APPENDIX 1 – LIST OF SITE CONTACTS

Name	Phone/Email Address
David Koptiev, Former Owner	718 -268-1200 david@platinumrealty.com
Mrs. Chabra, Current Owner The Management 34-29 83rd Street Jackson Heights, NY 11372	(516) 455-6086 cell
James DeMartinis QEP	631-828-5994 seacliffenvironmental@aol.com
Dana Mecomber P.E.	718-482-7851 dana.mecomber@dec.ny.gov
Jane O' Connell P.E.	718-482- 4973 jane.oconnell@dec.ny.gov
Karen G. Tyll P.E. Project Engineer	631- 629-5373 karen@tyllengineering.com
Joseph Misk Esq. Owner Attorney	718-468-0500 jmisk@gmlawyers.net

APPENDIX 2 – EXCAVATION WORK PLAN (EWP)

2-1 Notification

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix 1.

Table 1: Notifications*

Dana Mecomber P.E.	(718) 482-7851 dana.mecomber@dec.ny.gov
Jane O'Connell P.E.	(718) 482-4973 jane.oconnell@dec.ny.gov
Kelly Lewandowski, Chief, Site Control Section	(518)402-9543 kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;

- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix 6 of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2-2 Soil Screening Methods

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section 2.6 of this Appendix.

2-3 Soil Staging Methods

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

2-4 Materials Excavation and Load-Out

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

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

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

2-5 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.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes 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.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

2-6 Materials Disposal Off-Site

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

2-7 Materials Reuse On-Site

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

2-8 Fluids Management

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal

regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

2-9 Cover System Restoration

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Record of Decision. The existing cover system is comprised of a minimum of 12 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete basement slab]. The demarcation layer, consisting of orange snow fencing material, white geotextile or equivalent material, etc. will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

2-10 Backfill from Off-Site Sources

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, 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.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

2-11 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

2-12 Excavation Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

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.

Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

2-13 Other Nuisances

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 will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX 3

RESPONSIBILITIES of

OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the 127-13 Merrick Boulevard site (the "site"), number 241128, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as: Myrtle/Irving Realty Associates LLC.

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is: Myrtle/Irving Realty Associates LLC.

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement, and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3-Notifications.

6) In the event some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3. Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC,

and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section1.3- Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Appendix 8 (Operation, Monitoring and Maintenance Manual) of the SMP.

8) The RP is responsible for the proper monitoring and maintenance of any installed drinking water treatment system associated with the site, as required in Appendix 8 (Operation, Monitoring and Maintenance Manual).

9) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

10) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX 4 – ENVIRONMENTAL EASEMENT/NOTICE/ DEED RESTRICTION

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 10th day of April, 2015, between Owner(s) Myrtle/Irving Realty Associates, LLC, having an office at 102-10 Metropolitan Avenue, Suite 200, Forest Hills, New York 11375, County of Queens, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 127-01 to 127-23 Merrick Boulevard in the City of New York, County of Queens and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 12488 Lot 1, being the same as that property conveyed to Grantor by deed dated September 18, 2007 and recorded in the City Register of the City of New York in Instrument No. 2007000531641. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.3531 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 31, 2014, revised September 25, 2014 prepared by Roguski Land Surveying, P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: R2-0661-03-11, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an

interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 241128
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Myrtle/Irving Realty Associates LLC:

By: _____

Print Name: David Koptiev

Title: Member Date: 10/1/14

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Queens)

On the 1st day of October in the year 2014, before me, the undersigned, personally appeared David Koptiev, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Bella Levy
Notary Public - State of New York

BELLA LEVY
Notary Public - State of New York
NO. 01LE6215746
Qualified in Queens County
My Commission Expires 1/04/2018

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 10 day of April, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

All that certain plot, piece or parcel of land, situate, lying and being in the Borough and County of Queens, City and State of New York, known and designated on a certain map entitled, "Map of Netherlands, Subdivision in the Fourth Ward, Borough of Queens, New York City, Property of New Netherlands Home Co., and New No. 1524, as and by part of Lots 51 to 58, which said part of lots, when taken together as one parcel, are bounded and described as follows:

BEGINNING at the corner formed by the intersection of the easterly side of Merrick Boulevard, 100 feet wide, with the northerly side of Anderson Road;

RUNNING THENCE easterly along the northerly side of Anderson Road, 80.49 feet;

THENCE northerly at right angles to Anderson Road, 100.50 feet;

THENCE easterly at right angles to the last mentioned course, .66 feet;

THENCE northerly at right angles to the last mentioned course, 99.50 feet to the southerly side of Selover Road;

THENCE westerly along the southerly side of Selover Road, 73.33 feet to the corner formed by the intersection of the southerly side of Selover Road, with the easterly side of Merrick Boulevard;

THENCE southerly along the said easterly side of Merrick Boulevard, 200.15 feet to the corner at the point or place of beginning.

Said property being 15,381.6 square feet or 0.3531 acres.

New York City Department of Finance
Office of the City Register

HELP
[Click help for additional instructions]
Selecting a help option will open new window

Current Search Criteria:

Borough: QUEENS
Block: 12488
Lot: 1 **Unit:** N/A
Date Range: To Current Date
Document Class: All Document Classes

Detailed Document Information

DOCUMENT ID:	2015051401462001	**CRFN:**	2015000170257	**COLLATERAL:**	N/A
# of PAGES:	9	**REEL-PAGE:**	N/A-N/A	**EXPIRATION DATE:**	N/A
DOC. TYPE:	EASEMENT	**FILE NUMBER:**	N/A	**ASSESSMENT DATE:**	N/A
DOC. DATE:	4/10/2015	**RECORDED / FILED:**	5/21/2015 10:32:33 AM	**SLID #:**	N/A
DOC. AMOUNT:	$0.00	**BOROUGH:**	MANHATTAN		
% TRANSFERRED:	100%	**RPTT #:**	N/A	**MAP SEQUENCE #:**	N/A
MESSAGE:	N/A				

PARTY 1

NAME	ADDRESS 1	ADDRESS 2	CITY	STATE	ZIP	COUNTRY
MYRTLE/IRVING REALTY ASSOCIATES LLC	102-10 METROPOLITAN AVENUE	SUITE 200	FOREST HILLS	NY	11375	US

PARTY 2

NAME	ADDRESS 1	ADDRESS 2	CITY	STATE	ZIP	COUNTRY
NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION	625 BROADWAY		ALBANY	NY	12233	US

PARTY 3/Other

NAME	ADDRESS 1	ADDRESS 2	CITY	STATE	ZIP	COUNTRY

PARCELS

BOROUGH	BLOCK	LOT	PARTIAL	PROPERTY TYPE	EASEMENT	AIR RIGHTS	SUBTERRANEAN RIGHTS	PROPERTY ADDRESS	UNIT	REMARKS
QUEENS	12488	1	ENTIRE LOT	COMMERCIAL REAL ESTATE	N	N	N	127-23 MERRICK BOULEVARD		

REFERENCES

CRFN	DOCUMENT ID	BOROUGH	YEAR	REEL	PAGE	FILE NBR

REMARKS

Print View Document Search Results Search Options Main Options

MERRICK BOULEVARD

ANDERSON ROAD

SELOVER ROAD

SCALE 1"=16'

N

CONCRETE CURB

CONCRETE SIDEWALK

POINT OF BEGINNING

C.E. C.E. 4.9' C.E. C.E. C.E. C.E. C.E. C.E. C.E. C.E. 4.9'

87°45'39"

200.15'

WALL ON LINE

92°14'21"

#127-01/23

1 STORY STUCCO COMMERCIAL BUILDING

WALL ON LINE

80.49'

CONCRETE SIDEWALK

CONCRETE CURB

73.33'

WALL ON LINE

CONCRETE SIDEWALK

CONCRETE CURB

90°

WALL ON LINE

100.50'

CONCRETE YARD

9.0'

0.66'

99.50'

9.5'

90°

WALL ON LINE

CHAIN LINK FENCE 0.3'E

WALL 0.2'E

FRAME GARAGE

DETAIL

DETAIL

90° 100.50'

90°

0.66'

90° 99.50' 90°

CERTIFIED TO:

