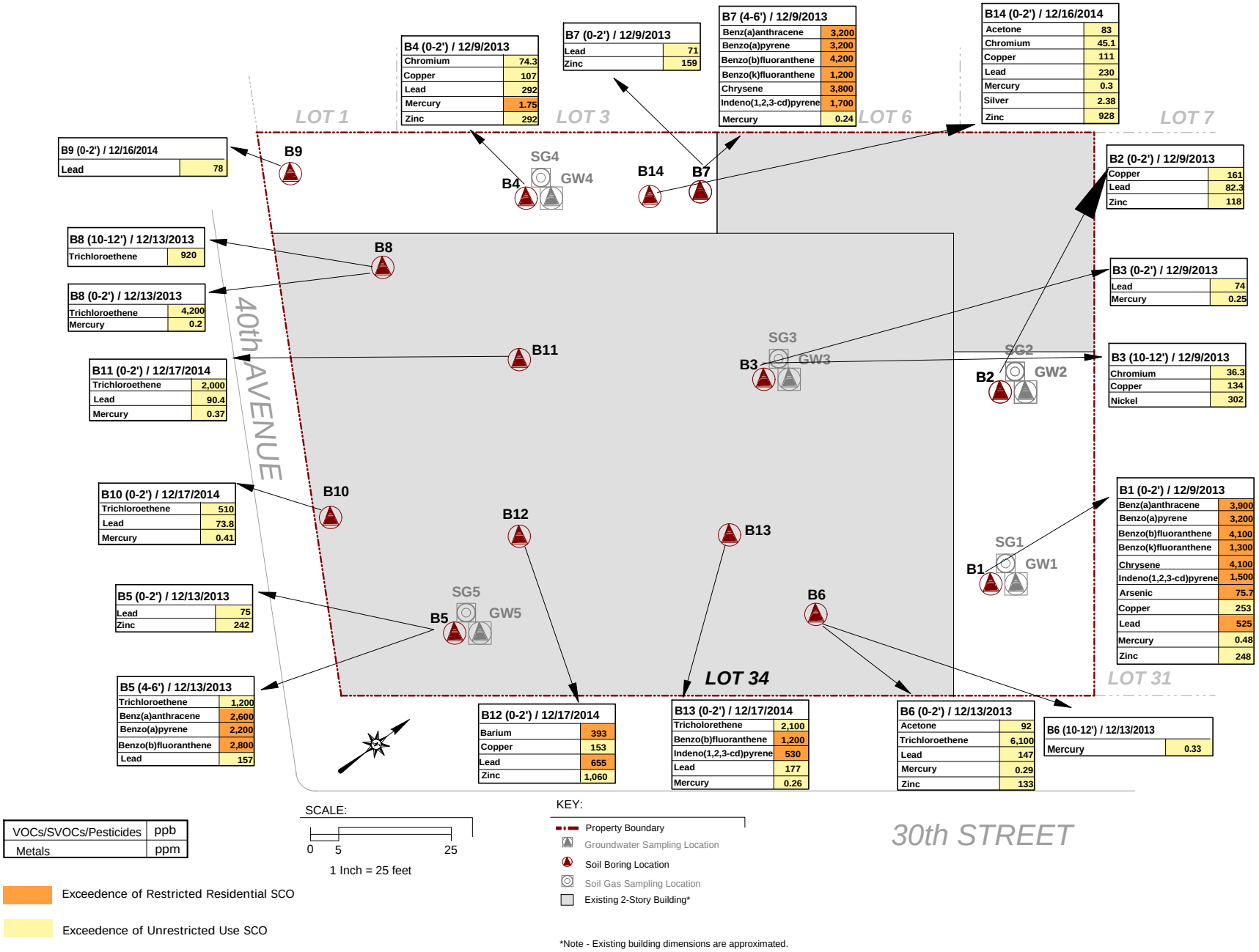
FIGURE 5B Second Floor Air Sampling Indoor/Outdoor Locations



*Note - Existing building dimensions are approximated.

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FIGURE 6 SOIL EXCEEDENCES

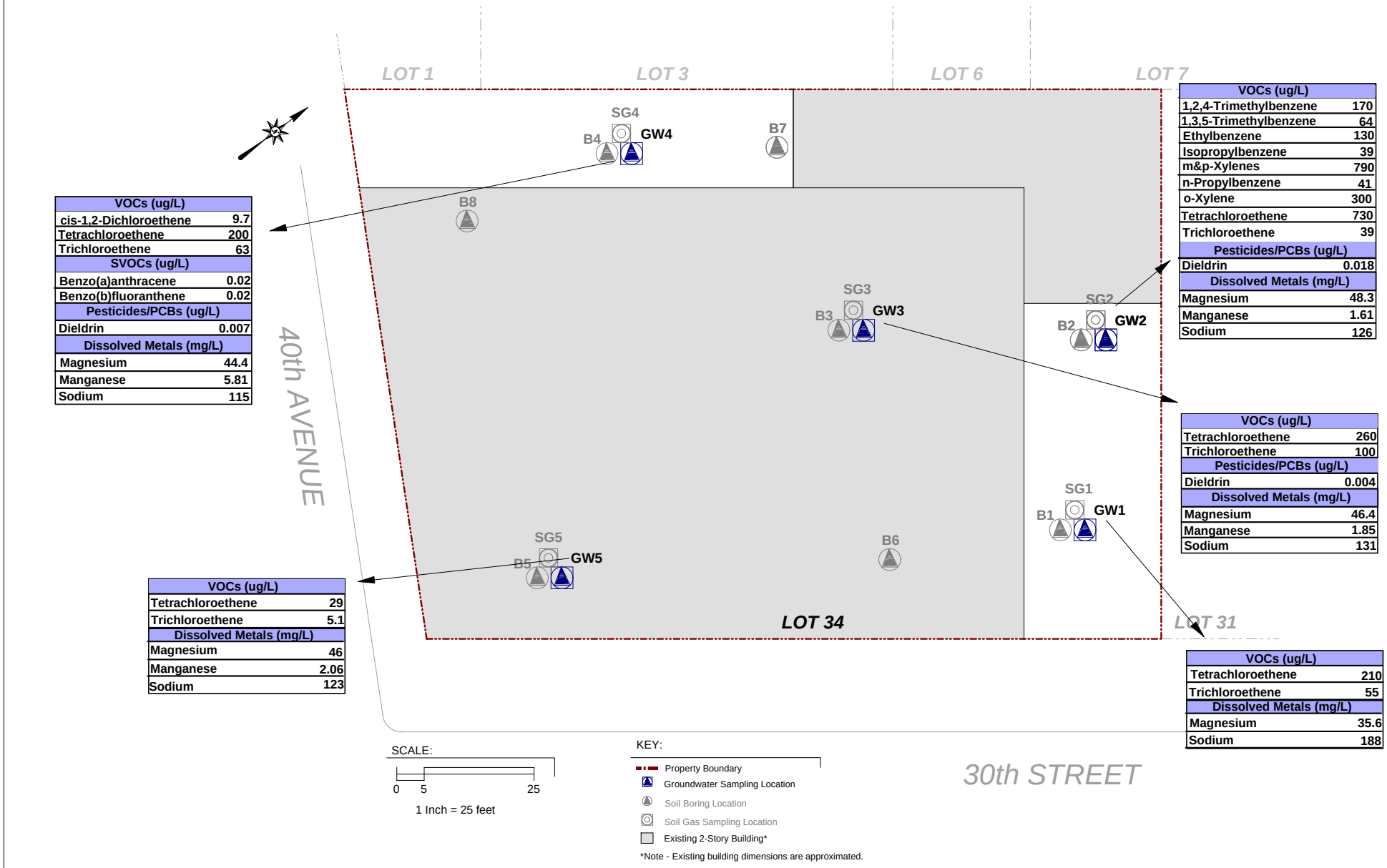

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FIGURE 7A 2013 GROUNDWATER RESULTS ABOVE AWQS

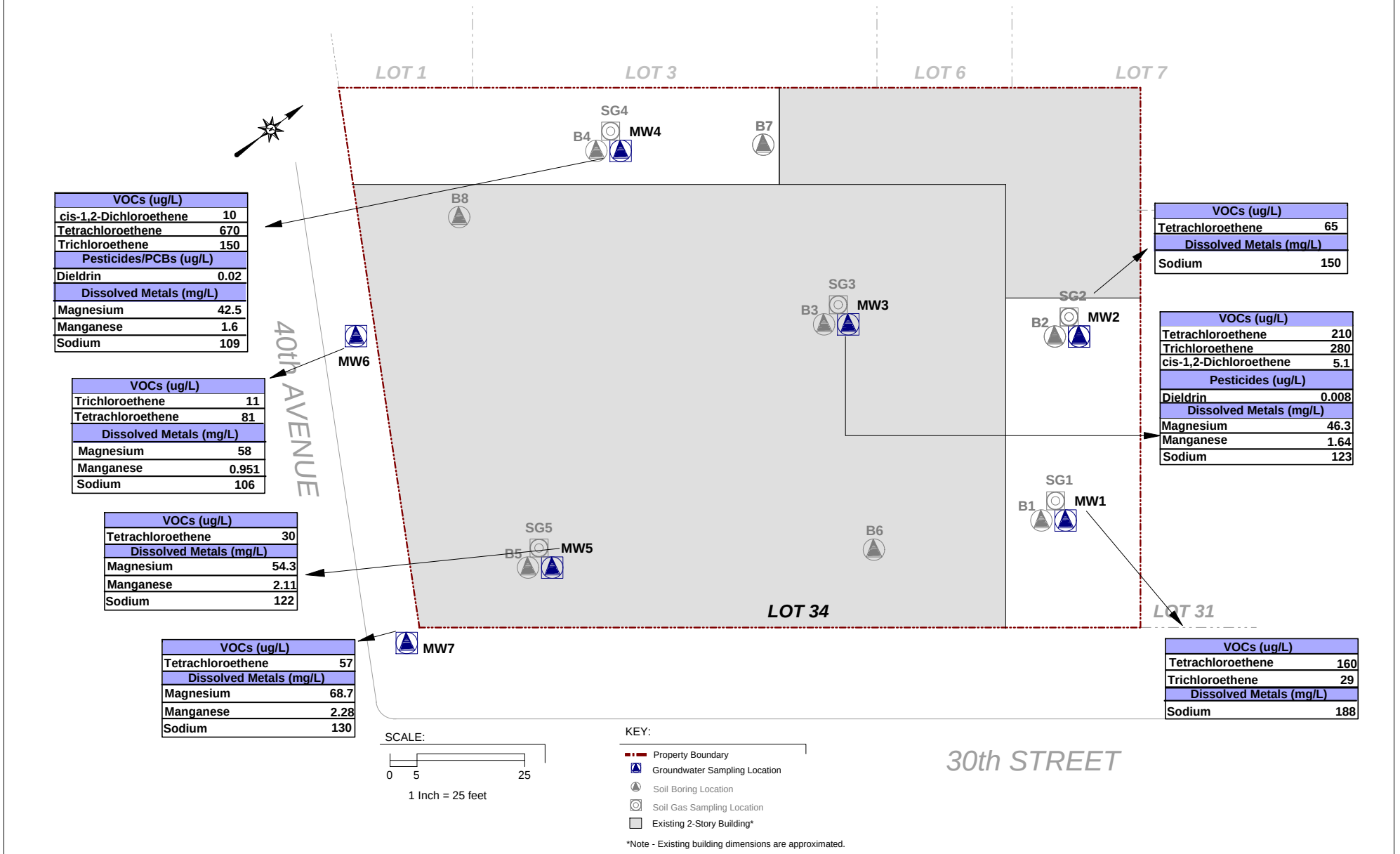

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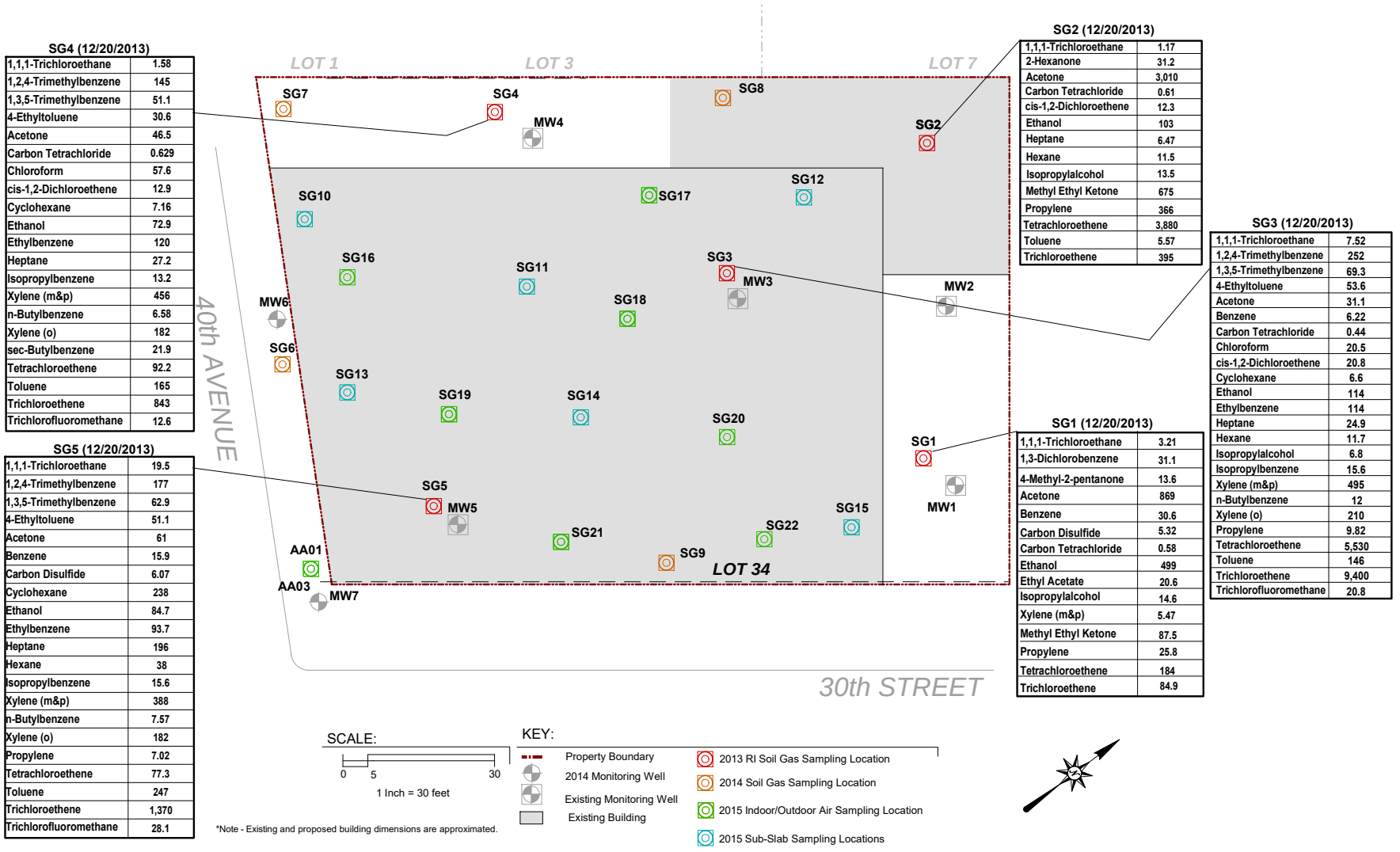
FIGURE 7B 2014 GROUNDWATER RESULTS ABOVE AWQS



SG4 (12/20/2013)

1,1,1-Trichloroethane	1.58
1,2,4-Trimethylbenzene	145
1,3,5-Trimethylbenzene	51.1
4-Ethyltoluene	30.6
Acetone	46.5
Carbon Tetrachloride	0.629
Chloroform	57.6
cis-1,2-Dichloroethene	12.9
Cyclohexane	7.16
Ethanol	72.9
Ethylbenzene	120
Heptane	27.2
Isopropylbenzene	13.2
Xylene (m&p)	456
n-Butylbenzene	6.58
Xylene (o)	182
sec-Butylbenzene	21.9
Tetrachloroethene	92.2
Toluene	165
Trichloroethene	843
Trichlorofluoromethane	12.6

SG5 (12/20/2013)

1,1,1-Trichloroethane	19.5
1,2,4-Trimethylbenzene	177
1,3,5-Trimethylbenzene	62.9
4-Ethyltoluene	51.1
Acetone	61
Benzene	15.9
Carbon Disulfide	6.07
Cyclohexane	238
Ethanol	84.7
Ethylbenzene	93.7
Heptane	196
Hexane	38
Isopropylbenzene	15.6
Xylene (m&p)	388
n-Butylbenzene	7.57
Xylene (o)	182
Propylene	7.02
Tetrachloroethene	77.3
Toluene	247
Trichloroethene	1,370
Trichlorofluoromethane	28.1

SG2 (12/20/2013)

1,1,1-Trichloroethane	1.17
2-Hexanone	31.2
Acetone	3,010
Carbon Tetrachloride	0.61
cis-1,2-Dichloroethene	12.3
Ethanol	103
Heptane	6.47
Hexane	11.5
Isopropylalcohol	13.5
Methyl Ethyl Ketone	675
Propylene	366
Tetrachloroethene	3,880
Toluene	5.57
Trichloroethene	395

SG3 (12/20/2013)

1,1,1-Trichloroethane	7.52
1,2,4-Trimethylbenzene	252
1,3,5-Trimethylbenzene	69.3
4-Ethyltoluene	53.6
Acetone	31.1
Benzene	6.22
Carbon Tetrachloride	0.44
Chloroform	20.5
cis-1,2-Dichloroethene	20.8
Cyclohexane	6.6
Ethanol	114
Ethylbenzene	114
Heptane	24.9
Hexane	11.7
Isopropylalcohol	6.8
Isopropylbenzene	15.6
Xylene (m&p)	495
n-Butylbenzene	12
Xylene (o)	210
Propylene	9.82
Tetrachloroethene	5,530
Toluene	146
Trichloroethene	9,400
Trichlorofluoromethane	20.8

SG1 (12/20/2013)

1,1,1-Trichloroethane	3.21
1,3-Dichlorobenzene	31.1
4-Methyl-2-pentanone	13.6
Acetone	869
Benzene	30.6
Carbon Disulfide	5.32
Carbon Tetrachloride	0.58
Ethanol	499
Ethyl Acetate	20.6
Isopropylalcohol	14.6
Xylene (m&p)	5.47
Methyl Ethyl Ketone	87.5
Propylene	25.8
Tetrachloroethene	184
Trichloroethene	84.9

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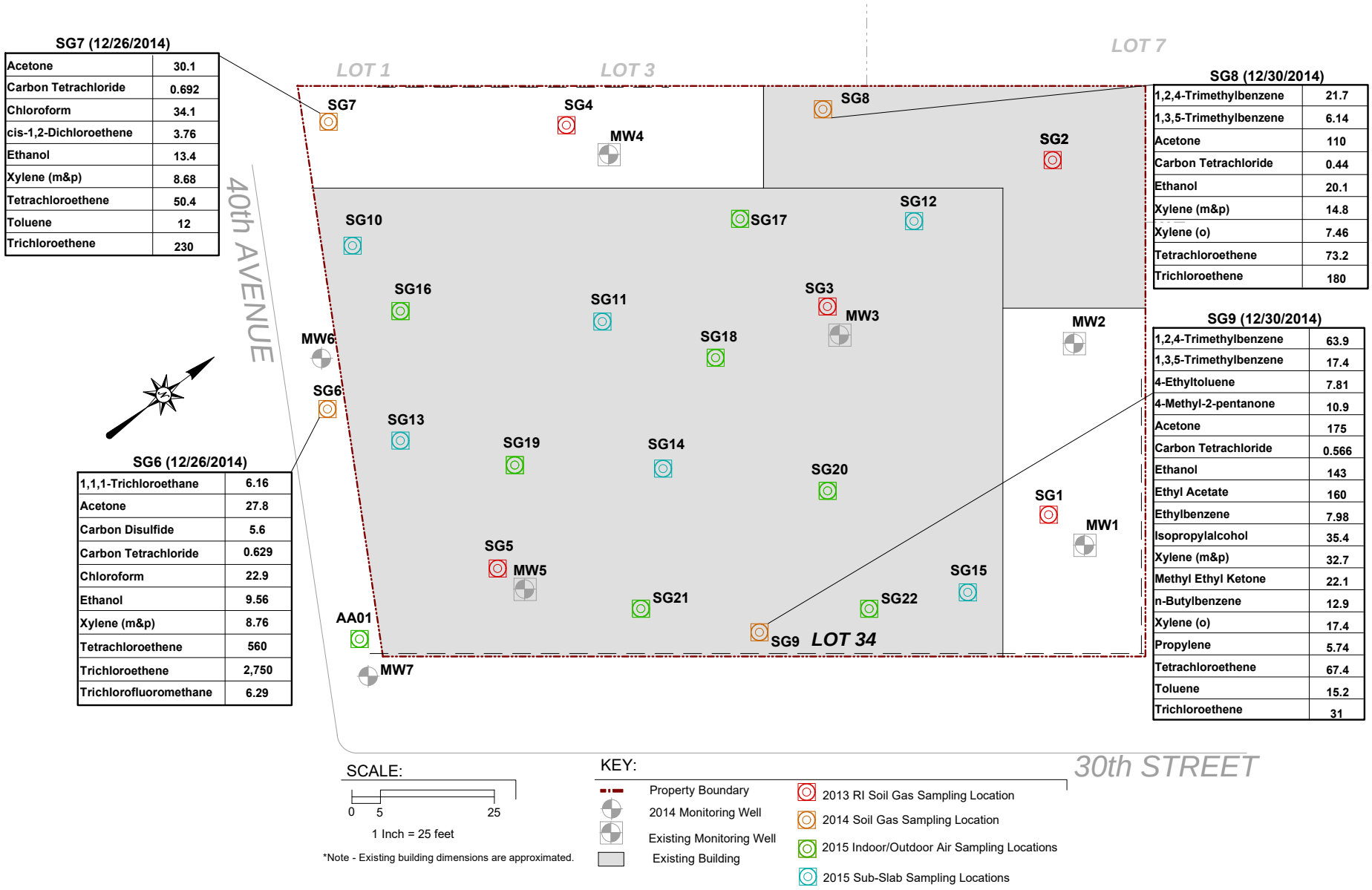
FIGURE 8A Soil Vapor Detections
2013 - Soil Vapor Implant Locations



SG7 (12/26/2014)

Acetone	30.1
Carbon Tetrachloride	0.692
Chloroform	34.1
cis-1,2-Dichloroethene	3.76
Ethanol	13.4
Xylene (m&p)	8.68
Tetrachloroethene	50.4
Toluene	12
Trichloroethene	230

SG8 (12/30/2014)

1,2,4-Trimethylbenzene	21.7
1,3,5-Trimethylbenzene	6.14
Acetone	110
Carbon Tetrachloride	0.44
Ethanol	20.1
Xylene (m&p)	14.8
Xylene (o)	7.46
Tetrachloroethene	73.2
Trichloroethene	180

SG9 (12/30/2014)

1,2,4-Trimethylbenzene	63.9
1,3,5-Trimethylbenzene	17.4
4-Ethyltoluene	7.81
4-Methyl-2-pentanone	10.9
Acetone	175
Carbon Tetrachloride	0.566
Ethanol	143
Ethyl Acetate	160
Ethylbenzene	7.98
Isopropylalcohol	35.4
Xylene (m&p)	32.7
Methyl Ethyl Ketone	22.1
n-Butylbenzene	12.9
Xylene (o)	17.4
Propylene	5.74
Tetrachloroethene	67.4
Toluene	15.2
Trichloroethene	31

SG6 (12/26/2014)

1,1,1-Trichloroethane	6.16
Acetone	27.8
Carbon Disulfide	5.6
Carbon Tetrachloride	0.629
Chloroform	22.9
Ethanol	9.56
Xylene (m&p)	8.76
Tetrachloroethene	560
Trichloroethene	2,750
Trichlorofluoromethane	6.29

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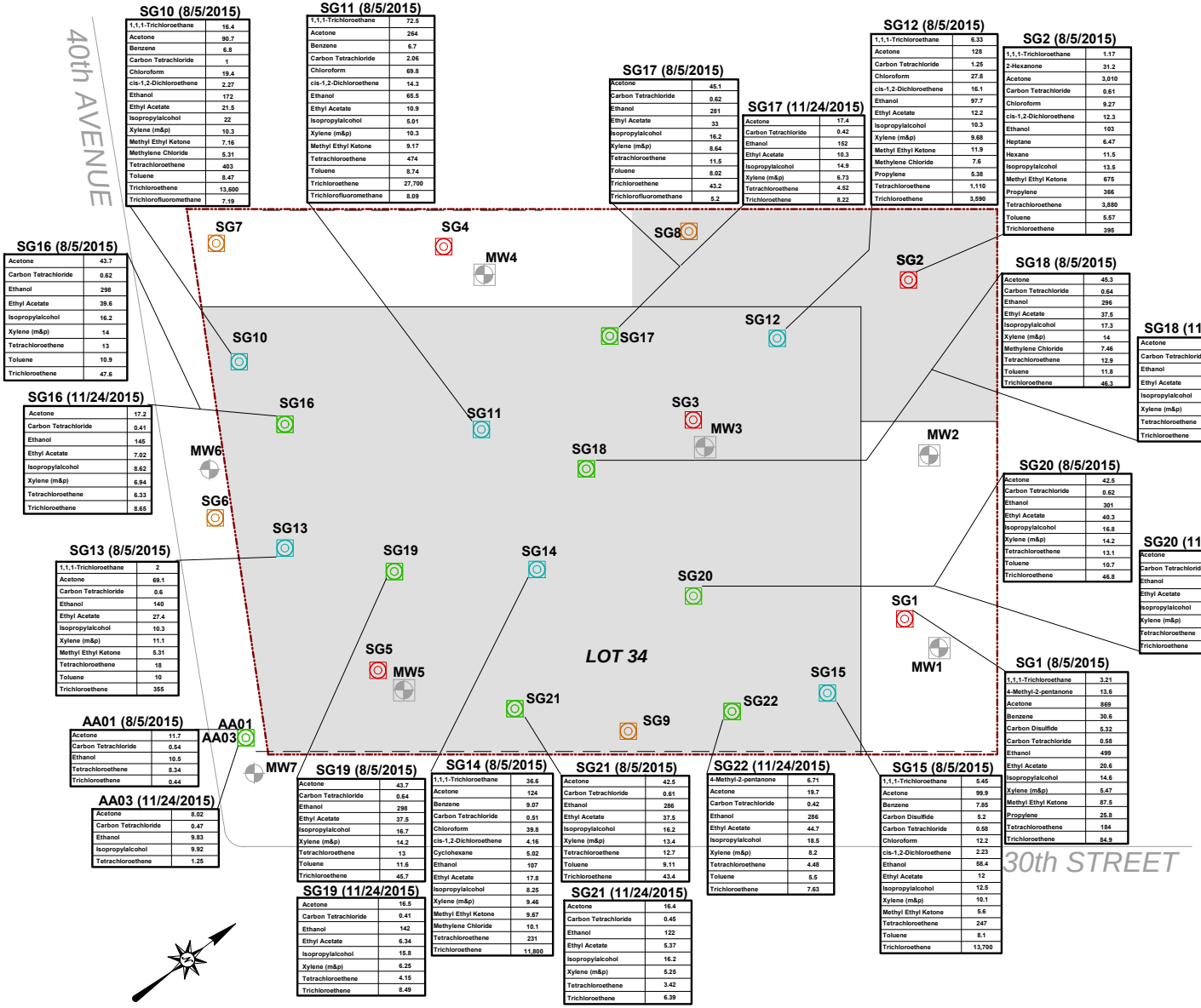
FIGURE 8B Soil Vapor Detections
2014 Sub-slab Soil Gas Locations



SG10 (8/5/2015)

1,1,1-Trichloroethane	16.4
Acetone	90.7
Benzene	6.8
Carbon Tetrachloride	1
Chloroform	19.4
cis-1,2-Dichloroethene	2.27
Ethanol	172
Ethyl Acetate	21.5
Isopropylalcohol	22
Xylene (m&p)	10.3
Methyl Ethyl Ketone	7.16
Methylene Chloride	5.31
Tetrachloroethene	403
Toluene	8.47
Trichloroethene	13,600
Trichlorofluoromethane	7.19

SG11 (8/5/2015)

1,1,1-Trichloroethane	72.5
Acetone	264
Benzene	6.7
Carbon Tetrachloride	2.06
Chloroform	69.8
cis-1,2-Dichloroethene	14.3
Ethanol	65.5
Ethyl Acetate	10.9
Isopropylalcohol	5.01
Xylene (m&p)	10.3
Methyl Ethyl Ketone	9.17
Tetrachloroethene	474
Toluene	8.74
Trichloroethene	27,700
Trichlorofluoromethane	8.09

SG17 (8/5/2015)

Acetone	45.1
Carbon Tetrachloride	0.62
Ethanol	281
Ethyl Acetate	33
Isopropylalcohol	16.2
Xylene (m&p)	8.64
Tetrachloroethene	11.5
Toluene	8.02
Trichloroethene	43.2
Trichlorofluoromethane	5.2

SG17 (11/24/2015)

Acetone	17.4
Carbon Tetrachloride	0.42
Ethanol	152
Ethyl Acetate	10.3
Isopropylalcohol	14.9
Xylene (m&p)	6.73
Tetrachloroethene	4.52
Trichloroethene	8.22

SG12 (8/5/2015)

1,1,1-Trichloroethane	6.33
Acetone	128
Carbon Tetrachloride	1.25
Chloroform	27.8
cis-1,2-Dichloroethene	16.1
Ethanol	97.7
Ethyl Acetate	12.2
Isopropylalcohol	10.3
Xylene (m&p)	9.68
Methyl Ethyl Ketone	11.9
Methylene Chloride	7.6
Propylene	5.38
Tetrachloroethene	1,110
Trichloroethene	3,590

SG2 (8/5/2015)

1,1,1-Trichloroethane	1.17
2-Hexanone	31.2
Acetone	3,010
Carbon Tetrachloride	0.61
Chloroform	9.27
cis-1,2-Dichloroethene	12.3
Ethanol	103
Heptane	6.47
Hexane	11.5
Isopropylalcohol	13.5
Methyl Ethyl Ketone	675
Propylene	366
Tetrachloroethene	3,880
Toluene	5.57
Trichloroethene	395

SG16 (8/5/2015)

Acetone	43.7
Carbon Tetrachloride	0.62
Ethanol	298
Ethyl Acetate	39.6
Isopropylalcohol	16.2
Xylene (m&p)	14
Tetrachloroethene	13
Toluene	10.9
Trichloroethene	47.6

SG18 (8/5/2015)

Acetone	45.3
Carbon Tetrachloride	0.64
Ethanol	296
Ethyl Acetate	37.5
Isopropylalcohol	17.3
Xylene (m&p)	14
Methylene Chloride	7.46
Tetrachloroethene	12.9
Toluene	11.8
Trichloroethene	46.3

SG18 (11/24/2015)

Acetone	17.8
Carbon Tetrachloride	0.43
Ethanol	140
Ethyl Acetate	8.1
Isopropylalcohol	15.9
Xylene (m&p)	6.68
Tetrachloroethene	4.56
Trichloroethene	8.49

SG16 (11/24/2015)

Acetone	17.2
Carbon Tetrachloride	0.41
Ethanol	145
Ethyl Acetate	7.02
Isopropylalcohol	8.62
Xylene (m&p)	6.94
Tetrachloroethene	6.33
Trichloroethene	8.65

SG20 (8/5/2015)

Acetone	42.5
Carbon Tetrachloride	0.62
Ethanol	301
Ethyl Acetate	40.3
Isopropylalcohol	16.8
Xylene (m&p)	14.2
Tetrachloroethene	13.1
Toluene	10.7
Trichloroethene	46.8

SG20 (11/24/2015)

Acetone	17.7
Carbon Tetrachloride	0.42
Ethanol	150
Ethyl Acetate	8.17
Isopropylalcohol	12.8
Xylene (m&p)	6.64
Tetrachloroethene	4.56
Trichloroethene	8.06

SG13 (8/5/2015)

1,1,1-Trichloroethane	2
Acetone	69.1
Carbon Tetrachloride	0.6
Ethanol	140
Ethyl Acetate	27.4
Isopropylalcohol	10.3
Xylene (m&p)	11.1
Methyl Ethyl Ketone	5.31
Tetrachloroethene	18
Toluene	10
Trichloroethene	355

SG1 (8/5/2015)

1,1,1-Trichloroethane	3.21
4-Methyl-2-pentanone	13.6
Acetone	869
Benzene	30.6
Carbon Disulfide	5.32
Carbon Tetrachloride	0.58
Ethanol	499
Ethyl Acetate	20.6
Isopropylalcohol	14.6
Xylene (m&p)	5.47
Methyl Ethyl Ketone	87.5
Propylene	25.8
Tetrachloroethene	184
Trichloroethene	84.9

AA01 (8/5/2015)

Acetone	11.7
Carbon Tetrachloride	0.54
Ethanol	10.5
Tetrachloroethene	8.34
Trichloroethene	0.44

AA03 (11/24/2015)

Acetone	8.02
Carbon Tetrachloride	0.47
Ethanol	9.83
Isopropylalcohol	9.92
Tetrachloroethene	1.25

SG19 (8/5/2015)

Acetone	43.7
Carbon Tetrachloride	0.64
Ethanol	298
Ethyl Acetate	37.5
Isopropylalcohol	16.7
Xylene (m&p)	14.2
Tetrachloroethene	13
Toluene	11.6
Trichloroethene	45.7

SG14 (8/5/2015)

1,1,1-Trichloroethane	36.6
Acetone	124
Benzene	9.07
Carbon Tetrachloride	0.81
Chloroform	39.8
cis-1,2-Dichloroethene	4.16
Cyclohexane	5.02
Ethanol	107
Ethyl Acetate	17.8
Isopropylalcohol	8.25
Xylene (m&p)	9.46
Methyl Ethyl Ketone	9.67
Methylene Chloride	10.1
Tetrachloroethene	231
Trichloroethene	11,800

SG21 (8/5/2015)

Acetone	42.5
Carbon Tetrachloride	0.61
Ethanol	286
Ethyl Acetate	37.5
Isopropylalcohol	16.2
Xylene (m&p)	13.4
Tetrachloroethene	12.7
Toluene	9.11
Trichloroethene	43.4

SG22 (11/24/2015)

4-Methyl-2-pentanone	6.71
Acetone	19.7
Carbon Tetrachloride	0.42
Ethanol	286
Ethyl Acetate	44.7
Isopropylalcohol	18.5
Xylene (m&p)	8.2
Tetrachloroethene	4.48
Toluene	5.5
Trichloroethene	7.63

SG15 (8/5/2015)

1,1,1-Trichloroethane	5.45
Acetone	99.9
Benzene	7.85
Carbon Disulfide	5.2
Carbon Tetrachloride	0.58
Chloroform	12.2
cis-1,2-Dichloroethene	2.23
Ethanol	68.4
Ethyl Acetate	12
Isopropylalcohol	12.5
Xylene (m&p)	10.1
Methyl Ethyl Ketone	5.6
Tetrachloroethene	247
Toluene	8.1
Trichloroethene	13,700

SG19 (11/24/2015)

Acetone	16.5
Carbon Tetrachloride	0.41
Ethanol	142
Ethyl Acetate	6.34
Isopropylalcohol	15.8
Xylene (m&p)	6.25
Tetrachloroethene	4.15
Trichloroethene	8.49

SG21 (11/24/2015)

Acetone	16.4
Carbon Tetrachloride	0.45
Ethanol	122
Ethyl Acetate	5.37
Isopropylalcohol	16.2
Xylene (m&p)	5.25
Tetrachloroethene	3.42
Trichloroethene	6.39

KEY:

- Property Boundary
- 2014 Monitoring Well
- Existing Monitoring Well
- Existing Building
- Proposed New Building
- 2013 RI Soil Gas Sampling Location
- 2014 Soil Gas Sampling Location
- 2015 Indoor/Outdoor Sampling Locations
- 2015 Sub-Slab Sampling Locations

SCALE:

0 5 30

1 Inch = 30 feet

*Note - Existing building dimensions are approximated.

