

# **SITE MANAGEMENT PLAN**

**11 Whipple Street**

**Brooklyn, NEW YORK**

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**NYC VCP Project Number 17CVC011K**

**OER Project Number 14EHAN406K**

**Prepared For:**

Sunshine Construction Group

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Brooklyn, NY 11211

**Prepared By:**

***EBC***

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**DECEMBER 2019**

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## **FIGURES**

**FIGURE 1 - SITE LOCATION MAP**

**FIGURE 2 - SITE PLAN**

**FIGURE 3 - COMPOSITE COVER PLAN**

**FIGURE 4 - WATERPROOFING/VAPOR BARRIER PLAN**

## **APPENDICES**

**APPENDIX A - COMPOSITE COVER INSPECTION CHECKLIST**

### **CERTIFICATION**

I, name, certify that I am currently a Qualified Environmental Professional (QEP) as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Robert Bennett

Name



Signature

11/21/2019

Date

## **1.0 INTRODUCTION**

### ***1.1 General***

Site management is the last phase of the remedial process and begins after the approval of the Remedial Action Report (RAR) by OER. It is the responsibility of the property owner (Sunshine Construction Group) to ensure that all site management responsibilities are performed. The penalty for failure to implement the SMP includes revocation of the Notice of Completion and all associated certifications and liability protections providing notice of the revocation to the NYC DOB. If the building is sold, the new owners will be notified of the SMP requirements.

Engineering Controls (ECs) and Institutional Controls (ICs) have been incorporated into this remediation to ensure that the Site remains protective of public health and the environment. EC's provide physical protective measures. ICs provide restrictions on Site usage and provide operation, maintenance, inspection and certification measures. This SMP includes all methods necessary ensure compliance with ECs and ICs required for the property.

The SMP provides a detailed description of procedures required to manage residual material at the Site following the completion of remedial construction in accordance with the NYC Voluntary Cleanup Agreement with OER. This includes: (1) operation and maintenance of Engineering Controls (2) periodic inspections of IC's and EC's and (3) certification of Engineering Controls and Institutional Controls.

### ***1.2 Revisions***

Revisions to this plan will be proposed in writing to the OER's project manager. Revisions will be necessary upon, but not limited to, the following occurring:

- A change in media monitoring requirements;
- Upgrades to or shut-down of a remedial system;
- Post-remedial removal of contaminated soil; or,
- Other significant change to the Site conditions.

### ***1.3 Notifications***

Notifications are to be submitted by the property owner to OER as described below:

- 60-day advance notice of any proposed changes in Site use to Unrestricted Use that is not contemplated is the Remedial Action.
- Notice within 30 days of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, OER will be notified in writing of the proposed change.
- Within 30 days after the transfer of all or part of the Site, the new owner's name, contact representative and contact information will be confirmed in writing to OER.

## **2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS**

### **2.1 *Site Location and Description***

The Site is located at 7-11 Whipple Street in the East Williamsburg section of Brooklyn, New York, and is currently identified as Block 2272, Lot 45 on the New York City Tax Map. A site location map is provided in the attached Figure 1. The Site is a square shaped lot consisting of 100 feet of street frontage along Whipple Street and extends 100 ft deep for a total of approximately 10,000 ft<sup>2</sup>. A site plan is provided in the attached Figure 2. The Site is bound by a one-story commercial building (auto repair) and a vacant lot to the north, Whipple Street to the south, Bartlett Playground to the east, and a vacant lot to the west.

The Site is currently developed with a new 6 to 7-story residential use building with a full cellar. The cellar level will be used for storage, the first through sixth floors will be occupied by residential apartment units and the seventh floors will be occupied by recreational space. Prior to redevelopment, the Site was vacant and was most recently used for parking and storage purposes without any permanent structures.