1. SIGNATURE BANK, ITS SUUCESSORS AND/OR ASSIGNS
2. CHAMPION ABSTRACT, LLC
3. MYRTLE IRVING REALTY ASSOCIATION LLC

DATE SURVEYED: APRIL 18th, 2011

GERALD T. O'BUCKLEY

PROFESSIONAL LAND SURVEYORS

43-14 162nd STREET
JAMAICA, N.Y. 11432-2742
TELEPHONE (718)820 9680
FAX (718)820 9681

TAX MAP
SECTION
BLOCK 12488
LOT 1

FILED MAP
SECTION
BLOCK
LOT

BOROUGH OF QUEENS
COUNTY OF QUEENS
STATE OF NEW YORK

TITLE#: CCHAMP 1890Q

STATE CHAMPION GERALD T. O'BUCKLEY 039834 LICENSED LAND SURVEYOR

BEN

GERALD T. O'BUCKLEY, P.L.S.
NEW YORK LICENSE 039834

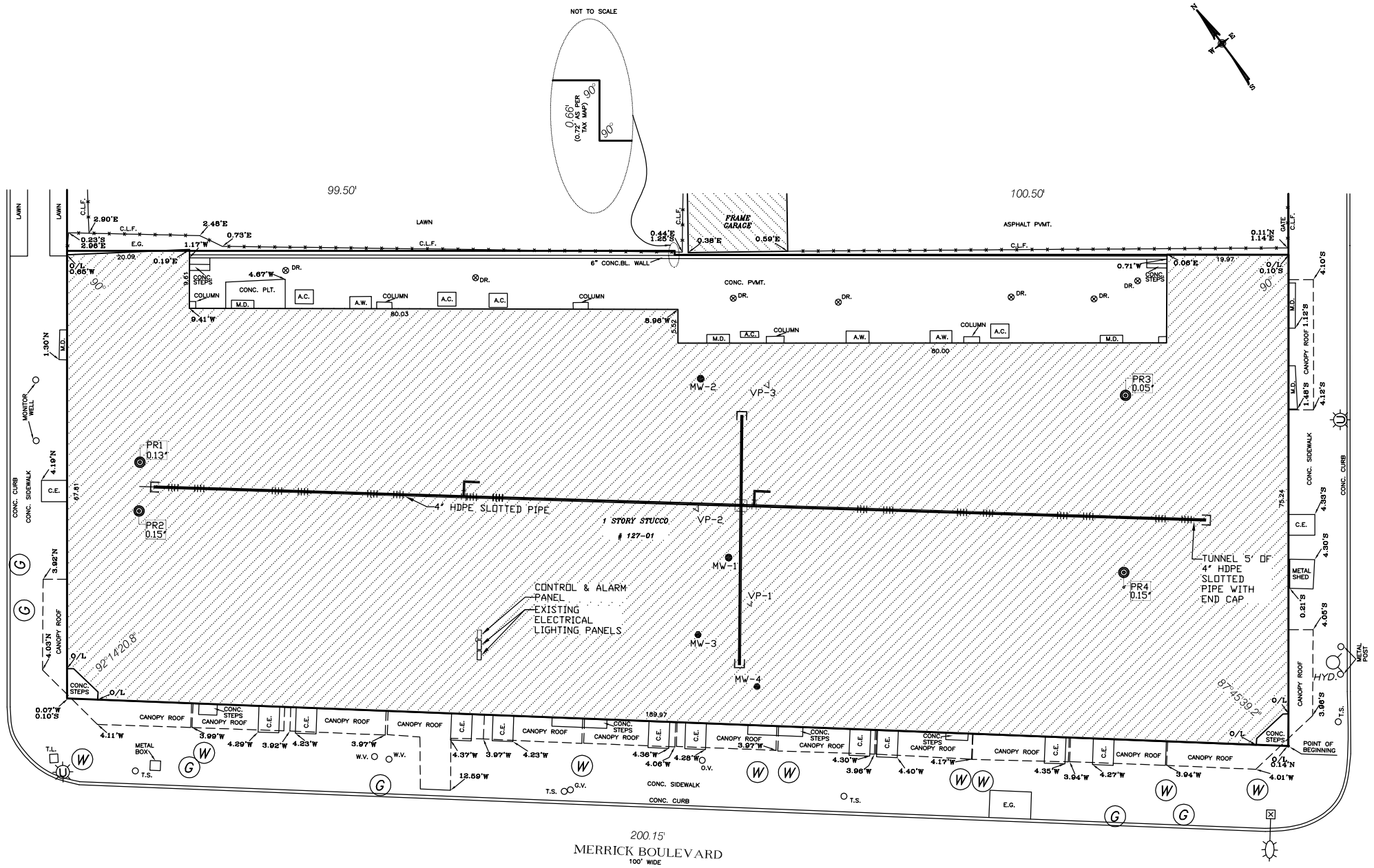
LEGEND:
AIR CONDITIONER — A.C.
CELLAR ENTRANCE — C.E.
CHAIN LINK FENCE — C.L.F.
PLATFORM — PLT.
PAVEMENT — PVMT.
EARTHEN GROUND — E.G.
CONCRETE — CONC.
OVER HEAD SERVICE WIRE — O.H.S.W.
METAL DOOR — M.D.
METAL COVER — M.C.
CATCH BASIN — C.B.
UTILITY POST — U.P.
WOOD FENCE — W.F.
VINYL FENCE — V.F.
METAL FENCE — M.F.
B/U MASONRY — B.M.
AREA WAY — A.W.
ON LINE — O/L
TREE —

UTILITY POLE
VALVES. GAS G.V. WATER W.V. METAL VELVE M.V.
CURB AND CURB CUT
MANHOLES. SEWER (S) GAS (G) WATER (W) ELECTRIC (E)

THE OFFSETS OR DIMENSIONS SHOWN FROM THE STRUCTURES TO THE PROPERTY LINES ARE FOR A SPECIFIC PURPOSE AND USE AND THEREFORE ARE NOT INTENDED TO GUIDE THE ERECTION OF FENCES, RETAINING WALLS, POOLS, PLANTING AREAS, ADDITIONS TO STRUCTURES AND ANY OTHER CONSTRUCTION.

Job No. RLS145587

THE EXISTENCE OF RIGHT OF WAYS AND/OR EASEMENTS OF RECORD, IF ANY, NOT SHOWN ARE NOT CERTIFIED.



GRAPHIC SCALE: 1" = 10'
(IN METERS & FEET)

10F 5F 0 10F 20F 30F 40F 50F 60F
10M 5M 0 10M 20M

1 FOOT = 0.3048006 METERS
1 METER = 3.280833 FEET

ENGINEERING CONTROLS PROVIDE BY J.R. HOLZMACHER P.E., LLC
PROJECT NO,: KoptD14-01 DATE: 01/15/14

"SCHEDULE "A"

ON A CERTAIN MAP ENTITLED " MAP OF NETHERLANDS, SUBDIVISION IN THE FOURTH WARD, BOROUGH OF QUEENS, NEW YORK CITY, PROPERTY OF NEW NETHERLANDS HOME CO." AND NEW NO. 1524 AS AND BY PART OF LOTS 51 TO 58, WHICH SAID PART OF LOTS, WHEN TAKEN TOGETHER AS ONE PARCEL, ALE BOUNDED AND DESCRIBED AS FALLOWS:

BEGINNING AT THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF MERRICK BOULEVARD, 100 FEET WIDE, WITH THE NORTHERLY SIDE OF ANDERSON ROAD;

RUNNING THENCE EASTERLY ALONG THE NORTHERLY SIDE OF ANDERSON ROAD 80.49 FEET;

THENCE NORTHERLY AT RIGHT ANGLES TO ANDERSON ROAD 100.50 FEET;

THENCE EASTERLY AT RIGHT ANGLES TO THE LAST MENTIONED COURSE 0.66 FEET;

THENCE NORTHERLY AT RIGHT ANGLES TO THE LAST MENTIONED COURSE, 99.50 FEET TO THE SOUTHERLY SIDE OF SELOVER ROAD;

THENCE WESTERLY ALONG THE SOUTHERLY SIDE OF SELOVER ROAD, 73.33 FEET TO THE CORNER FARMED BY THE INTERSECTION OF THE SOUTHERLY SIDE OF SELOVER ROAD, WITH THE EASTERLY SIDE OF MERRICK BOULEVARD;

THENCE SOUTHERLY ALONG THE SAID EASTERLY SIDE OF MERRICK BOULEVARD, 200.15 FEET TO THE CORNER AT THE POINT OR PLACE OF BEGINNING