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FORMER UNION WIRE DIE SITE
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FIGURE 8C
Soil Vapor Detections
2015 Soil Gas and Indoor/Outdoor Sampling Locations

Second Floor

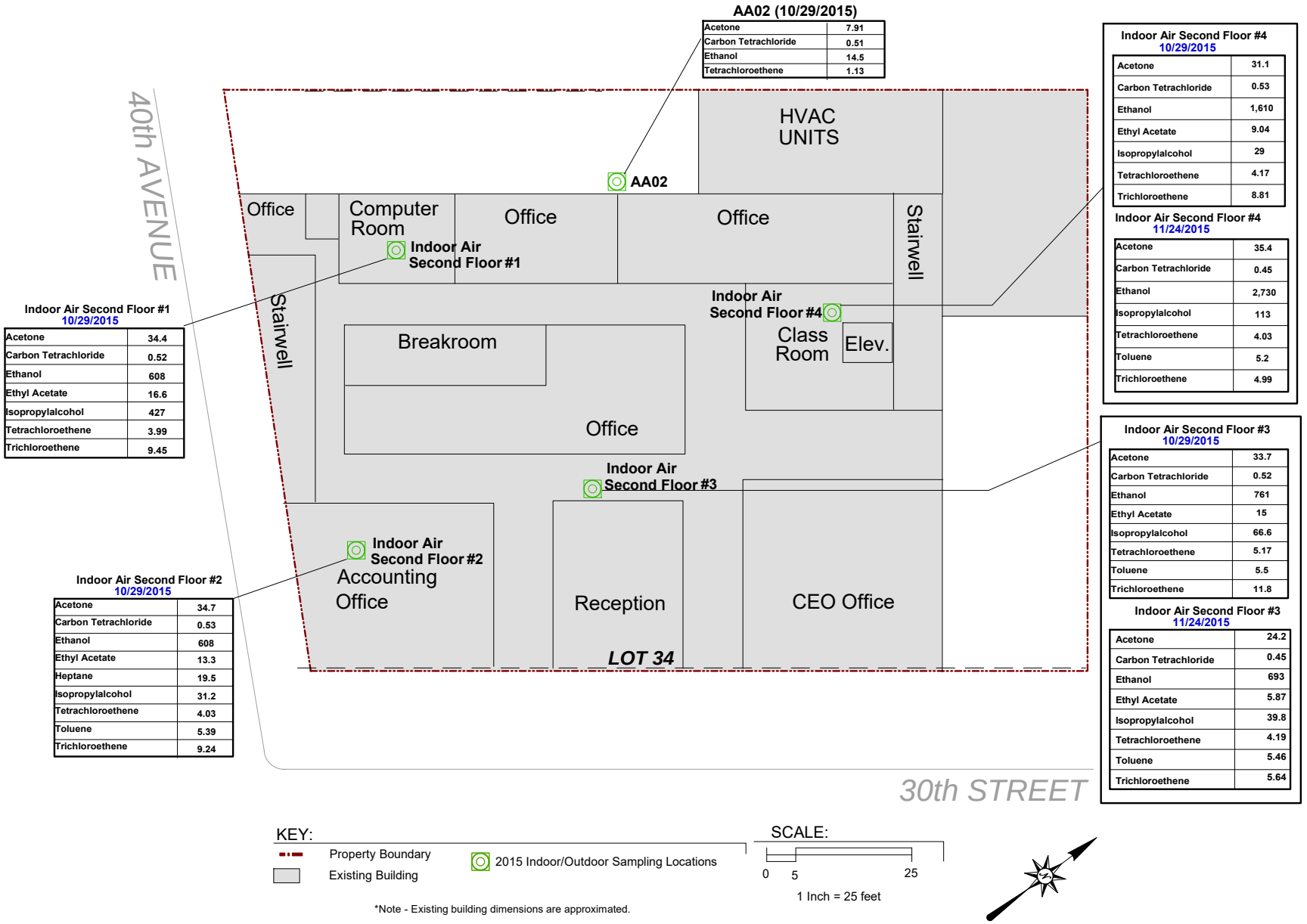

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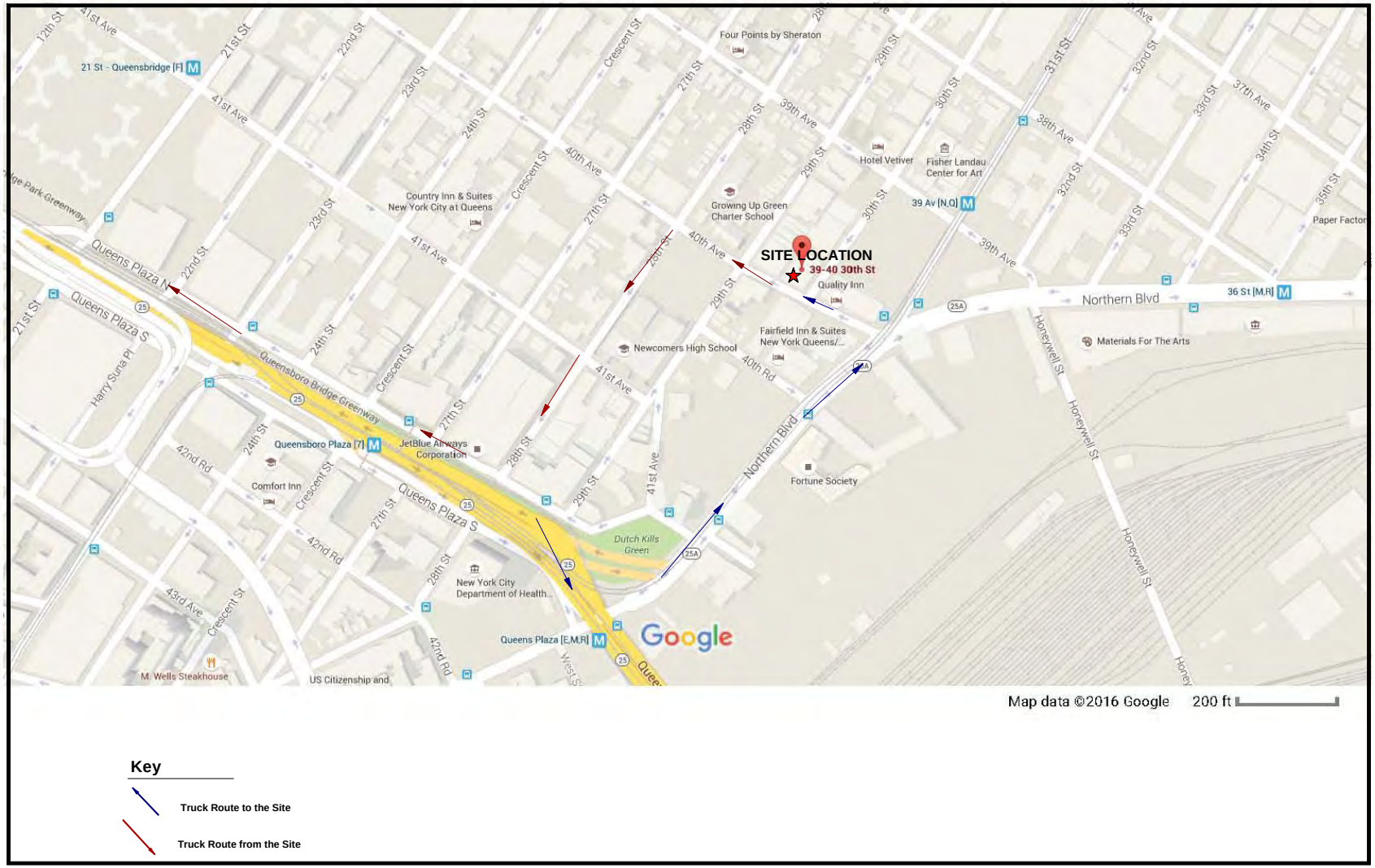
FIGURE 8D
Air Sampling
2015 Second Floor Indoor/Outdoor Sampling



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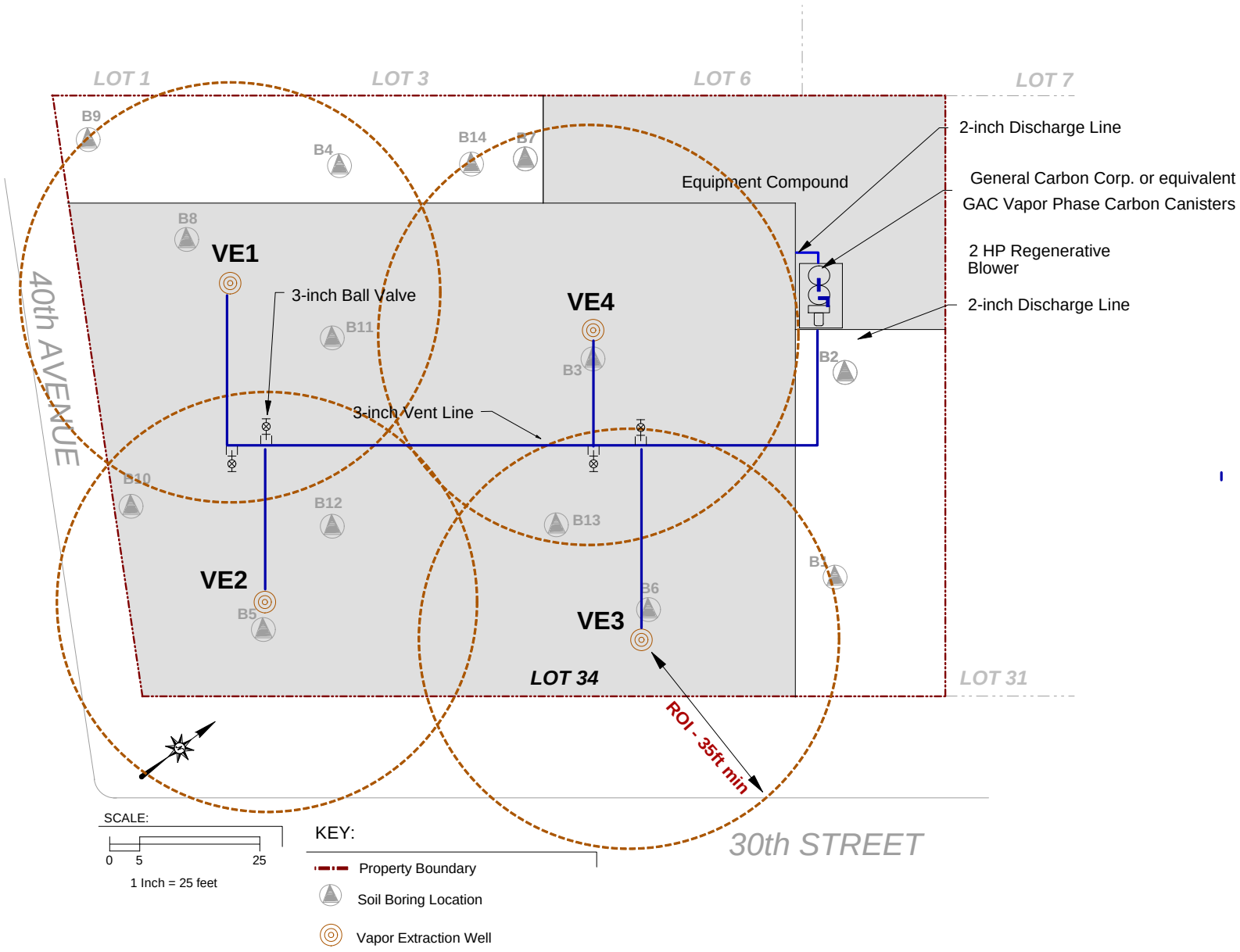
39-40 30 STREET
QUEENS, NY

FIGURE 10 TRUCK ROUTES



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Phone 631.504.6000
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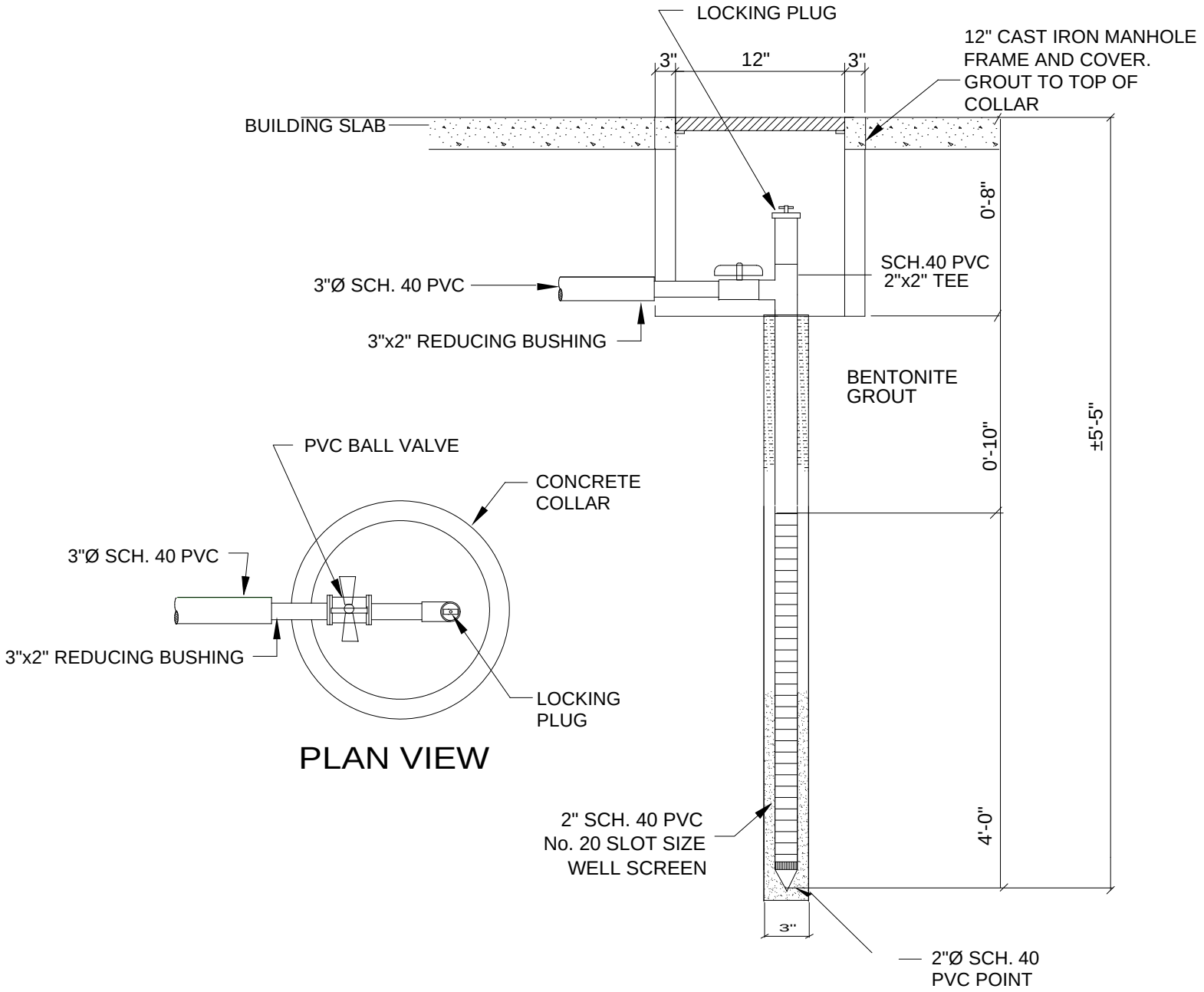
FORMER UNION WIRE DIE
39-40 30TH STREET, LONG ISLAND CITY, NY

FIGURE 11 SVE SYSTEM LAYOUT



CONSTRUCTION DETAIL

N.T.S.

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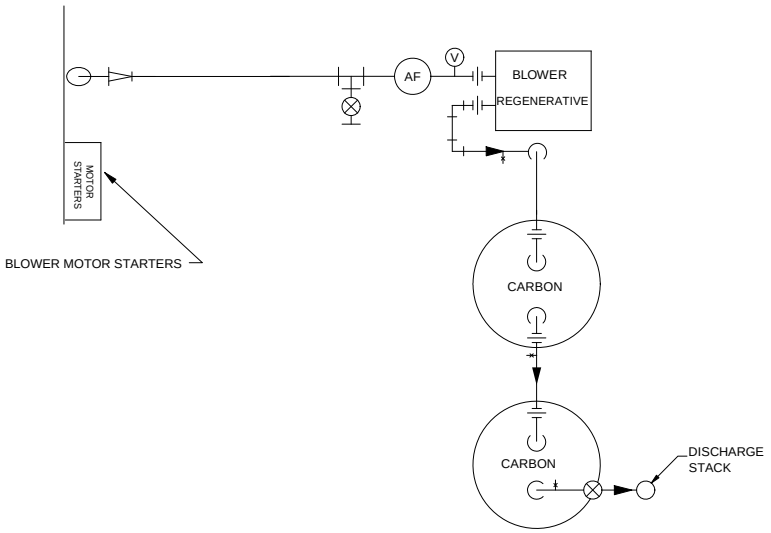
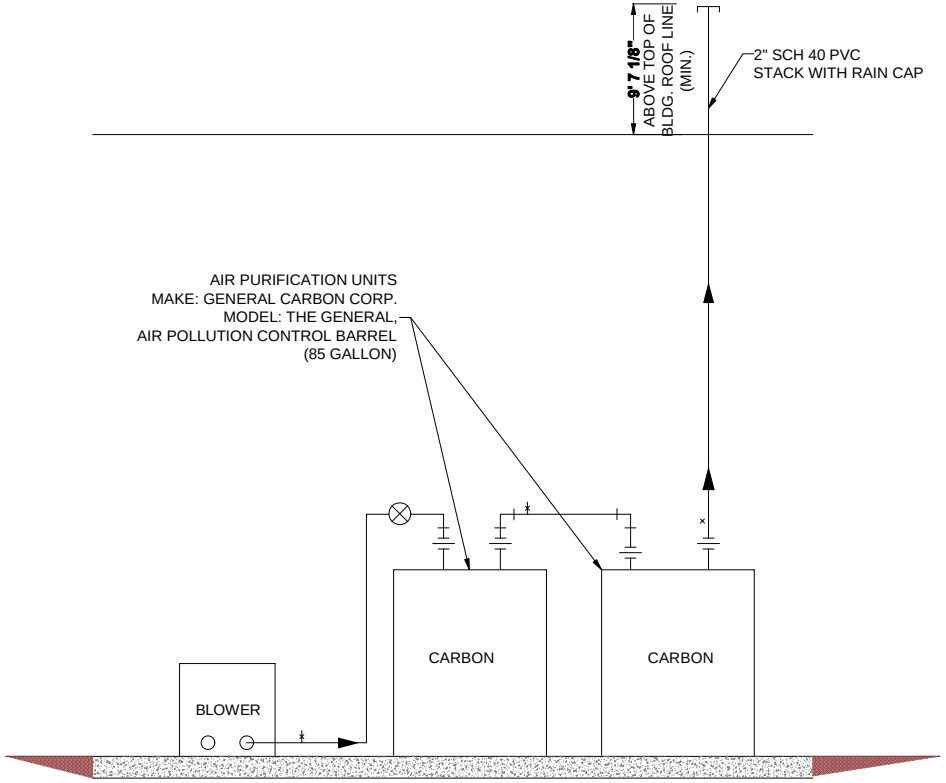
Fax 631. 924 .2870

Figure No. 12

Site Name: FORMER UNION WIRE DIE
Site Address: 39-40 30TH STREET, LONG ISLAND CITY, NY
Drawing Title: SVE WELL DETAIL





LEGEND

- 4"x2" SCH 40 PVC REDUCER
- FM — 2" DIA. AIR FLOW METER
- V — VACUUM GAUGE
- P — PRESSURE GAUGE
- VRV — VACUUM RELIEF VALVE
- PRV — PRESSURE RELIEF VALVE
- 2" DIA. SCH 40 PVC BALL VALVE
- BRASS SAMPLE TAP
- AF — AIR FILTER
- UNION OR QUICK CONNECT
- FLOW DIRECTION
- 3-WAY ELECTRICALLY ACTUATED BALL VALVE

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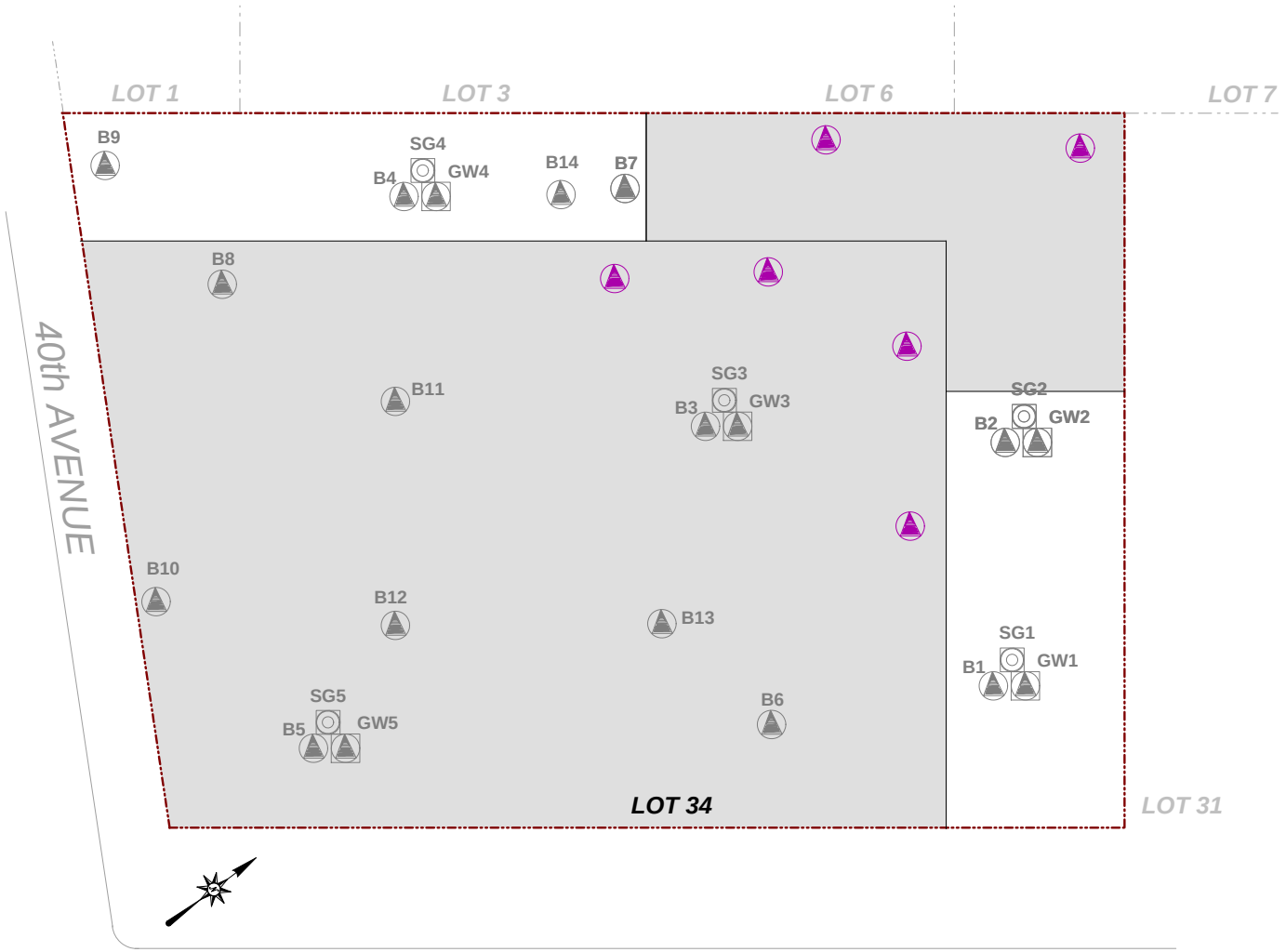
Figure No. 13

Site Name: FORMER UNION WIRE DIE
Site Address: 39-40 30TH STREET, LONG ISLAND CITY, NY
Drawing Title: SVE EQUIPMENT DETAIL



SCALE:

0 5 25

1 Inch = 25 feet

KEY:

- Property Boundary
- Groundwater Sampling Location
- Soil Boring Location
- Soil Gas Sampling Location
- Existing 2-Story Building*
- Pre Design Soil Boring Location

*Note - Existing building dimensions are approximated.

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39-40 30TH STREET
LONG ISLAND CITY, NY

FIGURE 14 SOIL EXCEEDENCES

ATTACHMENT A
Metes and Bounds Description of Property

According to the July 26, 1996 deed, the lot is defined as follows:

ALL that certain plot, piece or parcel of land, situate, lying and being in the First Ward, Borough and County of Queens, City and State of New York, bounded and described as follows:

BEGINNING at the comer formed by the intersection of the northerly side of 40th Avenue with the westerly side of 30th Street, as said Avenue and Street are laid out on the Final Topographical Map of the City of New York for the Borough of Queens;

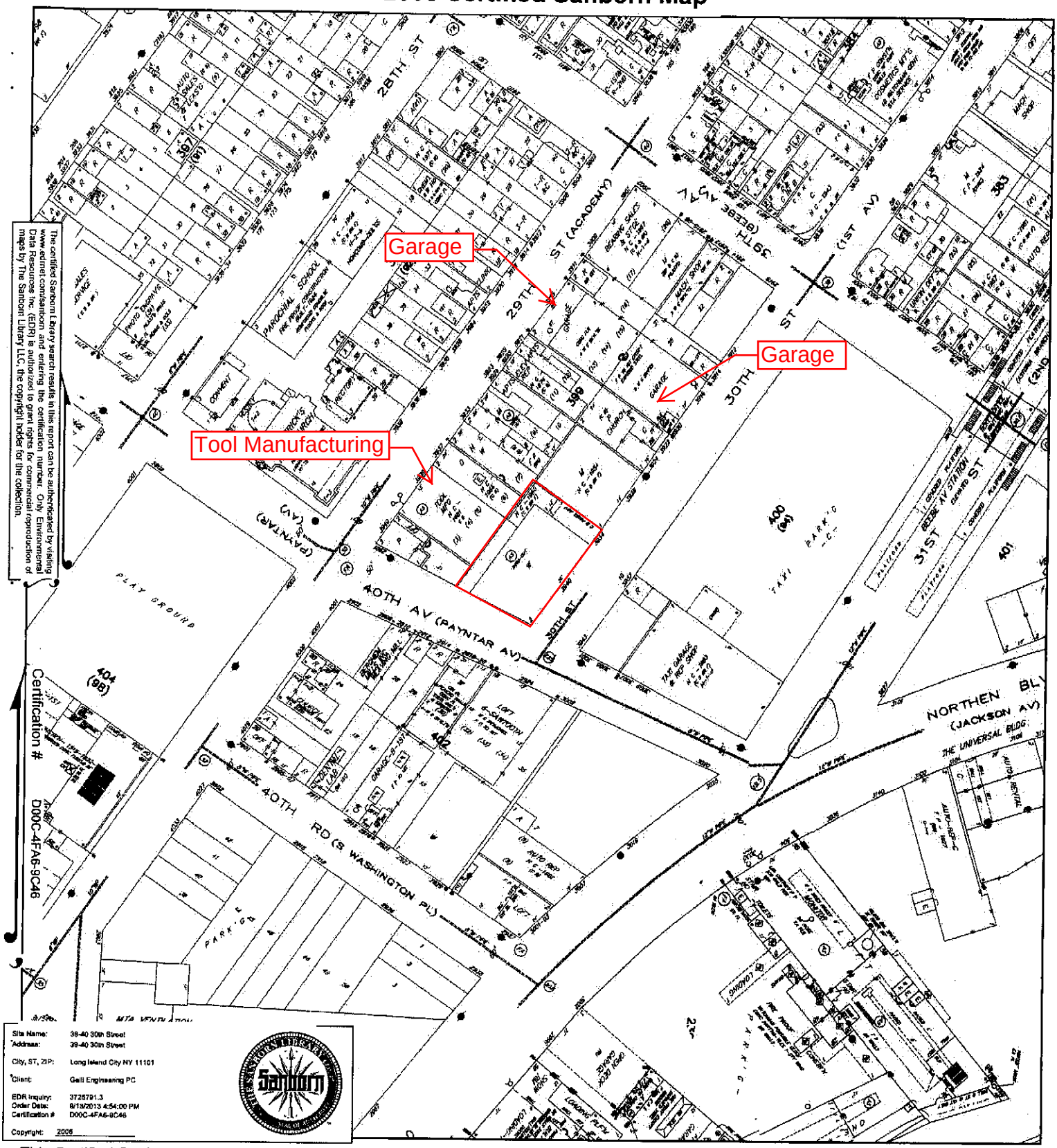
RUNNING THENCE northerly along the westerly side of 30th Street, 133.72 feet;
THENCE westerly at right angles to the westerly side of 30th Street, 100.1 0 feet;

THENCE southerly and parallel with the westerly side of 30th Street, 149.31 feet to the northerly side of 40111 Street;

THENCE easterly along the northerly side of 40th Avenue, 101.31 feet to the comer, the point or place of BEGINNING.

ATTACHMENT B
Sanborn Maps

2006 Certified Sanborn Map



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Copyright:	2006

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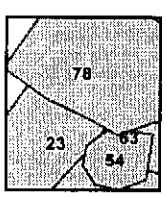

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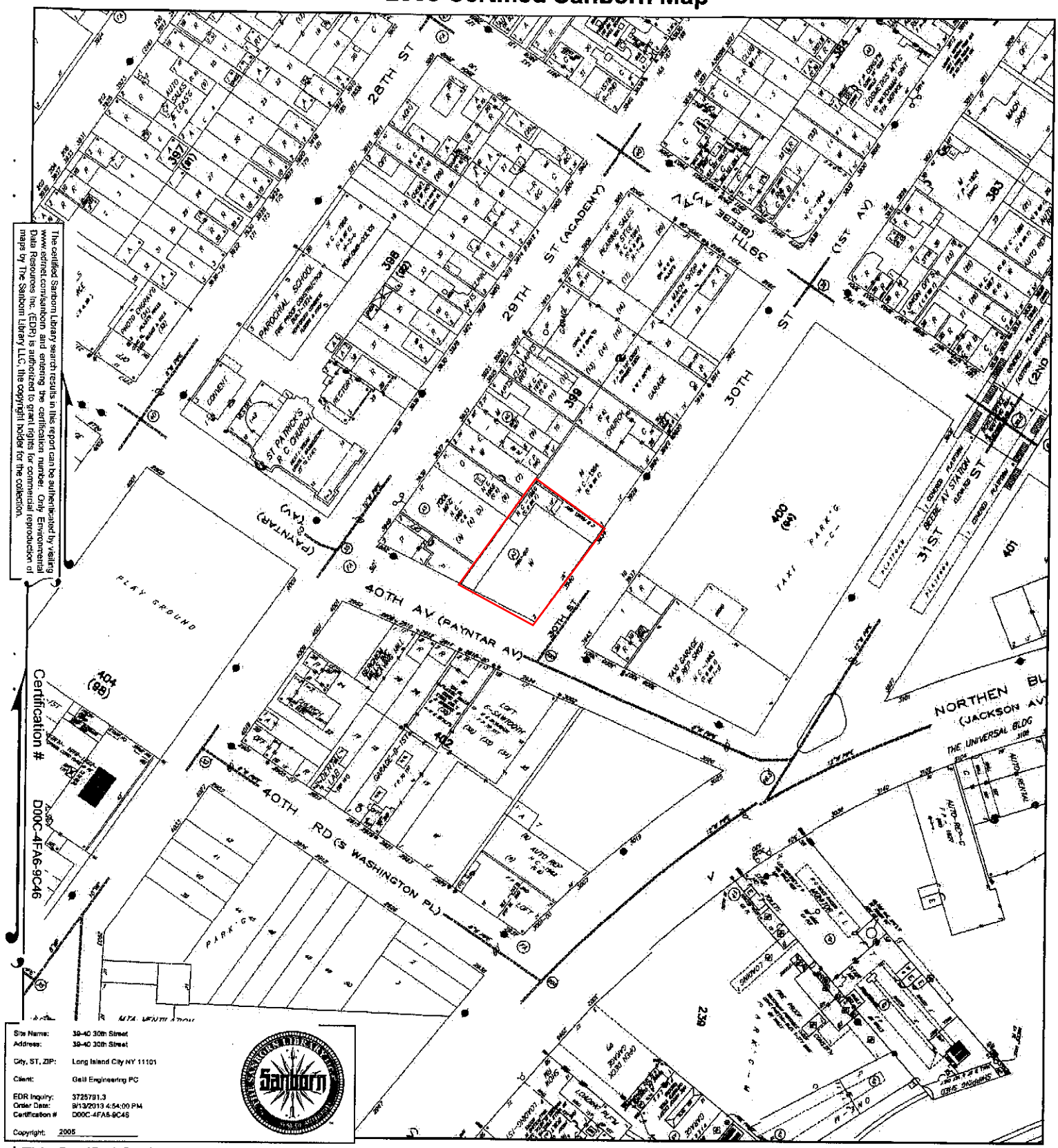
Volume 1, Sheet 78

0 Feet 150 300 600

N

2005 Certified Sanborn Map



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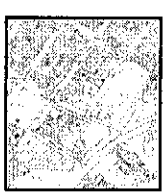

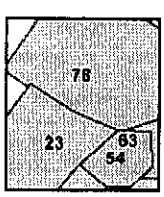

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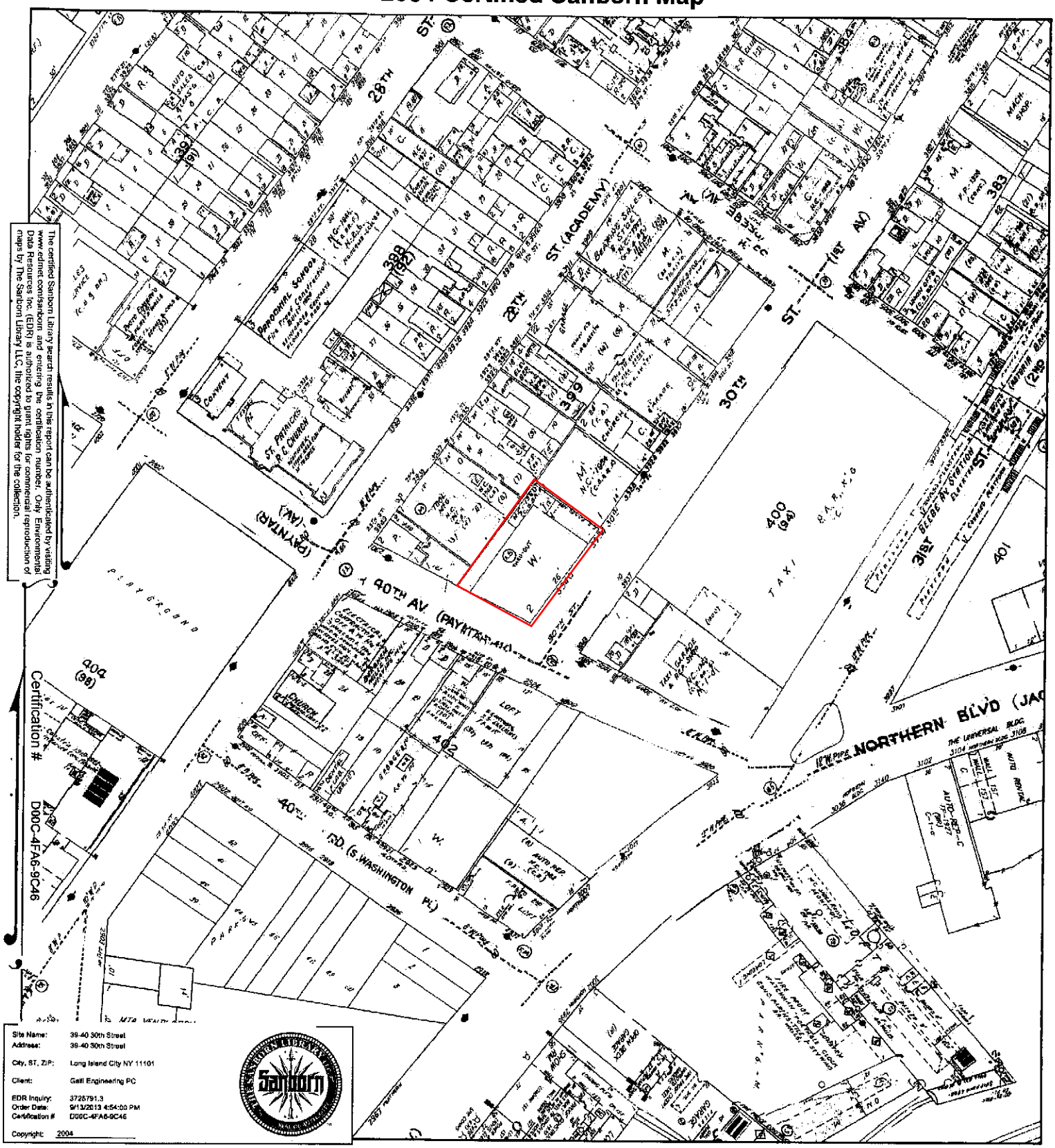
Volume 1, Sheet 78

0 Feet 150 300 600

N

2004 Certified Sanborn Map



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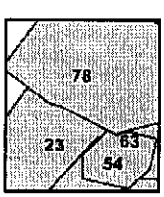

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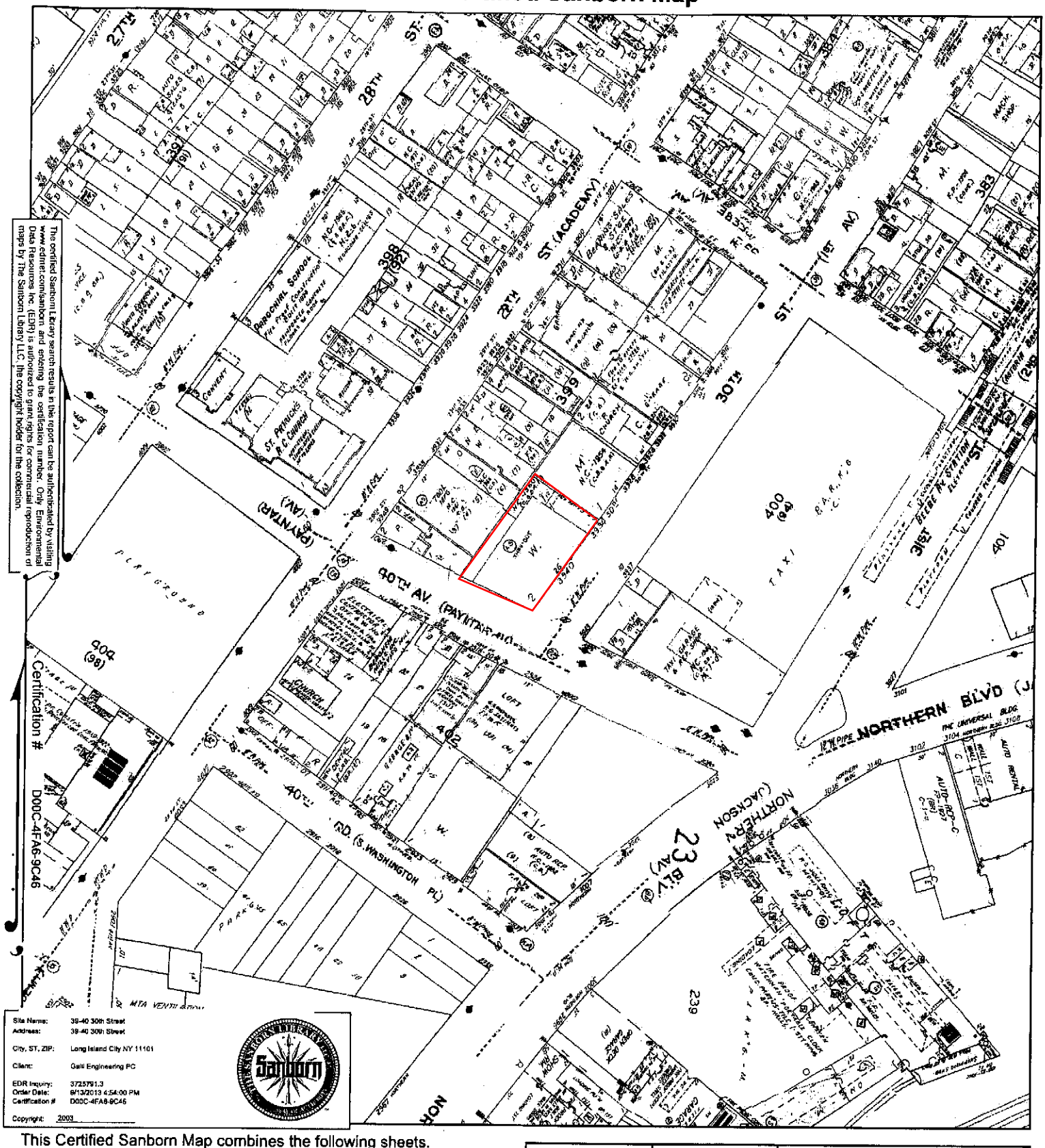
Volume 1, Sheet 63
Volume 1, Sheet 78

0 Feet 150 300 600

N

2003 Certified Sanborn Map



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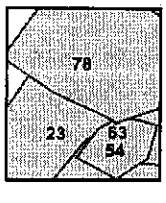

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Volume 1, Sheet 63
Volume 1, Sheet 78

