

DECISION DOCUMENT

LGA Hotel
Brownfield Cleanup Program
East Elmhurst, Queens County
Site No. C241142
May 2015



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

LGA Hotel
Brownfield Cleanup Program
East Elmhurst, Queens County
Site No. C241142
May 2015

Statement of Purpose and Basis

This document presents the remedy for the LGA Hotel site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the LGA Hotel site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

Track 1 Remedy

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Soil Excavation

All on-site soils which exceed unrestricted use SCOs (UUSCOs), as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Approximately 21,200 cubic yards of soil will be removed from the site. This excavation will include the contaminated soil and any underground storage tanks and related piping.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil in the street-widening easement area on the east side of the site to restore it to the designed grade.

3. Groundwater Treatment

During excavation below the water table site dewatering across the entire site will be necessary. The dewatering will help to extract contaminated groundwater on and near the site. It is estimated that up to 10,000 gallons per day will be extracted and treated prior to disposal to the New York City sewer system. All dewatering fluids will be handled, transported and disposed of in accordance with applicable federal, state and local regulations. Prior approval will be obtained from NYCDEP, which regulates discharges to the New York City sewers under 15 RCNY, Chapter 19.

If it is determined to be necessary based on analysis of groundwater samples, permanganate will be utilized to treat residual VOCs and SVOCs in groundwater. The permanganate will be placed directly into the bottom of the excavation to oxidize the contaminants.

4. Vapor Intrusion Evaluation

As part of the track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified.

5. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation has not been completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and mitigate the building as needed; if a mitigation system is needed, a Track 1 cleanup can only be achieved if the mitigation system can be shut down within 5 years of the date of the Certificate of Completion.

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code, which prohibits potable use of groundwater without prior approval.

If a sub-grade parking garage is constructed beneath the entire on-site future building, then the soil vapor remedial action objectives will be achieved through compliance with the New York City Mechanical Code, which requires proper ventilation.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements:

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

7. Site Management Plan

A Site Management Plan is required, which includes the following:

- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 6 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - descriptions of the provisions of the environmental easement including any land use and/ groundwater use restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - monitoring of groundwater to assess the performance and effectiveness of the remedy; and
 - a schedule of monitoring and frequency of submittals to the Department.
 - monitoring for soil vapor intrusion for any buildings developed on the site, if necessary, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms to promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

May 4, 2015



Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

LGA Hotel
East Elmhurst, Queens County
Site No. C241142
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SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

New York Public Library
East Elmhurst Branch
95-06 Astoria Boulevard
East Elmhurst, NY 11369
Phone: 718-424-2619

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen

participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The 0.380 acre site is located in an urban area of East Elmhurst, Queens County on an irregularly-shaped lot on the southwest corner of 112-24 Astoria Boulevard at 112th Place.

Site Features: The property is presently occupied by four vacant buildings. There is one two-story building with an adjoining one-story building, a one-story concrete block building and a one-story frame building.

Current Zoning and Land Use: The site is zoned R6A; for multi-unit residential structures with specific lot coverage and height restrictions. Presently, the site is unoccupied. The area in the immediate vicinity of the site is primarily residential and commercial with some industrial use. The lots to the west and southwest are occupied by multi-family residential housing, with one and two family houses on the properties to the south.

Past Use of the Site: The site was occupied by a residence from approximately 1914 through 1928 then a gasoline filling station from 1928 through 2004 and was being used for vehicle repair in 2006. In 2006 the property owner resided in an apartment on the site and a small real estate company was briefly located on the property.

Site Geology and Hydrogeology: Past investigations have indicated that the site is covered by five to 24 feet of fill material consisting of asphalt, concrete, rock fragments, ash, cinders, coal, brick fragments and fine-to-medium-grained, brown silty sand. The fill material is underlain by layers of gray and brown silt, hard clayey silt, and fine-to-medium-grained sand with trace gravel.

Groundwater is at depths approximately 25 to 30 feet below surface grade (ft-bsg). Groundwater flows in a northwest direction toward Flushing Bay.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (SCGs) for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Volunteer does not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminants of concern identified at this site are:

tetrachloroethene (PCE)	butylbenzene
benzene	isopropylbenzene
toluene	naphthalene
ethylbenzene	1,3,5-Trimethylbenzene
xylene	phenol
methyl-tert-butyl ether (MTBE)	
1,2,4-trimethylbenzene	

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

Soil and groundwater were analyzed for VOCs, SVOCs, metals, and PCB/pesticides. Based upon investigations conducted to date, the primary contaminants of concern include petroleum-related BTEX (benzene, toluene, ethylbenzene and xylene), the former gasoline additive MTBE and the solvent tetrachloroethene (PCE).