LEGEND
- PRESSURE LOCATIONS
- VAPOR IMPLANTS

LOT AREA IS 15381.6 sq.ft.
EASEMENTS IF ANY NOT SHOWN

SURVEY OF: *Described Property*
LOCATED AT:
127-01 Merrick Boulevard
County and Borough of Queens
City and State of New York
TAX DESIG:
Block 12488 Lot 1
CERTIFIED TO:
Sammy Aranbayev

ROGUSKI LAND SURVEYING, P.C.
TITLE • ARCHITECTURAL • BOUNDARY • CONSTRUCTION
60-17 58th DRIVE, MASPETH, N.Y. 11378
Tel. • (718)480-3781 • Fax. • (718)480-3782 •
Email • rogusk1@gmail.com •
SZCZEPAN H. ROGUSKI
PROFESSIONAL LAND SURVEYOR

DATE: *May 31, 2014*
SCALE: *1"=10'*
DRAWN BY: MM

STATE OF NEW YORK · SZCZEPAN H. ROGUSKI · 050775 · LICENSED LAND SURVEYOR

APPENDIX 5 – FIELD SAMPLING AND QUALITY ASSURANCE PROJECT PLAN

APPENDIX 5 – FIELD SAMPLING AND QUALITY ASSURANCE PROJECT PLAN

All sampling and analyses will be performed in accordance with the approved procedures in the Site Characterization Work Plan dated July 14, 2011 and the requirements of the Quality Assurance Manual (QAM) of the selected laboratory. All sample analysis will be performed with Category B data deliverables.

Any Soil Sampling activities will be managed by James M. DeMartinis, QEP at Seacliff Environmental with field support, as needed. Seacliff would retain the following subcontractors:

- Pace Laboratories of Melville, New York (NYSDOH ELAP # 10478) will analyze any soil vapor samples.

Procedure for Soil Vapor Testing-

A Geoprobe® will be used to drill borings to install temporary sub-slab vapor s a mp l in g points. The Geoprobe® will advance a MacrocoreTM to two feet below the slab and/or side walk at each location.

Temporary vapor points will be installed using 1.5 –inch diameter rods and consist of six-inch diameter stainless steel implants attached to an expendable drive point. No water will be used during the installation of the temporary probes. Teflon™ lined polyethylene tubing will extend from the temporary implant to the surface. Number 2 sand will be used in the boring to create a sampling zone one to two feet in length and a bentonite seal emplaced in the borehole above the sampling zone.

Vapor sampling will be conducted following the installation of the vapor probes. Three implant volumes will be purged prior to collecting the samples at a purge rate of 0.2 liters per minute. The vapor samples will be collected using 6-liter capacity Summa™ canisters each fitted with a laboratory calibrated critical orifice flow regulation device sized to allow the collection of the soil gas samples so as not to exceed 0.2 liters per minute (to minimize outdoor air infiltration during sampling).

Indoor Air Sampling will be completed using a Summa™ canister fitted with a laboratory calibrated orifice flow regulator set to allow the air sample to enter over a 24 hour period of time.

Both Air sampling types will be conducted in accordance to the NYSDOH document *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, October 2006.

The vapor and indoor air samples will be analyzed using the USEPA's TO-15 gas chromatograph/mass spectrometer (GC/MS) methodology. The samples will be delivered to Pace Analytical Laboratories (NYSDOH ELAP # 10478).

Sample Tracking and Custody;

Calibration Procedures:

- All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
- The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

Analytical Procedures;

Internal QC and Checks;

- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP Category B requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory

data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

APPENDIX 6 – HEALTH AND SAFETY PLAN AND CAMP

Health and Safety Plan
For
Property Located at

127-13 Merrick Boulevard
Queens, New York

August 2015
Revised December 2015

Prepared by
Seacliff Environmental, Inc.

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1.0 INTRODUCTION

This section of the Health and Safety Plan (HASP) document defines general applicability and general responsibilities with respect to compliance with Health and Safety programs. This plan has been prepared for invasive remediation activities to be conducted in the future.

1.1 Scope and Applicability of the Site Health and Safety Plan

The purpose of this HASP is to define the requirements and designate protocols to be followed during future excavation/remediation activities at the site. Applicability extends to all government employees, contractors, subcontractors, and visitors.

All personnel on site, contractors and subcontractors included, shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation. This HASP summarizes those hazards in Table 3.1 and defines protective measures planned for the site.

This plan must be reviewed and an agreement to comply with the requirements must be signed by all personnel prior to entering the exclusion zone or contamination reduction zone.

During development of this plan, consideration was given to current safety standards as defined by the Environmental Protection Agency (EPA)/Occupational Health and Safety Administration (OSHA)/National Institute of Occupational Safety and Health (NIOSH), health effects and standards for known contaminants, and procedures designed to account for the potential for exposure to unknown substances. Specifically, the following reference sources have been consulted:

- OSHA 29 CFR 1910.120 and EPA 40 CFR 311
- USEPA, Office of Emergency and Remedial Response, Emergency Response Team, Standard Operating Safety Guides
- NIOSH/OSHA/USCG/EPA Occupational Health and Safety Guidelines
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values

2.0 KEY PERSONNEL/IDENTIFICATION OF HEALTH AND SAFETY

2.1 Key Personnel

The organizational structure will be reviewed and updated periodically by the site supervisor.

Team Representatives:

1. David Koptiev
2. James M. DeMartinis QEP
3. Karen G. Tyll, PE

TO BE DETERMINED

2.2 Site Specific Health and Safety Personnel

The SHSO at the site with respect to any future excavation/construction activities is:

Seacliff Environmental, Inc
James DeMartinis QEP

Designated alternates include:

TO BE DETERMINED

2.3 Organizational Responsibility

1. The SHSO of the site will conduct site inspections throughout the project making sure the Health and Safety Plan is followed. Their main concern is the personal protection of the workers.

3.0 TASK SAFETY AND HEALTH RISK ANALYSIS

3.1 Historical Overview of Site

127-13 Merrick Blvd, Jamaica (Tax Map Block # 12488, Portion 1) is currently occupied by a Wig and Hair business. It is one of eleven stores in a one story retail strip shopping center. A dry cleaner (Parkway Cleaners) operated at this site for at least 25 years (ceasing operations around 2005).

As part of a potential property transaction, the site was inspected in September 2006. A tattoo and body piercing business occupied the building at the time. The basement, however, was empty and unoccupied and a floor drain was identified. The floor drain was stuffed with rags and other debris. When these items were removed a strong perchloroethylene (perc) odor was evident. Based on this observation, it was recommended that soil and groundwater samples be collected in this area.

In September 2006 soil samples were collected inside the 127-13 floor drain that indicated high concentrations of perc. The most contaminated soil has since been removed but some residual contamination remains. A sub slab depressurization system was also installed to captive fugitive vapors. Post-remediation groundwater sampling indicates the remediation to be successful.

3.2 Task-by-Task Risk Analysis

The evaluation of hazards will be based upon the knowledge of the site background presented in Section 3.1 above, and anticipated risks posed by the specific tasks to be performed.

The following subsections describe each task/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of future tasks are also identified.

Table 3.1 provides a summary of task analysis and chemical hazards potentially encountered at the Site.

TABLE 3.1
TASK ANALYSIS
POTENTIAL CHEMICAL HAZARDS OF CONCERN

Contaminant	PEL/TLV	LEL (%)	IDLH
VOCs			
Perchloroethylene	100 ppm	N/A	150 ppm
Benzene	1/0.5ppm	1.2	500 ppm
Toluene	200/50 ppm	1.1	500 ppm
Xylenes	100/100 ppm	~1	900 ppm
Ethyl benzene	100/100ppm	0.8	800 ppm
MTBE	NE/50ppm	NE	NE
Diesel Fuel	NE/100mg/m^3		Ca (exhaust)
Gasoline	NE/300	1.4	Ca
Lead	0.05/0.05 mg/m^3	N/A	100 mg/m^3
PCBs	0.5-1 mg/m3	N/A	5 mg/m^3
PAHs	0.2 mg/m³	N/A	1750 mg/m^3
Pesticides	Variable	N/A	N/A
Arsenic	0.01 mg/m^3	N/A	5 mg/m^3
Mercury	0.025 mg/m^3	N/A	10 mg/m^3

NE – not established
N/A-not appropriate

Ca - Cancer
Notes:
1. TLV = Threshold Limit Value
2. IDLH = Immediately Dangerous to Life and Health

3.3 Chemical Hazards

Hazard Identification and Prevention

- Safety related work practices would be used to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts. Overhead power lines, buried

cables and electrical equipment used on site all pose a danger of shock or electrocution if workers contact or sever them during field operations.