0 Feet 150 300 600

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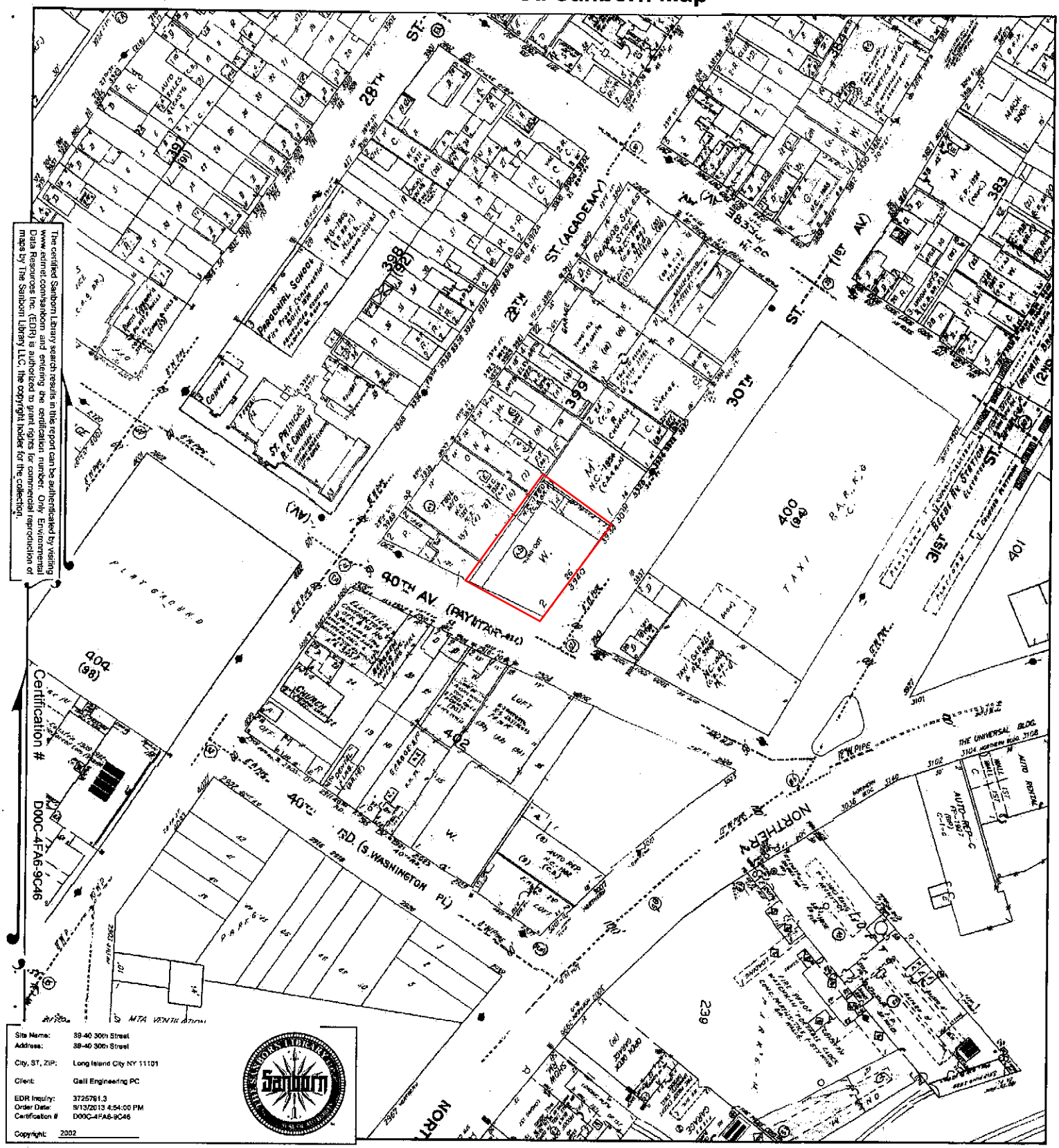

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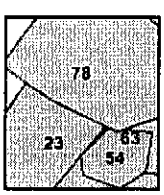

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Volume 1, Sheet 78

0 Feet 150 300 600

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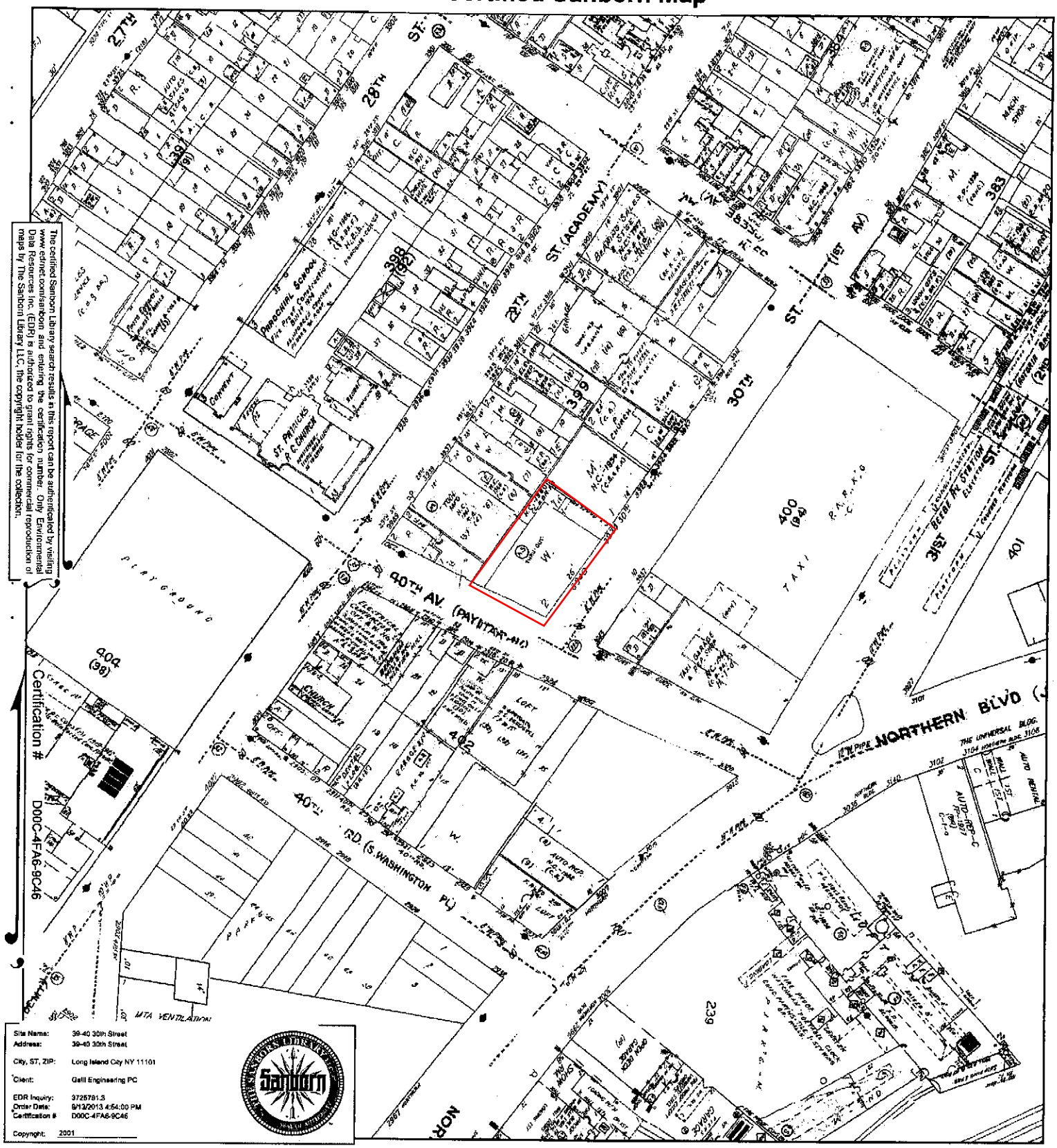

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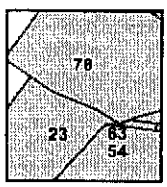

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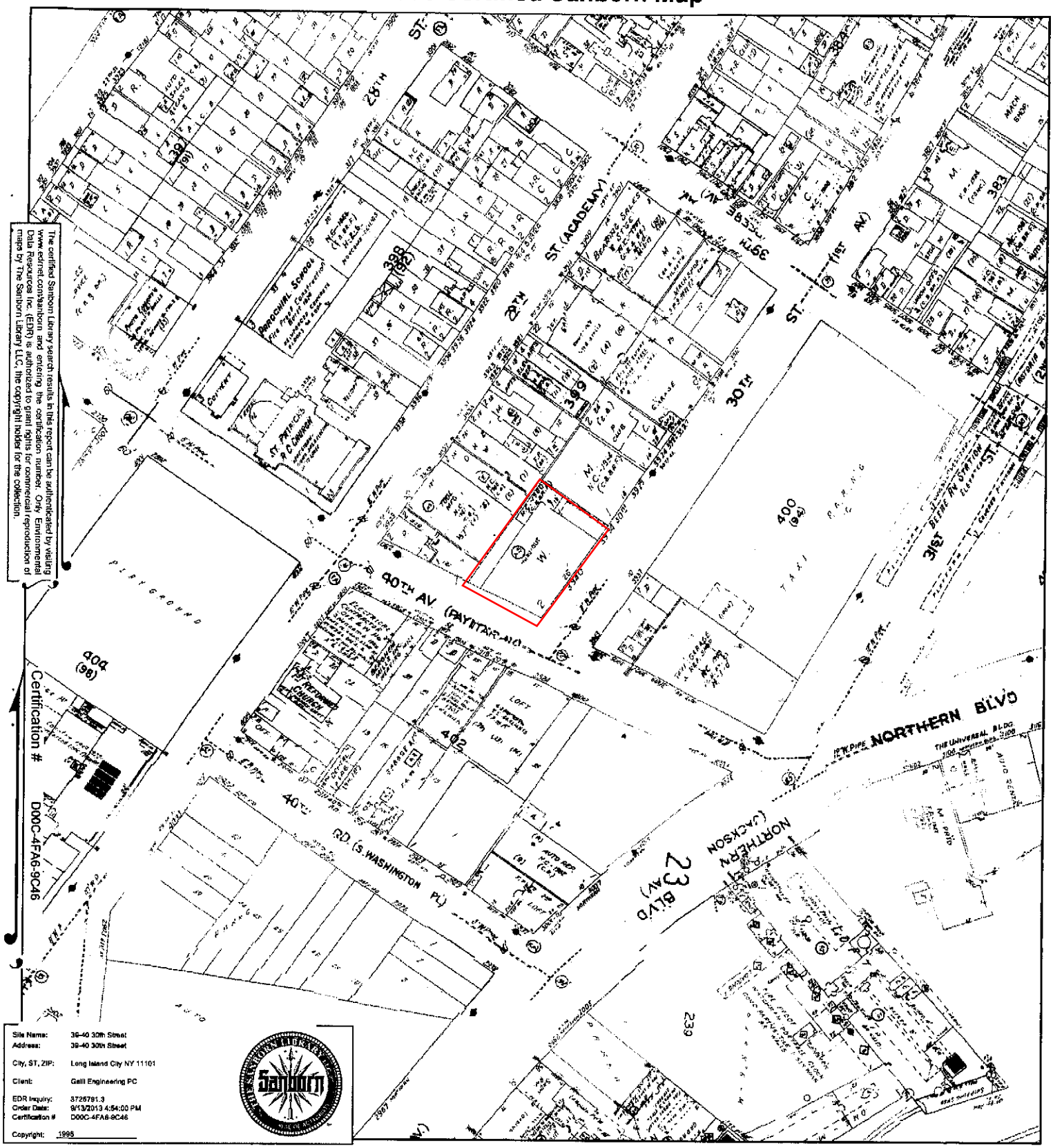
1996 Certified Sanborn Map



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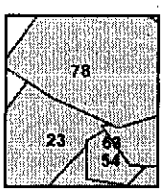

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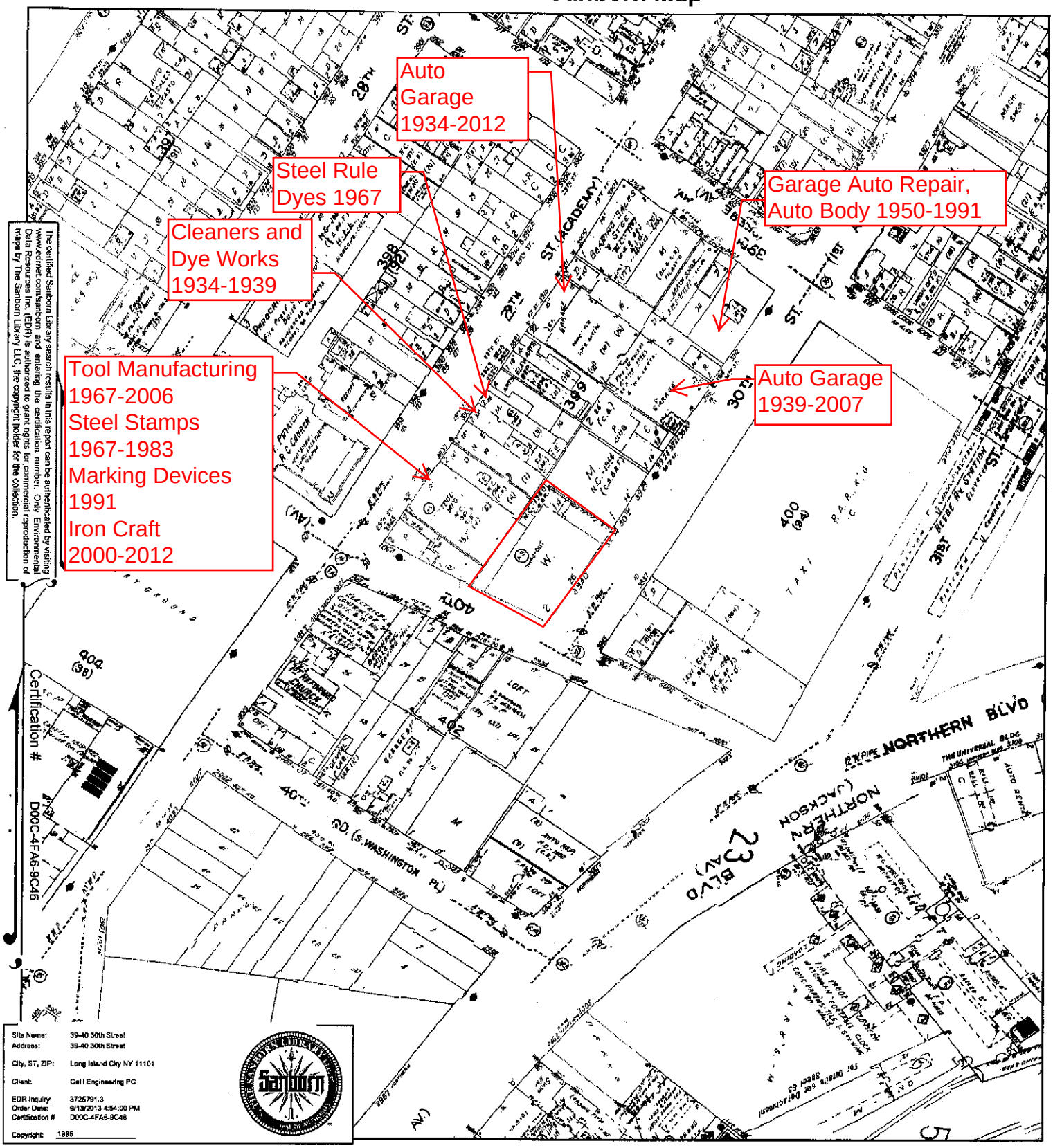
0 Feet 150 300 600

N

1995 Certified Sanborn Map



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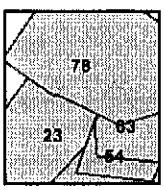

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0 Feet 150 300 600

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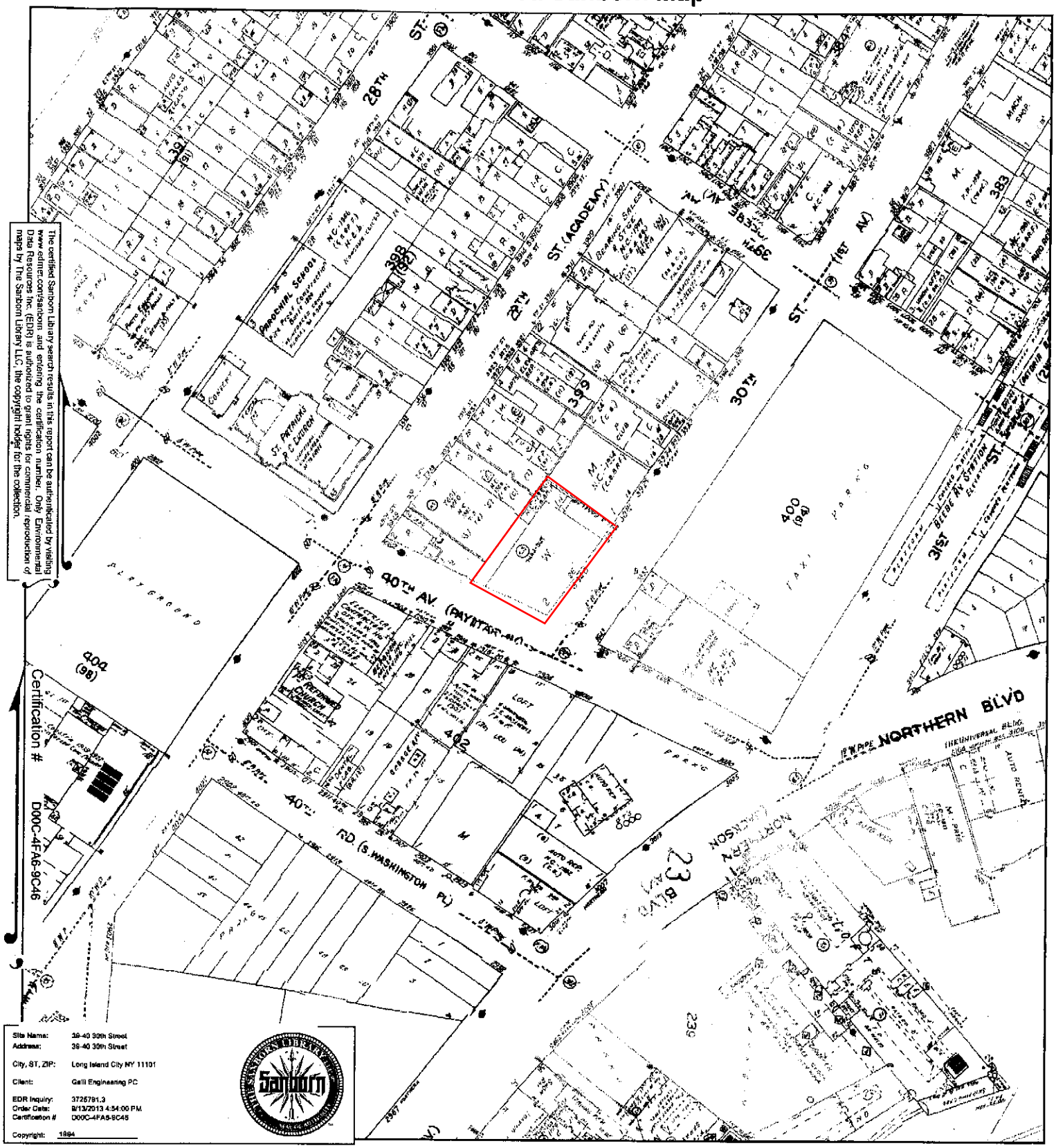
1994 Certified Sanborn Map



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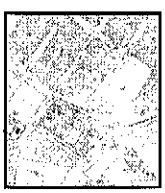

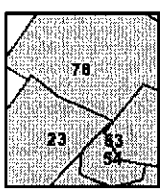

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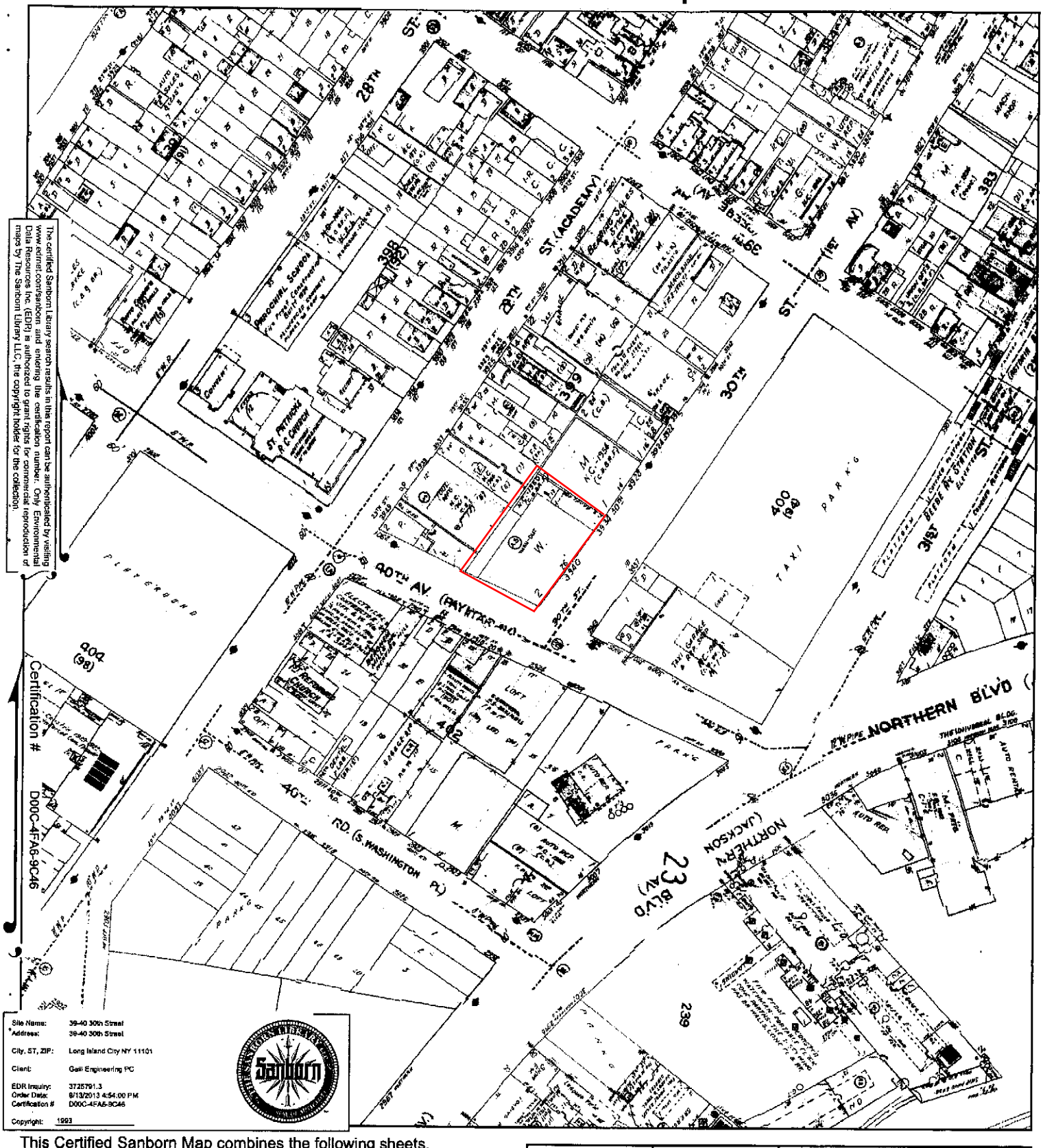
Volume 1, Sheet 63

0 Feet 150 300 600

N

1993 Certified Sanborn Map



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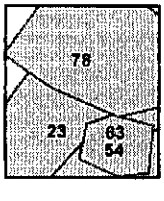

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Volume 1, Sheet 54
Volume 1, Sheet 78

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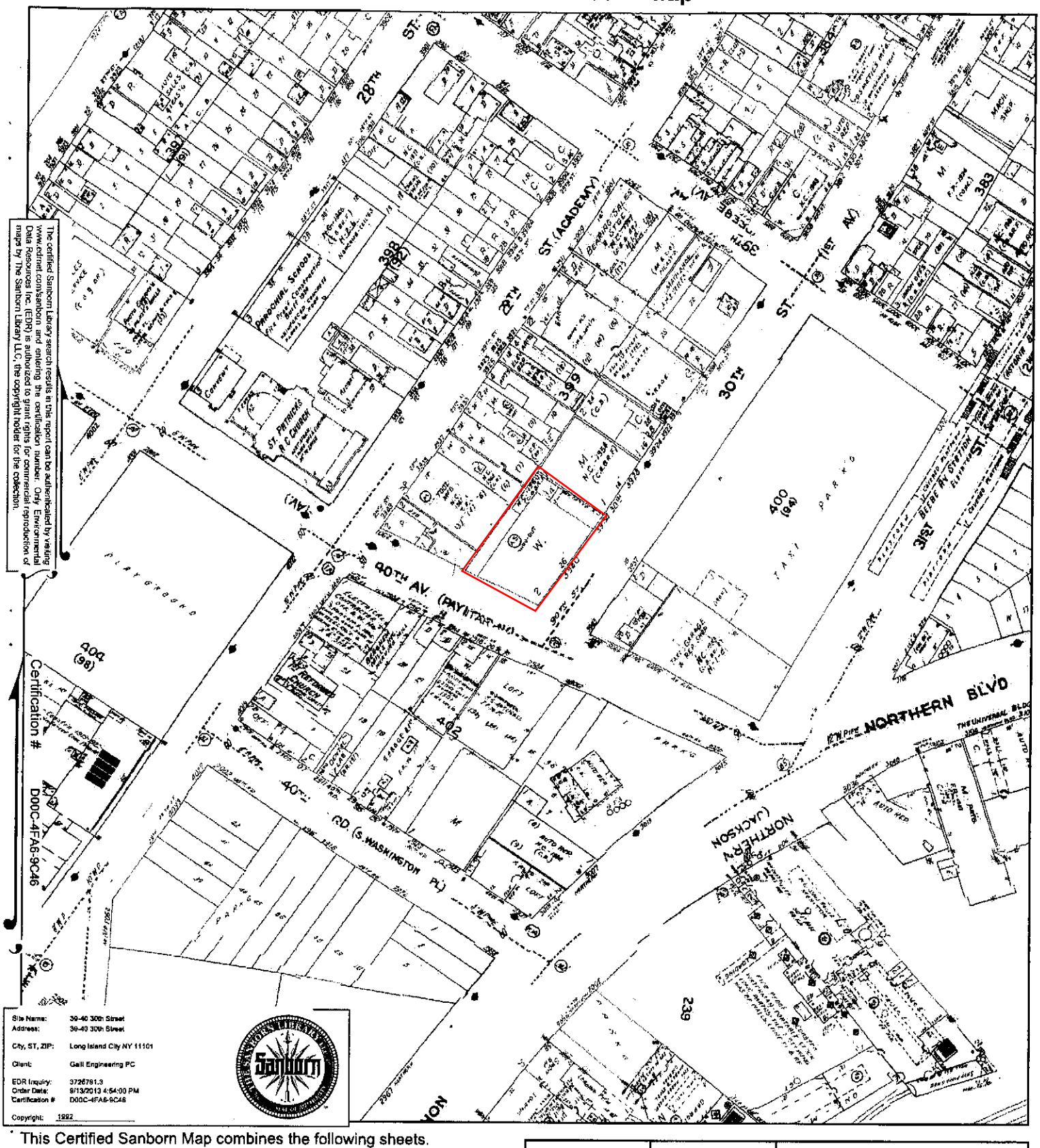
1992 Certified Sanborn Map



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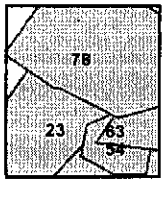

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Volume 1, Sheet 78

0 Feet 150 300 600

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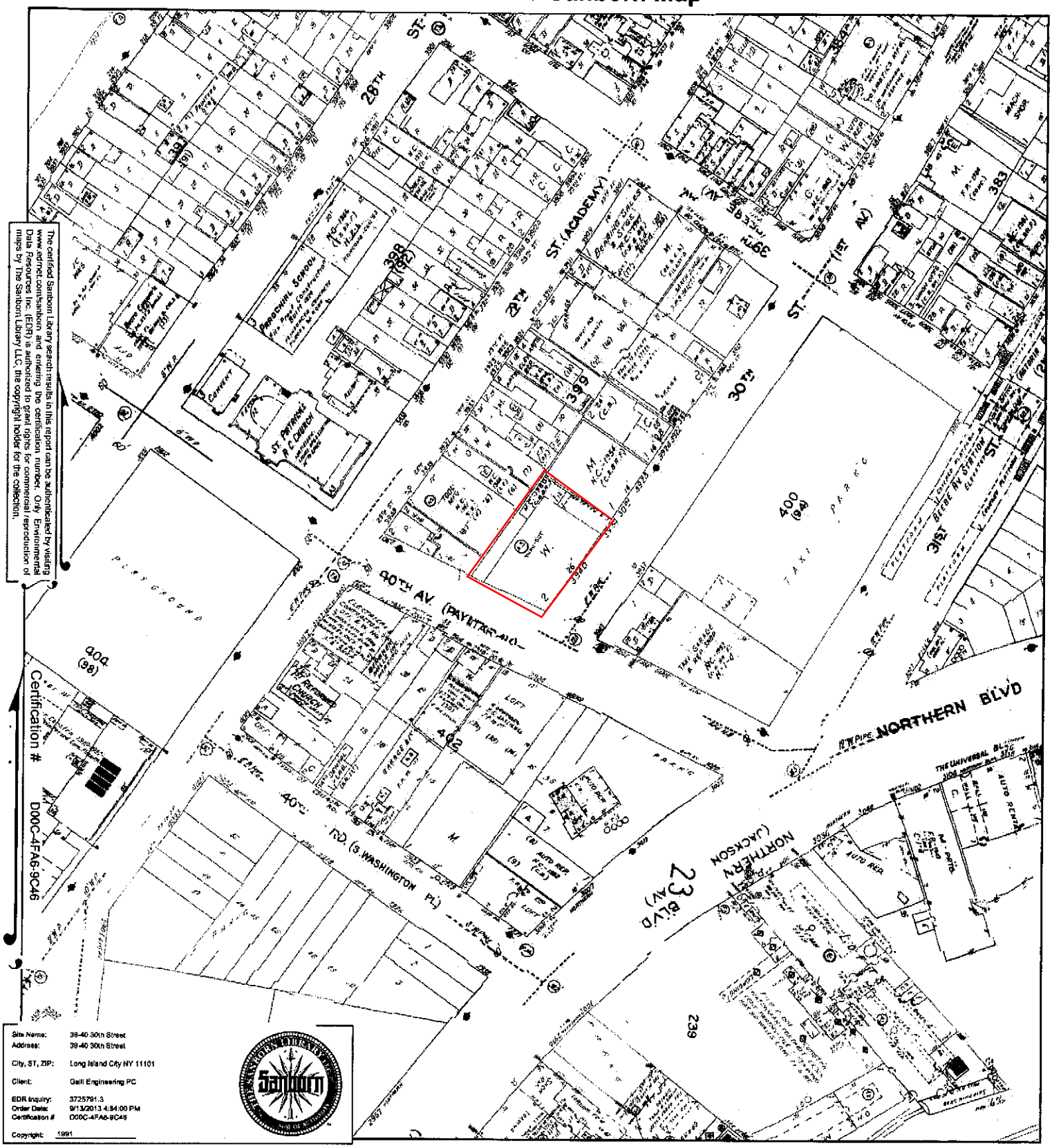
1991 Certified Sanborn Map



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Certification #	D00C-4FA6-9C48
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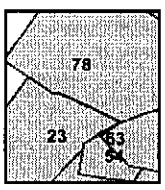

Volume 1, Sheet 23
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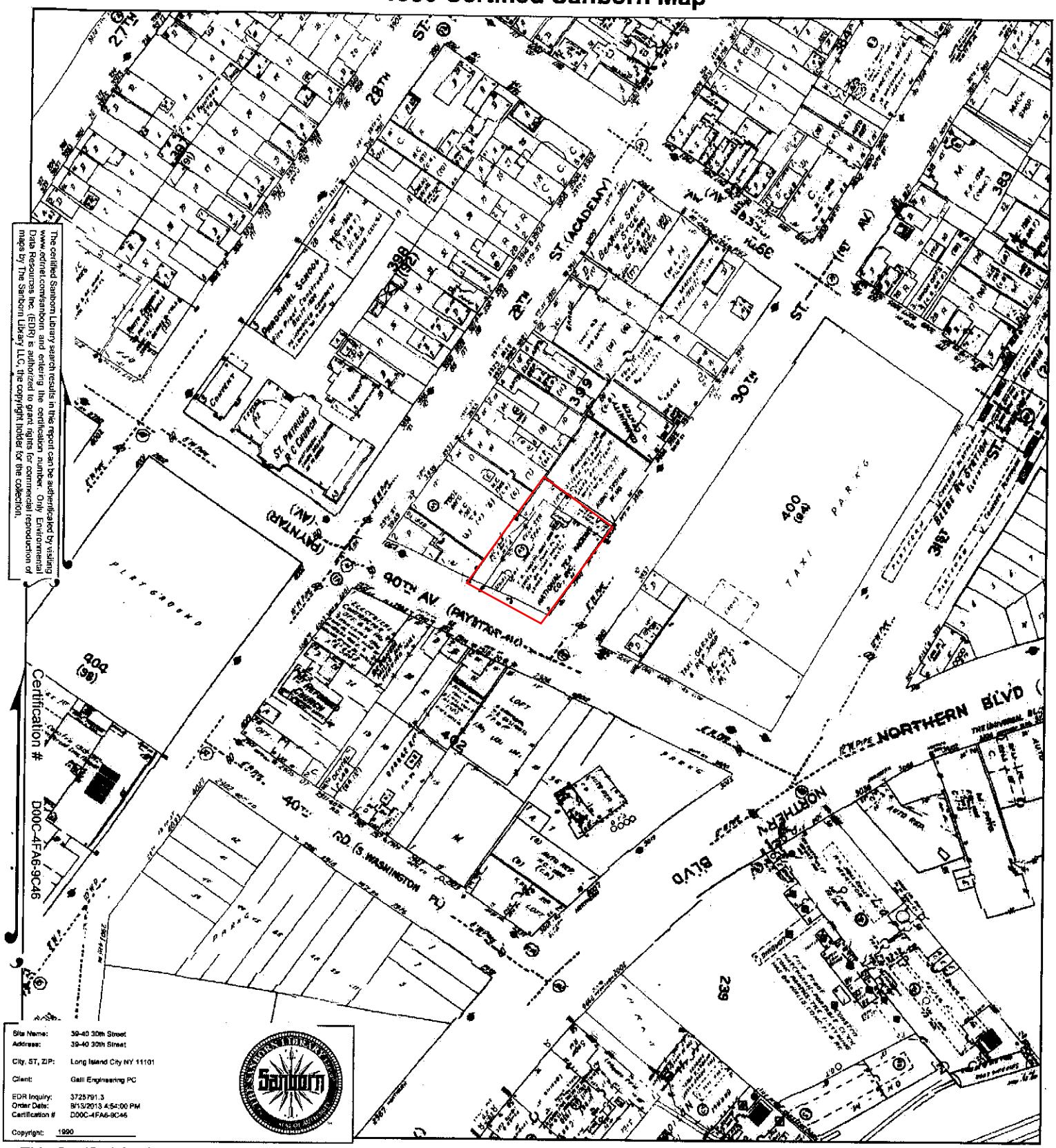
Volume 1, Sheet 63
Volume 1, Sheet 78

0 Feet 150 300 600

N

1990 Certified Sanborn Map



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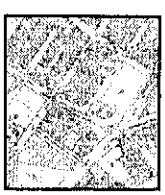

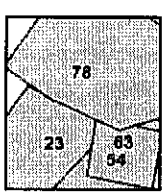

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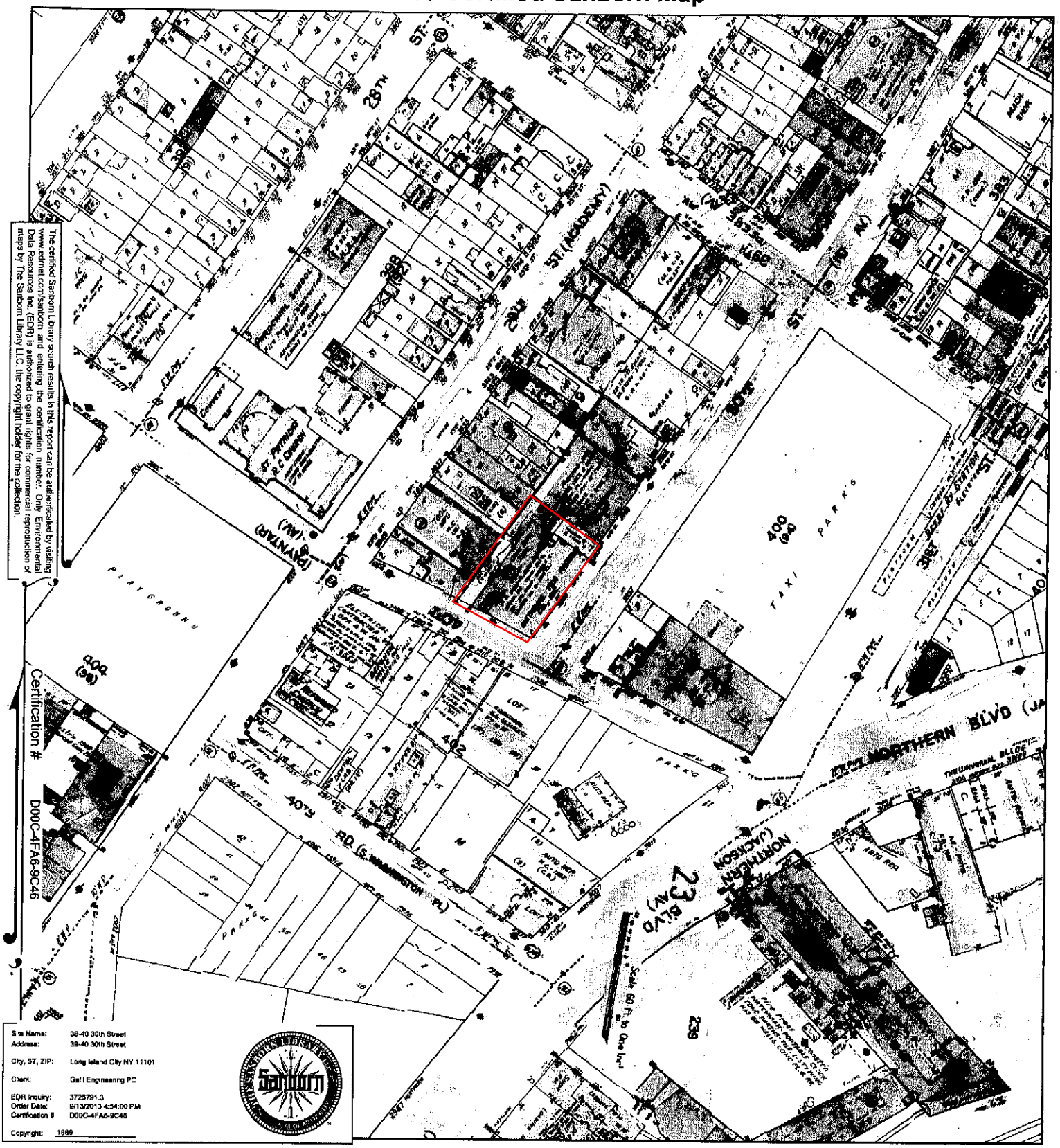

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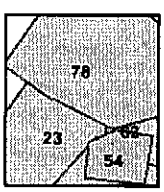