### **2.2 *Investigation and Remedial History***

**Limited Phase II Investigation** - A Limited Phase II Subsurface Investigation was performed at the Site in September 2013 by Environmental Business Consultants (EBC) and a Remedial Investigation and Remedial Investigation Report (RIR) was prepared by CA Rich Consultants (CA Rich) in February 2014. The report identified the following:

- Overall, soil, groundwater and soil vapor chemistry at the Site was found to be unremarkable and does not indicate any significant contamination issues except for a shallow (0-2') Mercury hotspot at the northeast corner of the Site and a shallow (0-2') hotspot at the southeast corner of the Site identified during EBC's September 2013 Phase II.

EBC performed the following scope of work at the Site in September 2013:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed six soil borings across the entire project Site, and collected fourteen soil samples for chemical analysis from the soil borings to evaluate soil quality; and,

3. Installed four groundwater monitoring wells throughout the Site to establish groundwater flow and collected four groundwater samples for chemical analysis to evaluate groundwater quality.

CA Rich performed the following scope of work at the Site in January 2014:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed four soil borings across the Site and collected four soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Installed two groundwater monitoring wells throughout the Site and collected two groundwater samples for chemical analysis to evaluate groundwater quality; and,
4. Installed four soil vapor probes around the Site perimeter and collected four soil vapor samples for chemical analysis.

The following environmental findings were identified during the Phase II investigations:

1. The elevation of the Site is approximately 14-15 feet above sea level.
2. Depth to groundwater was estimated to be approximately 8-10 feet below sidewalk grade.
3. Groundwater flow is generally northwest.
4. Depth to bedrock at the Site is greater than 100 feet.
5. The stratigraphy of the Site, from the surface down, consists of five feet of medium grained sand and fill material underlain by native silty sand.
6. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Soil Cleanup Objectives (RRSCO) as presented in 6NYCRR Part 375-6.8. Soil/fill sample results collected during the September 2013 Limited Phase II Investigation showed one VOC, acetone identified exceeding Unrestricted Use SCO. SVOCs including benzo(b)fluoranthene, Indeno(1,2,3,cd)pyrene, benzo (a) anthracene, and chrysene were detected above Part 375 Restricted Residential SCOs in both the shallow and deep soil samples collected. Metals including barium, lead, and mercury were detected above Part 375 Restricted Residential SCOs in the shallow soil throughout the Site.

7. Additional soil sampling was conducted during remedial investigations. The soil sampling results were compared to the New York State Department of Environmental Conservation (NYSDEC) Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted and Restricted Residential Use SCOs. Trace concentrations of VOCs, including acetone, methylene chloride and toluene were detected in soil samples below Unrestricted Use SCOs. SVOCs including benzo(a)anthracene (3,200 ug/kg), benzo(a)pyrene (2,900 ug/kg), benzo(b)fluoranthene (2,900 ug/kg), dibenzo(a,h)anthracene (550 ug/kg) and indeno(1,2,3-c,d)pyrene (2,300 ug/kg) were detected above NYSDEC Part 375 Restricted Residential Use SCOs. Four pesticides, including 4,4'-DDD (17 ppb), 4,4'-DDE (20 ppb), 4,4'-DDT (33 ppb), and dieldrin (17 ppb) were detected exceeding Unrestricted Use SCOs, but were well below Restricted Residential SCOs. One PCB, aroclor 1248 (280 ppb), was detected in one soil sample exceeding Unrestricted Use SCO. Metals including lead (max. of 88 ppb), mercury (max. of 0.67 ppm), nickel (max. of 48 ppm) and zinc (max. of 145 ppm) exceeded Unrestricted Use SCOs, but were well below Restricted Residential Use SCOs. Overall, soil chemistry was unremarkable and do not indicate any disposal conditions.
8. Groundwater samples results were compared to New York State 6NYCRR Part 703.5 Class GA groundwater quality standards (GQS). Groundwater samples collected during the September 2013 Limited Phase II Investigation contained the VOC (MTBE) above its TOGs standard in the northern portion of the Site. No other VOCs were detected.
9. Additional groundwater samples were obtained during remedial investigations. The groundwater sample results were compared to NYSDEC Technical & Operational Guidance Series (TOGS) Ambient Water Quality Standards (GQS). Groundwater samples collected during the RI detected one VOC, methylene chloride (5.1 ug/l) slightly exceeding its GQS. Trace concentrations of acetone and toluene were also detected in groundwater. SVOCs and PCBs were not detected above their detection limits. One pesticide, 4,4, DDT, slightly exceeded its GQS in one groundwater sample. Metals including iron and manganese exceeded their GQS
10. Soil vapor results collected during the RI were compared to the compounds listed in Table 3.1 Air Guidance Values derived by the New York State Department of Health (NYSDOH) located in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion,