- New York State law requires that a utility mark out to be performed at a site at least 72 hours prior to starting any subsurface work. The tank removal contractor will contact New York City One Call (1-800-272-4480) to request a mark out of underground utilities in the proposed excavation and drilling areas. Work will not begin until the required utility clearances have been completed.

- Public utilities typically do not mark-out utility lines that are located on private property. Therefore, contractors must exercise due diligence and try to identify the location of any private utilities at the site. A private utility contractor will clear on-site subsurface disturbance locations for utilities prior to the commencement of any such work. Contractors will also use as-built drawings for the area being investigated, perform a line locating survey, and identify a no-dig/drill zone and hand dig if there is insufficient data to determine the location of utility lines.

- Care must be taken to ensure loose clothing does not get tangled in any moving equipment while borings are being drilled.

- There may be slip or trip hazards associated with rough, slippery or elevated work surfaces at the site. The sampling sites could contain a number of slip, trip and fall hazards for site workers, such as: holes, pits, or ditches; excavation faces and slippery surfaces (steep grades, uneven grades, snow and ice and sharp objects).

- Drilling or excavating is dangerous during electrical storms. All field activity must terminate when thunderstorms are evident. Extreme heat and cold, ice and heavy rain can produce unsafe conditions for drilling work. Such conditions, when present, will be evaluated on a case-by-case basis to determine if work shall terminate.

- The use of an excavator and other equipment that are gasoline or fuel powered presents the possibility of encountering fire and explosion hazards.

- Plants and animals that are known to be hazardous to humans may affect work that takes place. Spiders, bees, wasps, hornets, ticks, poison oak and poison ivy are only some of the hazards that may be encountered. Individuals who may potentially be exposed to these hazards should be made aware of their existence and instructed in their identification. Emergencies resulting from contact with a natural hazard should be handled through the normal medical emergency channels. Individuals who are sensitive to these types of "natural" hazards should indicate their susceptibility to the SHSO.

- Work on-site will involve the use of heavy construction equipment such as an excavator. The unprotected exposure of site workers to this noise during field activities can result in

noise induced hearing loss. The SHSO will monitor the noise exposure for the initial trip and determine whether noise protection is warranted for each of the team members. The SHSO will ensure that either ear muffs or disposable foam earplugs are made available to all personnel and are used by the personnel in the immediate vicinity of the field operation as required.

3.3.1 General Description

There is low-level VOC contamination because the site was previously remediated.

Potential chemical hazards below the building slab are evaluated below. It is anticipated that dry cleaning compounds and dust could be of concern if the concrete slab is opened. The potential for exposure to vapors, contaminated dusts, and contaminated soil/groundwater is of utmost concern.

3.3.2 Potential Chemical Health Hazards-Perchloroethylene

Perchloroethylene (also called perc) is a colorless, nonflammable liquid. It does not occur naturally but is produced in large amounts (310 million pounds in 1991) in the United States. Demand for perc declined about 35% from 1989 to 1991, and is likely to continue to fall. Solvent recycling and reduced demand for chlorofluorocarbons are major reasons for this trend. The largest user of perc is the dry cleaning industry.

Perc enters the body when breathed in with contaminated air or when consumed with contaminated food or water. It is less likely to be absorbed through skin contact. Once in the body perc can remain, stored in fat tissue. Effects of perchloroethylene on human health and the environment depend on the amount present and the length and frequency of exposure. Effects also depend on the health of a person or the condition of the environment when exposure occurs. Breathing perc for short periods of time can adversely affect the human nervous system. Effects range from dizziness, fatigue, headaches and sweating to loss of coordination and unconsciousness. Contact with perc liquid or vapor irritates the skin, the eyes, the nose, and the throat.

3.3.3 First Aid

If soil comes in contact with the eyes immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Contact lenses should not be worn but can be protected by safety glasses/goggles. If lead contaminated soil comes in contact with the skin, wash the skin with soap and water prior to leaving the site. If a person breathes in large amounts of dust, move the exposed person to fresh air at once. If contaminated soil has been swallowed, get medical attention immediately (NIOSH, 1987).

4.0 PERSONNEL TRAINING REQUIREMENTS

Consistent with OSHA 29 CFR 1910.120 regulation covering Hazardous Waste Operations and Emergency Response, all site personnel will be required to be trained in accordance with the standard. At a minimum, all personnel will be required to be trained to recognize the hazards on- site, the provisions of this HASP, and the responsible personnel. The SHSO at the site pre-entry briefing(s) or periodic site briefings will discuss this plan.

5.0 PERSONNEL PROTECTIVE EQUIPMENT TO BE USED

This section describes the general requirements of the EPA designated Levels of Protection (A through D), and the specific levels of protection required for each task at the Site.

5.1 Levels of Protection

Personnel will wear the appropriate protective equipment when response activities involve known or suspected atmospheric contamination, vapors, gases, or particulates may be generated by site activities, or when direct contact with skin-affecting substances may occur. Full face piece respirators protect lungs, gastrointestinal tract, and eyes against airborne toxicants. Chemical-resistant clothing protects the skin from contact with skin-destructive and absorbable chemicals.

The specific levels of protection and necessary components for each have been divided into four categories according to the degrees of protection afforded:

Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.

Level B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B is the primary level of choice when encountering unknown environments.

Level C: Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.

Level D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

Modifications of these levels are permitted, and routinely employed during site work activities to maximize efficiency. For example, Level C respiratory protection and Level D skin protection may be required for a given task. Likewise the type of chemical protective ensemble (i.e., material, format) will depend upon contaminants and degrees of contact.

The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.
- Potential for exposure to substances in air, liquids, or other direct contact with material due to work being done.
- Knowledge of chemicals on-site along with properties such as toxicity, route of exposure, and contaminant matrix.

In situations where the type of chemical, concentration, and possibilities of contact are not known, the appropriate Level of Protection must be selected based on professional experience and judgment until the hazards can be better identified.

5.2 Level D Personnel Protective Equipment:

- Disposable Tyvek^{R} coveralls (as needed)
- Disposable Nitrile Exam gloves (as needed)
- Disposable Tyvek^{R} booties (as needed)
- Steel-tipped work boots
- Safety glasses
- Hard hat
- 3M N95 Dust Masks with Exhalation Valves (if needed)

5.3 Reassessment of Protection Program

The Level of Protection provided by PPE selection shall be upgraded or downgraded based upon changes in site conditions or investigation findings. When a significant change occurs, the hazards should be reassessed. Some indicators of the need for reassessment are:

- Commencement of a new work phase.
- Change in job tasks during a work phase.
- Change of season/weather
- When temperature extremes or individual medical considerations limit the effectiveness of PPE.
- Change in work scope, which affects the degree of contact with contaminants.

5.4 Work Mission Duration

Before the workers actually begin work in their PPE ensembles, the anticipated duration of the work mission will be established. Several factors limit mission length, including:

- Air supply consumption (SCBA use)-**Not Applicable.**
- Suit/Ensemble permeation and penetration rates for chemicals-**Not Applicable.**
- Ambient temperature and weather conditions (heat stress/cold stress).
- Capacity of personnel to work in PPE.

5.5 Personal Protective Equipment Recommended for Site

The following specific clothing materials are recommended for the site:

A. Soil Sampling – Level D

Site activities will require PPE as follows: hardhat, disposable Tyvek^{R} coveralls (if needed), disposable Tyvek^{R} booties (if needed), safety glasses and chemical resistant gloves. Particulate respirator-3M N95 Dust Masks with exhalation valves will be available.

5.6 SOP for Personal Protective Equipment

Proper inspection of PPE features several sequences of inspection depending upon specific articles of PPE and it's frequency of use. The different levels of inspection are as follows:

- Inspection and operation testing of equipment received from the factory or distributor.
- Inspection of equipment as it is issued to workers.
- Inspection after use or training and prior to maintenance.
- Periodic inspection of stored equipment.
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise.
- The primary inspection of the PPE in use for activities at the Site will occur prior to immediate use and will be conducted by the user. This ensures that the specific device or article has been checked-out by the user and that the user is familiar with its use.