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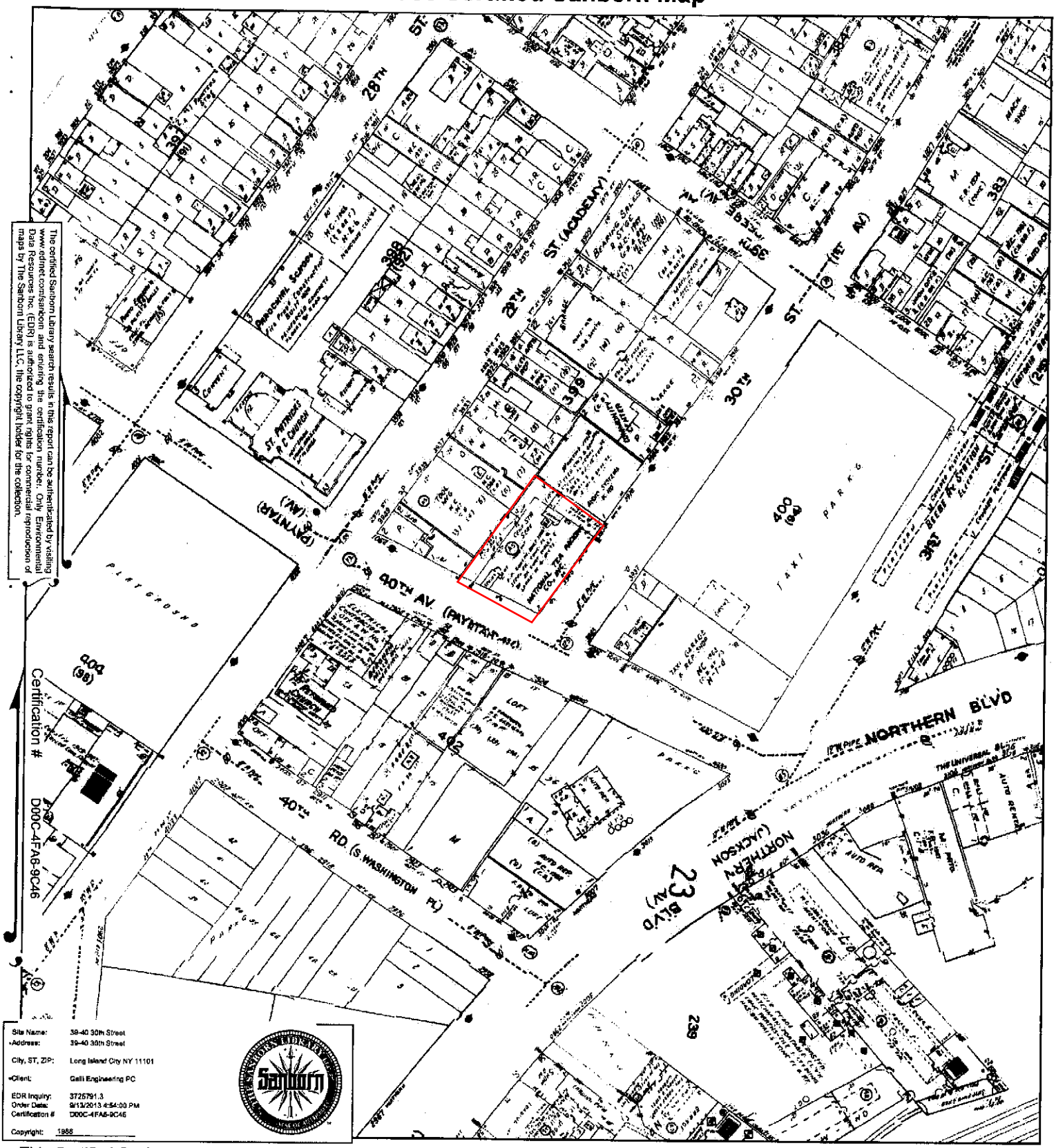

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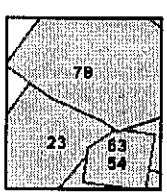

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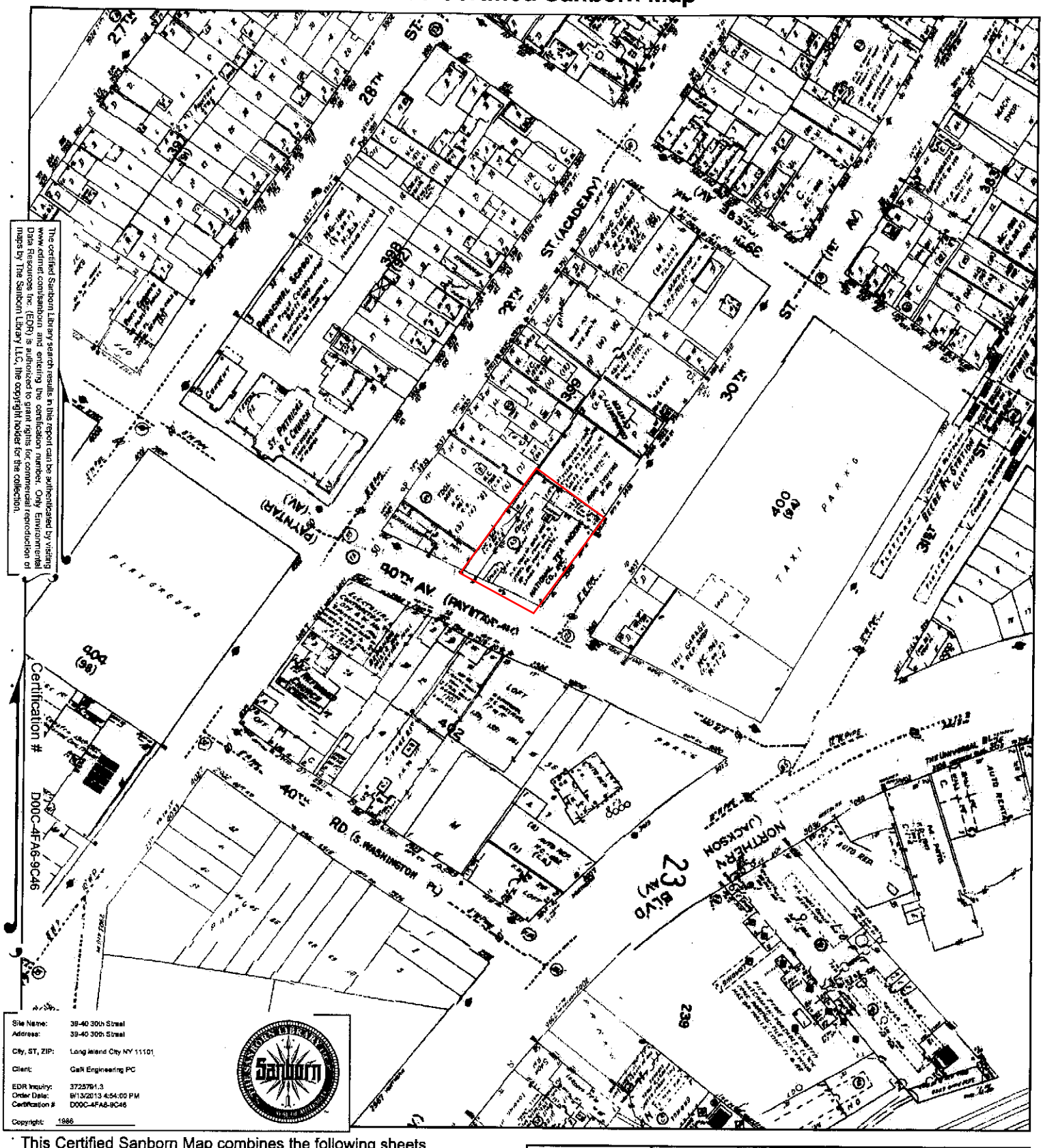

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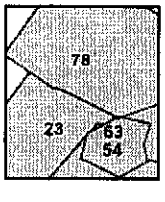

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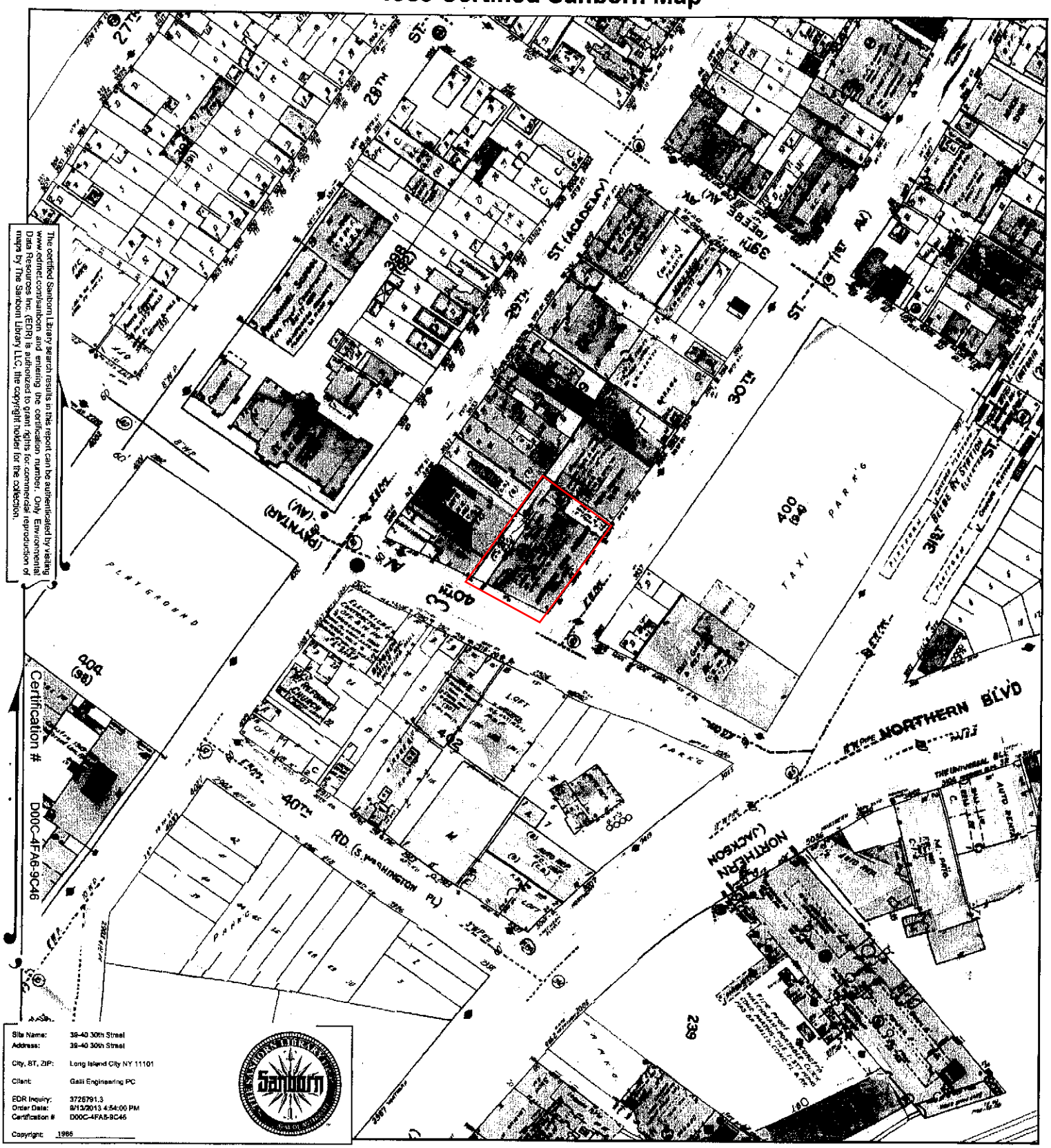

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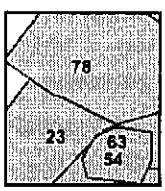

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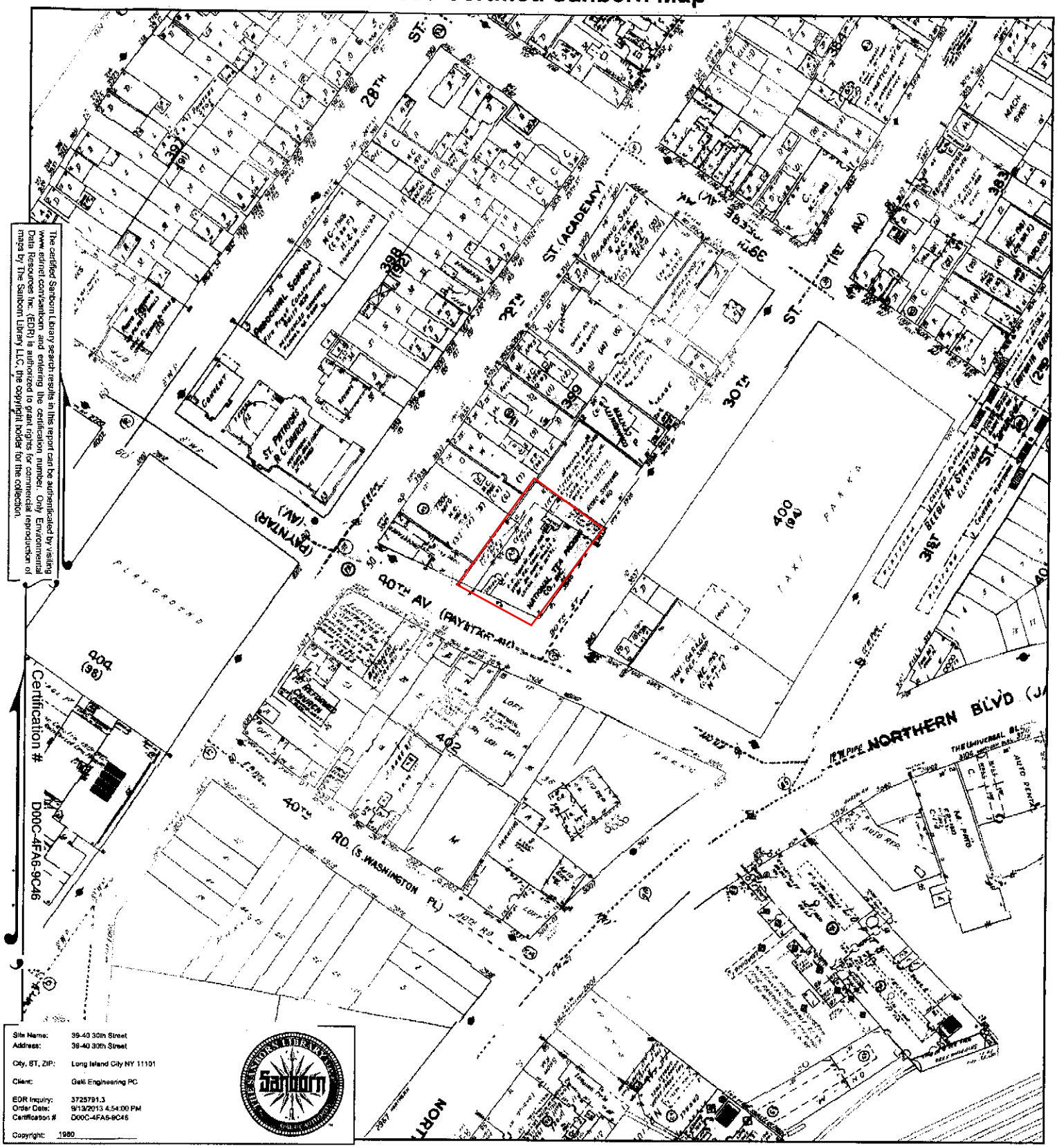

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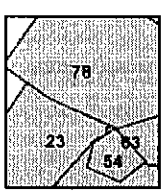

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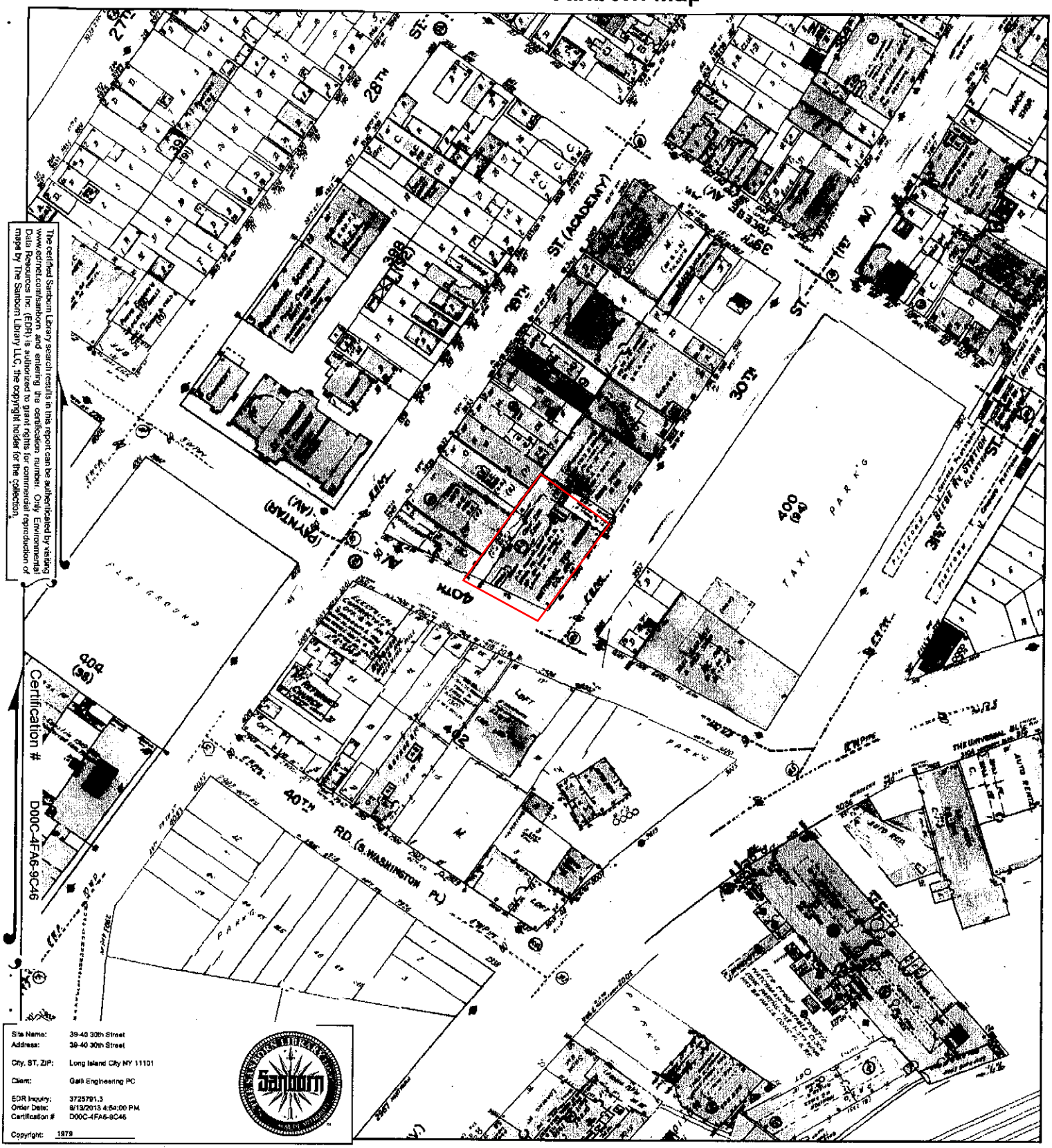

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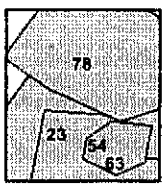

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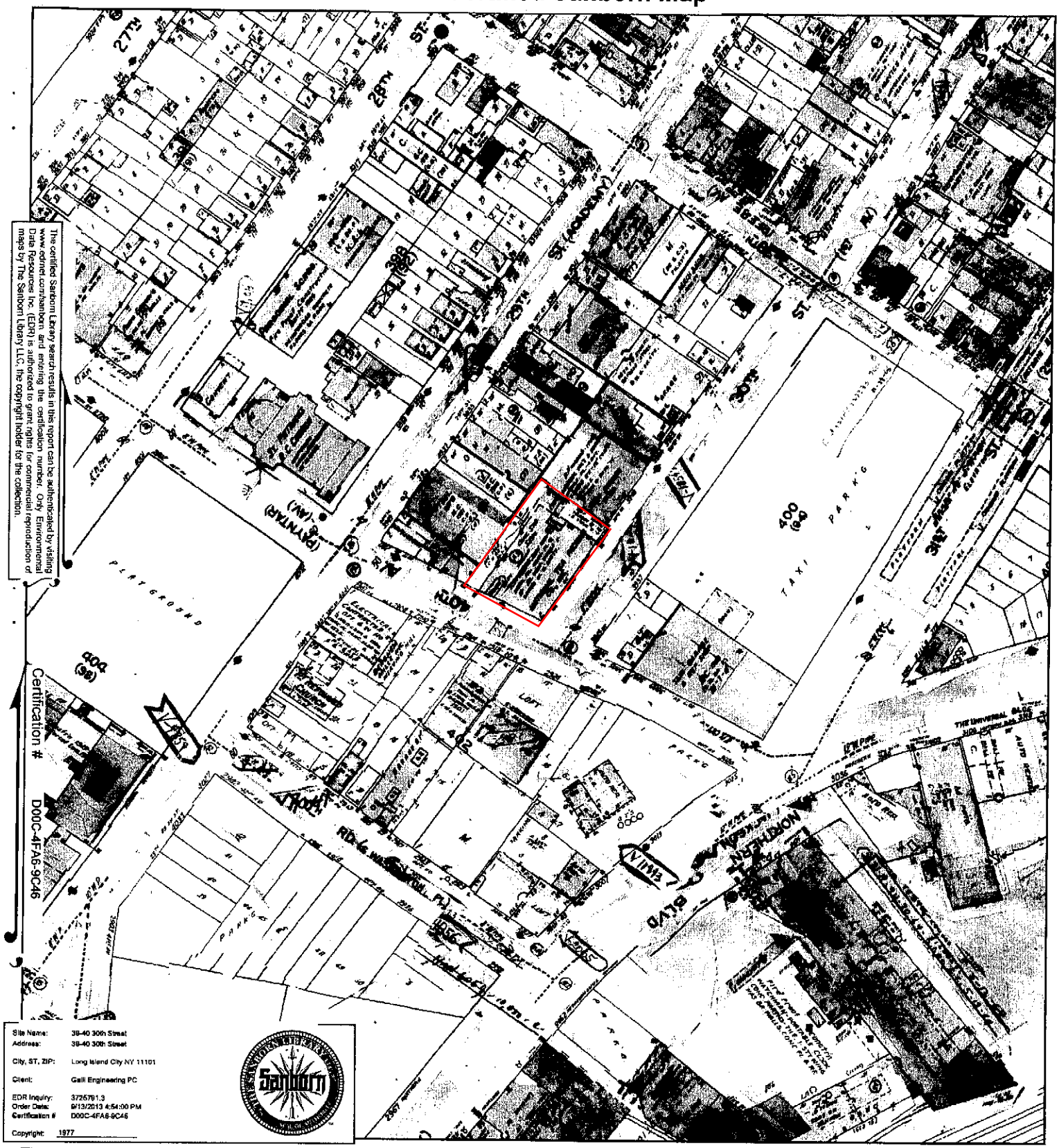

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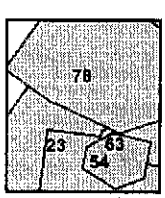

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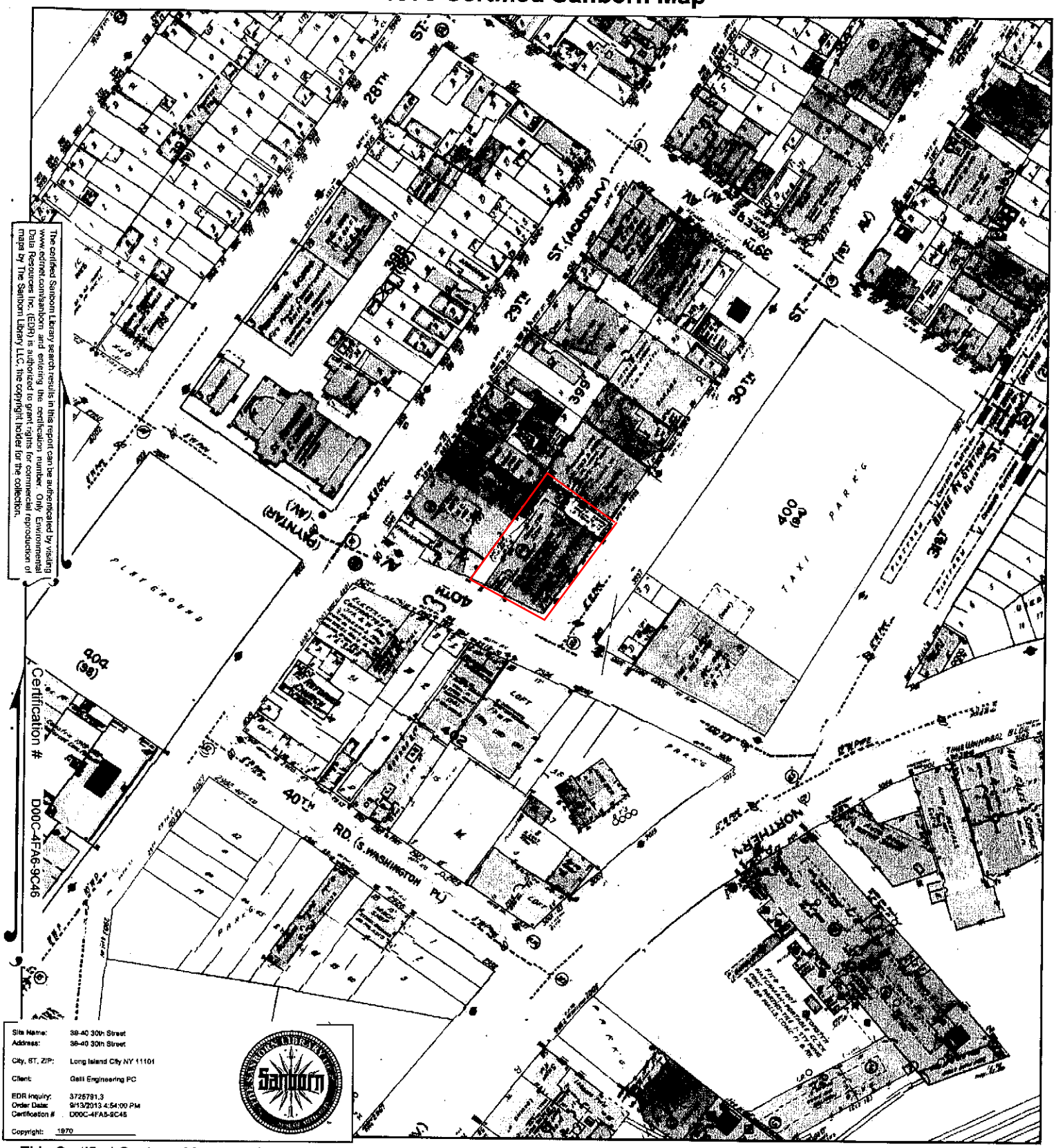

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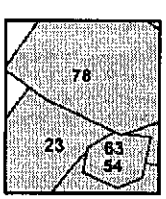

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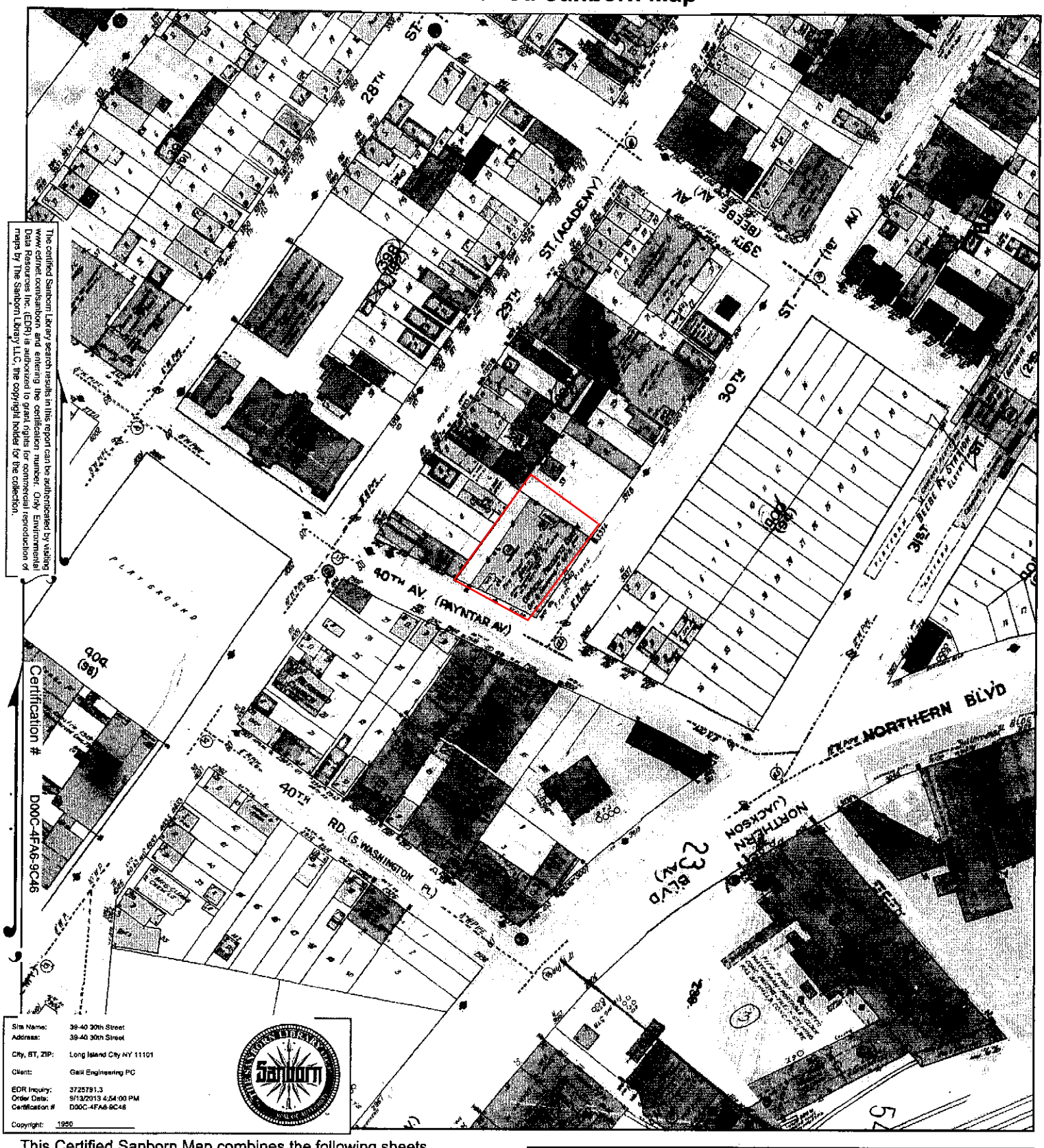

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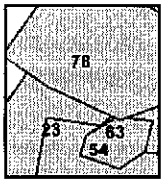

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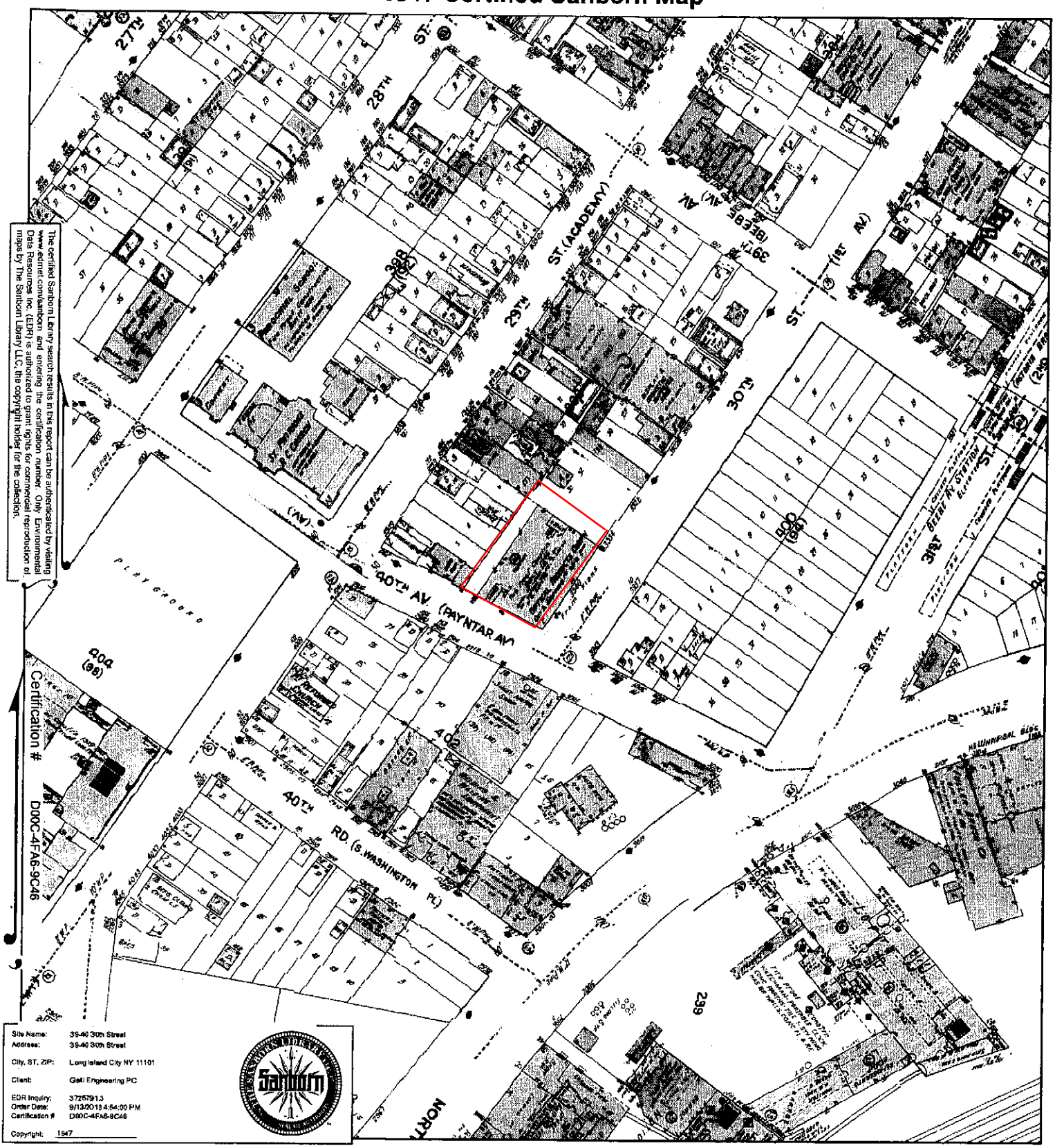

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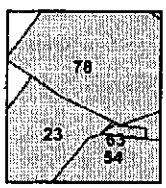

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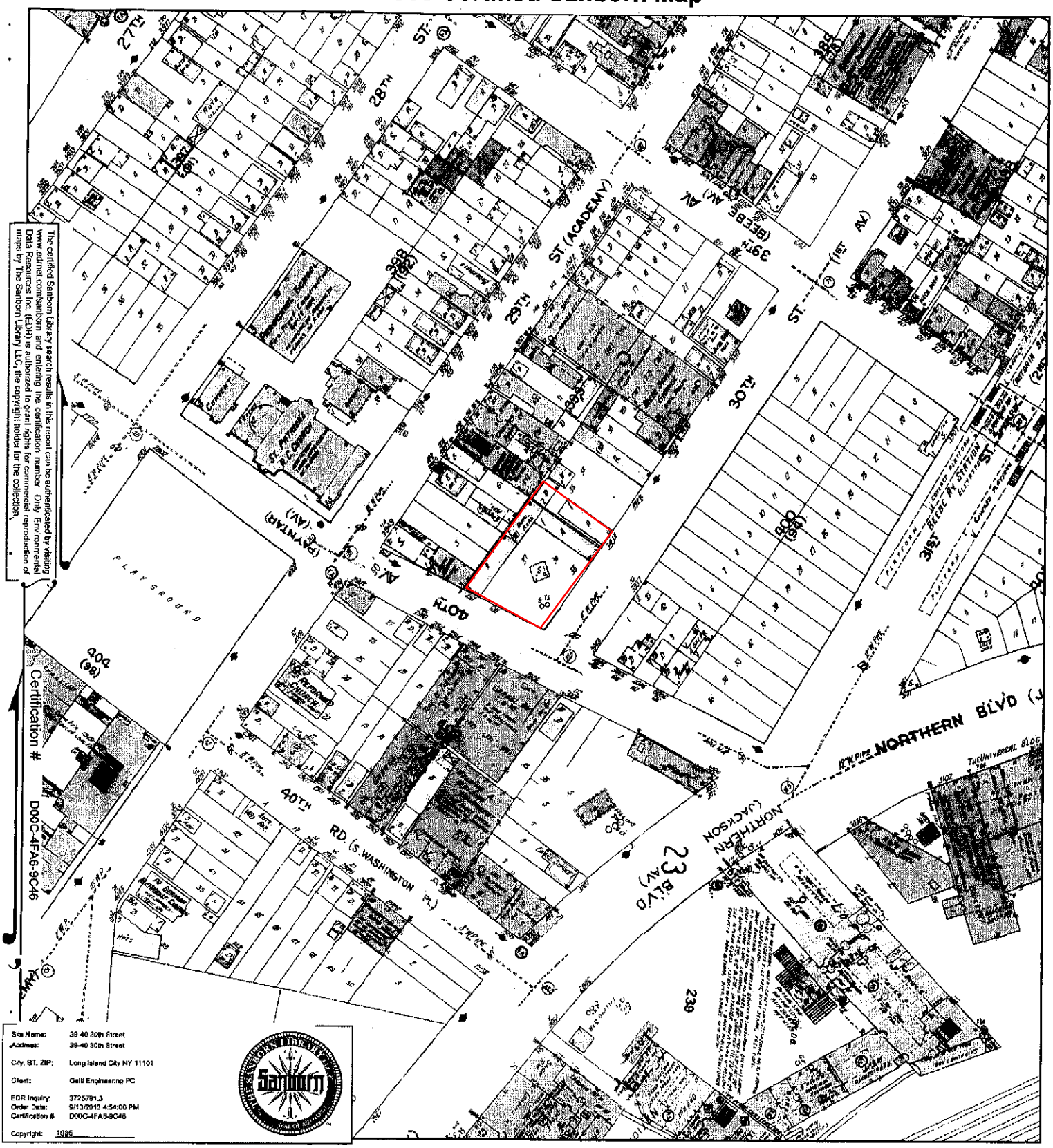

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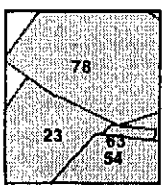