Soil:

Site investigations observed elevated levels of petroleum-related contamination in surface and deep soils at concentrations exceeding Unrestricted Use Soil Cleanup Objectives (UUSCOs). Metals and semi-volatile organic compounds (SVOCs), particularly polycyclic aromatic hydrocarbons (PAHs), were also detected at concentrations significantly above the restricted residential SCO and the UUSCOs.

Toluene (4.3 parts per million (ppm)), ethylbenzene (2.4 ppm), MTBE (110 ppm), n-butylbenzene (ppm), isopropylbenzene (22 ppm), naphthalene (49 ppm), 1,3,5-trimethylbenzene (160 ppm) and 1,2,4-trimethylbenzene (520 ppm) were detected above RRSCOs at the stated concentrations.

No petroleum-related SVOCs were detected above the Unrestricted Use, Protection of Groundwater, or Commercial Use SCOs with the exception of naphthalene. Based on the available data, it is not anticipated that contamination has migrated off-site in soil.

Groundwater:

Petroleum-related contaminants including benzene and xylenes were detected above groundwater standards in groundwater monitoring wells.

Petroleum-related VOCs including benzene, toluene, ethylbenzene, xylene (BTEX), naphthalene and MTBE were detected above groundwater standards in three monitoring wells at concentrations ranging from 11 to 4,400 µg/L. PCE was detected in one well at 13 µg/L, above the SCO of 5 µg/L.

The only SVOCs detected at levels above Class GA Standards were naphthalene and phenol. Naphthalene concentrations ranged from 26 µg/L in MW-4 to 420 µg/L in MW-5. Naphthalene, analyzed as part of the VOC scan, was reported at concentrations ranging from 79 to 630 µg/L and is likely related to the on-site petroleum contamination. The SVOC phenol was detected at 4.1 µg/L, compared to the standard of 1 µg/L.

Based on the available data, petroleum related contamination has migrated off-site in groundwater.

Soil Vapor:

Data from the RI show the presence of numerous VOCs (mostly petroleum related contaminants, with the exception of the solvent PCE) in soil vapor on-site. Petroleum-related VOCs detected above the ambient levels include BTEX and other gasoline constituents.

Samples collected in September 2013 indicated PCE, at concentrations ranging from non-detect to 10,000 micrograms per cubic meter (µg/m³), near the southern site boundary. The elevated PCE concentration was confirmed by the results of a November 2013 re-sampling at the same location, in which PCE was detected at 24,300 µg/m³. In other sample locations PCE was detected in soil vapor across the site at concentrations up to 103 µg/m³.

Attempts were made, but access to off-site properties for vapor intrusion sampling was not obtained. Although off-site soil vapor samples were not collected, elevated concentrations of PCE may have migrated off-site in soil vapor.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Direct contact with contaminated soil or groundwater is unlikely because the majority of the site is covered with buildings and pavement. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. Sampling indicates that soil vapor intrusion is a concern for one off-site structure. Repeated attempts to access this structure for sampling have been denied.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 1: Conditional Track 1 remedy.

The selected remedy is referred to as the excavation of the entire site to unrestricted soil cleanup objectives remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

Track 1 Remedy

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
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If it is determined to be necessary based on analysis of groundwater samples, permanganate will be utilized to treat residual VOCs and SVOCs in groundwater. The permanganate will be placed directly into the bottom of the excavation to oxidize the contaminants.

4. Vapor Intrusion Evaluation

As part of the track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified.

5. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation has not been completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and mitigate the building as needed; if a mitigation system is needed, a Track 1 cleanup can only be achieved if the mitigation system can be shut down within 5 years of the date of the Certificate of Completion.

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code, which prohibits potable use of groundwater without prior approval.

If a sub-grade parking garage is constructed beneath the entire on-site future building, then the soil vapor remedial action objectives will be achieved through compliance with the New York City Mechanical Code, which requires proper ventilation.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements:

In the event that Track 1 unrestricted use is not achieved, imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required.