TABLE 5.1
SAMPLE PPE INSPECTION CHECKLIST

CLOTHING

Before use:

- Determine that the clothing material is correct for the specified task at hand.
- Visually inspect for:
  - Imperfect seams
  - Non-uniform coatings
  - Tears
  - Malfunctioning closures
- Hold up to light and check for pinholes.
- Flex product:
  - Observe for cracks
  - Observe for other signs of shelf deterioration
- If the product has been used previously, inspect inside and out for signs of chemical attack:

- Discoloration
- Swelling
- Stiffness

During the work task:

- Evidence of chemical attack such as discoloration, swelling, stiffening, and softening. Keep in mind, however, that chemical permeation can occur without any visible effects.
- Closure failure.
- Tears.
- Punctures.
- Seam Discontinuities.

GLOVES

Before use:

- Visually inspect for:
  - Imperfect seams
  - Tears
  - Non-uniform coating
  - Pressurize glove with air; listen for pinhole leaks.

5.7 Specific Levels of Protection Planned for the Site

The following levels of protection will be utilized during activities at the Site:

- Level D

6.0 FREQUENCY AND TYPES OF AIR MONITORING/SAMPLING

This section explains the general concepts of an air-monitoring program and specifies the surveillance activities that will take place during future invasive work at the Site.

The purpose of air monitoring is to identify and quantify airborne contaminants in order to verify and determine the level of worker protection needed. Initial screening for identification is often qualitative, i.e., the contaminant, or the class to which it belongs, is demonstrated to be present, but the determination of its concentration (quantification) must await subsequent testing. Two principal approaches are available for identifying and/or quantifying airborne contaminants:

- The on-site use of direct-reading instruments.
- Laboratory analysis of air samples obtained by a gas-sampling bag, collection media (i.e., filter, sorbent) and/or wet-contaminant collection methods.

6.1 Direct-Reading Monitoring Instruments

Unlike air sampling devices, which are used to collect samples for subsequent analysis in a laboratory, direct-reading instruments provide information at the time of sampling, enabling rapid decision-making. Data obtained from the real-time monitors are used to assure proper selection of personnel protection equipment, engineering controls, and work practices. Overall, the instruments provide the user the capability to determine if site personnel are being exposed to concentrations that exceed exposure limits or action levels for specific hazardous materials.

Of significant importance, especially during initial entries, is the potential for IDLH conditions or oxygen deficient atmospheres. Real-time monitors can be useful in identifying any IDLH conditions, toxic levels of airborne contaminants, flammable atmospheres, or radioactive hazards. Periodic monitoring of conditions is critical, especially, as exposures may have increased since initial monitoring or if new site activities have commenced.

6.2 Site Air Monitoring and Sampling Program

A. Air Monitoring Instruments

- **Organic Vapor Monitoring**

Instrument :Photoionization Detector (PID) with for use during all intrusive activities (10.6 Ev lamp).

Instrument: Detector Tubes – for measuring benzene and vinyl chloride concentrations.

Monitoring for organic vapors will be conducted in the breathing zone of employees using a PID during intrusive activities. Refer to Table 6.1 for total volatile organic vapor and benzene action levels.

- **Combustible Gas Monitoring**

  Instrument: Combustible Gas Indicator (CGI)/ Oxygen Meter

  Continuous air monitoring with a CGI/Oxygen meter will be conducted in areas where flammable vapors or gases are suspected. All work activities must stop where the monitor indicates the concentration of flammable vapors exceeds ten percent of the lower flammable limit (LEL) at a location with a potential ignition source. The area must be ventilated to reduce the concentration to below ten percent of the LEL.

- Dust Monitoring

  Instrument: TSI DustTrak Model 8520 (or equivalent)

  Continuous dust monitoring during all site activities will be conducted. Dust mitigation must be employed should readings exceed 10 mg/m^3.

- **Calibration and Record keeping**

  Equipment used will be calibrated in accordance with the manufacturers' specifications. The PID and CGI will be calibration checked before and after use under approximately the same conditions at which the instrument will be used. Calibration information will be kept in the field notebook or instrument log. The date, time, location, instrument serial number, calibration gas and concentration, will be noted.

B. Action Levels

TABLE 6.1 SITE AIR MONITORING AND SAMPLING PROGRAM SUMMARY		
Instrument	**Action Level**	**Action**
PID (10.6 ev)	Continuous readings to 9ppm	Remain in level D PPE.
PID	Continuous reading of 10 to 100 ppm above background	Level D PPE but screen with Drager detection tube for benzene. If benzene detected >1 ppm upgrade to Level C and wear an organic vapor (OV) cartridge/air-purifying respirator (APR). Investigate source.
PID	Continuous reading over 100 ppm background	Stop Work. Reevaluate work conditions and procedures, Contact SHSO prior to continuing for authorization.
Drager Tubes: Benzene	1- 10 ppm	Upgrade PPE to level C with OV/APR.
Drager Tubes: Benzene	>10 ppm	Stop Work . Reevaluate work conditions and procedures. Contact SHSO prior to continuing for authorization.
Combustible Gas Indicator	Continuous reading of 0% to 1% lower explosive level (LEL).	Remain in level D PPE. If no benzene present, assume source is methane. Continuously monitoring LEL.
Combustible Gas Indicator	Continuous reading of 1% to 10% LEL	Level D unless benzene is present. Investigate source and ventilate, if possible. SHSO may require upgrade to Level C PPE.
Combustible Gas Indicator	Continuous reading > 10% LEL	Stop Work. Evacuate work area and ventilate source of combustible gas, if possible, Contact SHSO prior to continuing for authorization.
Dust Monitor	Continuous reading >10.0 mg/m^3	Suppress by spraying the dusty area with water.

Notes: PEL = Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit
REL = National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limit
TLV = American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value

C. Reporting Format

- Air Monitoring Log

6.3 Site Ambient Air Sampling / Community Air Monitoring Program (CAMP)

6.3.1 CAMP REQUIREMENTS

CAMP was followed during excavation activities and no exceedances were found. Future CAMP activities will be completed at the Site if only additional invasive activities are completed that penetrate the cover system (slab or sidewalk).

7.0 SITE CONTROL MEASURES

The following section defines measures and procedures for maintaining site control. Site control is an essential component in the implementation of the site health and safety program.

7.1 Buddy System

During all Level B, C or D activities or when some conditions present a risk to personnel, the implementation of a buddy system is recommended if not mandatory. A buddy system requires at least two (2) people to work as a team, each looking out for each other. Table 8.1 lists those tasks, which require a buddy system and any additional site control requirements.

TABLE 7.1

PERSONNEL REQUIREMENTS

Task	Control Measures
Soil Sampling	Line of sight, buddy system

7.2 Site Communications Plan

Successful communications between field teams and personnel in the support zone is essential. The following communications systems will be available during activities at the Site.

- Hand Signals
- Direct Vocal Communication
- For hand signal communications, the following definitions will apply during activities at the Site:

TABLE 7.2

HAND SIGNAL DEFINITIONS

Signal	Definition
Hands clutching throat	Out of air/cannot breath
Hands on top of head	Need assistance
Thumbs up	OK/I am all right/I understand
Thumbs down	No/Negative
Arms waving upright	Send backup support
Grip partners wrist	Exit area immediately

7.3 Work Zone Definition

The three general work zones established at the Site are the Exclusion Zone, Contamination Reduction Zone, and Support Zone. One of the basic elements of effective site soil remediation activities is the delineation of work zones. The purpose of establishing work zones is to:

- Reduce the accidental spread of hazardous substances by workers or equipment from the contaminated areas to the clean areas;
- Confine work activities to the appropriate areas, thereby minimizing the likelihood of accidental exposures;
- Facilitate the location and evacuation of personnel in case of an emergency; and
- Prevent unauthorized personnel from entering controlled areas.

Although a site may be divided into as many zones as necessary to ensure minimal employee exposure to hazardous substances, this plan uses the three most frequently identified zones in similar projects. These zones are the Exclusion Zone, the Decontamination Zone, and the Support Zone (sometimes referred to by others as the "clean zone"). Movement of personnel and equipment between these zones should be minimized and restricted to specific access control points to minimize the spreading of contamination, if encountered.

7.3.1 Exclusion Zone

The Exclusion Zone is the area where contamination is either known or expected to occur and where the greatest potential for exposure exists. No contamination is actually known to exist on this site. Therefore, the following protective measures will be taken in the Exclusion Zone.

Unprotected onlookers will be restricted from suspicious pre-screened soils requiring sampling such that they are 25 feet upwind or 50 feet downwind of excavation or drilling activities.