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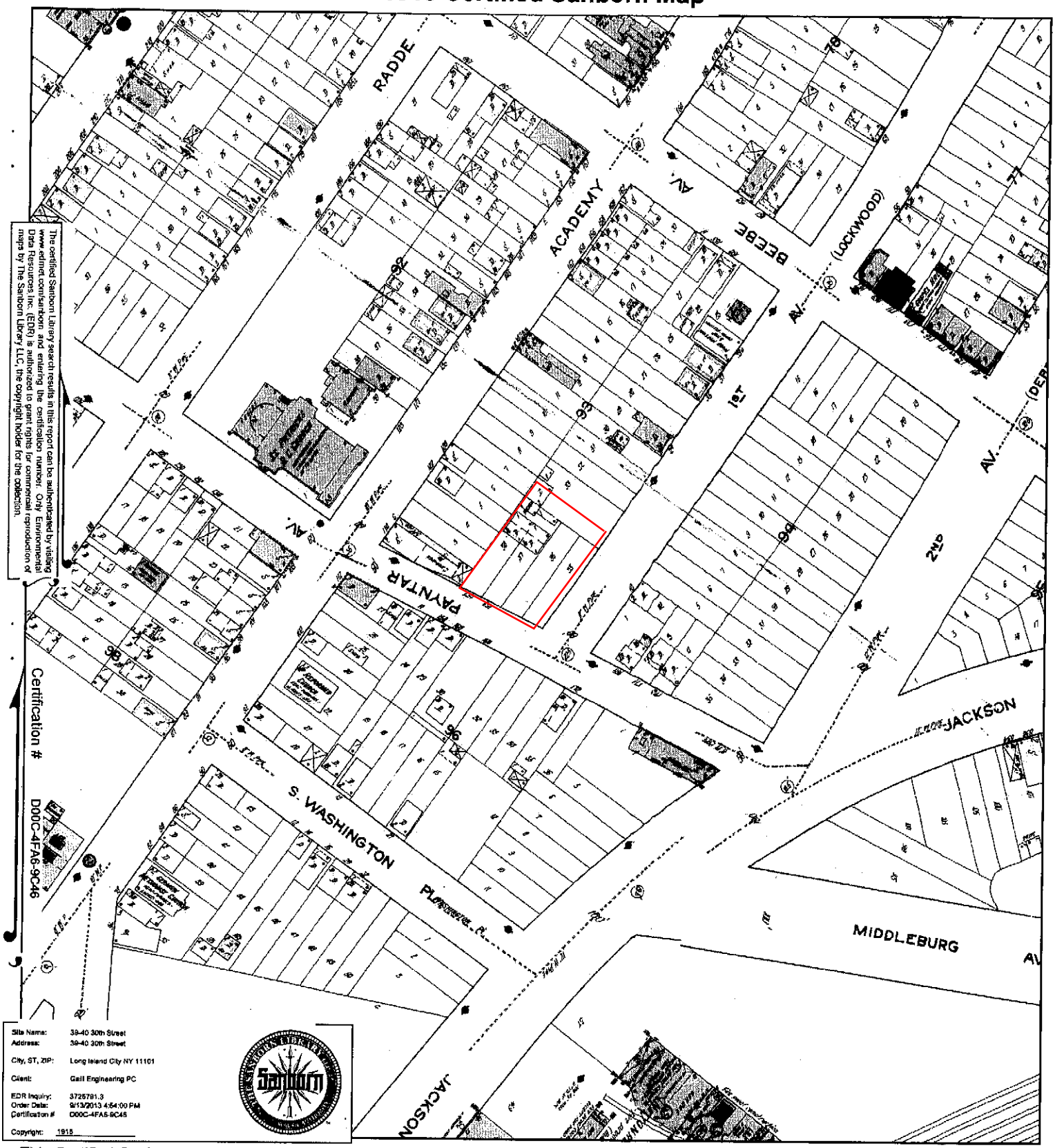

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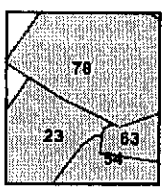

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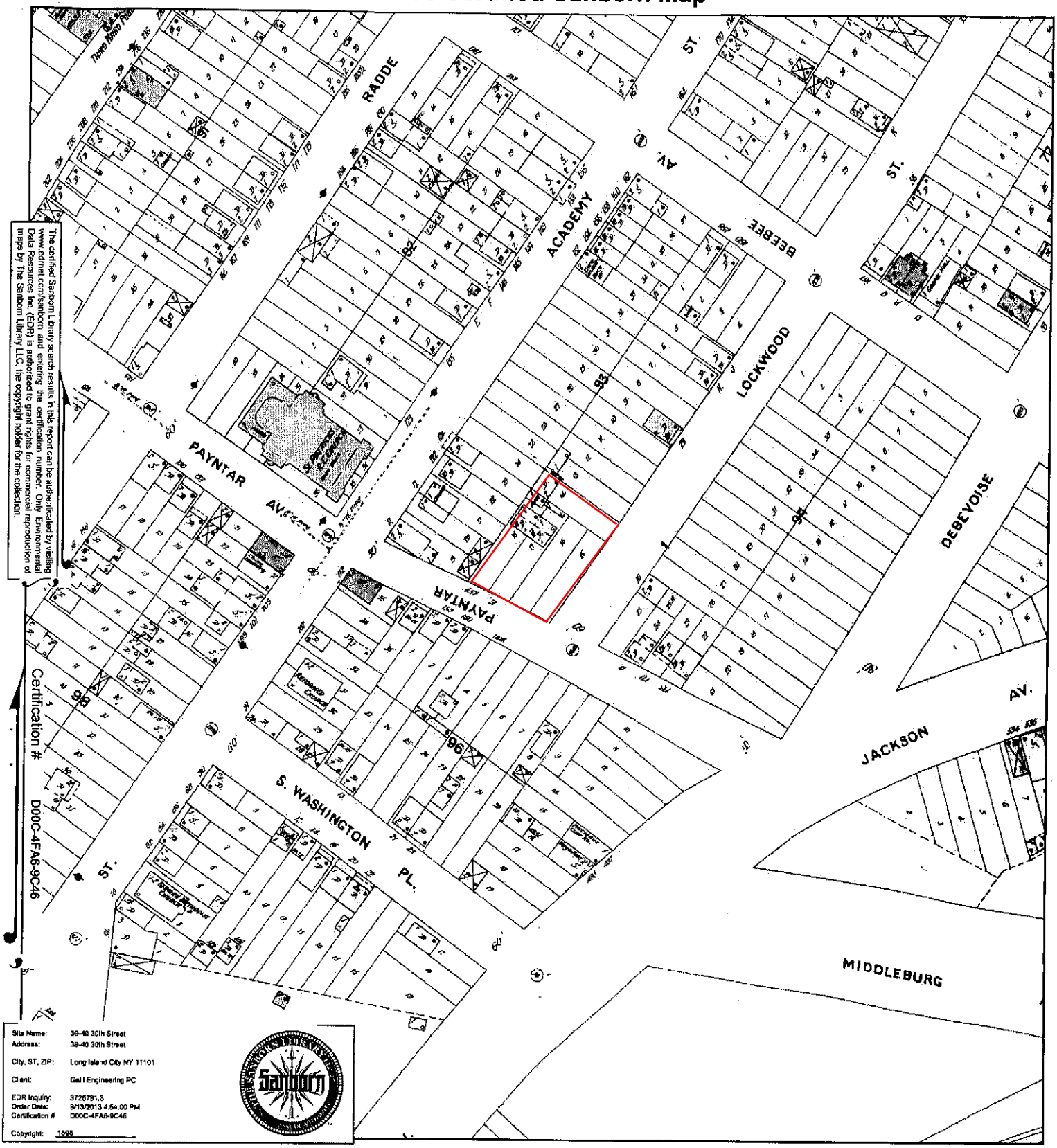

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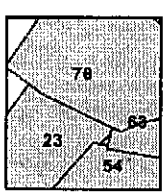

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ATTACHMENT C
Construction Health and Safety Plan

39-40 30th Street
QUEENS, NEW YORK
Block 399, Lot 34

CONSTRUCTION HEALTH AND SAFETY PLAN

February 2016

Prepared By:

EBC
ENVIRONMENTAL BUSINESS
1808 Middle Country Road
Ridge, NY 11961

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39-40 30th Street, Queens, New York

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39-40 30TH Street, Queens, New York

FIGURES

APPENDICES

STATEMENT OF COMMITMENT

This Health and Safety Plan (HASP) has been prepared to ensure that workers are not exposed to risks from hazardous materials during the Remedial Action at 39-40 30th Street, Queens, New York.

This HASP, which applies to persons present at the site actually or potentially exposed to hazardous materials, describes emergency response procedures for actual and potential chemical hazards. This HASP is also intended to inform and guide personnel entering the work area or exclusion zone. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy by signing off on receipt of their individual copy of the document. Contractors and suppliers are retained as independent contractors and are responsible for ensuring the health and safety of their own employees.

1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed by Environmental Business Consultants (EBC) for the planned Remedial Action at 39-40 30th Street, Queens, New York to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes during remedial activities. In accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response Final rule, this CHASP, including the attachments, addresses safety and health hazards related to excavation, loading and other soil disturbance activities and is based on the best information available. The CHASP may be revised by EBC at the request of Ganesh Management LLC and/or a regulatory agency upon receipt of new information regarding site conditions. Changes will be documented by written amendments signed by EBC's project manager, site safety officer and/or the EBC health and safety consultant.

1.1 Training Requirements

Personnel entering the exclusion zone or decontamination zone are required to be certified in health and safety practices for hazardous waste site operations as specified in the Federal OSHA Regulations CFR 1910.120e (revised 3/6/90).

Paragraph (e - 3) of the above referenced regulations requires that all on-site management personnel directly responsible for or who supervise employees engaged in hazardous waste operations, must initially receive 8 hours of supervisor training related to managing hazardous waste work.

Paragraph (e - 8) of the above referenced regulations requires that workers and supervisors receive 8 hours of refresher training annually on the items specified in Paragraph (e-1) and/or (e-3).

Additionally all on-site personnel must receive adequate site-specific training in the form of an on-site Health and Safety briefing prior to participating in field work with emphasis on the following:

- Protection of the adjacent community from hazardous vapors and / or dust which may be released during intrusive activities.
- Identification of chemicals known or suspected to be present on-site and the health effects and hazards of those substances.
- The need for vigilance in personnel protection, and the importance of attention to proper use, fit and care of personnel protective equipment.
- Decontamination procedures.
- Site control including work zones, access and security.
- Hazards and protection against heat or cold.
- The proper observance of daily health and safety practices, such as entry and exit of work zones and site. Proper hygiene during lunch, break, etc.
- Emergency procedures to be followed in case of fire, explosion and sudden release of hazardous gases.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

Health and Safety meetings will be conducted on a daily basis and will cover protective clothing and other equipment to be used that day, potential and chemical and physical hazards, emergency procedures, and conditions and activities from the previous day.

1.2 Medical Monitoring Requirements

Field personnel and visitors entering the exclusion zone or decontamination zone must have completed appropriate medical monitoring required under OSHA 29 CFR 1910.120(f) if respirators or other breathing related PPE is needed. Medical monitoring enables a physician to monitor each employee's health, physical condition, and his fitness to wear respiratory protective equipment and carry out on-site tasks.

1.3 Site Safety Plan Acceptance, Acknowledgment and Amendments

The project superintendent and the site safety officer are responsible for informing personnel (EBC employees and/or owner or owners representatives) entering the work area of the contents of this plan and ensuring that each person signs the safety plan acknowledging the on-site hazards and procedures required to minimize exposure to adverse effects of these hazards. A copy of the Acknowledgement Form is included in **Appendix A**.

Site conditions may warrant an amendment to the HASP. Amendments to the HASP are acknowledged by completing forms included in **Appendix B**.

1.4 Key Personnel - Roles and Responsibilities

Personnel responsible for implementing this Health and Safety Plan are:

Name	Title	Address	Contact Numbers
Ms. Chawinie Miller	EBC – Project Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Ms. Chawinie Miller	Health & Safety Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Mr. Kevin Waters	Site Safety Officer	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000

The project manager is responsible for overall project administration and, with guidance from the site safety officer, for supervising the implementation of this CHASP. The site safety officer will conduct daily (tail gate or tool box) safety meetings at the project site and oversee daily safety issues. Each subcontractor and supplier (defined as an OSHA employer) is also responsible for the health and safety of its employees. If there is any dispute about health and safety or project activities, on-site personnel will attempt to resolve the issue. If the issue cannot be resolved at the site, then the project manager will be consulted.

The site safety officer is also responsible for coordinating health and safety activities related to hazardous material exposure on-site. The site safety officer is responsible for the following:

1. Educating personnel about information in this CHASP and other safety requirements to

be observed during site operations, including, but not limited to, decontamination procedures, designation of work zones and levels of protection, air monitoring, fit testing, and emergency procedures dealing with fire and first aid.

2. Coordinating site safety decisions with the project manager.

3. Designating exclusion, decontamination and support zones on a daily basis.

4. Monitoring the condition and status of known on-site hazards and maintaining and implementing the air quality monitoring program specified in this CHASP.

5. Maintaining the work zone entry/exit log and site entry/exit log.

6. Maintaining records of safety problems, corrective measures and documentation of chemical exposures or physical injuries (the site safety officer will document these conditions in a bound notebook and maintain a copy of the notebook on-site).

The person who observes safety concerns and potential hazards that have not been addressed in the daily safety meetings should immediately report their observations/concerns to the site safety officer or appropriate key personnel.

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2.0 SITE BACKGROUND AND SCOPE OF WORK

The street address of the subject site is 39-40 30th Street, Queens, New York. The subject site is identified as Block 399, Lot 34 on the Borough of Queens Tax Map. The lot is located in the City of New York and Borough of Queens (Queens County). The lot consists of 133 feet of street frontage on 30th Street and 100 feet of street frontage on 40th Avenue for a for a total of 14,000 square feet (0.32 acres). The Site is currently developed with a two-story commercial warehouse which covers approximately 70 percent of the Lot.

The building is currently vacant but was most recently occupied by a warehouse. Prior to occupancy by the warehouse the site had multiple commercial tenants such as, gas station, Optical Products Corporation, Union Wire Die Corp, and National Tea Packaging Co. Inc.

The elevation of the property is approximately 28 feet above the National Geodetic Vertical Datum (NGVD). The area topography is relatively flat and consistent. The depth to groundwater beneath the site, as determined by field measurements, is approximately 20 feet below grade. Based on regional and local groundwater contour maps groundwater flow is expected to be west toward the East River approximately 0.84 miles from the Site.

2.1 Previous Investigations

2.1.1 Phase I Environmental Site Assessment Report (Galli September 2013)

A Phase I was competed by Galli Engineering, P.C. (Galli) in September, 2013. A history dating back to 1887 was established. According to a review of Sanborn maps, as well as personal interviews, the Site was undeveloped from 1887 to sometime between 1915 and 1936. By 1936, a gas station with two gasoline tanks occupied the site. The property was redeveloped by 1947 into a 2-story warehouse utilized by Optical Products Corporation for manufacturing, shipping, and as an office. The building has remained since, with several other occupants including Union Wire Die Corp (1960s-1980s), National Tea Packaging Co. Inc. (1962-1991), and a warehouse (1991-2006).

Based upon the Phase I Investigation, Galli listed the following "site environmental conditions":

- The subject property currently contains one warehouse used as an office space and distribution center for electronic goods.
- The property is an E Designation site for hazardous materials, requiring Phase I and Phase II Testing Protocol.
- The subject property was previously used as a gas station and automotive repair shop; an optical product manufacturing facility; a tea packaging facility; and a jewelry manufacturing facility.
- Expected chemicals previously used on the subject property include: petroleum, motor oil, nitrogen and sulfur oxides, TCA, arsenic, ammonia, ammonium chloride, sulfates, cyanide stripping solutions, silica and metallic fine posers, acid and alkaline cleaning solutions, CFCs, HCFCs, cadmium, and chlorinated solvents.

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- The property has an active violation in place from the Department of Buildings pertaining to an elevator (Violation Number 9027/416426).

- The property had a boiler removed in 2003. The property is currently serviced with natural gas.

- Asbestos containing materials (ACMs) in roofing and floor tiles, and lead based paint may exist on the subject property.

- No mold or water damage was observed during the site inspection.

- No storage of hazardous materials, distressed vegetation or other adverse environmental conditions were observed on the subject property at the time of inspection.

2.1.2 Remedial Investigation, (EBC December 9, 2013 through December 26, 2014)

The field work portion of the RI was conducted by EBC during several mobilizations to the site: the initial RI mobilization in December 2013 and a supplemental mobilization concluding on December 15, 2014, December 17, 2014 and December 26, 2014. A third mobilization was conducted on August 5, 2015. A fourth mobilization was performed on October 29, 2015 and a fifth mobilization was conducted on November 24, 2015. The goals of the Remedial Investigation were to define the nature and extent of contamination in soil, groundwater and any other impacted media; to identify the source(s) of the contamination; to assess the impact of the contamination on public health and/or the environment; and to provide information to support the development of a Remedial Work Plan to address the contamination.

Activities completed under the RI:

- Soil sampling and analysis for volatile and semi-volatile organic compounds (VOCs, SVOCs) in soil samples from soil boring locations;
- The installation of groundwater monitoring wells;
- The collection and analysis of groundwater samples for volatile and semi-volatile organic compounds;
- Sampling for non-petroleum contaminants such as pesticides, PCBs and metals in soil and groundwater including the analysis of soil and groundwater samples
- The collection of analysis of subslab soil gas samples for VOCs.

The results of sampling performed during this RI, identified CVOCs in shallow soil and soil gas which are likely related to an on-site release, which could have included minor surface spills from the storage of spent or new TCE solvent. The timing and scenario of the release(s) are unknown.

Based upon the concentration distribution of TCE, the spill(s) likely occurred along the south and eastern portions of the building. CVOC contamination consisting of mainly TCE is present in shallow soil extending to depths of 6 to 10 feet below grade. Chlorinated VOCs including TCE and PCE were detected throughout the Site above NYSDEC groundwater standards.

Both TCE and PCE were reported in soil gas above mitigation levels established within the State

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DOH soil vapor guidance matrix.

PCE in groundwater was reported in all of the locations greater than the TCE concentrations suggesting that the TCE is related to dechlorinization of PCE and not a TCE release. Additionally the highest concentrations of PCE and TCE were reported in an upgradient location which is adjacent to and downgradient of the property to the north. This property is known as the Former Bridge Cleaners Site which is a NYS Brownfield Cleanup Program Site. This property has PCE contamination with a known off-site PCE plume.

Based on the absence of TCE in soil in the 10-12 and 13-15 foot intervals and the relatively low concentrations reported in groundwater, 20 feet below grade, it is unlikely that TCE migrated to the groundwater as a solvent. The TCE contamination in groundwater beneath the Site is likely related to the degradation of Bridge Cleaners PCE plume which is migrating beneath the Site.

The elevated TCE levels reported in soil gas are associated with off-gassing from the TCE impacted soil. It would not be expected to be related to off-gassing from the TCE impacted groundwater since the TCE concentrations in groundwater are relatively low. The elevated PCE levels in soil gas are either related to off-gassing from the PCE plume beneath the site or from the migration of vapors from PCE impacted soil on the adjacent Bridge Cleaners property.

No other source areas were identified or indicated during this RI. Elevated levels of SVOCs, pesticides and some metals reported in shallow soil are characteristic of the historic fill materials present at the site and throughout the area.

2.2 Redevelopment Plans

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. There is currently no redevelopment plan proposed for the Site. Redevelopment of the property may occur in the future.

2.3 Description of Remedial Action

Site activities included within the Remedial Action that are included within the scope of this HASP include the following:

1. Installation of a Soil Vapor Extraction (SVE) system beneath the existing basement foundation;
2. Implementation of a groundwater remediation contingency, if TCE in groundwater is found to be Site related;
3. Implementation of a Site Management Plan (SMP) for long term maintenance of the Engineering Controls;

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4. An Environmental Easement will be filed against the Site to ensure implementation of the SMP.

3.0 HAZARD ASSESSMENT

This section identifies the hazards associated with the proposed scope of work, general physical hazards that can be expected at most sites; and presents a summary of documented or potential chemical hazards at the site. Every effort must be made to reduce or eliminate these hazards. Those that cannot be eliminated must be guarded against using engineering controls and/or personal protective equipment.

3.0 HAZARD ASSESSMENT

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3.1 Physical Hazards

3.1.1 Tripping Hazards

An area of risk associated with on-site activities are presented by uneven ground, concrete, curbstones or equipment which may be present at the site thereby creating a potential tripping hazard. During intrusive work, care should be taken to mark or remove any obstacles within the exclusion zone.

3.1.2 Climbing Hazards

During site activities, workers may have to work on excavating equipment by climbing. The excavating contractor will conform with any applicable NIOSH and OSHA requirements or climbing activities.

3.1.3 Cuts and Lacerations

Field activities that involve excavating activities usually involve contact with various types of machinery. A first aid kit approved by the American Red Cross will be available during all intrusive activities.

3.1.4 Lifting Hazards

Improper lifting by workers is one of the leading causes of industrial injuries. Field workers in the excavation program may be required to lift heavy objects. Therefore, all members of the field crew should be trained in the proper methods of lifting heavy objects. All workers should be cautioned against lifting objects too heavy for one person.

3.1.5 Utility Hazards

Before conducting any excavation, the excavation contractor will be responsible for locating and verifying all existing utilities at each excavation.

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3.1.6 Traffic Hazards

All traffic, vehicular and pedestrian, shall be maintained and protected at all times consistent with local, state and federal agency regulations regarding such traffic and in accordance with NYCDOT guidelines. The excavation contractor shall carry on his operations without undue interference or delays to traffic. The excavation contractor shall furnish all labor, materials, guards, barricades, signs, lights, and anything else necessary to maintain traffic and to protect his work and the public, during operations.

3.2 Work in Extreme Temperatures

Work under extremely hot or cold weather conditions requires special protocols to minimize the chance that employees will be affected by heat or cold stress.

3.2.1 Heat Stress

The combination of high ambient temperature, high humidity, physical exertion, and personal protective apparel, which limits the dissipation of body heat and moisture, can cause heat stress.

The following prevention, recognition and treatment strategies will be implemented to protect personnel from heat stress. Personnel will be trained to recognize the symptoms of heat stress and to apply the appropriate treatment.

1. Prevention
    a. Provide plenty of fluids. Available in the support zone will be a 50% solution of fruit punch and water or plain water.
    b. Work in Pairs. Individuals should avoid undertaking any activity alone.
    c. Provide cooling devices. A spray hose and a source of water will be provided to reduce body temperature, cool protective clothing and/or act as a quick-drench shower in case of an exposure incident.
    d. Adjustment of the work schedule. As is practical, the most labor-intensive tasks should be carried out during the coolest part of the day.

2. Recognition and Treatment
    a Heat Rash (or prickly heat):
        Cause: Continuous exposure to hot and humid air, aggravated by chafing clothing.
        Symptoms: Eruption of red pimples around sweat ducts accompanied by intense itching and tingling.
        Treatment: Remove source or irritation and cool skin with water or wet cloths.

    b. Heat Cramps (or heat prostration)
        Cause: Profuse perspiration accompanied by inadequate replenishment of body water and electrolytes.
        Symptoms: Muscular weakness, staggering gait, nausea, dizziness, shallow breathing, pale and clammy skin, approximately normal body temperature.
        Treatment: Perform the following while making arrangement for transport to a medical facility. Remove the worker to a contamination reduction

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zone. Remove protective clothing. Lie worker down on back in a cool place and raise feet 6 to 12 inches. Keep warm, but loosen all clothing. If conscious, provide sips of salt-water solution, using one teaspoon of salt in 12 ounces of water. Transport to a medical facility.

c. Heat Stroke

Cause: Same as heat exhaustion. This is also an extremely serious condition.

Symptoms: Dry hot skin, dry mouth, dizziness, nausea, headache, rapid pulse.

Treatment: Cool worker immediately by immersing or spraying with cool water or sponge bare skin after removing protective clothing. Transport to hospital.

3.2.2 Cold Exposure

Exposure to cold weather, wet conditions and extreme wind-chill factors may result in excessive loss of body heat (hypothermia) and /or frostbite. To guard against cold exposure and to prevent cold injuries, appropriate warm clothing should be worn, warm shelter must be readily available, rest periods should be adjusted as needed, and the physical conditions of on-site field personnel should be closely monitored. Personnel and supervisors working on-site will be made aware of the signs and symptoms of frost bite and hypothermia such as shivering, reduced blood pressure, reduced coordination, drowsiness, impaired judgment, fatigue, pupils dilated but reactive to light and numbing of the toes and fingers.

3.3 Chemical Hazards

"Urban fill" materials, present throughout the New York City area typically contain elevated levels of semi-volatile organic compounds and metals. These "contaminants" are not related to a chemical release occurring on the site, but are inherent in the reworked fill material in the area which contains ash and bits of tar and asphalt. Considering the previous sampling results and the past and present use of the site, the following compounds are considered for the site as potential contaminants: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and heavy metals such as arsenic, lead and mercury.

Volatile organic compounds reported to be present in soil, soil gas and/or groundwater include the following:

Acetone	Methylene Chloride	Tetrachloroethene	Trichloroethylene

Semi-Volatile organic compounds reported to be present in soil include the following:

Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(a)pyrene	Benzo(k)fluoranthene
Chrysene	Indeno(1,2,3-cd)pyrene		

Pesticides reported to be present in soil and / or groundwater include the following

4,4'-DDD	4,4-DDE	4,4-DDT

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Metals reported to be present in soil and / or groundwater include the following

Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Zinc

The primary routes of exposure to these contaminants are inhalation, ingestion and absorption.

Appendix C includes information sheets for suspected chemicals that may be encountered at the site.

3.3.1 Respirable Dust

Dust may be generated from vehicular traffic and/or excavation activities. If visible observation detects elevated levels of dust, a program of wetting will be employed by the site safety officer. If elevated dust levels persist, the site safety office will employ dust monitoring using a particulate monitor (Miniram or equivalent). If monitoring detects concentrations greater than 150 µg/m3 over daily background, the site safety officer will take corrective actions as defined herein, including the use of water for dust suppression and if this is not effective, requiring workers to wear APRs with efficiency particulate air (HEPA) cartridges.

Absorption pathways for dust and direct contact with soils or groundwater will be mitigated with the implementation of latex gloves, hand washing and decontamination exercises when necessary.

3.3.2 Dust Control and Monitoring During Earthwork

Dust generated during excavation activities or other earthwork may contain contaminants identified in soils at the site. Dust will be controlled by wetting the working surface with water. Calcium chloride may be used if the problem cannot be controlled with water. Air monitoring and dust control techniques are specified in a site specific Dust Control Plan (if applicable). Site workers will not be required to wear APR's unless dust concentrations are consistently over 150 $\mu g/m^3$ over site-specific background in the breathing zone as measured by a dust monitor unless the site safety officer directs workers to wear APRs. The site safety officer will use visible dust as an indicator to implement the dust control plan.

3.3.3 Organic Vapors

Elevated levels of VOCs were detected in soil gas samples collected during previous investigations at the site. Therefore, excavation activities may cause the release of organic vapors to the atmosphere. The site safety officer will periodically monitor organic vapors with a Photoionization Detector (PID) during excavation activities to determine whether organic vapor concentrations exceed action levels shown in Section 5 and/or the Community Air Monitoring Plan.

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4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be selected in accordance with the site air monitoring program, OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH approved and respiratory protection shall conform to OSHA 29 CFR Part 1910.133 and 1910.134 specifications; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. The only true difference among the levels of protection from D thru B is the addition of the type of respiratory protection. **It is anticipated that work will be performed in Level D PPE.**

4.1 Level D

Level D PPE shall be donned when the atmosphere contains no known hazards and work functions preclude splashes, immersion, or the potential for inhalation of, or contact with, hazardous concentrations of harmful chemicals. Level D PPE consists of:

- standard work uniform, coveralls, or tyvek, as needed;
- steel toe and steel shank work boots;
- hard hat;
- gloves, as needed;
- safety glasses;
- hearing protection;
- equipment replacements are available as needed.

4.2 Level C

Level C PPE shall be donned when the concentrations of measured total organic vapors in the breathing zone exceed background concentrations (using a portable OVA, or equivalent), but are less than 5 ppm. The specifications on the APR filters used must be appropriate for contaminants identified or expected to be encountered. Level C PPE shall be donned when the identified contaminants have adequate warning properties and criteria for using APR have been met. Level C PPE consists of:

- chemical resistant or coated tyvek coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves (surgical gloves);
- disposable outer gloves;
- full face APR fitted with organic vapor/dust and mist filters or filters appropriate for the identified or expected contaminants;
- hard hat;
- splash shield, as needed; and,
- ankles/wrists taped with duct tape.

The site safety officer will verify if Level C is appropriate by checking organic vapor concentrations using compound and/or class-specific detector tubes.

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- chemical resistant coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves;
- disposable outer gloves;
- hard hat; and,
- ankles/wrists taped.

The exact PPE ensemble is decided on a site-by-site basis by the Site Safety Officer with the intent to provide the most protective and efficient worker PPE.

4.3 Activity-Specific Levels of Personal Protection

The required level of PPE is activity-specific and is based on air monitoring results (Section 4.0) and properties of identified or expected contaminants. **It is expected that site work will be performed in Level D.** If air monitoring results indicate the necessity to upgrade the level of protection engineering controls (i.e. Facing equipment away from the wind and placing site personnel upwind of drilling locations, active venting, etc.) will be implemented before requiring the use of respiratory protection.

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5.0 AIR MONITORING AND ACTION LEVELS

29 CFR 1910.120(h) specifies that monitoring shall be performed where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

5.1 Air Monitoring Requirements

If excavation work is performed, air will be monitored for VOCs with a portable ION Science 3000EX photoionization detector, or the equivalent. If necessary, Lower Explosive Limit (LEL) and oxygen will be monitored with a Combustible Gas Indicator (CGI). If appropriate, fugitive dust will be monitored using a MiniRam Model PDM-3 aerosol monitor. Air will be monitored when any of the following conditions apply:

- initial site entry;
- during any work where a potential IDLH condition or flammable atmosphere could develop;
- excavation work begins on another portion of the site;
- contaminants, other than those previously identified, have been discovered;
- each time a different task or activity is initiated;
- during trenching and/or excavation work.

The designated site safety officer will record air monitoring data and ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. Instruments will be zeroed daily and checked for accuracy. Monitoring results will be recorded in a field notebook and will be transferred to instrument reading logs.

5.2 Work Stoppage Responses

The following responses will be initiated whenever one or more of the action levels necessitating a work stoppage are exceeded:

1 The SSO will be consulted immediately
2 All personnel (except as necessary for continued monitoring and contaminant migration, if applicable) will be cleared from the work area (eg from the exclusion zone).
3 Monitoring will be continued until intrusive work resumes.

5.3 Action Levels During Excavation Activities

Instrument readings will be taken in the breathing zone above the excavation pit unless otherwise noted. Each action level is independent of all other action levels in determining responses.

Organic Vapors (PID)	LEL %	Responses
0-1 ppm above background	0%	• Continue excavating • Level D protection • Continue monitoring every 10 minutes

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1-5 ppm Above Background, Sustained Reading	1-10%	• Continue excavating • Go to Level C protection or employ engineering controls • Continue monitoring every 10 minutes
5-25 ppm Above Background, Sustaineed Reading	10-20%	• Discontinue excavating, unless PID is only action level exceeded. • Level C protection or employ engineering controls • Continue monitoring for organic vapors 200 ft downwind • Continuous monitoring for LEL at excavation pit
>25 ppm Above Background, Sustained Reading	>20%	• Discontinue excavating • Withdraw from area, shut off all engine ignition sources. • Allow pit to vent • Continuous monitoring for organic vapors 200 ft downwind.

Notes: Air monitoring will occur in the breathing zone 30 inches above the excavation pit. Readings may also be taken in the excavation pit but will not be used for action levels.

If action levels for any one of the monitoring parameters are exceeded, the appropriate responses listed in the right hand column should be taken. If instrument readings do not return to acceptable levels after the excavation pit has been vented for a period of greater than one-half hour, a decision will then be made whether or not to seal the pit with suppressant foam.

If, during excavation activities, downwind monitoring PID readings are greater than 5 ppm above background for more than one-half hour, excavation will stop until sustained levels are less then 5 ppm (see Community Air Monitoring Plan).

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6.0 SITE CONTROL

6.1 Work Zones

The primary purpose of site controls is to establish the perimeter of a hazardous area, to reduce the migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. When operations are to take place involving hazardous materials, the site safety officer will establish an exclusion zone, a decontamination zone, and a support zone. These zones "float" (move around the site) depending on the tasks being performed on any given day. The site safety officer will outline these locations before work begins and when zones change. The site safety officer records this information in the site log book.

A licensed Environmental Contractor with relative hazardous material handling experience and training is required to perform any soil disturbing activities within the hotspots identified within the Remedial Action Work Plan. All onsite workers must provide evidence of OSHA 40-hour Hazardous Waste Operations and Emergency Response Operations training to conduct work within the exclusion zone established by the site safety officer. The exclusion zone is defined by the site safety officer but will typically be a 50-foot area around work activities. Gross decontamination (as determined by the site Health and Safety Officer) is conducted in the exclusion zone; all other decontamination is performed in the decontamination zone or trailer.

Protective equipment is removed in the decontamination zone. Disposable protective equipment is stored in receptacles staged in the decontamination zone, and non-disposable equipment is decontaminated. All personnel and equipment exit the exclusion zone through the decontamination zone. If a decontamination trailer is provided the first aid equipment, an eye wash unit, and drinking water are kept in the decontamination trailer.

The support zone is used for vehicle parking, daily safety meetings, and supply storage. Eating, drinking, and smoking are permitted only in the support zone. When a decontamination trailer is not provided, the eye wash unit, first aid equipment, and drinking water are kept at a central location designated by the site safety officer.

6.1 General Site Work

A general excavation contractor will be responsible for site excavation/grading as needed for basement excavation, shoring, other building requirements, or as necessary to excavate contaminated soil as deemed necessary by the Remedial Action Work Plan and/or Project Manager. All onsite employees must have obtained OSHA 24-hour Hazardous Waste Operations and Emergency Response Operations training prior to performing soil disturbing activities.

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7.0 CONTINGENCY PLAN/EMERGENCY RESPONSE PLAN

Site personnel must be prepared in the event of an emergency. Emergencies can take many forms: illnesses, injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather.

Emergency telephone numbers and a map to the hospital will be posted in the command post. Site personnel should be familiar with the emergency procedures, and the locations of site safety, first aid, and communication equipment.

7.1 Emergency Equipment On-site

Private telephones:	Site personnel.
Two-way radios:	Site personnel where necessary.
Emergency Alarms:	On-site vehicle horns*.
First aid kits:	On-site, in vehicles or office.
Fire extinguisher:	On-site, in office or on equipment.

* Horns: Air horns will be supplied to personnel at the discretion of the project superintendent or site safety officer.

7.2 Emergency Telephone Numbers

General Emergencies	911
Suffolk County Police	911
NYC Fire Department	911
NY Presbyterian/Weill Cornell Medical Center	(212) 746-5454
NYSDEC Spills Hotline	1-800-457-7362
NYSDEC Project Manager	(518) 402-9480
NYC Department of Health	(212) 676-2400
National Response Center	1-800-424-8802
Poison Control	1-800-222-1222
Project Manager	1-631-504-6000
Site Safety Officer	1-631-504-6000

7.3 Personnel Responsibilities During an Emergency

The project manager is primarily responsible for responding to and correcting any emergency situations. However, in the absence of the project manager, the site safety officer shall act as the project manager's on-site designee and perform the following tasks:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, evacuate and secure the site, or upgrade/downgrade the level of protective clothing and respiratory protection;

- Ensure that appropriate federal, state, and local agencies are informed and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. If toxic materials are released to the air, the local authorities should be informed in order to assess the need for evacuation;

- Ensure appropriate decontamination, treatment, or testing for exposed or injured personnel;

- Determine the cause of incidents and make recommendations to prevent recurrence; and,

- Ensure that all required reports have been prepared.

The following key personnel are planned for this project:

- Project Manager — Ms. Chawinie Miller (631) 504-6000
- Construction Superintendent — To be added
- Site Safety Officer — Mr. Kevin Waters (631) 504-6000

7.4 Medical Emergencies

A person who becomes ill or injured in the exclusion zone will be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination will be completed and first aid administered prior to transport. First aid will be administered while waiting for an ambulance or paramedics. A Field Accident Report (**Appendix D**) must be filled out for any injury.

A person transporting an injured/exposed person to a clinic or hospital for treatment will take the directions to the hospital (**Appendix D**).and information on the chemical(s) to which they may have been exposed (**Appendix C**).

7.5 Fire or Explosion

In the event of a fire or explosion, the local fire department will be summoned immediately. The site safety officer or his designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on-site. If it is safe to do so, site personnel may:

- use fire fighting equipment available on site; or,
- remove or isolate flammable or other hazardous materials that may contribute to the fire.

7.6 Evacuation Routes

Evacuation routes established by work area locations for each site will be reviewed prior to commencing site operations. As the work areas change, the evacuation routes will be altered accordingly, and the new route will be reviewed.

Under extreme emergency conditions, evacuation is to be immediate without regard for equipment. The evacuation signal will be a continuous blast of a vehicle horn, if possible, and/or by verbal/radio communication. When evacuating the site, personnel will follow these instructions:

- Keep upwind of smoke, vapors, or spill location.

- Exit through the decontamination corridor if possible.

- If evacuation through the decontamination corridor is not possible, personnel should remove contaminated clothing once they are in a safe location and leave it near the exclusion zone or in a safe place.

- The site safety officer will conduct a head count to ensure that all personnel have been evacuated safely. The head count will be correlated to the site and/or exclusion zone entry/exit log.

- If emergency site evacuation is necessary, all personnel are to escape the emergency situation and decontaminate to the maximum extent practical.

7.7 Spill Control Procedures

Spills associated with site activities may be attributed to project equipment and include gasoline, diesel and hydraulic oil. In the event of a leak or a release, site personnel will inform their supervisor immediately, locate the source of spillage and stop the flow if it can be done safely. A spill containment kit including absorbent pads, booms and/or granulated speedy dry absorbent material will be available to site personnel to facilitate the immediate recovery of the spilled material. Daily inspections of site equipment components including hydraulic lines, fuel tanks, etc. will be performed by their respective operators as a preventative measure for equipment leaks and to ensure equipment soundness. In the event of a spill, site personnel will immediately notify the NYSDEC (1-800-457-7362), and a spill number will be generated.

7.8 Vapor Release Plan

If work zone organic vapor (excluding methane) exceeds 5 ppm, then a downwind reading will be made either 200 feet from the work zone or at the property line, whichever is closer. If readings at this location exceed 5 ppm over background, the work will be stopped.

If 5 ppm of VOCs are recorded over background on a PID at the property line, then an off-site reading will be taken within 20 feet of the nearest residential or commercial property, whichever is closer. If efforts to mitigate the emission source are unsuccessful for 30 minutes, then the designated site safety officer will:

- contact the local police;
- continue to monitor air every 30 minutes, 20 feet from the closest off-site property. If two successive readings are below 5 ppm (non-methane), off-site air monitoring will be halted.
- All property line and off site air monitoring locations and results associated with vapor releases will be recorded in the site safety log book.

APPENDIX A

SITE SAFETY ACKNOWLEDGEMENT FORM

DAILY BREIFING SIGN-IN SHEET

Date:_____ Person Conducting Briefing:_____

Project Name and Location:_____

1. AWARENESS (topics discussed, special safety concerns, recent incidents, etc…):

_____

_____

_____

_____

2. OTHER ISSUES (HASP changes, attendee comments, etc…):

_____

_____

_____

3. ATTENDEES (Print Name):

1.	11.
2.	12.
3.	13.
4.	14.
5.	15.
6.	16.
7.	17.
8.	18.
9.	19.
10.	20.