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

7. Site Management Plan

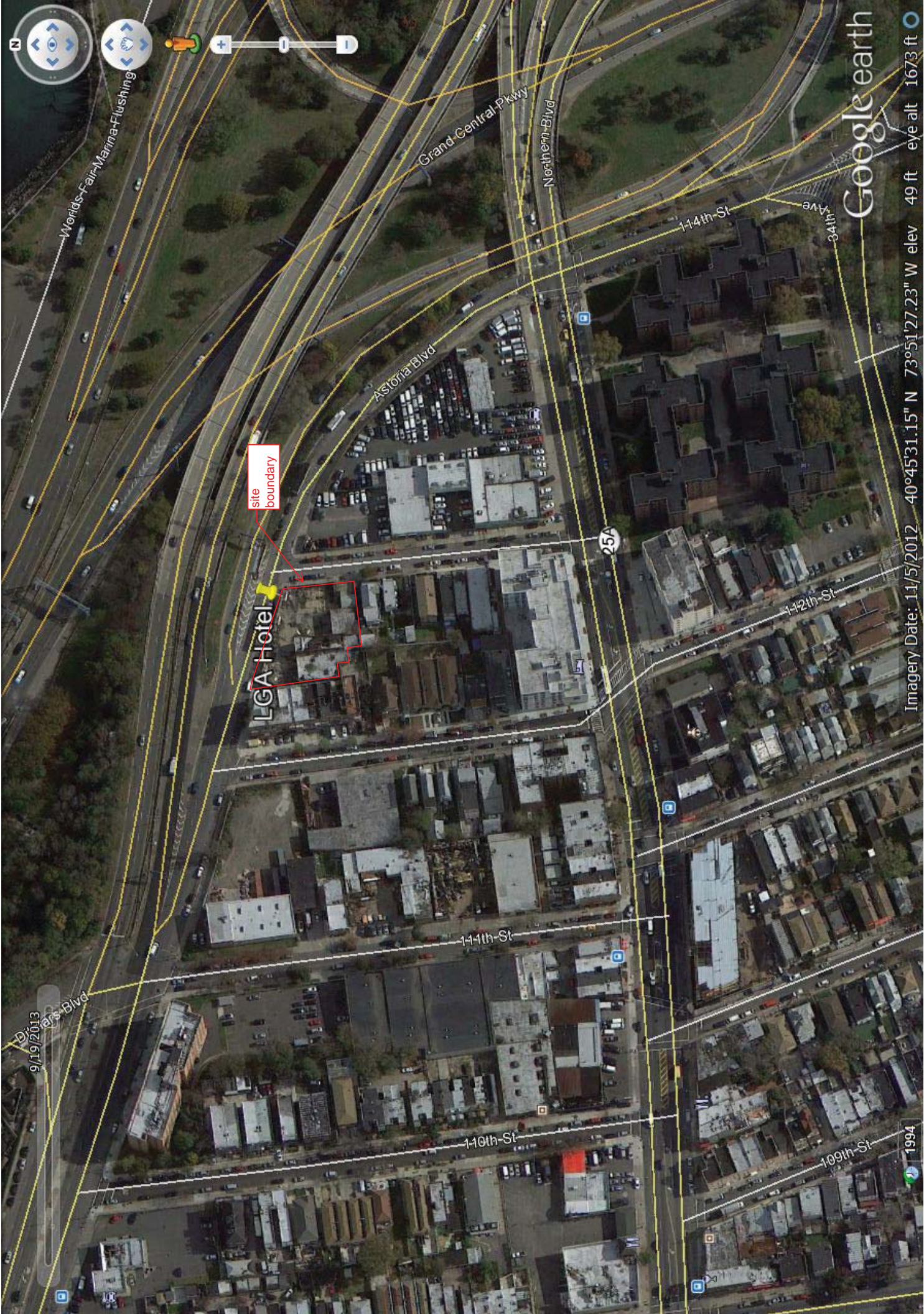
A Site Management Plan is required, which includes the following:

- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 6 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - descriptions of the provisions of the environmental easement including any land use and/ groundwater use restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
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 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - monitoring of groundwater to assess the performance and effectiveness of the remedy; and
 - a schedule of monitoring and frequency of submittals to the Department.
 - monitoring for soil vapor intrusion for any buildings developed on the site, if necessary, as may be required by the Institutional and Engineering Control Plan discussed above.



Google earth

Imagery Date: 11/5/2012 40°45'31.15" N 73°51'27.23" W elev 49 ft eye alt 1673 ft



9/19/2013 2014

1994

Navigation controls: compass, street view, zoom in (+), zoom out (-), and a person icon.

site boundary

LGA Hotel

area to be excavated

Google earth

Imagery Date: 11/5/2012 40°45'33.32" N 73°51'26.66" W elev 37 ft eye alt 334 ft

1994