Those conducting activities and sampling in the Exclusion Zone will wear the applicable Personal Protective Equipment (PPE). The actions to be taken and PPE to be worn in the Exclusion Zone if VOCs are determined with the PID to be above background are described in Section 6 and Table 6.1.

7.3.2 Decontamination Zone

A Decontamination Zone will be established between the Exclusion Zone and the Support Zone, and will include the personnel, equipment and supplies that are needed to decontaminate equipment and personnel. The size will be selected by the SHSO to be sufficient to conduct the necessary decontamination activities. Personnel and equipment in the Exclusion Zone must pass through this zone before leaving or entering the Support Zone. This zone should always be established and maintained upwind of the Exclusion Zone.

7.3.3 Support Zone

The Support Zone will surround the Decontamination Zone and the Exclusion Zone. Break areas, operational direction and support facilities will be located in this area. Eating, smoking and drinking will be allowed only in this area.

7.4 Nearest Medical Assistance

Figure 7.1 shows a map of the route to the Flushing Hospital Medical Center (718-670- 5000), which is the nearest hospital that can provide emergency care for individuals who may experience an injury or exposure on site. The route to the hospital will be verified by the SHSO, and will be familiar to all site personnel.

FIGURE 7.1

Directions	Distance
1. Start out going **NORTHWEST** on **MERRICK BLVD** toward **SELOVER RD**.	go 2.0 mi
2. **MERRICK BLVD** becomes **168TH ST**.	go 0.6 mi
3. Turn **LEFT** onto **HILLSIDE AVE / RT-25**.	go 0.2 mi
4. Turn **RIGHT** onto **164TH ST**.	go 0.7 mi
5. Make a **U-TURN** at **82ND DR** onto **164TH ST**.	go 0.0 mi
6. **8268 164TH ST**.	go 0.0 mi

Total Travel Estimate : 3.50 miles - about 12 minutes

Start:

Start at 127-13 MERRICK BLVD, QUEENS New York

End:
QUEENS HOSPITAL CENTER
(718) 883-3000
82-68 164th Street, NY 11432

7.5 Safe Work Practices

Table 7.3 provides a list of standing orders for the Exclusion Zone.
Table 7.4 provides a list of standing orders for the Decontamination Zone.

7.6 Emergency Alarm Procedures

The warning signals described in Section 9.4 "Evacuation Routes and Procedures," will be deployed in the event of an emergency. Communication signals will also be used according to Section 7.2.

TABLE 7.3
STANDING ORDERS FOR EXCLUSION ZONE

- No smoking, eating, or drinking in this zone.
- No horseplay.
- No matches or lighters in this zone.
- Check-in on entrance to this zone.
- Check-out on exit from this zone.
- Implement the communications system.
- Line of sight must be in position.
- Wear the appropriate level of protection as defined in the HASP.

TABLE 7.4
STANDING ORDERS FOR CONTAMINATION REDUCTION ZONE

- No smoking, eating, or drinking in this zone.
- No horseplay.
- No matches or lighters in this zone.
- Wear the appropriate level of protection.

8.0 DECONTAMINATION PLAN

Consistent with the levels of protection required, the decontamination table(s) provides a step-by-step representation of the personnel decontamination process. These procedures should be modified to suit site conditions and protective ensembles in use.

8.1 Standard Operating Procedures

Decontamination involves the orderly controlled removal of contaminants. Standard decontamination sequences are presented in Table 8.1. All site personnel should minimize contact with contaminants in order to minimize the need for extensive decontamination. Personnel shall clean on-site as much gross contamination from clothing and equipment, as possible.

8.2 Levels of Decontamination Protection Required for Personnel

The levels of protection required for personnel assisting with decontamination will be Level D. The SHSO is responsible for monitoring decontamination procedures and determining their effectiveness.

8.3 Equipment Decontamination

Sampling equipment will be dedicated to each sample as practicable. Appendix A is the decontamination protocol for equipment. After on-site decontamination, non-disposable materials, such as gloves and booties, will be placed in plastic bags and for proper disposal off site.

8.4 Disposition of Decontamination Wastes

Contaminated disposable materials will be left in a secured condition on-site.

TABLE 8.1
LEVEL D DECONTAMINATION STEPS

Step 1	Remove outer garments (i.e., coveralls) and boots
Step 2	Remove gloves
Step 3	Wash hands and face

9.0 EMERGENCY RESPONSE/CONTINGENCY PLAN

This section describes contingencies and emergency planning procedures to be implemented at the Site. This plan is compatible with local, state and federal disaster and emergency management plans, as appropriate.

9.1 Pre-Emergency Planning

During the site briefing held periodically/daily, all employees will be trained in and reminded of provisions of the emergency response plan, communication systems, and evacuation routes. Table 9.1 identifies potential hazards associated with site activities, along with the available emergency prevention/control equipment and its location. The plan will be reviewed and revised, if necessary, on a regular basis by the SHSO. This will ensure that the plan is adequate and consistent with prevailing site conditions.

TABLE 9.1

EMERGENCY RECOGNITION/CONTROL MEASURES

HAZARD	PREVENTION/CONTROL	LOCATION
Fire/Explosion	Fire Extinguisher	Site Trailer and Heavy Equipt. mounted
Spill	Sorbent Materials	Not Applicable
Air Release	Evacuation Routes	Not Applicable

9.2 Personnel Roles and Lines of Authority

The Site Supervisor has primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measures to ensure the safety of site personnel and the public. Possible actions may involve evacuation of personnel from the site area, and evacuation of adjacent residents. He/she is additionally responsible for ensuring that corrective measures have been implemented, appropriate authorities notified and follow-up reports completed. The SHSO may be called upon to act on the behalf of the site supervisor, and will direct responses to any medical emergency. The individual contractor organizations are responsible for assisting the project manager in his/her mission within the parameters of their scope of work.

9.3 Emergency Recognition/Prevention

Table 3.1 provides a listing of chemical and physical hazards on-site. Additional potential hazards associated with site activities are listed in Table 9.1, along with the

available emergency prevention/control equipment and its location. Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site-specific briefings. The SHSO is responsible for ensuring that prevention devices and equipment are available to personnel.

9.4 Evacuation Routes/Procedures

In the event of an emergency which necessitates an evacuation of the site, the following alarm procedures will be implemented:

- Insure that a predetermined location is identified off-site in case of an emergency, so that all personnel can be accounted for.

- Personnel will be expected to proceed to the closest site exit with their buddy, and mobilize to the safe distance area associated with the evacuation route. Personnel will remain at that area until the re-entry alarm is sounded or an authorized individual provides further instructions.

9.5 Emergency Contact/Notification System

The following list provides names and telephone numbers for emergency contact personnel. In the event of a medical emergency, personnel will take direction from the SHSO and notify the appropriate emergency organization(s). In the event of a fire or spill, the site supervisor will notify the appropriate local, state and federal agencies.

TABLE 9.2

List of Emergency Contacts

Organization	Contact	Telephone
Police	NYCPD	911
Fire	NYCFD	911
Hospital	Flushing Hospital Medical Ctr.	718-670-5000
EPA Emergency Response Team		800-424-8802
NYSDEC	Spill Hotline	800-457-7362
National Response Center		800-424-8802
Center for Disease Control		404-488-4100
Chemtrec		800-424-9555

9.6 Emergency Medical Treatment Procedures

Any person who becomes ill or injured in the Exclusion Zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's

condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the Site Supervisor.

Any person being transported to a clinic or hospital for treatment should take with them information on the chemical(s) they have been exposed to at the site. This information is included in Table 3.1.

Any vehicle used to transport contaminated personnel will be treated and cleaned as necessary.

9.7 Fires or Explosion

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival, the project manager or 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 to control or extinguish the fire; and,
- Remove or isolate flammable or other hazardous materials, which may contribute to the fire.

9.8 Spill or Leaks

In the event of a spill or a leak from excavation or drilling equipment, including containers, site personnel will:

- Inform their supervisor immediately;
- Locate the source of the spillage and stop the flow if it can be done safely; and,
- Begin containment and recovery of the spilled materials.

9.9 Emergency Equipment/Facilities

The following emergency equipment/facilities will be utilized on-site.