APPENDIX B

SITE SAFETY PLAN AMENDMENTS

SITE SAFETY PLAN AMENDMENT FORM

Site Safety Plan Amendment #: _____

Site Name: _____

Reason for Amendment: _____

_____

_____

_____

Alternative Procedures: _____

_____

_____

_____

Required Changes in PPE: _____

_____

_____

_____

_____ _____

Project Superintendent (signature) **Date**

_____ _____

Health and Safety Consultant (signature) **Date**

_____ _____

Site Safety Officer (signature) **Date**

APPENDIX C

CHEMICAL HAZARDS

International Chemical Safety Cards

ACETONE

ICSC: 0087

2-Propanone
Dimethyl ketone
Methyl ketone
C_3H_6O / CH_3COCH_3
Molecular mass: 58.1

ICSC # 0087
CAS # 67-64-1
RTECS # AL3150000
UN # 1090
EC # 606-001-00-8
April 22, 1994 Validated
Fi, review at IHE: 10/09/89

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Powder, alcohol-resistant foam, water in large amounts, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE			
•INHALATION	Sore throat. Cough. Confusion. Headache. Dizziness. Drowsiness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Dry skin.	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness. Pain. Blurred vision. Possible corneal damage.	Safety spectacles or face shield . Contact lenses should not be worn.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Nausea. Vomiting. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Personal protection: self-contained breathing apparatus. Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Then wash away with plenty of water.	Fireproof. Separated from strong oxidants. Store in an area without drain or sewer access.	F symbol Xi symbol R: 11-36-66-67 S: 2-9-16-26 UN Hazard Class: 3 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0087

International Chemical Safety Cards

ACETONE

ICSC: 0087

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR.

PHYSICAL DANGERS:
The vapour is heavier than air and may travel along the ground; distant ignition possible.

CHEMICAL DANGERS:
The substance can form explosive peroxides on contact with strong oxidants such as acetic acid, nitric acid, hydrogen peroxide. Reacts with chloroform and bromoform under basic conditions, causing fire and explosion hazard. Attacks plastic.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 500 ppm as TWA, 750 ppm as STEL; A4 (not classifiable as a human carcinogen); BEI issued; (ACGIH 2004).
MAK: 500 ppm 1200 mg/m³
Peak limitation category: I(2); Pregnancy risk group: D; (DFG 2006).
OSHA PEL†: TWA 1000 ppm (2400 mg/m^3)
NIOSH REL: TWA 250 ppm (590 mg/m^3)
NIOSH IDLH: 2500 ppm 10%LEL See: 67641

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and through the skin.

INHALATION RISK:
A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.

EFFECTS OF SHORT-TERM EXPOSURE:
The vapour irritates the eyes and the respiratory tract. The substance may cause effects on the central nervous system , liver , kidneys and gastrointestinal tract .

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the blood and bone marrow .

PHYSICAL PROPERTIES

Boiling point: 56°C
Melting point: -95°C
Relative density (water = 1): 0.8
Solubility in water:
miscible
Vapour pressure, kPa at 20°C: 24

Relative vapour density (air = 1): 2.0
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.2
Flash point: -18°C c.c.
Auto-ignition temperature: 465°C
Explosive limits, vol% in air: 2.2-13
Octanol/water partition coefficient as log Pow: -0.24

ENVIRONMENTAL DATA

N O T E S

Use of alcoholic beverages enhances the harmful effect.

Transport Emergency Card: TEC (R)-30S1090

NFPA Code: H 1; F 3; R 0;
Card has been partially updated in July 2007: see Occupational Exposure Limits.
Card has been partially updated in January 2008: see Storage.

ADDITIONAL INFORMATION

International Chemical Safety Cards

DICHLOROMETHANE

ICSC: 0058

Methylene chloride
DCM
CH_2Cl_2
Molecular mass: 84.9

ICSC # 0058
CAS # 75-09-2
RTECS # PA8050000
UN # 1593
EC # 602-004-00-3
December 04, 2000 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion (see Chemical Dangers).	Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE!	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea. Weakness. Unconsciousness. Death.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Dry skin. Redness. Burning sensation.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain. Severe deep burns.	Safety goggles , face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Personal protection: filter respirator for organic gases and vapours. Do NOT let this chemical enter the environment. Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place.	Separated from metals (see Chemical Dangers), food and feedstuffs . Cool. Ventilation along the floor.	Do not transport with food and feedstuffs. Xn symbol R: 40 S: (2-)23-24/25-36/37 UN Hazard Class: 6.1 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0058

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

DICHLOROMETHANE

ICSC: 0058

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR.

PHYSICAL DANGERS:
The vapour is heavier than air. As a result of flow, agitation, etc., electrostatic charges can be generated.

CHEMICAL DANGERS:
On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes. Reacts violently with metals such as aluminium powder and magnesium powder, strong bases and strong oxidants causing fire and explosion hazard. Attacks some forms of plastic rubber and coatings.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 50 ppm as TWA; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued; (ACGIH 2004).
MAK:
Carcinogen category: 3A;
(DFG 2004).
OSHA PEL: 1910.1052 TWA 25 ppm ST 125 ppm
NIOSH REL: Ca See Appendix A
NIOSH IDLH: Ca 2300 ppm See: 75092

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the eyes , the skin and the respiratory tract . Exposure could cause lowering of consciousness. Exposure could cause the formation of methaemoglobin.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the central nervous system and liver . This substance is possibly carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 40°C
Melting point: -95.1°C
Relative density (water = 1): 1.3
Solubility in water, g/100 ml at 20°C: 1.3
Vapour pressure, kPa at 20°C: 47.4
Relative vapour density (air = 1): 2.9
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.9
Auto-ignition temperature: 556°C
Explosive limits, vol% in air: 12-25
Octanol/water partition coefficient as log Pow: 1.25

ENVIRONMENTAL DATA

This substance may be hazardous in the environment; special attention should be given to ground water contamination.

N O T E S

Addition of small amounts of a flammable substance or an increase in the oxygen content of the air strongly enhances combustibility. Depending on the degree of exposure, periodic medical examination is suggested. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. R30 is a trade name. Card has been partly updated in April 2005. See section Occupational Exposure Limits.

Transport Emergency Card: TEC (R)-61S1593

NFPA Code: H2; F1; R0;

ADDITIONAL INFORMATION

ICSC: 0058 **DICHLOROMETHANE**

IMPORTANT LEGAL NOTICE:

	modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

TETRACHLOROETHYLENE

ICSC: 0076

1,1,2,2-Tetrachloroethylene
Perchloroethylene
Tetrachloroethene
C_2Cl_4 / $Cl_2C=CCl_2$
Molecular mass: 165.8

ICSC # 0076
CAS # 127-18-4
RTECS # KX3850000
UN # 1897
EC # 602-028-00-4
April 13, 2000 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		STRICT HYGIENE! PREVENT GENERATION OF MISTS!	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea. Weakness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles , face shield .	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. Personal protection: filter respirator for organic gases and vapours.	Separated from metals ,(see Chemical Dangers), food and feedstuffs . Keep in the dark. Ventilation along the floor.	Do not transport with food and feedstuffs. Marine pollutant. Xn symbol N symbol R: 40-51/53 S: (2-)23-36/37-61 UN Hazard Class: 6.1 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0076

International Chemical Safety Cards

TETRACHLOROETHYLENE

ICSC: 0076

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR.

PHYSICAL DANGERS:
The vapour is heavier than air.

CHEMICAL DANGERS:
On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes (hydrogen chloride, phosgene, chlorine). The substance decomposes slowly on contact with moisture producing trichloroacetic acid and hydrochloric acid. Reacts with metals such as aluminium, lithium, barium, beryllium.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 25 ppm as TWA, 100 ppm as STEL; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued; (ACGIH 2004).
MAK: skin absorption (H);
Carcinogen category: 3B;
(DFG 2004).
OSHA PEL†: TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 3-hours)
NIOSH REL: Ca Minimize workplace exposure concentrations. See Appendix A
NIOSH IDLH: Ca 150 ppm See: 127184

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the eyes , the skin and the respiratory tract . If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system. Exposure at high levels may result in unconsciousness.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver and kidneys. This substance is probably carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 121°C
Melting point: -22°C
Relative density (water = 1): 1.6
Solubility in water, g/100 ml at 20°C: 0.015

Vapour pressure, kPa at 20°C: 1.9
Relative vapour density (air = 1): 5.8
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.09
Octanol/water partition coefficient as log Pow: 2.9

ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert. Card has been partly updated in April 2005. See section Occupational Exposure Limits.

Transport Emergency Card: TEC (R)-61S1897

NFPA Code: H2; F0; R0;

ADDITIONAL INFORMATION

IMPORTANT LEGAL NOTICE:

	modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

TRICHLOROETHYLENE

ICSC: 0081

1,1,2-Trichloroethylene
Trichloroethene
Ethylene trichloride
Acetylene trichloride
C_2HCl_3 / $ClCH=CCl_2$
Molecular mass: 131.4

ICSC # 0081
CAS # 79-01-6
RTECS # KX4550000
UN # 1710
EC # 602-027-00-9
April 10, 2000 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions. See Notes.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION		Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE!	
•INHALATION	Dizziness. Drowsiness. Headache. Weakness. Nausea. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Dry skin. Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety spectacles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Rest.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Ventilation. Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment.	Separated from metals (see Chemical Dangers), strong bases, food and feedstuffs . Dry. Keep in the dark. Ventilation along the floor. Store in an area without drain or sewer access.	Do not transport with food and feedstuffs. Marine pollutant. T symbol R: 45-36/38-52/53-67 S: 53-45-61 UN Hazard Class: 6.1 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0081 OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

TRICHLOROETHYLENE

ICSC: 0081

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR.

PHYSICAL DANGERS:
The vapour is heavier than air. As a result of flow, agitation, etc., electrostatic charges can be generated.

CHEMICAL DANGERS:
On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes (phosgene , hydrogen chloride). The substance decomposes on contact with strong alkali producing dichloroacetylene , which increases fire hazard. Reacts violently with metal powders such as magnesium, aluminium, titanium, and barium. Slowly decomposed by light in presence of moisture, with formation of corrosive hydrochloric acid.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 50 ppm as TWA; 100 ppm as STEL; A5; BEI issued; (ACGIH 2004).
MAK:
Carcinogen category: 1; Germ cell mutagen group: 3B; (DFG 2007).
OSHA PEL†: TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)
NIOSH REL: Ca See Appendix A See Appendix C
NIOSH IDLH: Ca 1000 ppm See: 79016

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the eyes and the skin . Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. The substance may cause effects on the central nervous system , resulting in respiratory failure . Exposure could cause lowering of consciousness.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the central nervous system , resulting in loss of memory. The substance may have effects on the liver and kidneys (see Notes). This substance is probably carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 87°C
Melting point: -73°C
Relative density (water = 1): 1.5
Solubility in water, g/100 ml at 20°C: 0.1
Vapour pressure, kPa at 20°C: 7.8
Relative vapour density (air = 1): 4.5
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.3
Auto-ignition temperature: 410°C
Explosive limits, vol% in air: 8-10.5
Octanol/water partition coefficient as log Pow: 2.42
Electrical conductivity: 800pS/m

ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

N O T E S

Combustible vapour/air mixtures difficult to ignite, may be developed under certain conditions. Use of alcoholic beverages enhances the harmful effect. Depending on the degree of exposure, periodic medical examination is suggested. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.

Transport Emergency Card: TEC (R)-61S1710

NFPA Code: H2; F1; R0;
Card has been partially updated in October 2004: see Occupational Exposure Limits, EU Classification, Emergency Response.
Card has been partially updated in April 2010: see Occupational Exposure Limits, Ingestion First Aid, Storage.

ADDITIONAL INFORMATION

ICSC: 0081 **TRICHLOROETHYLENE**

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZ(a)ANTHRACENE

ICSC: 0385

1,2-Benzoanthracene
Benzo(a)anthracene
2,3-Benzphenanthrene
Naphthanthracene
$C_{18}H_{12}$
Molecular mass: 228.3

ICSC # 0385
CAS # 56-55-3
RTECS # CV9275000
EC # 601-033-00-9
October 23, 1995 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.		Water spray, powder. In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: complete protective clothing including self-contained breathing apparatus.	Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0385

International Chemical Safety Cards

BENZ(a)ANTHRACENE

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS TO YELLOW BROWN FLUORESCENT FLAKES OR POWDER.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:

OCCUPATIONAL EXPOSURE LIMITS:
TLV: A2 (suspected human carcinogen); (ACGIH 2004).
MAK:
Carcinogen category: 2 (as pyrolysis product of organic materials)
(DFG 2005).

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is probably carcinogenic to humans.

PHYSICAL PROPERTIES

Sublimation point: 435°C
Melting point: 162°C
Relative density (water = 1): 1.274
Solubility in water:
none

Vapour pressure, Pa at 20°C: 292
Octanol/water partition coefficient as log Pow: 5.61

ENVIRONMENTAL DATA

Bioaccumulation of this chemical may occur in seafood.

N O T E S

This substance is one of many polycyclic aromatic hydrocarbons - standards are usually established for them as mixtures, e.g., coal tar pitch volatiles. However, it may be encountered as a laboratory chemical in its pure form. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Do NOT take working clothes home. Tetraphene is a common name. Card has been partly updated in October 2005 and August 2006: see sections Occupational Exposure Limits, EU classification.

ADDITIONAL INFORMATION

ICSC: 0385 **BENZ(a)ANTHRACENE**

International Chemical Safety Cards

BENZO(b)FLUORANTHENE

ICSC: 0720

Benz(e)acephenanthrylene
2,3-Benzofluoroanthene
Benzo(e)fluoranthene
3,4-Benzofluoranthene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0720
CAS # 205-99-2
RTECS # CU1400000
EC # 601-034-00-4
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0720

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZO(b)FLUORANTHENE

ICSC: 0720

I	**PHYSICAL STATE; APPEARANCE:** COLOURLESS CRYSTALS	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation

IMPORTANT DATA	**PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: A2 (suspected human carcinogen); (ACGIH 2004). MAK: Carcinogen category: 2; (DFG 2004). of its aerosol and through the skin. **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans. May cause genetic damage in humans.
PHYSICAL PROPERTIES	Boiling point: 481°C Melting point: 168°C Solubility in water: none Octanol/water partition coefficient as log Pow: 6.12
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. 

N O T E S

Benzo(b)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing benzo(b)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0720 **BENZO(b)FLUORANTHENE**

International Chemical Safety Cards

BENZO(a)PYRENE

ICSC: 0104

Benz(a)pyrene
3,4-Benzopyrene
Benzo(d,e,f)chrysene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0104
CAS # 50-32-8
RTECS # DJ3675000
EC # 601-032-00-3
October 17, 2005 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray, foam, powder, carbon dioxide.
EXPLOSION			
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.	Separated from strong oxidants.	T symbol N symbol R: 45-46-60-61-43-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0104

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZO(a)PYRENE

ICSC: 0104

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
PALE-YELLOW CRYSTALS

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Reacts with strong oxidants causing fire and explosion hazard.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: Exposure by all routes should be carefully controlled to levels as low as possible A2 (suspected human carcinogen); (ACGIH 2005).
MAK:
Carcinogen category: 2; Germ cell mutagen group: 2; (DFG 2005).

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is carcinogenic to humans. May cause heritable genetic damage to human germ cells. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Boiling point: 496°C
Melting point: 178.1°C
Density: 1.4
g/cm³

Solubility in water: none (<0.1 g/100 ml)
Vapour pressure :
negligible
Octanol/water partition coefficient as log Pow: 6.04

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish, in plants and in molluscs. The substance may cause long-term effects in the aquatic environment.

NOTES

Do NOT take working clothes home. Benzo(a)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAHs) in the environment, usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ADDITIONAL INFORMATION

International Chemical Safety Cards

BENZO(k)FLUORANTHENE

ICSC: 0721

Dibenzo(b,jk)fluorene
8,9-Benzofluoranthene
11,12-Benzofluoranthene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0721
CAS # 207-08-9
RTECS # DF6350000
EC # 601-036-00-5
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0721

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZO(k)FLUORANTHENE

ICSC: 0721

I **M**	**PHYSICAL STATE; APPEARANCE:** YELLOW CRYSTALS	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol and through the skin.

P O R T A N T D A T A	**PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. MAK: Carcinogen category: 2; (DFG 2004). **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 480°C Melting point: 217°C Solubility in water: none Octanol/water partition coefficient as log Pow: 6.84
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. Bioaccumulation of this chemical may occur in crustacea and in fish. 

N O T E S

Benzo(k)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing benzo(k)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0721 **BENZO(k)FLUORANTHENE**

International Chemical Safety Cards

CHRYSENE

ICSC: 1672

Benzoaphenanthrene
1,2-Benzophenanthrene
1,2,5,6-Dibenzonaphthalene
$C_{18}H_{12}$
Molecular mass: 228.3

ICSC # 1672
CAS # 218-01-9
RTECS # GC0700000
UN # 3077
EC # 601-048-00-0
October 12, 2006 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray. Dry powder. Foam. Carbon dioxide.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Personal protection: P3 filter respirator for toxic particles. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.	Separated from strong oxidants, Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.	T symbol N symbol R: 45-68-50/53 S: 53-45-60-61 UN Hazard Class: 9 UN Packing Group: III Signal: Warning Aqua-Cancer Suspected of causing cancer Very toxic to aquatic life with long lasting effects Very toxic to aquatic life

SEE IMPORTANT INFORMATION ON BACK

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European

International Chemical Safety Cards

CHRYSENE

ICSC: 1672

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS TO BEIGE CRYSTALS OR POWDER

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
The substance decomposes on burning producing toxic fumes Reacts violently with strong oxidants

OCCUPATIONAL EXPOSURE LIMITS:
TLV: A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2006).
MAK not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is possibly carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 448°C
Melting point: 254 - 256°C
Density: 1.3 g/cm³

Solubility in water:
very poor
Octanol/water partition coefficient as log Pow: 5.9

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in seafood. It is strongly advised that this substance does not enter the environment.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. This substance does not usually occur as a pure substance but as a component of polyaromatic hydrocarbon (PAH) mixtures. Human population studies have associated PAH's exposure with cancer and cardiovascular diseases.

Transport Emergency Card: TEC (R)-90GM7-III

ADDITIONAL INFORMATION

International Chemical Safety Cards

INDENO(1,2,3-cd)PYRENE

ICSC: 0730

o-Phenylenepyrene
2,3-Phenylenepyrene
$C_{22}H_{12}$
Molecular mass: 276.3

ICSC # 0730
CAS # 193-39-5
RTECS # NK9300000
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0730

International Chemical Safety Cards

INDENO(1,2,3-cd)PYRENE

ICSC: 0730

I **M** **P**	**PHYSICAL STATE; APPEARANCE:** YELLOW CRYSTALS **PHYSICAL DANGERS:**	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol and through the skin. **INHALATION RISK:**

O R T A N T D A T A	**CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. MAK: Carcinogen category: 2; (DFG 2004).	Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 536°C Melting point: 164°C Solubility in water: none	Octanol/water partition coefficient as log Pow: 6.58
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. Bioaccumulation of this chemical may occur in fish. 	

N O T E S

Indeno(1,2,3-cd)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing Indeno(1,2,3-c,d)pyrene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0730 **INDENO(1,2,3-cd)PYRENE**

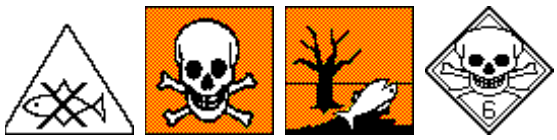
International Chemical Safety Cards

ARSENIC

ICSC: 0013

Grey arsenic
As
Atomic mass: 74.9

ICSC # 0013
CAS # 7440-38-2
RTECS # CG0525000
UN # 1558
EC # 033-001-00-X
October 18, 1999 Peer reviewed



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	Separated from strong oxidants, acids, halogens, food and feedstuffs. Well closed.	Do not transport with food and feedstuffs. Marine pollutant. T symbol N symbol R: 23/25-50/53 S: 1/2-20/21-28-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

CHROMIUM

ICSC: 0029

Chrome
Cr
Atomic mass: 52.0
(powder)

ICSC # 0029
CAS # 7440-47-3
RTECS # GB4200000
October 27, 2004 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions.	No open flames if in powder form.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION		Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST!	
•**INHALATION**	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
•**SKIN**		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•**EYES**	Redness.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•**INGESTION**		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.		R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0029

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CHROMIUM

ICSC: 0029

I

M

P

PHYSICAL STATE; APPEARANCE:
GREY POWDER

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

ROUTES OF EXPOSURE:

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed.

O R T A N T D A T A	**CHEMICAL DANGERS:** Chromium is a catalytic substance and may cause reaction in contact with many organic and inorganic substances , causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (as Cr metal, Cr(III) compounds) 0.5 mg/m³ as TWA A4 (ACGIH 2004). MAK not established. OSHA PEL*: TWA 1 mg/m^3 See Appendix C *Note: The PEL also applies to insoluble chromium salts. NIOSH REL: TWA 0.5 mg/m^3 See Appendix C NIOSH IDLH: 250 mg/m^3 (as Cr) See: 7440473 **EFFECTS OF SHORT-TERM EXPOSURE:** May cause mechanical irritation tothe eyesandthe respiratory tract. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:**
PHYSICAL PROPERTIES	Boiling point: 2642°C Melting point: 1900°C Density: 7.15 g/cm³ Solubility in water: none
ENVIRONMENTAL DATA	

N O T E S

The surface of the chromium particles is oxidized to chromium(III)oxide in air. See ICSC 1531 Chromium(III) oxide.

ADDITIONAL INFORMATION

ICSC: 0029 **CHROMIUM**

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

COPPER

ICSC: 0240

Cu
(powder)

ICSC # 0240
CAS # 7440-50-8
RTECS # GL5325000
September 24, 1993 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Special powder, dry sand, NO other agents.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough. Headache. Shortness of breath. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder. Then remove to safe place. (Extra personal protection: P2 filter respirator for harmful particles).	Separated from - See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0240

International Chemical Safety Cards

COPPER

ICSC: 0240

I

M

P

PHYSICAL STATE; APPEARANCE:
RED POWDER, TURNS GREEN ON EXPOSURE TO MOIST AIR.

PHYSICAL DANGERS:

CHEMICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

O **R** **T** **A** **N** **T** **D** **A** **T** **A**	Shock-sensitive compounds are formed with acetylenic compounds, ethylene oxides and azides. Reacts with strong oxidants like chlorates, bromates and iodates, causing explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 0.2 mg/m³ fume (ACGIH 1992-1993). TLV (as Cu, dusts & mists): 1 mg/m³ (ACGIH 1992-1993). Intended change 0.1 mg/m³ Inhal., A4 (not classifiable as a human carcinogen); MAK: 0.1 mg/m³ (Inhalable fraction) Peak limitation category: II(2) Pregnancy risk group: D (DFG 2005). OSHA PEL*: TWA 1 mg/m^3 *Note: The PEL also applies to other copper compounds (as Cu) except copper fume. NIOSH REL*: TWA 1 mg/m^3 *Note: The REL also applies to other copper compounds (as Cu) except Copper fume. NIOSH IDLH: 100 mg/m^3 (as Cu) See: 7440508	**EFFECTS OF SHORT-TERM EXPOSURE:** Inhalation of fumes may cause metal fume fever. See Notes. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact may cause skin sensitization.
PHYSICAL PROPERTIES	Boiling point: 2595°C Melting point: 1083°C Relative density (water = 1): 8.9	Solubility in water: none
ENVIRONMENTAL DATA		

N O T E S

The symptoms of metal fume fever do not become manifest until several hours.

ADDITIONAL INFORMATION

ICSC: 0240 **COPPER**

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

Lead metal
Plumbum
Pb
Atomic mass: 207.2
(powder)

ICSC # 0052
CAS # 7439-92-1
RTECS # OF7525000
October 08, 2002 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	PREVENT DISPERSION OF DUST! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P3 filter respirator for toxic particles.	Separated from food and feedstuffs incompatible materials See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0052

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
BLUISH-WHITE OR SILVERY-GREY SOLID IN VARIOUS FORMS. TURNS TARNISHED ON EXPOSURE TO AIR.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
On heating, toxic fumes are formed. Reacts with oxidants. Reacts with hot concentrated nitric acid, boiling concentrated hydrochloric acid and sulfuric acid. Attacked by pure water and by weak organic acids in the presence of oxygen.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.05 mg/m³ A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued (ACGIH 2004).
MAK:
Carcinogen category: 3B; Germ cell mutagen group: 3A; (DFG 2004).
EU OEL: as TWA 0.15 mg/m³ (EU 2002).
OSHA PEL*: 1910.1025 TWA 0.050 mg/m^3 See Appendix C *Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH REL*: TWA 0.050 mg/m^3 See Appendix C
*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH IDLH: 100 mg/m^3 (as Pb) See: 7439921

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance may have effects on the blood bone marrow central nervous system peripheral nervous system kidneys , resulting in anaemia, encephalopathy (e.g., convulsions), peripheral nerve disease, abdominal cramps and kidney impairment. Causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES	Boiling point: 1740°C Melting point: 327.5°C	Density: 11.34 g/cm3 Solubility in water: none
ENVIRONMENTAL DATA	Bioaccumulation of this chemical may occur in plants and in mammals. It is strongly advised that this substance does not enter the environment. 	

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-51S1872

ADDITIONAL INFORMATION

ICSC: 0052 **LEAD**

International Chemical Safety Cards

MERCURY

ICSC: 0056

Quicksilver
Liquid silver
Hg
Atomic mass: 200.6

ICSC # 0056
CAS # 7439-97-6
RTECS # OV4550000
UN # 2809
EC # 080-001-00-0
April 22, 2004 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Abdominal pain. Cough. Diarrhoea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area in case of a large spill! Consult an expert! Ventilation. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs Well closed.	Special material. Do not transport with food and feedstuffs. T symbol N symbol R: 23-33-50/53 S: 1/2-7-45-60-61 UN Hazard Class: 8 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

MERCURY

ICSC: 0056

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
ODOURLESS, HEAVY AND MOBILE SILVERY LIQUID METAL.

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. Reacts violently with ammonia and halogens causing fire and explosion hazard. Attacks aluminium and many other metals forming amalgams.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.025 mg/m³ as TWA (skin) A4 BEI issued (ACGIH 2004).
MAK: 0.1 mg/m³ Sh
Peak limitation category: II(8) Carcinogen category: 3B (DFG 2003).
OSHA PEL†: C 0.1 mg/m^3
NIOSH REL: Hg Vapor: TWA 0.05 mg/m^3 skin
Other: C 0.1 mg/m^3 skin
NIOSH IDLH: 10 mg/m^3 (as Hg) See: 7439976

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its vapour and through the skin , also as a vapour!

INHALATION RISK:
A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the skin. Inhalation of the vapours may cause pneumonitis. The substance may cause effects on the central nervous systemandkidneys. The effects may be delayed. Medical observation is indicated.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance may have effects on the central nervous system kidneys , resulting in irritability, emotional instability, tremor, mental and memory disturbances, speech disorders. Danger of cumulative effects. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

PHYSICAL PROPERTIES

Boiling point: 357°C
Melting point: -39°C
Relative density (water = 1): 13.5
Solubility in water:
none

Vapour pressure, Pa at 20°C: 0.26
Relative vapour density (air = 1): 6.93
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.009

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. In the food chain important to humans, bioaccumulation takes place, specifically in fish.

N O T E S

Depending on the degree of exposure, periodic medical examination is indicated. No odour warning if toxic concentrations are present. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-80GC9-II+III

ADDITIONAL INFORMATION

ICSC: 0056 **MERCURY**

International Chemical Safety Cards

NICKEL

ICSC: 0062

Ni
Atomic mass: 58.7
(powder)

ICSC # 0062
CAS # 7440-02-0
RTECS # QR5950000
EC # 028-002-00-7
October 17, 2001 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable as dust. Toxic fumes may be released in a fire.		Dry sand. NO carbon dioxide. NO water.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!	
•INHALATION	Cough. Shortness of breath.	Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Vacuum spilled material. Carefully collect remainder, then remove to safe place. Personal protection: P2 filter respirator for harmful particles.	Separated from strong acids.	Xn symbol R: 40-43 S: 2-22-36

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0062

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

NICKEL

ICSC: 0062

I	**PHYSICAL STATE; APPEARANCE:** SILVERY METALLIC SOLID IN VARIOUS FORMS. **PHYSICAL DANGERS:**
	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of the dust.

IMPORTANT DATA	Dust explosion possible if in powder or granular form, mixed with air. **CHEMICAL DANGERS:** Reacts violently, in powder form, with titanium powder and potassium perchlorate, and oxidants such as ammonium nitrate, causing fire and explosion hazard. Reacts slowly with non-oxidizing acids and more rapidly with oxidizing acids. Toxic gases and vapours (such as nickel carbonyl) may be released in a fire involving nickel. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (Inhalable fraction) 1.5 mg/m³ as TWA A5 (not suspected as a human carcinogen); (ACGIH 2004). MAK: (Inhalable fraction) sensitization of respiratory tract and skin (Sah); Carcinogen category: 1; (DFG 2004). OSHA PEL*†: TWA 1 mg/m^3 *Note: The PEL does not apply to Nickel carbonyl. NIOSH REL*: Ca TWA 0.015 mg/m^3 See Appendix A *Note: The REL does not apply to Nickel carbonyl. NIOSH IDLH: Ca 10 mg/m^3 (as Ni) See: 7440020 **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed. **EFFECTS OF SHORT-TERM EXPOSURE:** May cause mechanical irritation. Inhalation of fumes may cause pneumonitis. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation exposure may cause asthma. Lungs may be affected by repeated or prolonged exposure. This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 2730°C Melting point: 1455°C Density: 8.9 g/cm3 Solubility in water: none
ENVIRONMENTAL DATA	

N O T E S

At high temperatures, nickel oxide fumes will be formed. Depending on the degree of exposure, periodic medical examination is suggested. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact with this substance.

ADDITIONAL INFORMATION

ICSC: 0062 **NICKEL**

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

Blue powder
Merrillite
Zn
Atomic mass: 65.4
(powder)



ICSC # 1205
CAS # 7440-66-6
RTECS # ZG8600000
UN # 1436 (zinc powder or dust)
EC # 030-001-00-1
October 24, 1994 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable. Many reactions may cause fire or explosion. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with acid(s), base (s) and incompatible substances (see Chemical Dangers).	Special powder, dry sand, NO other agents. NO water.
EXPLOSION	Risk of fire and explosion on contact with acid(s), base(s), water and incompatible substances.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Prevent deposition of dust.	In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water.
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
•**INHALATION**	Metallic taste and metal fume fever. Symptoms may be delayed (see Notes).	Local exhaust.	Fresh air, rest. Refer for medical attention.
•**SKIN**	Dry skin.	Protective gloves.	Rinse and then wash skin with water and soap.
•**EYES**		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•**INGESTION**	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Extinguish or remove all ignition sources. Do NOT wash away into sewer. Sweep spilled substance into containers. then remove to safe place. Personal protection: self-contained breathing apparatus.	Fireproof. Separated from acids, bases oxidants Dry.	Airtight. F symbol N symbol R: 15-17-50/53 S: 2-7/8-43-46-60-61 UN Hazard Class: 4.3 UN Subsidiary Risks: 4.2

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

I M P O R T A N T D A T A	**PHYSICAL STATE; APPEARANCE:** ODOURLESS GREY TO BLUE POWDER. **PHYSICAL DANGERS:** Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc. **CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. The substance is a strong reducing agent and reacts violently with oxidants. Reacts with water and reacts violently with acids and bases forming flammable/explosive gas (hydrogen - see ICSC0001) Reacts violently with sulfur, halogenated hydrocarbons and many other substances causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. **ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation and by ingestion. **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed. **EFFECTS OF SHORT-TERM EXPOSURE:** Inhalation of fumes may cause metal fume fever. The effects may be delayed. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis.
PHYSICAL PROPERTIES	Boiling point: 907°C Melting point: 419°C Relative density (water = 1): 7.14 Solubility in water: reaction Vapour pressure, kPa at 487°C: 0.1 Auto-ignition temperature: 460°C
ENVIRONMENTAL DATA	

N O T E S

Zinc may contain trace amounts of arsenic, when forming hydrogen, may also form toxic gas arsine (see ICSC 0001 and ICSC 0222). Reacts violently with fire extinguishing agents such as water, halons, foam and carbon dioxide. The symptoms of metal fume fever do not become manifest until several hours later. Rinse contaminated clothes (fire hazard) with plenty of water.

Transport Emergency Card: TEC (R)-43GWS-II+III
NFPA Code: H0; F1; R1;

ADDITIONAL INFORMATION

ICSC: 1205 **ZINC POWDER**

APPENDIX D

HOSPITAL INFORMATION AND MAP

FIELD ACCIDENT REPORT

FIELD ACCIDENT REPORT

This report is to be filled out by the designated Site Safety Officer after EVERY accident.

PROJECT NAME _____ PROJECT. NO._____

Date of Accident _____ Time _____ Report By _____

Type of Accident (Check One):

( ) Vehicular ( ) Personal ( ) Property

Name of Injured _____ DOB or Age _____

How Long Employed _____

Names of Witnesses _____

_____

Description of Accident _____

_____

_____

Action Taken _____

_____

_____

Did the Injured Lose Any Time? _____ How Much (Days/Hrs.)? _____

Was Safety Equipment in Use at the Time of the Accident (Hard Hat, Safety Glasses, Gloves, Safety Shoes, etc.)? _____

_____

(If not, it is the EMPLOYEE'S sole responsibility to process his/her claim through his/her Health and Welfare Fund.)

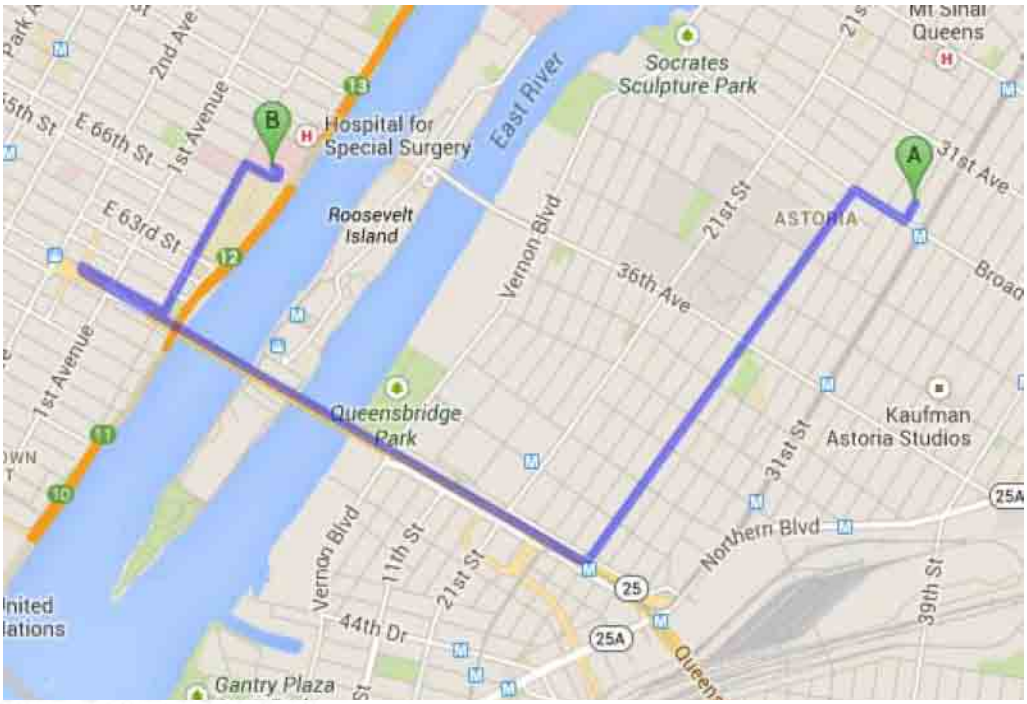
INDICATE STREET NAMES, DESCRIPTION OF VEHICLES, AND NORTH ARROW

HOSPITAL INFORMATION AND MAP

The nearest emergency room to the site is:

NY Presbyterian/Weill Cornell Medical Center

525 E. 68th Street, New York, NY 10065
(212) 746-5454
3.4 Miles – About 10 Minutes



A 31-70 30th St, New York, NY 11106

	1. Head **southwest** on **30th St** toward **Broadway**	go 256 ft total 256 ft
↱	2. Take the 1st right onto **Broadway**	go 0.1 mi total 0.2 mi
↰	3. Turn left at the 2nd cross street onto **Crescent St** About 3 mins	go 1.1 mi total 1.3 mi
25	4. Take the ramp onto **New York 25 W/Ed Koch Queensboro Bridge** About 3 mins	go 1.2 mi total 2.4 mi
	5. Take the exit toward **E 60th St**	go 390 ft total 2.5 mi
↱	6. Keep right at the fork, follow signs for **1 Avenue N/FDR Drive**	go 0.1 mi total 2.6 mi
↱	7. Turn right onto **E 60th St**	go 0.2 mi total 2.8 mi
↰	8. Take the 2nd left onto **York Ave** About 1 min	go 0.4 mi total 3.2 mi
↱	9. Turn right onto **E 68th St**	go 433 ft total 3.3 mi
↰	10. Turn left to stay on **E 68th St** Destination will be on the left	go 180 ft total 3.4 mi

B 525 E 68th St, New York, NY 10065

NewYork-Presbyterian Hospital/Weill Cornell Medical Center

Legend

- Visitor's Entrance
- Accessible Entrance
- Emergency
- Information Desk
- Visitor Parking
- Subway Entrance
- Bus

Elevators

- G — Greenberg Pavilion
- ST — Starr Pavilion, J Corridor & L Corridor
- K — K Wing & F Wing, floors 2-9
- F — Baker Pavilion / F Wing, floors 9-24
- H — Baker Pavilion / F Wing, floors 9-23
- P — Payson Pavilion
- W — Whitney Pavilion
- M — M Wing
- N — N Wing

Additional Medical Offices

Weill Cornell Medical Assoc. Eastside
201 East 80th Street
Weill Cornell Medical Assoc. Westside
12 West 72nd Street
Iris Cantor Women's Health Center
425 East 61st Street
Weill Cornell Imaging at NewYork-Presbyterian
416 East 55th Street
425 East 61st Street, 9th Floor
520 East 70th Street, lobby level
1305 York Avenue, 3rd Floor

Hospital information:
212 746 5454

ATTACHMENT D
Quality Assurance Project Plan

QUALITY ASSURANCE PROJECT PLAN
39-40 30th Street, Queens, NY

Prepared on behalf of:

Ganesh Management, LLC
39-40 30th Street
Queens, NY 11101

Prepared by:

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
1808 MIDDLE COUNTRY ROAD
RIDGE, NY 11961

TABLE OF CONTENTS

QUALITY ASSURANCE PROJECT PLAN
39-40 30th Street, Queens, NY

TABLES

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been prepared in accordance with DER-10 to detail procedures to be followed during the course of the sampling and analytical portion of the project, as required by the approved work plan.