TABLE 9.3
LIST OF EMERGENCY EQUIPMENT/FACILITIES

List of Emergency Equipment/Facilities	Storage Location
First Aid Kit	Support Zone
Fire Extinguisher	Support Zone
Spill Kits	Support Zone

Berm Materials	Support Zone
Eye Wash	Support Zone
Real Time Air Equipment	Exclusion Zone

10.1 REFERENCES

1. *Aldrich Chemical Book,* RTECS
2. *American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values*
3. *Chemical Protective Clothing Performance Index Book,* Forsburg
4. *Dangerous Properties of Industrial Materials,* SAX and Lewis
5. *Emergency Response Guide Book,* DOT P 5800.5, 1990
6. *EPA 40 CFR 311 Health and Safety Regulations*
7. *EPA/Office of Emergency and Remedial Response/Environmental Response Team Standard Operating Safety Guide*
8. *Extremely Hazardous Substances,* EPA, Noyes
9. *Guide to Occupational Exposure Values* – 1992
10. *Guidelines for the Selection of Chemical Protective Clothing,* Little
11. *Handbook of Toxic and Hazardous Chemicals and Carcinogens,* Sittig, np (Noyes)
12. *Hazardous Chemicals Data Book,* G. Weiss, ndc (Noyes)
13. *Hazardous Chemicals Desk Reference*
14. *NIOSH/OSHA/USCG/EPA Occupational Health and Safety Guidelines*
15. *OHMTADS Database*
16. *OSHA 29 CFR 1910.120 Health and Safety Regulations*
17. *The Merck Index, an Encyclopedia of Chemicals, Drugs, and Biologicals,* Merck & Co., Inc.
18. *Threshold Limit Values and Biological Exposure Indices, ACGIH,* 1991-1992
19. *V.S.L.G. Chris Man*

APPENDIX A

EQUIPMENT CLEANING AND DECONTAMINATION PROCEDURES

APPENDIX A

STANDARD OPERATING PROCEDURES

EQUIPMENT CLEANING AND DECONTAMINATION PROCEDURES

Summary

Equipment, tools, materials, etc. used in the excavation/remediation and collection of samples at the site must be properly prepared and cleaned/decontaminated during and after each sampling event. The degree of cleaning/decontamination will be dependent upon site conditions and the nature and type of contamination, if present, the intent and goal(s) of the remediation, and data quality objectives, as well as other site-specific requirements. The importance of this action must be impressed upon the sampling team and those assisting the team, such as a backhoe or drill rig operator.

Procedure

1. Heavy Equipment Decontamination

All equipment, tools and materials associated with sampling events must be cleaned or decontaminated prior to usage. Items such as drill rigs, auger flights, trackhoes, and backhoes all present potential sources of contamination to environmental samples. Therefore, all heavy equipment utilized at a site must undergo the following decontamination procedures:

- the equipment will first be high pressure, hot washed or steam-cleaned with potable water; and,
- the equipment will be rinsed thoroughly with potable water.

Contain, collect and dispose of all decontamination fluids in accordance with site/project- specific requirements. The bucket of trackhoes and backhoes may be cleaned over the excavation allowing high pressure decontamination washwater to return to the excavation.

2. Cleaning of Field Sampling Equipment

All equipment and tools used to collect samples for chemical analyses, including spatulas, spoons, scoops, trowels, split-spoons, augers, etc. will be decontaminated using the following procedures:

- non-phosphate detergent wash;
- potable water or distilled/deionized water rinse; and
- air or oven-dry.

If the equipment, listed above, is to be stored for future use, allow to dry and then wrap in aluminum foil (shiny-side out) or seal in plastic bags. Collect or dispose of all decontamination fluids in accordance with site/project-specific requirements.

3. Personal Clothing Decontamination

All footwear worn in and around a contamination area will be washed down using soap and water to remove any soil or oily residue remnants. If disposable gloves, booties or suits (such as Tyvek® suits) are worn, these suits or booties are to be removed and disposed of in a designated 55-gallon drum on site for future disposal. Any other clothing that comes in contact with contaminated soil should not be worn more than 24-hours and should be washed prior to wearing again.

APPENDIX B

MSDSs

MSDS Number: **T0767** * * * * * *Effective Date:* ***05/19/08*** * * * * * *Supercedes:* ***08/16/05***

MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

TETRACHLOROETHYLENE

1. Product Identification

Synonyms: ethylene tetrachloride; tetrachloroethene; perchloroethylene; carbon bichloride; carbon dichloride
CAS No.: 127-18-4
Molecular Weight: 165.83
Chemical Formula: Cl2C:CCl2
Product Codes:
J.T. Baker: 9218, 9360, 9453, 9465, 9469
Mallinckrodt: 1933, 8058

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Tetrachloroethylene	127-18-4	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. SUSPECT CANCER HAZARD. MAY CAUSE CANCER. Risk of cancer depends on level and duration of exposure.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Poison)

Flammability Rating: 0 - None
Reactivity Rating: 1 - Slight
Contact Rating: 2 - Moderate (Life)
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
Storage Color Code: Blue (Health)

Potential Health Effects

Inhalation:
Irritating to the upper respiratory tract. Giddiness, headache, intoxication, nausea and vomiting may follow the inhalation of large amounts while massive amounts can cause breathing arrest, liver and kidney damage, and death. Concentrations of 600 ppm and more can affect the central nervous system after a few minutes.
Ingestion:
Not highly toxic by this route because of low water solubility. Used as an oral dosage for hookworm (1 to 4 ml). Causes abdominal pain, nausea, diarrhea, headache, and dizziness.
Skin Contact:
Causes irritation to skin. Symptoms include redness, itching, and pain. May be absorbed through the skin with possible systemic effects.
Eye Contact:
Causes irritation, redness, and pain.
Chronic Exposure:
May cause liver, kidney or central nervous system damage after repeated or prolonged exposures. Suspected cancer risk from animal studies.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance. The use of alcoholic beverages enhances the toxic effects.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:
Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
Wash skin with soap or mild detergent and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:
Do not administer adrenaline or epinephrine to a victim of chlorinated solvent poisoning.

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5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard but becomes hazardous in a fire situation because of vapor generation and possible degradation to phosgene (highly toxic) and hydrogen chloride (corrosive). Vapors are heavier than air

and collect in low-lying areas.
Explosion:
Not considered to be an explosion hazard. Containers may explode when involved in a fire.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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7. Handling and Storage

Store in a cool, dry, ventilated area away from sources of heat or ignition. Isolate from flammable materials. Protect from direct sunlight. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
-OSHA Permissible Exposure Limit (PEL):
100 ppm (TWA), 200 ppm (ceiling),
300 ppm/5min/3-hour (max)

-ACGIH Threshold Limit Value (TLV):
25 ppm (TWA), 100 ppm (STEL); listed as A3, animal carcinogen
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.
Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.
Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance:
Clear, colorless liquid.
Odor:
Ethereal odor.
Solubility:
0.015 g in 100 g of water.
Specific Gravity:
1.62 @ 20C/4C
pH:
No information found.
% Volatiles by volume @ 21C (70F):
100
Boiling Point:
121C (250F)
Melting Point:
-19C (-2F)
Vapor Density (Air=1):
5.7
Vapor Pressure (mm Hg):
18 @ 25C (77F)
Evaporation Rate (BuAc=1):
0.33 (trichloroethylene = 1)

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10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Slowly decomposed by light. Deteriorates rapidly in warm, moist climates.
Hazardous Decomposition Products:
Carbon dioxide and carbon monoxide may form when heated to decomposition. Hydrogen chloride gas and phosgene gas may be formed upon heating. Decomposes with moisture to yield trichloroacetic acid and hydrochloric acid.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Strong acids, strong oxidizers, strong alkalis, especially NaOH, KOH; finely divided metals, especially zinc, barium, lithium. Slowly corrodes aluminum, iron and zinc.
Conditions to Avoid:
Moisture, light, heat and incompatibles.

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11. Toxicological Information

Oral rat LD50: 2629 mg/kg; inhalation rat LC50: 4100 ppm/6H; investigated as a tumorigen, mutagen, reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Tetrachloroethylene (127-18-4)	No	Yes	2A

12. Ecological Information

Environmental Fate:
When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. When released into water, this material is not expected to biodegrade. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals.
Environmental Toxicity:
The LC50/96-hour values for fish are between 1 and 10 mg/l. The LC50/96-hour values for fish are between 10 and 100 mg/l. This material is expected to be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: TETRACHLOROETHYLENE
Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 4L

International (Water, I.M.O.)

Proper Shipping Name: TETRACHLOROETHYLENE
Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 4L

International (Air, I.C.A.O.)