To ensure the successful completion of the project each individual responsible for a given component of the project must be aware of the quality assurance objectives of his / her particular work and of the overall project. The EBC Project Director, Charles Sosik will be directly responsible to the client for the overall project conduct and quality assurance/quality control (QA/QC) for the project. The Project Director will be responsible for overseeing all technical and administrative aspects of the project and for directing QA/QC activities. As Project Director Mr. Sosik will also serve as the Quality Assurance Officer (QAO) and in this role may conduct:

- conduct periodic field and sampling audits;
- interface with the analytical laboratory to resolve problems; and
- interface with the data validator and/or the preparer of the DUSR to resolve problems.

Chawinie Miller will serve as the Project Manager and will be responsible for implementation of the Remedial Investigation and coordination with field sampling crews and subcontractors. Reporting directly to the Project Manager will be the Field Operations Officer, Kevin Waters; who will serve as the on-Site qualified environmental professional who will record observations, direct the drilling crew and be responsible for the collection and handling of all samples.

1.1 Organization

Project QA will be maintained under the direction of the Project Manager, in accordance with this QAPP. QC for specific tasks will be the responsibility of the individuals and organizations listed below, under the direction and coordination of the Project Manager

.

GENERAL RESPONSIBILITY	SCOPE OF WORK	RESPONSIBILITY OF QUALITY CONTROL
Field Operations	Supervision of Field Crew, sample collection and handling	K. Waters, EBC
Project Manager	Implementation of the RI according to the RIWP.	Chawinie Miller, EBC
Laboratory Analysis	Analysis of soil samples by NYSDEC ASP methods Laboratory	NYSDOH-Certified Laboratory
Data review	Review for completeness and compliance	3rd party validation

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2.0 QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

2.1 Overview

Overall project goals are defined through the development of Data Quality Objectives (DQOs), which are qualitative and quantitative Statements that specify the quality of the data required to support decisions; DQOs, as described in this section, are based on the end uses of the data as described in the work plan.

In this plan, Quality Assurance and Quality Control are defined as follows:

- Quality Assurance - The overall integrated program for assuring reliability of monitoring and measurement data.

- Quality Control - The routine application of procedures for obtaining prescribed standards of performance in the monitoring and measurement process.

2.2 QA / QC Requirements for Analytical Laboratory

Samples will be analyzed by a New York State Department of Health (NYSDOH) certified laboratory. Data generated from the laboratory will be used to evaluate contaminants such as metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and pesticides / PCBs in both historic fills and native soils and in groundwater and other volatile organic compounds (VOCs) in soil, soil gas. The QA requirements for all subcontracted analytical laboratory work performed on this project are described below. QA elements to be evaluated include accuracy, precision, sensitivity, representativeness, and completeness. The data generated by the analytical laboratory for this project are required to be sensitive enough to achieve detection levels low enough to meet required quantification limits as specified in NYSDEC Analytical Services Protocol (NYSDEC ASP, 07/2005. The analytical results meeting the required quantification limits will provide data sensitive enough to meet the data quality objectives of this remedial program as described in the work plan. Reporting of the data must be clear, concise, and comprehensive. The QC elements that are important to this project are completeness of field data, sample custody, sample holding times, sample preservation, sample storage, instrument calibration and blank contamination.

2.2.1 Instrument Calibration

Calibration curves will be developed for each of the compounds to be analyzed. Standard concentrations and a blank will be used to produce the initial curves. The development of calibration curves and initial calibration response factors must be consistent with method requirements presented in the most recent version of NYSDEC ASP 07/2005).

2.2.2 Continuing Instrument Calibration

The initial calibration curve will be verified every 12 hrs by analyzing one calibration standard. The standard concentration will be the midpoint concentration of the initial calibration curve. The calibration check compound must come within 25% relative percent difference (RPD) of the average response factor obtained during initial calibration. If the RPD is greater than 25%, then corrective action must be taken as provided in the specific methodology.

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2.2.3 Method Blanks

Method blank or preparation blank is prepared from an analyte·free matrix which includes the same reagents, internal standards and surrogate standards as me related samples. II is carried through the entire sample preparation and analytical procedure. A method blank analysis will be performed once for each 12 hr period during the analysis of samples for volatiles. An acceptable method blank will contain less than two (2) times the CRQL of methylene chloride, acetone and 2-butanone. For all other target compounds, the method blank must contain less than or equal to the CRQL of any single target compound. For non-target peaks in the method blank, the peak area must be less than 10 percent of the nearest internal standard. The method blank will be used to demonstrate the level of laboratory background and reagent contamination that might result from the analytical process itself.

2.2.4 Trip Blanks.

Trip blanks consist of a single set of sample containers filled at the laboratory with deionized. laboratory-grade water. The water used will be from the same source as that used for the laboratory method blank. The containers will be carried into the field and handled and transported in the same way as the samples collected that day. Analysis of the trip blank for VOCs is used to identify contamination from the air, shipping containers, or from other items coming in contact with the sample bottles. (The bottles holding the trip blanks will be not opened during this procedure.) A complete set of trip blanks will be provided with each shipment of samples to the certified laboratory.

2.2.5 Surrogate Spike Analysis

For organic analyses, all samples and blanks will be spiked with surrogate compounds before purging or extraction in order to monitor preparation and analyses of samples. Surrogate spike recoveries shall fall within the advisory limits in accordance with the NY5DEC ASP protocols for samples falling within the quantification limits without dilution.

2.2.6 Matrix Spike / Matrix Spike Duplicate / Matrix Spike Blank (MS/MSDIMSB) Analysis

MS, MSD and MSB analyses will be performed to evaluate the matrix effect of the sample upon the analytical methodology along with the precision of the instrument by measuring recoveries. The MS / MSD / MSB samples will be analyzed for each group of samples of a similar matrix at a rate of 5% (one for every 20 field samples). The RPD will be calculated from the difference between the MS and MSD. Matrix spike blank analysis will be performed to indicate the appropriateness of the spiking solution(s) used for the MS/MSD.

2.3 Accuracy

Accuracy is defined as the nearness of a real or the mean (x) of a set of results to the true value. Accuracy is assessed by means of reference samples and percent recoveries. Accuracy includes both precision and recovery and is expressed as percent recovery (% REC). The MS sample is used to determine the percent recovery. The matrix spike percent recovery (% REC) is calculated by the following equation:

$$\%REC = \frac{SSR - SR}{SA} \times 100$$

Where:
SSR = spike sample results
SR = sample results

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SA = spike added from spiking mix

2.4 Precision

Precision is defined as the measurement of agreement of a set of replicate results among themselves without a Precision is defined as the measurement of agreement of a set of replicate results among themselves without assumption of any prior information as to the true result. Precision is assessed by means of duplicate/replicate sample analyses.

Analytical precision is expressed in terms of RPD. The RPD is calculated using the following formula:

$$RPD = \frac{D^1 - D^2}{(D^1 - D^2)/2} \times 100$$

Where:
RPD = relative percent difference
D^1 = first sample value
D^2 = second sample value (duplicate)

2.5 Sensitivity

The sensitivity objectives for this plan require that data generated by the analytical laboratory achieve quantification levels low enough to meet the required detection limits specified by NYSDEC ASP and to meet all site-specific standards, criteria and guidance values (SGCs) established for this project.

2.6 Representativeness

Representativeness is a measure of the relationship of an individual sample taken from a particular site to the remainder of that site and the relationship of a small aliquot of the sample (i.e., the one used in the actual analysis) to the sample remaining on site. The representativeness of samples is assured by adherence to sampling procedures described in the Remedial Investigation Work Plan.

2.7 Completeness

Completeness is a measure of the quantity of data obtained from a measurement system as compared to the amount of data expected from the measurement system. Completeness is defined as the percentage of all results that are not affected by failing QC qualifiers, and should be between 70 and 100% of all analyses performed. The objective of completeness in laboratory reporting is to provide a thorough data support package. The laboratory data package provides documentation of sample analysis and results in the form of summaries, QC data, and raw analytical data. The laboratory will be required to submit data packages that follow NYSDEC ASP reporting format which, at a minimum, will include the following components:

1. All sample chain-of-custody forms.
2. The case narrative(s) presenting a discussion of any problems and/or procedural changes required during analyses. Also presented in the case narrative are sample summary forms.
3. Documentation demonstrating the laboratory's ability to attain the contract specified detection limits for all target analytes in all required matrices.
4. Tabulated target compound results and tentatively identified compounds.
5. Surrogate spike analysis results (organics).
6. Matrix spike/matrix spike duplicate/matrix spike blank results.
7. QC check sample and standard recovery results
8. Blank results (field, trip, and method).

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9. Internal standard area and RT summary.

2.8 Laboratory Custody Procedures

The following elements are important for maintaining the field custody of samples:

- Sample identification
- Sample labels
- Custody records
- Shipping records
- Packaging procedures

Sample labels will be attached to all sampling bottles before field activities begin; each label will contain an identifying number. Each number will have a suffix that identifies the site and where the sample was taken. Approximate sampling locations will be marked on a map with a description of the sample location. The number, type of sample, and sample identification will be entered into the field logbook. A chain-of-custody form, initiated at the analytical laboratory will accompany the sample bottles from the laboratory into the field. Upon receipt of the bottles and cooler, the sampler will sign and date the first received blank space. After each sample is collected and appropriately identified, entries will be made on the chain-of-custody form that will include:

- Site name and address
- Samplers' names and signatures

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3.0 ANALYTICAL PROCEDURES

3.1 Laboratory Analysis

Samples will be analyzed by the NYSDOH ELAP laboratory for one or more of the following parameters: VOCs in soil / groundwater by USEPA Method 8260, SVOCs in soil / groundwater by USEPA Method 8270BN, Target Analyte List (TAL) Metals in soil and groundwater, pesticides / PCBs by USEPA Method 8081/8082 and VOCs in air by USEPA Method TO15. If any modifications or additions to the standard procedures are anticipated. and if any nonstandard sample preparation or analytical protocol is to be used, the modifications and the nonstandard protocol will be explicitly defined and documented. Prior approval by EBC's PM will be necessary for any nonstandard analytical or sample preparation protocol used by the laboratory, i.e., dilution of samples or extracts by greater than a factor of five (5).

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4.0 DATA REDUCTION, REVIEW, AND REPORTING

4.1 Overview

The process of data reduction, review, and reporting ensures the assessments or a conclusion based on the final data accurately reflects actual site conditions. This plan presents the specific procedures, methods, and format that will be employed for data reduction, review and reporting of each measurement parameter determined in the laboratory and field. Also described in this section is the process by which all data, reports, and work plans are proofed and checked for technical and numerical errors prior to final submission.

4.2 Data Reduction

Standard methods and references will be used as guidelines for data handling, reduction, validation, and reporting. All data for the project will be compiled and summarized with an independent verification at each step in the process to prevent transcription/typographical errors. Any computerized entry of data will also undergo verification review.

Sample analysis will be provided by a New York State certified environmental laboratory. Laboratory reports will include ASP category B deliverables for use in the preparation of a data usability summary report (DUSR). All results will be provided in accordance with the NYSDEC Environmental Information Management System (EIMS) electronic data deliverable (EDD) format. Analytical results shall be presented on standard NYSDEC ASP-B forms or equivalents, and include the dates the samples were received and analyzed, and the actual methodology used. Note that if waste characterization samples are analyzed they will be in results only format and will not be evaluated in the DUSR.

Laboratory QA/QC information required by the method protocols will be compiled, including the application of data QA/QC qualifiers as appropriate. In addition, laboratory worksheets, laboratory notebooks, chains-of-custody, instrument logs, standards records, calibration records, and maintenance records, as applicable, will be provided in the laboratory data packages to determine the validity of data. Specifics on internal laboratory data reduction protocols are identified in the laboratory's SOPs.

Following receipt of the laboratory analytical results by EBC, the data results will be compiled and presented in an appropriate tabular form. Where appropriate, the impacts of QA/QC qualifiers resulting from laboratory or external validation reviews will be assessed in terms of data usability.

4.3 Laboratory Data Reporting

All sample data packages submitted by the analytical laboratory will be required to be reported in conformance to the NYSDEC ASP (7/2005), Category B data deliverable requirements as applicable to the method utilized. All results will be provided in accordance with the NYSDEC Environmental Information Management System (EIMS) electronic data deliverable (EDD) format. Note that waste characterization samples if analyzed will be in results only format and will not be evaluated in the DUSR.

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5.0 CORRECTIVE ACTION

Review and implementation of systems and procedures may result in recommendations for corrective action. Any deviations from the specified procedures within approved project plans due to unexpected site-specific conditions shall warrant corrective action. All errors, deficiencies, or other problems shall be brought to the immediate attention of the EBC PM, who in turn shall contact the Quality Assurance/Data Quality Manager or his designee (if applicable).

Procedures have been established to ensure that conditions adverse to data quality are promptly investigated, evaluated and corrected. These procedures for review and implementation of a change are as follows:

- Define the problem.
- Investigate the cause of the problem.
- Develop a corrective action to eliminate the problem, in consultation with the personnel who defined the problem and who will implement the change.
- Complete the required form describing the change and its rationale (see below for form requirements).
- Obtain all required written approvals.
- Implement the corrective action.
- Verify that the change has eliminated the problem.

During the field investigation, all changes to the sampling program will be documented in field logs/sheets and the EBC PM advised.

If any problems occur with the laboratory or analyses, the laboratory must immediately notify the PM, who will consult with other project staff. All approved corrective actions shall be controlled and documented.

All corrective action documentation shall include an explanation of the problem and a proposed solution which will be maintained in the project file or associated logs. Each report must be approved by the necessary personnel (e.g., the PM) before implementation of the change occurs. The PM shall be responsible for controlling, tracking, implementing and distributing identified changes.

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TABLE 2
SUMMARY OF
SAMPLING PROGRAM RATIONALE AND ANALYSIS

Matrix	Location	Number of Samples	Rationale for Sampling	Laboratory Analysis
Subsurface soil (0 to 15 feet)	14 soil borings throughout the site. Samples collected at 0-2 ft and 13-15 ft intervals (B9-B14), 0-2 ft and 10-12 ft intervals (B1, B3-B6, B8), and 4-6 ft intervals (B5, B7)	29	To evaluate the extent of soil impact and obtain information on soil quality at the Site.	VOCs EPA Method 8260B, SVOCs EPA Method 8270, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Total (Soils)		29		
Groundwater (water table)	From 7 monitoring wells across the Site.	7	To assess groundwater quality at the Site.	VOCs EPA Method 8260B, SVOCs EPA Method 8270, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Total (Groundwater)		7		
Soil Gas (SG1-SG7 10-12 ft below existing grade, SG8 &SG9 below existing slab)	9 soil gas implants installed across the Site.	9	Evaluate soil gas across the Site.	VOCs EPA Method TO15
Soil Gas (SG10-SG15 below exsisting slab, SG16 to SG21 indoor air samples and 1 out door ambient	6 sub slab implants, 6 indoor air samples and 1 outdoor air sample	13	Evaluate soil gas across the Site.	VOCs EPA Method TO15
Indoor Air Samples Indoor Air Second Floor #1, Indoor Air Second Floor #2, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4 and 1 outdoor sample	4 Indoor Air samples on 2nd Floor and 1 outdoor air sample	5	Evaluate indoor air on 2nd floor	VOCs EPA Method TO15
Indoor Air Samples SG-16, SG-17, SG-18, SG-19, SG-20, SG-21, SG-22, Indoor Air Second Floor # 3, Indoor Air Second Floor # 4 and 1 outdoor sample	9 Indoor Air (1st and 2nd Floor) and 1 outdoor air sample	10	Evaluate indoor air on 1st and 2nd floor after remedial actions were taken	VOCs EPA Method TO15
Total (Soil Gas)		37		
MS/MSD	Matrix spike and Matrix spike duplicates at the rate 5%	1	To meet requirements of QA / QC program	1 MS/MSD for VOCs EPA Method 8260B and 1 MS/MSD for SVOCs EPA Method 8270 BN, pesticide / PCBs EPA Method 8081/8082, TAL metals.
Trip Blanks	One laboratory prepared trip blank to accompany samples each time they are delivered to the laboratory.	4	To meet requirements of QA / QC program	VOCs EPA Method 8260B
Total (QA / QC Samples)		4		

ATTACHMENT E
Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN

39-40 30th STREET
QUEENS, NY

FEBRUARY - 2016

39-40 30th STREET, QUEENS NY

COMMUNITY AIR MONITORING PLAN
TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been prepared for the excavation and building activities to be performed under a Remedial Action Work Plan (RAWP) at 39-40 30th Street, Queens NY. The CAMP provides measures for protection for the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the investigation activities) from potential airborne contaminant releases resulting from investigative activities at the site.

Compliance with this CAMP is required during all activities associated with drilling and sampling activities that have the potential to generate airborne particulate matter and volatile organic compounds (VOCs). These activities include drilling and soil and groundwater sampling. This CAMP has been prepared to ensure that investigation activities do not adversely affect passersby, residents, or workers in the area immediately surrounding the Site and to preclude or minimize airborne migration of investigation-related contaminants to off-site areas.

1.1 Regulatory Requirements

This CAMP was established in accordance with the following requirements:

- New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan as presented in DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC May 3, 2010). This guidance specifies that a community air-monitoring program shall be implemented to protect the surrounding community and to confirm that the work does not spread contamination off-site through the air;

- New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Memorandum (TAGM) #4031 - Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites: This guidance provides a basis for developing and implementing a fugitive dust suppression and particulate monitoring program as an element of a hazardous waste site's health and safety program.

2.0 AIR MONITORING

Chlorinated volatile organic compounds (VOCs) are the constituents of concern at the Site. The appropriate method to monitor air for these constituents during remediation activities is through real-time VOC and air particulate (dust) monitoring.

2.1 Meteorological Data

At a minimum, wind direction will be evaluated at the start of each workday, noon of each workday, and the end of each workday. These readings will be utilized to position the monitoring equipment in appropriate upwind and downwind locations.

2.2 Community Air Monitoring Requirements

To establish ambient air background concentrations, air will be monitored at several locations around the site perimeter before activities begin. These points will be monitored periodically in series during the site work. When the drilling area is within 20 feet of potentially exposed populations or occupied structures, the perimeter monitoring points will be located to represent the nearest potentially exposed individuals at the downwind location.

Fugitive respirable dust will be monitored using a MiniRam Model PDM-3 aerosol monitor (or equivalent). Air will be monitored for VOCs with a portable Ionscience 3000 photoionization detector (PID), or equivalent. All air monitoring data will be documented in a site log book by the designated site safety officer. The site safety officer or delegate must ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. All instruments will be zeroed daily and checked for accuracy. A daily log will be kept. If additional monitoring is required, the protocols will be developed and appended to this plan

3.0 VOC MONITORING, RESPONSE LEVELS, AND ACTIONS

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present.

The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

All readings will be recorded and made available for NYSDEC and NYSDOH personnel to review. If an exceedance of the Action Limits occurs, an Action Limit Report, as shown in Appendix A, will be completed.

3.1 Potential Corrective Measures and VOC Suppression Techniques

If the 15-minute integrated VOC level at the downwind location persists at a concentration that exceeds the upwind level by more than 5 ppm but less than 25 ppm during remediation activities, then vapor suppression techniques will be employed. The following techniques, or others, may be employed to mitigate the generation and migration of fugitive organic vapors:

- Collection of purge water in covered containers;
- storage of excess sample and drill cuttings in drums or covering with plastic

4.0 PARTICULATE MONITORING

Air monitoring for particulates (i.e., dust) will be performed continuously during drilling activities using both air monitoring equipment and visual observation at upwind and downwind locations. Monitoring equipment capable of measuring particulate matter smaller than 10 microns (PM_{10}) and capable of integrating (averaging) over periods of 15 minutes or less will be set up at upwind (i.e., background) and downwind locations, at heights approximately four to five feet above land surface (i.e., the breathing zone). Monitoring equipment will be MIE Data Ram monitors, or equivalent. The audible alarm on the particulate monitoring device will be set at 90 micrograms per cubic meter ($\mu g/m_3$). This setting will allow proactive evaluation of worksite conditions prior to reaching the action level of 100 $\mu g/m^3$ above background. The monitors will be calibrated at least once per day prior to work activities and recalibrated as needed thereafter. In addition, fugitive dust migration will be visually assessed during all intrusive work activities.

The following summarizes particulate action levels and the appropriate responses:

- If the downwind PM-10 particulate level is 100 $\mu g/m^3$ greater than background (upwind perimeter) for the 15-minute period, or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work must be stopped and an evaluation of activities initiated. Work can resume provided that dust suppression measures (as described in Section 2.3.1 below) and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review. If an exceedance of the Action Limits occurs, an Action Limit Report as shown in **Appendix A** will be completed.

4.1 Potential Particulate Suppression Techniques

If the integrated particulate level at the downwind location exceeds the upwind level by more than 100 $\mu g/m_3$ at any time during drilling activities, then dust suppression techniques will be employed. The following techniques, or others, may be employed to mitigate the generation and migration of fugitive dusts:

- Placement of drill cuttings in drums or covering stockpiles with plastic;
- Misting of the drilling area with a fine water spray from a hand-held spray bottle

Work may continue with dust suppression techniques provided that downwind PM_{10} levels are not more than 150 $\mu g/m^3$ greater than the upwind levels.

There may also be situations where the dust is generated by drilling activities and migrates to downwind locations, but is not detected by the monitoring equipment at or above the action level. Therefore, if dust is observed leaving the working area, dust suppression techniques such as those listed above will be employed.

If dust suppression techniques do not lower particulates to below 150 $\mu g/m^3$, or visible dust persists, work will be suspended until appropriate corrective measures are identified and implemented to remedy the situation.

All air monitoring readings will be recorded in the field logbook and will be available for the NYSDEC and NYSDOH personnel to review.

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5.0 DATA QUALITY ASSURANCE

5.1 Calibration

Instrument calibration shall be documented on instrument calibration and maintenance sheets or in the designated field logbook. All instruments shall be calibrated as required by the manufacturer. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

5.2 Operations

All instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the SSO for reference.

5.3 Data Review

The SSO will interpret all monitoring data based the established criteria and his/her professional judgment. The SSO shall review the data with the PM to evaluate the potential for worker exposure, upgrades/downgrades in level of protection, comparison to direct reading instrumentation and changes in the integrated monitoring strategy.

Monitoring and sampling data, along with all sample documentation will be periodically reviewed by the PM.

6.0 RECORDS AND REPORTING

All air readings must be recorded on daily air monitoring log sheets and made available for review by personnel from NYSDEC and NYSDOH.

APPENDIX A
ACTION LIMIT REPORT

CAMP
ACTION LIMIT REPORT

Project Location: _____

Date: _____ Time: _____

Name: _____

Contaminant: _____ PM-10: _____ VOC: _____

Wind Speed: _____ Wind Direction: _____

Temperature: _____ Barometric Pressure: _____

DOWNWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

UPWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

BACKGROUND CORRECTED LEVELS

Monitor ID #: Location: _____ Level Reported: Level Reported: _____

ACTIONS TAKEN

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ATTACHMENT F
Citizen Participation Plan

New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan

for

FORMER UNION WIRE DIE CORP. SITE

Ganesh Management, LLC
39-40 30th Street
Long Island City, NY 11101

July 2014

Contents

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Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **Ganesh Management LLC**
Site Name: **Former Union Wire Die Corp. ("Site")**
Site Address: **39-40 30th Street**
Site County: **Queens**
Site Number: **C241163**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants that conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: http://www.dec.ny.gov/chemical/8450.html.

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interest in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment;

- Improving public access to, and understanding of, issues and information related to a particular site and that Site's investigation and cleanup process;

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the Site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the Site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC website. If this occurs, NYSDEC will inform the public in fact sheets distributed about the Site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the Site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the Site is located;
- Residents, owners, and occupants of the Site and properties adjacent to the Site;
- The public water supplier which services the area in which the Site is located;
- Any person who has requested to be placed on the site contact list;

- The administrator of any school or day care facility located on or near the Site for purposes of posting and/or dissemination of information at the facility; and
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the Site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

- **Document repositories** allow the public to access and review project documents including investigation and cleanup work plans and final reports.

The public is encouraged to contact project staff at any time during the Site's investigation and cleanup process with questions, comments, or requests for information. This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the Site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the Site, as described in Section 5.

If the Site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret

and understand existing environmental information about the nature and extent of contamination related to the Site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the Site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the Site.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html.

Note: The table identifying the citizen participation activities related to the Site's investigation and cleanup program follows on the next page:

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repositories	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement:	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about proposed RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that summarizes the Final Engineering Report • Distribute fact sheet to site contact list announcing issuance of Certificate of Completion (COC)	At the time NYSDEC approves Final Engineering Report. These two fact sheets are combined if possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the Site. Additional major issues of public concern may be identified during the course of the Site's investigation and cleanup process.

The major issues of concern to the public will be potential impacts of nuisance odors and dust during the removal of affected soil at the Site. Another example of a major issue of public concern would be the impact of increased truck traffic on the surrounding neighborhood. Construction safety issues will also be addressed. In addition, this Site may be located in a potential environmental justice area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

Furthermore, it may be determined that translation services may be necessary for fact sheets and public meetings. This Site has a large Hispanic-American population surrounding it. Therefore, all future fact sheets will be translated into Spanish. This work will be performed in accordance with procedures which will be specified under a detailed Remedial Program which considers and takes preventive measures for exposures to future residents of the property and those on adjacent properties during construction. Detailed plans to monitor the potential for exposure including a Health and Safety Plan (HASP) and a Community Air Monitoring Plan (CAMP) are required components of the remedial program. Implementation of these plans will be under the direct oversight of the NYSDEC and the New York State Department of Health (NYSDOH).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- On-site air monitoring for worker protection;
- Perimeter air monitoring for community protection;
- The use of odor, vapor, and dust controls, such as water or foam sprays, as needed;
- Monitoring and control of soil, sediments, and water generated during remediation; and
- Truck routes which avoid residential streets.

The HASP and the CAMP will be prepared as part of the Remedial Action Work Plan (RAWP) and will be available for public review at the document repository as identified in Appendix A (page 11).

Furthermore, the Applicant has prepared a Scoping Sheet for Major Issues of Public Concern which will assist them in identifying any concerns. Experience from similar projects, 311 complaints and other construction projects in the area will help in identifying such issues.

4. Site Information

Appendix C contains a map identifying the location of the Site.

Site Description

The Site to be remediated and redeveloped is located at 39-40 30th Street in Long Island City, Queens and is comprised of a single tax parcel totaling 14,000 square feet (0.32 acres).

The subject site is listed as Block 399, Lot 34 by the City of New York. The lot is located on the northwest corner of the intersection between 40th Avenue and 30th Street. The lot consists of 133 feet of street frontage on 30th Street 100 feet of Street frontage on 40th Avenue for a total of 14,000 square feet (0.32 acres). The lot is currently developed with a two-story commercial warehouse which occupies approximately 70% of the lot.

The area surrounding the property is highly urbanized and predominantly consists of commercial, industrial and residential buildings with mixed-use buildings (residential w/ first floor retail) along main corridors / thoroughfares.

The elevation of the Site is approximately 28 feet above the National Geodetic Vertical Datum (NGVD). The area topography gradually slopes to the southeast. The depth to groundwater beneath the Site, as determined from field measurements, is approximately 20 feet below grade. Based on regional groundwater elevation maps, groundwater flows to the west toward the East River.

History of Site Use, Investigation, and Cleanup
The property is currently owned by the Ganesh Management LLC. The existing building is currently occupied by Personal Communications, Inc. a distributer of wireless communications equipment.

The Site was originally developed sometime between 1915 and 1936. By 1936, a gas station with two gasoline tanks occupied the Site. The property was redeveloped by 1947 into a 2-story warehouse utilized by Optical Products Corporation for manufacturing, shipping, and as an office. The building has remained to the present with several other occupants including Union Wire Die Corp (1960s), National Tea Packaging Co. Inc. (1962-1991), and a warehouse (1991-2006).

A Phase II investigation performed at the Site in December 2013 identified chlorinated volatile organic compounds in soil, groundwater and soil vapor at the Site.

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program (BCP) as a Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the Site took place after the

discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination on-site, and must conduct a qualitative exposure assessment, (a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the Site and to contamination that has migrated from the Site).

The Applicant proposes that the Site will be used for the construction of a new 7-story residential apartment building and a full cellar. The first floor will consist of parking and a lobby with residential units on the upper floors. The building will cover approximately 80% of the lot, leaving a rear courtyard behind the building. The basement level and foundation will require excavation of majority of the Site to a total depth of approximately 12 feet below grade. The rear courtyard will be capped with concrete.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the Site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement (BCA) executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the Site.

Investigation

The Applicant has completed a preliminary site investigation before it entered into the BCP. The Applicant will now conduct an investigation of the Site officially called a "remedial investigation" (RI). This investigation will be performed with NYSDEC oversight. The Applicant previously developed a remedial investigation workplan, which was subject to public comment.

The site investigation has several goals:

1) Define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) Identify the source(s) of the contamination;
3) Assess the impact of the contamination on public health and the environment; and
4) Provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the Site poses a significant threat to public health or the environment. If the Site is a significant threat, it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the Site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Remedy Selection

When the investigation of the Site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the Site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a Certificate of Completion (COC) (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a Remedial Work Plan. The Remedial Work Plan describes the Applicant's proposed remedy for addressing contamination related to the Site.

When the Applicant submits a proposed Remedial Work Plan for approval, NYSDEC would announce the availability of the proposed plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a Final Engineering Report (FER) that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the Site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the Site, it will approve the FER. NYSDEC then will issue a COC to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the Site after it receives a COC.

Site Management

Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management may be conducted by the Applicant under NYSDEC oversight, if contamination will remain in place. Site management incorporates any institutional and engineering

controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan (SMP).

An institutional control is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the Site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that is pumping and treating groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Ruth Curley
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7016
Tel: (518) 402-9767
Email: recurley(@gw.dec.state.ny.us

Thomas Panzone
Regional Citizen Participation Specialist
NYSDEC Region 2
Office of Communications Services
47-40 21st Street
Long Island City, NY 11101-5407
Tel: (718) 482-4953
Email: tvpanzon(@gw.dec.state.ny.us

New York State Department of Health (NYSDOH):
Chris Doroski
New York State Department of Health
Bureau of Environmental Exposure Investigation
Empire State Plaza – Corning Tower Room 1787
Albany, New York 12237
Tel: (518) 402-7860
Email: beei@health.state.ny.us

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

Long Island City Library
37-44 21st Street
Long Island City, NY 11101
(718) 752-3700

Hours:
Mon 9:00 AM - 8:00 PM
Tue 2:00 PM - 7:00 PM
Wed 11:00 AM - 7:00 PM
Thu 11:00 AM - 7:00 PM
Fri11:00 AM - 7:00 PM
Sat 10:00 AM - 5:30 PM
Sun Closed

Appendix B - Site Contact List

Local Government Contacts:

City of New York
Hon. Bill de Blasio
Mayor of New York City
City Hall
New York, NY 10007

Hon. Melinda Katz
Queens Borough President
120-55 Queens Boulevard
Kew Gardens, NY 11424

Mr. Vinicio Donato
Chair, Queens Community Board 1
45-02 Ditmars Boulevard, LL,
Suite 125 (The Pistilli Grand Manor)
Astoria, New York 11105

Ms. Lucille Hartmann
District Manager, Queens Community Board 1
45-02 Ditmars Boulevard, LL,
Suite 125 (The Pistilli Grand Manor)
Astoria, New York 11105

Ms. Joan Asselin
Environmental Protection Committee
Queens Community Board 1
45-02 Ditmars Boulevard, LL,
Suite 125 (The Pistilli Grand Manor)
Astoria, New York 11105

Hon. Jimmy Van Bramer
NYC Council Member
26th District
47-01 Queens Boulevard Suite 205
Sunnyside, NY 11104

Carl Weisbrod, Commissioner
NYC Dept. of City Planning
22 Reade St.
Third Floor
New York, NY 10007

New York City Department of Transportation
Brooklyn Borough Commissioner
Attn: Dalila Hall
55 Water Street, 9th Floor
New York, NY 10041

Queens County Clerk's Office
Audrey I. Pheffer, County Clerk
8811 Sutphin Boulevard
Jamaica, NY 11435

Hon. Letitia James
Public Advocate
1 Centre Street, 15th Floor
New York, NY 10007

Hon. Scott M. Stringer
Office of the Comptroller
1 Centre Street
New York, NY 10007

Hon. Michael Gianaris
NYS Senator
21-77 31st Street
Astoria, NY 11369

Hon. Margaret M. Markey
NYS Assembly Member
55-19 69th Street
Maspeth, NY 11378

Hon. Charles Schumer
U.S. Senator
780 Third Avenue, Suite 2301
New York, NY 10017

Hon. Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York, NY 10017

Hon. Carolyn B. Maloney
U.S. House of Representatives
31-19 Newtown Avenue
Astoria, NY 11102

John Wuthenow
Office of Environmental Planning & Assessment
NYC Dept. of Environmental Protection
96-05 Horace Harding Expressway
Flushing, NY 11373

Vacant
Director
NYC Office of Environmental Coordination
100 Gold Street – 2nd Floor
New York, NY 10038

Daniel Walsh
Director
NYC Department of Environmental Remediation
100 Gold Street – 2nd
New York, NY 10038

Local News Media

Queens Chronicle
62-33 Woodhaven Boulevard
P.O. Box 74-7769
Rego Park, NY 11374-7769
(718) 205-8000

New York Daily News
4 New York Plaza
New York, NY 10038

New York Post
1211 Avenue of the Americas
New York, NY 10036-8790

NY 1 News
75 Ninth Avenue
New York, NY 10011

Western Queens Gazette
42-16 34th Avenue
Long Island City, NY 11101

Queens Tribune
150-50 14th Road

Whitestone, NY 11357

Times-Ledger Newspapers
41-02 Bell Boulevard, 2nd Floor
Bayside, NY 11361

Queens Chronicle
P.O. Box 74-7769
Rego Park, NY 11374

LIC/Astoria Journal
69-60 Grand Avenue
Maspeth, NY 11378

Queens Courier
Schneps Publications Inc,
38-15 Bell Blvd
Bayside, NY 11361

Public Water Supplier

New York City Department of Environmental Protection
Emily Lloyd, Commissioner
59-17 Junction Boulevard
Flushing, NY 11373

Schools and Daycare Facilities:

1 Academy of American Studies
2804 41st Ave, Long Island City, NY 11101
(718) 361-8786
Attn: William C. Bassell, Principal

2 Long Island City Family Daycare, Inc.
40-34 28th St, Long Island City, NY 11101
(347) 669-4009
Attn: Marcia Madrid, Director

3 Growing Up Green Charter School
39-27 28th St, Long Island City, NY 11101
(347) 642-4306
Attn: Matthew Greenberg, Principal

4 Newcomers High School
2801 41st Ave, New York, NY 11101

(718) 937-6005
Attn: Orlando Sarmiento, Principal

5 Evangel Christian School
39-21 Crescent St, Long Island City, NY 11101
(718) 937-9600
Attn: Carolyn Marko, Principal

6 Queensbridge Day Care Center
3811 27th St, Long Island City, NY 11101
(718) 937-7640
Attn: Caterina Lafergola

7 Dutch Kills School
25-05 37 Ave, Long Island City, NY 11101
(718) 784-5250
Attn: Rafael Campos-Gätjens, Principal

8 I.S. 204 Oliver W Holmes
36-41 28th St, Long Island City, NY 11106
(718) 937-1463
Attn: Yvonne Leimsider, Principal

9 Middle College High School at Laguardia
45-35 Van Dam Street , Long Island City, NY 11101
(718) 392-3330
Attn: Linda Siegmund, Principal

10 Aviation High School
45-30 36th St, Long Island City, NY 11101
(718) 361-2032
Attn: Deno Charalambous, Principal

11 Sunnyside Community Services
43-31 39th St, Long Island City, NY 11104
(718) 392-6944
Attn: Judith Zangwill, Executive Director

Resident or Business Owners:

Resident or Business Owner
38-29 30th Street
Long Island City, NY 11101

Resident or Business Owner
38-27 30th Street
Long Island City, NY 11101

Resident or Business Owner
3822-26 31st Street
Long Island City, NY 11101

Resident or Business Owner
38-30 31st Street
Long Island City, NY 11101

Resident or Business Owner
38-34 31st Street
Long Island City, NY 11101

Resident or Business Owner
30-17 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-11 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-07 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-05 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-03 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-01 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
38-31 30th Street
Long Island City, NY 11101

Resident or Business Owner
30-15 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-09 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
29-05 29th Street
Long Island City, NY 11102

Resident or Business Owner
38-31 29th Street
Long Island City, NY 11101

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Long Island City, NY 11101

Resident or Business Owner
38-20 30th Street
Long Island City, NY 11101

Resident or Business Owner
38-26 30th Street

Long Island City, NY 11101

Resident or Business Owner
29-19 30th Street
Long Island City, NY 11102

Resident or Business Owner
29-13 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
29-11 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
28-01 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
38-31 28th Street
Long Island City, NY 11101

Resident or Business Owner
38-26 29th Street
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38-30 29th Street
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38-32 29th Street
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Resident or Business Owner
38-40 29th Street
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Resident or Business Owner
28-09 39th Avenue
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38-33 28th Street
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Resident or Business Owner
27-18 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
27-20 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-12 28th Street
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Resident or Business Owner
39-18 28th Street
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Resident or Business Owner
39-20 28th Street
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Resident or Business Owner
39-22 28th Street

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Resident or Business Owner
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Resident or Business Owner
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39-34 28th Street
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Resident or Business Owner
39-36 28th Street
Long Island City, NY 11101

Resident or Business Owner
39-44 28th Street
Long Island City, NY 11101

Resident or Business Owner
27-09 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-42 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-15 28th Street

Long Island City, NY 11101

Resident or Business Owner
39-11 28th Street
Long Island City, NY 11101

Resident or Business Owner
28-04 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
28-10 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-02 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-04 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-08 29th Street
Long Island City, NY 11101
Resident or Business Owner
39-12 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-14 29th Street
Long Island City, NY 11101

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Resident or Business Owner
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39-49 29th Street
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3939-41 29th Street
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39-37 29th Street
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Long Island City, NY 11101

Resident or Business Owner
39-27 29th Street
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Resident or Business Owner
39-25 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-21 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-15 29th Street
Long Island City, NY 11101

Resident or Business Owner
39-11 29th Street
Long Island City, NY 11101

Resident or Business Owner
2902-08 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
29-12 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
29-14 39th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-18 30th Street
Long Island City, NY 11101

Resident or Business Owner

39-22 30th Street
Long Island City, NY 11101

Resident or Business Owner
39-26 30th Street
Long Island City, NY 11101

Resident or Business Owner
39-40 30th Street
Long Island City, NY 11101

Resident or Business Owner
30-05 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
30-17 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
39-37 30th Street
Long Island City, NY 11101