Proper Shipping Name: TETRACHLOROETHYLENE

Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 4L

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15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------------------------------

Ingredient	TSCA	EC	Japan	Australia
Tetrachloroethylene (127-18-4)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\---------------------------------

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Tetrachloroethylene (127-18-4)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Tetrachloroethylene (127-18-4)	No	No	Yes	No

--------\Federal, State & International Regulations - Part 2\----------------

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Tetrachloroethylene (127-18-4)	100	U210	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Liquid)

WARNING:
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: 2[Z]
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **2** Flammability: **0** Reactivity: **0**
Label Hazard Warning:
WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. SUSPECT CANCER HAZARD. MAY CAUSE CANCER. Risk of cancer depends on level and duration of exposure.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Label First Aid:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases call a physician.

Product Use:
Laboratory Reagent.

Revision Information:
No Changes.

Disclaimer:
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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

APPENDIX 7 - SITE MANAGEMENT FORMS

<u>Annual</u> Site-wide Inspection Form

127-7 to 17 Merrick Blvd, Jamaica, New York

Date:_____ Time:_____

Weather:_____

Reason for Inspection: [] Routine [] other_____

Inspection Observations

Check one of the following: **Y:** Yes **N:** No **NA:** Not Applicable

		Y	N	NA	Remarks
	Records				
1	Based on site records, when was the last inspection, maintenance, or repair event?				
2	Based on site records, was the system in operational for any amount of time since the last inspection, maintenance, or repair event? For how long? Provide details.				
3	Has the site use changed to a type of use higher than the current commercial use (as allowed in environmental easement)?				
	Alarm System				
4	Do the alarm lights indicate that the system is operational?				
	General System				
5	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the concrete basement floor slab or basement walls at the time of this inspection ?				
6	Are there any cracks in the concrete slab or concrete basement walls?				
7	If YES to number 6, is there documentation that the Soil Management Plan (SMP), HASP, and CAMP for the site was/is being followed?				
8	If YES to number 6, is there documentation that all breaches in the floor slab have been sealed?				
9	Does all visible SSDS piping appear intact and undamaged?				
10	Have any intake points been constructed at the roof near (less than 10 feet) the SSDS blower discharge point?				

11	Are the two SSDS blowers operational at the time of the inspection?				
12	Is the SSDS System expelling Air from the exhaust on the roof of the building?				
13	Remove dust and debris from the area surrounding the blowers on the roof.				

Performed by:_____ _____

Printed Name Signature

_____ _____

Title Company

APPENDIX 8 - O&M MANUAL (SSDS)

SSDS OPERATION AND MAINTENANCE PLAN

1.0 INTRODUCTION

The Operation and Maintenance Plan describes the measures necessary to operate and maintain the mechanical components of the Sub-Slab Depressurization System (SSDS). This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the SSDS;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDS is operated and maintained.

A copy of this Operation and Maintenance Plan will be kept at the Site. This Plan is subject to NYSDEC revision.

2.0 - ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

2.1 Sub-slab Depressurization System

The sub-slab depressurization facilities will be inspected and tested annually (fans, piping, leaks, alarms, and batteries). A monthly check will be made to determine if the fans are operating and the batteries are functioning.

One sub-slab depressurization system is installed in this building. The system consists of 4-inch diameter HDPE horizontal perforated pipe in a 6-inch gravel bed under the existing basement concrete slab for the building. The piping spans the entire length of the shopping center with a secondary branch to provide additional coverage. A 20-Mil soil gas retarder membrane (polyethylene sheeting) was placed over the piping and gravel bed within the trench. The horizontal perforated pipe is connected to a 3-inch diameter DI/CI non-perforated vertical pipe rising to above the roof upon which is mounted two 200 cfm vent fans that operate continuously (24-hours, 7-days/week) to evacuate to the atmosphere any soil vapors that may be accumulating under the slab. There are monitoring points at both ends of the shopping center at the termination points of the horizontal pipe runs. Control panel is provided that gives a visual and audible alarm signal when the fan is inoperable or if pressure loss occurs (due to power loss, failure, or pipe blockage).

The requirements for the SSDS consist of an initial start-up testing, routine maintenance and monitoring activities, and non-routine maintenance activities. Each is described in the following subsections.

2.2 System Start-up and Testing

The goal for successful testing of the SSDS will be to achieve a negative sub-slab pressure. With this goal in mind, the following action will be performed during initial start-up of the SSDS:

1. Prior to operation of the SSDS, representative sub-slab vapor samples will initially be screened for Volatile Organic Compounds (VOCs) by a Photo Ionization Detector (PID) at the monitoring points located at the ends of the building where the pipe terminations are capped for accessibility. If PID readings indicate the presence of VOCs, samples will be taken utilizing SUMMA canisters and analyzing the samples for VOCs via a EPA TO-15 method.

2. Shortly before start-up of the SSDS, one 1/2-inch diameter monitoring hole will be made through the slab on grade at a point furthest away from the sub-slab pipe. 1/8 to 3/8-inch diameter tubing from a hand-held manometer can be connected to below the slab with temporary sealing around the tube to slab.

3. The vent fan is started up and the sub-slab pressure at the monitoring points will be measured utilizing an appropriate hand-held manometer to record a negative pressure under the slab. If negative pressure cannot be achieved during manometer testing, then smoke testing must occur to determine if there are any significant air leaks within the slab or end points of the sub-slab piping. Once smoke test results prove to be sufficient, manometer testing can be performed again. If a negative pressure cannot be established at the sample point location with the manometer, an additional sample point should be

chosen closer to the horizontal sub-slab pipe to confirm the effectiveness of the rooftop fan. If only a minimal negative pressure can be established, an alternate fan may need to be considered for achieving negative sub-slab pressure at extents of building foundation. After manometer testing is complete, sample point holes in concrete must be filled with epoxy mortar or equivalent concrete hole patch.

4. Smoke tests will then be performed to identify any leaks through cracks in the concrete floor and floor joints or pipe penetrations. Identified leaks will be re-sealed until smoke tests indicate that an appropriate seal of the floor slab has been achieved.
5. The operation of the visual and audible alarm device for the exhaust fan will be confirmed.
6. Test results will be recorded and filed.

If significant changes are made to the system in the course of the system lifetime, the system testing described above will be conducted again prior to placing in operation.

2.3 System Operation - Routine Operation Procedures

On a monthly basis, qualified building personnel will carry out the following:

- Conduct a visual inspection of the rooftop piping, control panel, inline exhaust fan, and electrical components such as visible conduits, boxes and panels.
- Confirm that the exhaust fan and alarm components are properly operating.
- Test the alarm system to determine if it is operable and repair/replace if required. (see Section 2.4 if routine monitoring indicates that one or both of these warning devices is not working properly).
- Check whether battery backup for control panel and alarm is functioning and if required, replace battery.

2.4 System Operation - Routine Equipment Maintenance

Routine maintenance and inspection will be conducted to ensure that the SSDS is operating properly. On a monthly basis, qualified building personnel will confirm that the exhaust fan and alarm are working properly and that battery is functioning (see Section 2.5 if routine montoring indicates that one or both of these warning devices is not working properly). Battery will be replaced, if required.

On an annual basis, the following will performed:

- Conduct a visual inspection of all visible system components.
- Inspect fan for bearing failures or signs of other abnormal operations, and repair or replace if required.
- Inspect the discharge location of the vent pipe to ensure that no air intake or operable window has been located nearby.

- Determine, through discussions with building management, if any Heating, Ventilation, and Air Conditioning ("HVAC") system modifications occurred that might effect the performance of the SSDS.
- Inspect the floor slab and foundation walls for evidence of cracks and/or holes, and repair of cracks and/or holes, if required.
- Test the integrity of the riser pipe(s), via smoke tests, and repair the riser pipe, if required.
- Test the alarm system to determine if it is operable and repair, if required.
- Check whether battery is functioning and, if required, replace battery.

2.5 System Operation - Non-Routine Equipment Maintenance

Non-routine maintenance typically occurs when warning devices indicate the system is not working properly, the system becomes damaged, or if the building's HVAC has undergone modifications that may reduce the effectiveness of the system. The scope of non-routine maintenance will vary depending upon the situation. In general, the following actions will be taken as part of non-routine maintenance:

- Examine the building for structural or HVAC system changes, or other changes that may affect the performance of the depressurization system (e.g., new combustion appliances or deterioration of the concrete slab).
- Examine and address the operation of the alarm, vent fan, and battery operation.
- Repair the SSDS as appropriate. If necessary, the SSDS may require redesign and testing prior to being placed back into operation (see Section 2.2 for system start-up).