Resident or Business Owner
39-27 Northern Blvd
Long Island City, NY 11101

Resident or Business Owner
30-19 Northern Blvd
Long Island City, NY 11101

Resident or Business Owner
30-07 Northern Blvd
Long Island City, NY 11101

Resident or Business Owner
30-01 Northern Blvd
Long Island City, NY 11101

Resident or Business Owner

29-23 40th Road
Long Island City, NY 11101

Resident or Business Owner
29-15 40th Road
Long Island City, NY 11101

Resident or Business Owner
29-13 40th Road
Long Island City, NY 11101

Resident or Business Owner
29-11 40th Road
Long Island City, NY 11101

Resident or Business Owner
29-01 40th Road
Long Island City, NY 11101

Resident or Business Owner
40-07 Northern Blvd
Long Island City, NY 11101

Resident or Business Owner
40-09 29th Street
Long Island City, NY 11101

Resident or Business Owner
40-01 29th Street
Long Island City, NY 11101

Resident or Business Owner
29-14 40th Avenue
Long Island City, NY 11101

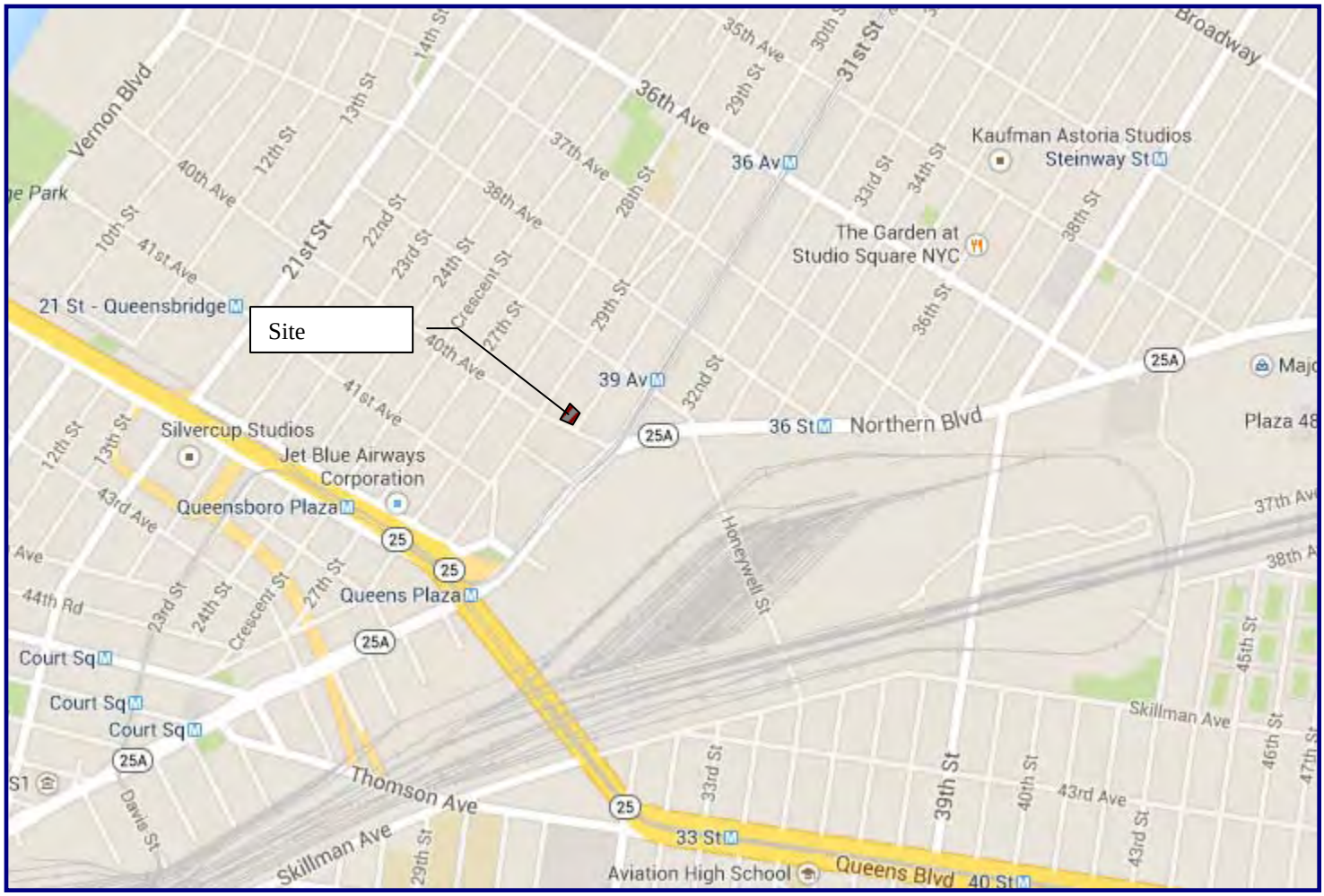
Resident or Business Owner
29-16 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
29-24 40th Avenue
Long Island City, NY 11101

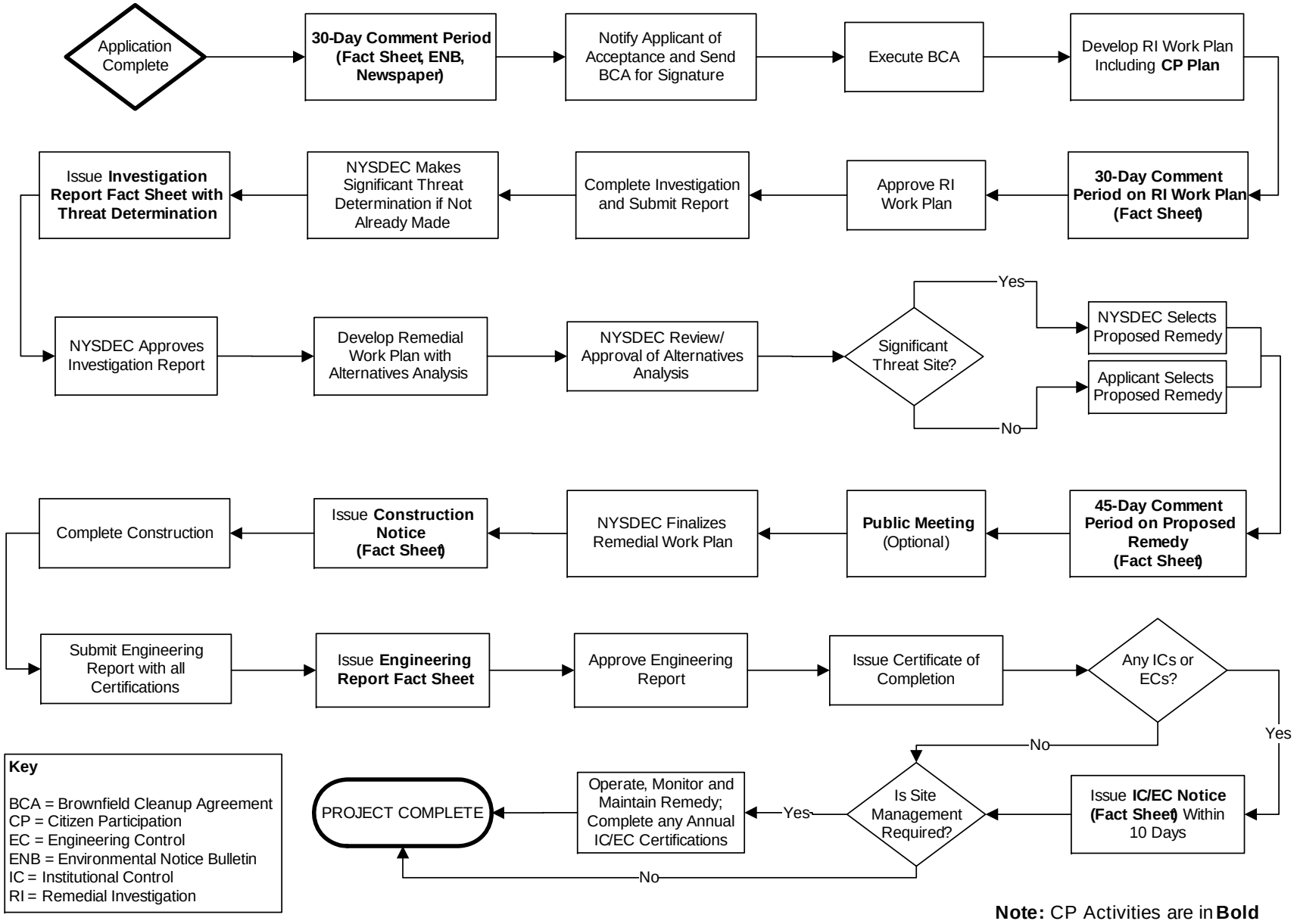
Resident or Business Owner
27-20 40th Avenue
Long Island City, NY 11101

Resident or Business Owner
40-11 28th Street
Long Island City, NY 11101

Appendix C - Site Location Map



Appendix D– Brownfield Cleanup Program Process



Note: CP Activities are in **Bold**

Appendix E - Scoping Sheet

New York State Department of Environmental Conservation
Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Remedial Party: Ganesh Management LLC

Site Name: Former Union Wire Die Corp. Site

Site Number: C241163

Site County: Queens

Note: For Parts 1. - 3., the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

Impacts from nuisance odors & dust, truck traffic, construction safety, etc. The Site is located in an Environmental Justice Area.

How were these issues and/or information identified?

Experience on similar projects, 311 complaints on other construction projects in the area

Part 2. List important information needed **from** the community, if applicable. Identify groups, organizations, businesses and/or units of government related to the needed information.

nothing identified

How were these information needs identified?

Census demographics were used to determine whether or not to have future factsheets translated into Spanish

Part 3. List major issues and information that need to be communicated **to** the community. Identify groups, organizations, businesses and/or units of government related to the issues(s) and/or information.

How nuisance impacts will be monitored and complaints addressed.

How were these issues and/or information identified?

Experience on similar projects, 311 complaints on other construction projects in the area

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning around site:

- [x] Residential
- [ ] Agricultural
- [ ] Recreational
- [x] Commercial
- [x] Industrial

b. Residential type around site:

- [x] Urban
- [ ] Suburban
- [ ] Rural

c. Population density around site: ■ High ☐ Medium ☐ Low

d. Community economic status: ☐ High ■ Medium ☐ Low

e. Water supply of nearby residences: ■ Public ☐ Private Wells ☐ Mixed

f. Other environmental issues significantly impacting affected community? (Yes/No) No

Explain if "Yes"

g. Special considerations: ■ Language ☐ Age ☐ Transportation ☐ Other

Explain marked categories in **g.**: All future factsheets will be translated into Spanish

Part 5. The site contact list must include, at a minimum, the individuals, groups and organizations identified in the instructions for **Part 5.** Are other individuals, groups and organizations affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

■ Non-Adjacent Residents/Property Owners: See Site Contact List

■ Local Officials: See Site Contact List

■ Media: See Site Contact List

■ Business/Commercial Interests: See Site Contact List

■ Labor Group(s)/Employees: See Site Contact List

■ Indian Nation: See Site Contact List

■ Citizens/Community Group(s): See Site Contact List

■ Environmental Justice Group(s): See Site Contact List

■ Environmental Group(s): See Site Contact List

■ Civic Group(s): See Site Contact List

■ Recreational Group(s): See Site Contact List

■ Other(s): See Site Contact List

Date Completed:	Prepared By:	Reviewed By:
6/13/14	Chawinie Miller, EBC	Thomas V. Panzone, NYSDEC Region 2

ATTACHMENT G
Resumes

EBC

ENVIRONMENTAL BUSINESS CONSULTANTS

Charles B. Sosik, PG, PHG, Principal

Professional Experience

24 years

Education

MS, Hydrogeology, Adelphi University, NY
BS, Geology, Northern Arizona University, AZ

Areas of Expertise

- Brownfields Redevelopment
- Hazardous Waste Site Investigations
- Pre-purchase Site Evaluations and Support
- Regulatory Negotiations
- Remedial Planning and "Cost to Cure" Analysis
- Strategic Planning
- Real Estate Transactions
- NYC "E" Designations

Professional Certification

- Professional Geologist, NH
- Professional Geologist, Hydrogeologist, WA
- OSHA 40-hr HAZMAT
- OSHA 8-hr. Supervisor

Professional Affiliation / Committees

- NYS Council of Professional Geologists (NYSCPG)
- Association of Groundwater Scientists & Engineers (AGSE)
- NYS RBCA Advisory Committee
- Massachusetts LSP Association
- New Hampshire Association of Professional Geologists
- Interstate Technology Regulatory Council/MTBE Team
- Environmental Business Association, Brownfields Task Force
- Part 375 Working Group

PROFILE

Mr. Sosik has 24 years of experience in environmental consulting. He specializes in advising clients on managing environmental compliance with federal, state, and municipal agencies and has successfully directed numerous investigation and remediation projects involving petroleum, pesticides, chlorinated solvents, heavy metals and radiologically activated media. His work included extensive three-dimensional investigations on MTBE, which have been used effectively to help shape public policy. He also has experience in applying models to groundwater related problems and has completed several large-scale projects to determine fate and transport of contaminants, establish spill scenarios, and closure criteria. His experience and expertise in the area of contaminant hydrogeology has resulted in requests from environmental attorneys, property owners and New York State to serve as an expert witness and technical advisor on a variety of legal disputes.

For the past 10 years Mr. Sosik has been primarily engaged in providing environmental consulting to developers responding to the extensive re-zoning of former industrial and commercial properties, which is currently taking place throughout New York City. These services include everything from pre-purchase evaluations and contract negotiations to gaining acceptance in and moving projects through the NYS Brownfields Program. Mr. Sosik has taken a pro-active role in the continued development of the NYS Brownfields Program and related policy, by attending numerous working seminars, active participation in work groups and task forces and by providing commentary to draft versions of new guidance documents. Throughout his professional career, Mr. Sosik has remained committed to developing innovative cost- efficient solutions to environmental issues, specifically tailored to the needs of his clients.

SELECTED PROJECTS

Scavenger Waste Treatment Facility (SWTF), Suffolk County, NY

Water Treatment Plant EIS - Focused EIS - In response to requests from the Suffolk County Council on Environmental Quality and the Brookhaven Conservation Advisory Council, Mr. Sosik prepared a focused EIS to evaluate the potential impacts to an important surface water resource from the proposed facility including cumulative and synergistic effects with established contaminant plumes in the area.

Advanced Residential Communities, Rockville Centre, NY

Brownfield Project – As the senior project manager on this large scale, high profile redevelopment project, Mr. Sosik was asked to develop a plan to accelerate the regulatory process in the face of general community opposition. Through numerous discussions with the BCP management team, He was able to condense the schedule and review period, through the submission of supporting documents (Investigation Report, Remedial Work Plan) with the BCP application package. Community opposition, which focused on the environmental condition of the site as a means to block the project, was used to advantage in expediting approval of the aggressive interim remedial plan. This will allow the developer to begin remedial work approximately 5 months ahead of schedule.

Former Temco Uniform site, West Haverstraw, NY

Brownfield Project – Mr. Sosik took over management of this project from another consultant following transition of this VCP site to the BCP. Mr. Sosik used the opportunity to renegotiate and revise the scope of work to allow a more cost effective and focused investigation plan without re-writing or resubmitting the RIWP. During the NYSDEC's review of the transition package, he met with and coordinated changes with the NYSDEC Project Manager to gain approval. The result saved the client a significant amount of money, but perhaps more importantly in this case, did so without loss of time.

Grovick Properties, Jackson Heights, NY

Brownfield Project – This Brownfield property is somewhat unique in that it had been investigated and partially remediated by the NYSDEC through the petroleum spill fund. The client was interested in purchasing the property and redeveloping it as office and retail space. Mr. Sosik reviewed the NYSDEC investigation and developed a

supplemental plan to meet the requirements of an RI under the BCP program. By performing this limited amount of field work "up-front" he was able to complete an RI Report and Remedial Plan and submit both with the BCP application package. The NYSDEC and NYSDOH approved the RI Report and the Remedial Plan with minor changes. This cut 120 days from the review process and allowed the client to arrange financing and move his project forward knowing what the clean-up costs would be at the outset.

Metro Management, Bronx, NY

Brownfield Project – The site of a former gas station, the developer had planned to construct a 12-story affordable housing apartment complex with first floor retail space. Since the site was located in an Environmental zone, potential tax credits of 22% for site development, remediation and tangible property could be realized under the BCP. In a pre-application meeting with the NYSDEC, Mr. Sosik realized that the department did not believe the site was eligible for the BCP, since it had been previously investigated and closed under the spills program.

Mr. Sosik assisted the developer in securing financing, and due to the demands of an aggressive construction schedule developed an Interim Remedial Measure (IRM), based on chemical oxidation treatment. Working closely with the clients environmental counsel, Mr. Sosik was able to get the IRM approved without a public comment period. Implementation of the IRM is currently underway.

The project was awarded the 2009 NYC Brownfield Award for Innovation.

Brandt Airflex, NY

Technical Consulting Services - Mr. Sosik provided senior level technical advice and strategic planning in developing an off-site RI/FS for the site, in negotiating a tax reduction for the property due to the environmental condition and in preparing a cost to cure estimate for settlement between business partners. After achieving a favorable tax consideration and settlement agreement for his client

Allied Aviation Services, Dallas, Fort Worth, Airport, Dallas, TX

Jet Fuel Investigation - Mr. Sosik developed and managed an investigative plan to quickly identify the extent and source of jet fuel which was discharging from the Airport's storm drain system to a creek a mile away. Through the use of a refined conceptual model, accelerated investigative techniques and a flexible work plan, he was able to identify the source of the fuel and the migration route within a single week. He then identifled remedial options and successfully negotiated a risk based plan with the Texas regulatory agency that had issued a notice of enforcement action against the facility.

KeySpan – Former LILCO Facilities, Various NY Locations

Pesticide Impact Evaluation - Mr. Sosik developed, negotiated and implemented a site screening procedure to evaluate impact to public health and the environment as the result of past herbicide use at 211 utility sites. Using an unsaturated zone leaching model (PRZM) on a small subset of the sites, he was able to establish mass loading schedules for the remaining sites. This was combined with public well data in a GIS environment to perform queries with respect to mass loading, time transport and proximity to vunerable public supply wells. Using this approach Mr. Sosik was able to show that there were no concerns for future impact. This effort satisfied the public health and resource concerns of the state environmental agency and county health department in a reasonable amount of time and at a fraction of the cost of a full scale investigation.

Former Computer Circuits (Superfund) Site, Hauppauge, NY

CERCLA RI/FS - As Senior Project Manager for the site, he played a major role in regaining control of the investigation activites for the PRP. This action prevented the USEPA from initiating an extensive investigation at the site using a RAC II contractor allowing the client to perform a more efficient investigation. He was involved in all negotiations with EPA and was the project lead in developing a revised site characterization plan (work plan, field sampling plan, quality assurance plan, etc.). By carefully managing all phases of the investigation and continued interaction with each of the three regulatory agencies involved, Mr. Sosik was able to keep the project focused and incrementally reinforce the clients position. The estimated cost of the revised investigation is expected to save the client 1.5 to 2 million dollars.

Sun Oil, Seaford, NY

Remediation Consuliting Services & Project Management - Under an atmosphere of regulatory distrust, political pressure and mounting public hostility toward the client, Mr. Sosik conducted an off-site 3-D investigation to define the extent of contamination and the potential impact on public health. By designing and implementing an aggressive source area remediation program and personal interaction with the public and regulatory agencies, he was able to successfully negotiate a limited off-site remediation favorable to the client. Source area remediation was completed within 6 months and the project successfully closed without damage to the client's public image or working relationship with the regulatory agencies.

Con Edison, Various Locations, NY

Hydrogeologic Consulting Services - Under a general consulting contract, Mr. Sosik conducted detailed subsurface hydrogeologic investigations at five locations to assist in the development of groundwater contingency planning. He also developed and implemented work plans to investigate and remediate existing petroleum, cable fluid, and PCB releases at many of the generating facilities and substations. An important aspect of his role was in assisting the client in strategic planning and negotiations with the regulatory agency.

Keyspan - Tuthill Substation, Aqueboque, NY

Accelerated Site Characterization - Using accelerated site characterization techniques, Mr. Sosik presented the project as a case study in establishing the transport of an herbacide and its metobolites aplied at utility sites in the 1980's The results were then used to establish a screening method for evaluating 211 similar sites controlled by the client in a reasonable and eficient manner.

NYSDEC Spill, East Moriches, NY

Spill Release Analysis - With recognized expertise in the area of gasoline plume development on Long Island, Mr. Sosik was asked by

Charles B. Sosik, PG, PHG, Principal

the State to establish the release date (and principal responsible party) of an extensive petroleum spill, which impacted a residential neighborhood. He used multiple lines of evidence, and a new EPA model (HSSM), which he has helped to refine, to reconstruct the release scenario and spill date, in support of the State Attorney General's cost recovery effort from the PRP.

Minmilt Realty, Farmingdale, NY

Fate & Transport Modeling - He completed an RI/FS at this location for a PCE plume that had been in transit for over 30 years. Mr. Sosik applied a conservative model to evaluate time/concentration impacts under a variety of transport scenarios to a municipal wellfield located 13,000 feet away. Through the use of the model and careful interpretation of an extensive data set compiled from several sources, Mr. Sosik was able to propose a plan which was both acceptable to the regulator and favorable to the client.

Sebonack Golf Course Project, Town of Southampton, NY

IPM Pesticide Study - Provided professional hydrogeologic services in support of the EIS prepared for the development of the site. The proposed development included an 18-hole golf course, clubhouse, dormitory facility, cottages, associated structures, and a 6,000 square foot research station for Southampton College. Mr. Sosik performed an extensive evaluation (using a pesticide-leaching model) on the effects of pesticide and nitrogen loading to groundwater as part of the projects commitment to an Integrated Pest Management (IPM) approach.

NYSDEC, Spills Division, Regions 1 – 4

Petroleum Spills Investigation & Remediation - As a prime contractor/consultant for the NYSDEC in Regions 1-4, Mr. Sosik has managed the investigation and remediation of numerous petroleum spills throughout the State. Many of these projects required the development of innovative investigation and remediation techniques to achieve project goals. He was also involved in many pilot projects and research studies to evaluate innovative investigation techniques such as accelerated site characterization, and alternative approaches to remediation such as monitored natural attenuation and risk based corrective action.

Sun Oil, E. Meadow, NY

Exposure Assessment - Performed to seek closure of the spill file, despite the presence of contaminants above standards, Mr. Sosik determined after the extended assessment that the level of remaining contamination would not pose a future threat to human health or the environment. He used multiple lines of evidence, and a fate and transport model to show that degradation processes would achieve standards within a reasonable time.

Sand & Gravel Mine, NY

Property Development - As part of the development of a sand and gravel mine, Mr. Sosik provided environmental consulting services to assist in obtaining a mining permit, which would result in the construction of a 150-acre lake. Specifically, Mr. Sosik investigated if the proposed lake would reduce groundwater quantity to domestic and public well fields, and/or accelerate the migration of potential surface contaminants to the lower part of the aquifer. After assuming the lead role in negotiations with the regulatory agency, Mr. Sosik was able to obtain a permit for the client by adequately addressing water quality and quantity issues, and by preparing a monitoring plan and spill response plan, acceptable to all parties.

NYSDEC, Mamaroneck, NY

Site Characterization / Source Identification - In a complex hydrogeologic setting consisting of contaminant transport through fractured metomorphic bedrock and variable overburden materials, Mr. Sosik was able to develop and implement a sub-surface investigation to differentiate and separate the impact associated with each of two sources. The results of this investigation were successful in encouraging the spiller to accept responsibility for the release.

Riverhead Municipal Water District, NY

Site Characterization / Remedial Planning - Using accelerated characterization techniques, he implemented a 3-D site investigation to identify two service stations 4,000 ft. away as the source of contamination impacting a municipal wellfield. In accordance with the strict time table imposed by the need to return the wellfield to production by early spring, he designed and implemented a multi-point (9 RW, 6 IW) recovery and injection well system using a 3-d numerical flow model, and completed the project on time. Using a contaminant transport model, Mr. Sosik developed clean-up goals which were achieved in 9 months of operation, well below the projected 3 to 5 year project duration.

Montauk Fire Department, NY

Site Assessment - Mr. Sosik performed a limited investigation and used a 2-D flow model to demonstrate that the property could not have been the source of contamination which had impacted an adjacent wellfield as per the results of a previous investigation. This small focused effort successfully reversed a $500,000, and rising, claim against the department by the water district and the NYSDEC.

PREVIOUS EXPERIENCE

P.W. Grosser Consulting, Bohemia, NY
Senior Project Manager, 1999-2006

Environmental Assessment & Remediation, Patchogue, NY
Senior Project Manager, 1994-1999

Miller Environmental Group, Calverton, NY
Project Manager, 1989-1994

DuPont Biosystems, Aston, PA
Hydrogeologist, 1988-1989

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Charles B. Sosik, PG, PHG, Principal

EXPERT WITNESS TESTIMONY AND DEPOSITIONS

Fact Witness -Testimony on relative age of petroleum spill based on nature and extent of residual and dissolved components at the Delta Service Station in Uniondale, NY Fall/1999

Expert Witness / Expert Report for defendant in cost recovery case by NYS Attorney General regarding a Class II Inactive Hazardous Waste (State Superfund) project by the NYSDEC (October 2004 – present, Report: March 2005, Deposition: April 2005)

Expert Witness / Fact Witness for plaintiff seeking compensation for partial expenses incurred during the investigation and remediation of a USEPA CERCLA site due to the release and migration of contaminants from an "upgradient" industrial property. (Deposition May 2005, case settled April 2007).

Expert Witness / Fact Witness for NYS Attorney General with respect to cost recovery for a NYSDEC petroleum spill site in Holtzville, NY (Deposition April 2005 - case settled).

Expert Witness – Statement of opinion and expert testimony at trial for plaintiff seeking damages from a major oil corporation for contamination under a prior leasing agreement in Rego Park, NY. Case decided in favor of plaintiff. Trial July 2007, in favor of Plaintiff. Qualified as Expert Witness.

Expert Witness / Fact Witness for NYS Attorney General with respect to cost recovery for a NYSDEC petroleum spill site in Lindenhurst, NY (Trial date December 2009, in favor of plaintiff. Qualified as Expert Witness.

Expert Witness / Fact Witness for defendant with respect to cost recovery and third party responsibility for a NYSDEC petroleum spill site. (Expert Statement of Fact – October 2005).

Expert Witness for plaintiff seeking damages related to a petroleum spill from the previous owner/operator of a gas station in College Point, NY. Case settled 2009.

Expert Witness for plaintiff (municipal water supply purveyor) seeking damages from major oil companies and manufacturer of MTBE at various locations in Suffolk County, NY. Expert reports July 2007, August 2007 and October 2007, Case settled August, 2008.

Expert Witness - Deposition for NYS Attorney General regarding NYSDEC cost recovery for a petroleum spill site at Sag Harbor, NY. August 2002

Expert Witness - for NYS Attorney General regarding NYSDEC cost recovery for a petroleum spill site at Riverhead, NY. Case settled July 2008.

Expert Witness for defendant responding to a claim from adjacent commercial property owner on the origin of chlorinated solvents on plaintiff's property located in Cedarhurst, NY. Expert opinion submitted to lead counsel on March 6, 2009, case settled April 2009.

Expert Report - for Attorney General on modeling performed to determine the spill release scenario at a NYSDEC petroleum spill site in East Moriches, NY. June 2000.

MODELING EXPERIENCE (PARTIAL LISTING)

PROJECT	MODEL	APPLICATION
Riverhead Water District, Riverhead, NY	MODFLOW, MODPATH	Remediation system design to intercept MTBE plume and prevent continued impact to municipal well field.
NYSDEC - Region 1, Holbrook, NY	MODFLOW, MODPATH	Simulate transport of MTBE plume to predict future impact.
NYSDEC - Region 1, East Moriches, NY	HSSM	Evaluate release scenario and start date of petroleum spill in support of cost recovery by NYS AG office.
AMOCO, Deer Park, NY	HSSM	Estimate release amount, start date and spill scenario to evaluate the potential for mass unaccounted for
Keyspan Energy, Nassau/Suffolk Counties Substations	PRZM	Estimate mass load of simazine used at 211 electric substations and screen sites according to potential for human health and ecological impacts.
Saboneck Golf Club, Southampton NY	PRZM	Estimate mass load of proposed pesticides on new golf course to evaluate acceptability under an IPM program.
Suffolk County Department of Public Works (SCDPW) Scavenger Waste Treatment Plant, Yaphank, NY	DYNFLOW, DYNTRAC	Evaluate time-transport and nitrogen impact on local river system.
SCDPW SUNY Waste Water Treatment Plant, Stony Brook, NY	DYNFLOW, DYNTRAC	Determine outfall location and time-transport of nitrogen from proposed upgrades to an existing wastewater treatment plant
Water Authority of Great Neck North Great Neck, NY	MODFLOW, MODPATH, MT3D	Review of modeling study performed by EPA to evaluate potential future impact to Well field from PCE plume. Identified serious flaws in model construction and implementation, which invalidated conclusions

PUBLICATIONS / PROFESSIONAL PAPERS

Smart Pump & Treat Strategy for MTBE Impacting a Public Water Supply (14th Annual Conference on Contaminated Soils Proceedings, 1998)

Transport & Transformation of BTEX & MTBE in a Sand Aquifer (Groundwater Monitoring & Remediation 05/1998)

Characteristics of Gasoline Releases in the Water Table Aquifer of Long Island (Petroleum Hydrocarbons Conference Proceedings, 1999)

Field Applications of the Hydrocarbon Spill Screening Model (HSSM) (USEPA Interactive Modeling Web Course www.epa.gov/athens/software/training/webcourse Authored module on model application and applied use of calculators, 02/2000)

Comparative Evaluation of MTBE Sites on Long Island, US EPA Workshop on MTBE Bioremediation (Cincinnati, 02/2000)

Comparison of Four MTBE Plumes in the Upper Glacial Aquifer of Long Island (American Geophysical Union, San Francisco, 12/1996)

Analysis and Simulation of the Gasoline Spill at East Patchogue, New York (American Geophysical Union, San Francisco, 12/1998)

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ARIEL CZEMERINSKI, P.E.

Mr. Czemerinski is a New York State Professional Engineer and CEO of AMC Engineering PLLC an EBC affiliate. Mr. Czemerinski has with 16 years of experience in the chemical and environmental areas. Areas of expertise include environmental compliance, permitting, remedial system design, process and plant safety, and management of a production facility. Mr. Czemerinski is a Registered Professional Engineer in NY, IN, IL, and MI.

Professional Experience
EBC: January 2007
Prior: 20 years

Education
Master of Science in Chemical Engineering, Columbia University, New York, NY, Feb. 1990. Bachelor of Science in Chemical Engineering, University Of Buenos Aires, Buenos Aires, Argentina, May 1987

Areas of Expertise

- Vapor Intrusion - Barrier and Sub Slab Venting System Design
- Environmental Assessment Statements and Environmental Impact Assessments under CEQR, ULURP
- Remedial Program Design and Management
- Environmental Compliance, Clean Water Act, Clean Air Act, Hazardous Materials
- Transfer Station Permitting and Compliance
- Chemical Process Design and Optimization
- Wastewater Treatment Systems and Permitting, SPEDES, Air
- Zoning Regulations and Permitting
- Safety and environmental training

Professional Certification

- OSHA 40-hr HAZWOPER
- OSHA 8-hr HAZWOPER Supervisor

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Kevin R. Brussee, Project Manager

Professional Experience
EBC: January 2008
Prior: 6 years

Education
Bachelor of Science, Environmental Science, Plattsburgh State University, NY
Master of Science, Environmental Studies, University of Massachusetts, Lowell

Areas of Expertise
- Management of Site Investigations / Remedial Oversight NYC "E" Designation Sites
- Management of RI Investigations / RAWP Implementation NYS BCP Sites
- NYSDEC Spill Site Investigations
- Phase I / Phase II Property Assessments
- Waste Characterization / Soil Management

Professional Certification
- OSHA 40-hr HAZWOPER
- OSHA 8-hr HAZWOPER Supervisor

PROFILE

Mr. Brussee has 10 years experience as an environmental consultant/contractor and has worked on and managed a wide range of environmental projects. Mr. Brussee has conducted Phase I, II and III Environmental Site Assessments for commercial, industrial, and residential properties in New York, New Jersey, Maryland and Delaware.

Mr. Brussee's field experience includes tank removal and installations, spill management and closure, soil and groundwater sampling, and both the oversight and operation of soil boring and well installation equipment. In addition, Mr. Brussee has performed project research, data reduction and evaluation, and has prepared reports for both regulatory and client use.

PREVIOUS EXPERIENCE

Eastern Environmental Solutions, Inc., Manorville, NY
Project Manager, 2006-2008

EA Engineering, Science & Technology
Hydrogeologist, 2005-2006

P.W. Grosser Consulting, Bohemia, NY
Field Hydrogeologist, 2002-2003

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Kevin R. Brussee, Project Manager

SELECT PROJECT EXPERIENCE

Project:	Former Dico G, Autio and Truck Repair Site - Bronx Park Apartments, redevelopment from commercial to mixed use
Location:	Bronx, NY, White Plains Road
Type:	NYS BCP Site, Former gas station, repair shop & junk yard
Contamination:	Petroleum - Gasoline
Role:	Project Manager, during Site Management Phase

Project:	Former Uniforms for Industry Site – Richmond Hill Senior Living Residences / Richmond Place
Location:	Jamaica Ave, Richmond Hill Queens, NY
Type:	NYS BCP, NYC E-Site Hazmat, Noise, Former industrial Laundry
Contamination:	Chlorinated Solvents, Historic Fill, Petroleum - Fuel oil/Mop oil
Role:	Project Manager, RAWP implementation

Project:	Former Gas Station / car wash to mixed use affordable housing / commercial
Location:	Bronx, NY, Southern Boulevard
Type:	NYS BCP, NYC E-Site Hazmat, Former gas station / gar wash
Contamination:	Petroleum - Gasoline
Role:	Project Manager, RAWP implementation

Project:	Redevelopment of former industrial property to residential
Location:	Williamsburg section of Brooklyn, NY, Bedford Ave
Type:	NYC E-Designation Site, Former dye manufacturing plant
Contamination:	Hazardous levels of heavy metals, fuel oil tanks
Role:	Project Manager, RAWP implementation

Project:	Former Domsey Fiber Corp Site
Location:	Williamsburg section of Brooklyn, NY, Kent Ave
Type:	NYC E-Designation Site, Former commercial property
Contamination:	Chlorinated solvents, fuel oil and Historic fill
Role:	Project Manager, RIWP Development and Implementation, RAWP development and implementation, waste characterization and soil management

PUBLICATIONS

Chemical Stress Induced by Copper, Examination of a Biofilm System;
(Water Science Technology, 2006; 54(9): 191-199.)

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Chawinie Miller, Project Manager / Industrial Hygienist

Professional Experience
EBC: March 2013
Prior: 7.5 years

Education
Bachelor of Science, Environmental Health and Safety, Stony Brook University, NY

Areas of Expertise
- Phase I / Property Condition Assessments
- Occupational Health and Safety Sampling
- Indoor Air Quality (IAQ) Investigations
- Mold Investigations and Remediation
- Soil and Ground Water Investigations
- Noise Studies

Professional Certification
- OSHA 40-hr HAZWOPER
- NYS Asbestos Inspector
- NYC Asbestos Investigator
- OSHA 10-hr Construction Health and Safety
- Hazard Analysis and Critical Control Point (HACCP) Certified

PROFILE

Ms. Miller has 7.5 years experience as an environmental consultant/contractor and has worked on and managed a wide range of environmental projects. Ms. Miller has conducted Phase Is and Property Condition Assessments for commercial, industrial, and residential properties in New York, New Jersey and Connecticut. In addition, Ms. Miller has conducted various IAQ, asbestos, mold and occupational health and safety sampling investigations for a variety of city, state, federal and private clients.

PREVIOUS EXPERIENCE

The Louis Berger Group, New York, New York
Industrial Hygienist, 2008-2013

AEI Consultants, Jersey City, New Jersey
Environmental Scientist, 2005-2008

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ENVIRONMENTAL BUSINESS CONSULTANTS

Kevin Waters, Hydrogeologist

Professional Experience
EBC: October 2010
Prior: 5 years

Education
Bachelor of Science, Geology, State University of New York, Stony Brook

Areas of Expertise
- Field Operations
- Phase II and RI Implementation, Site Characterization Studies
- Health & Safety Monitoring and Oversight
- Waste Characterization / Soil Management
- Site Logistics

Professional Certification
- OSHA 40-hr HAZWOPER
- OSHA 8-hr HAZWOPER Supervisor

PROFILE

Mr. Waters has 7 years experience as an environmental consultant and has worked on a wide range of environmental projects. Mr. Waters has conducted Phase II and III Environmental Site Assessments for commercial, industrial, and residential properties in New York.

Mr. Waters' field experience includes soil, air and groundwater sampling, operations and maintenance of groundwater remediation systems, tank removals, spill management and closure, and oversight of monitoring well installations. In addition, Mr. Waters has prepared reports for both regulatory and client use.

PREVIOUS EXPERIENCE

P.W. Grosser Consulting, Bohemia, NY
Field Hydrogeologist, 2003-2008

SELECT PROJECT EXPERIENCE

Project:	Former Gas Station / car wash to mixed use affordable housing / commercial
Location:	Bronx, NY, Southern Boulevard
Type:	NYS BCP, NYC E-Site Hazmat, Former gas station / gar wash
Contamination:	Petroleum - Gasoline
Role:	Field Operations Manager, Health and Safety Officer

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ENVIRONMENTAL BUSINESS CONSULTANTS

Kevin Waters, Hydrogeologist

SELECT PROJECT EXPERIENCE

Project:	Former Uniforms for Industry Site – Richmond Hill Senior Living Residences / Richmond Place
Location:	Jamaica Ave, Richmond Hill Queens, NY
Type:	NYS BCP, NYC E-Site Hazmat, Noise, Former industrial Laundry
Contamination:	Chlorinated Solvents, Historic Fill, Petroleum - Fuel oil/Mop oil
Role:	Field Operations Manager, Health and Safety Monitoring and Field Oversight

Project:	Rikers Island – West Intake Facility
Location:	NYC Department of Corrections, Rikers Island, NY
Type:	Municipal Construction Project
Contamination:	Hazardous levels of lead, heavy metals in Historic fill
Role:	Field Operations Manager, Health and Safety Monitoring and Field Oversight

Project:	Residential Redevelopment Project
Location:	Williamsburg Section of Brooklyn, Wallabout Street
Type:	NYC E-Designation Site
Contamination:	Hazardous levels of lead, heavy metals, SVOCs in Historic fill
Role:	Implement RI Work Plan, Supervise sample collection in all media

ATTACHMENT H
BCP Signage Specifications

ATTACHMENT I
Estimated Remedial Costs

Former Union Wire Die Corp Site
39-40 30th St
Queens, NY

Summary of Project Costs

TASK - ENVIRONMENTAL REMEDIATION	NYS Brownfields Cleanup Program Costs by Task Track 1	Track 2
Excavation and Disposal	$ 1,253,055.00	$ 13,860.00
Waste Charaterization	$ 27,200.00	$ 1,500.00
Endpoint analyis, DUSR, EDDs	$ 23,300.00	$ 23,300.00
Air Monitoring and Field Oversight	$ 76,500.00	$ 76,500.00
Project Management	$ 44,675.00	$ 44,675.00
Dewatering Permits and Treatment System	$ 61,750.00	$ 61,750.00
Status Reports	$ 4,200.00	$ 4,200.00
Environmental Easement Package	-	$ 12,500.00
Site Management Plan	-	$ 11,500.00
Final Engineering Report	$ 25,450.00	$ 25,450.00
Subtotal	$ 1,516,130.00	$ 275,235.00
15% Contigency	$ 227,419.50	$ 41,285.25
Total	**$ 1,743,549.50**	**$ 316,520.25**