dated October 2006. Soil vapor results showed a wide range of petroleum related and chlorinated VOCs at trace concentrations and included acetone, benzene, chloromethane, dichlorofluoromethane, ethanol, freon 113, heptane, hexane, isopropyl alcohol, methylene chloride, methyl ethyl ketone, propylene, toluene and m&p-xylenes. All compounds were detected at concentrations less than 10  $\mu\text{g}/\text{m}^3$ . Chlorinated VOCs including carbon tetrachloride, TCA and TCE were not detected above their detection limits. Tetrachloroethylene (PCE) was identified in all soil vapor samples at a maximum concentration of 2  $\mu\text{g}/\text{m}^3$ . The PCE, TCA, TCE and carbon tetrachloride concentrations are below the monitoring level ranges established within the State DOH soil vapor guidance matrix.

### **2.3 Description of Remedial Actions**

The remedial action achieved protection of public health and the environment for the intended use of the property. The remedial action achieved all of the remedial action objectives established for the project and addressed applicable standards, criterion, and guidance; was effective in both the short-term and long-term and reduced mobility, toxicity and volume of contaminants; was cost effective and implementable; and used standards methods that are well established in the industry. The remedial action consisted of:

- A Pre-Application Meeting was held on October 3, 2016.
- A Remedial Investigation (RI) was performed in September 2013 and January 2014 and a RI Report dated February 2014 was prepared to evaluate data and information necessary to develop a Remedial Action Work Plan (RAWP).
- A Site Contact List was established and a RAWP dated March 2017 was prepared and released with a Fact Sheet on October 31, 2017, for a 30-day public comment period.
- The RAWP with a Stipulation List dated March 24, 2017, was approved by the New York City Office of Environmental Remediation (OER) on August 8, 2017.
- A pre-construction meeting was held on September 27, 2017.
- Remedial action began in October 2017 and was completed in February 2018.

The remedial action consisted of the following tasks:

1. Prepared a Community Protection Statement and implemented a Citizen Participation Plan;

2. Mobilized site security (October 26, 2017), equipment, utility mark outs and marking & staking excavation areas;
3. Performed a Waste Characterization Study June 2, 2017, prior to excavation activities. The Waste Characterization Study consisted of the collection of three composite waste characterization soil samples. Additional waste characterization sampling was conducted on October 4, 2017 and consisted of the collection of four grab samples and two composite samples. Waste characterization samples were collected at a frequency dictated by disposal facility(s);
4. Performed a Community Air Monitoring Program (CAMP) for particulates and volatile organic carbon compounds during soil disturbance activities. CAMP was performed during days of intrusive activities from October 30, 2017 through December 1, 2017. No odor and no elevated PID readings were recorded during implementation of the CAMP;
5. Implemented storm-water pollution prevention measures in compliance with applicable laws and regulations;
6. Selected Track 4 Site-Specific Soil Cleanup Objectives (SCOs);
7. The following excavations were performed for redevelopment purposes: The top of the 6 inch thick concrete cellar slab was installed at a depth of approximately 5 feet 6 inches below sidewalk grade. Therefore, excavation to minimum depth of 6 feet below grade was performed across the majority of the Site for the cellar foundation, with additional excavation of up to 5 ft below the cellar excavation (11 ft below sidewalk grade) was performed for the new building's elevator pit and 4 ft thick footings. The perimeter of the cellar foundation was sloped back approximately 10 feet back on the northern and western sides and approximately 5 feet back on the southern and eastern sides. The rear and side yards were excavated to 2 feet below grade and three storm drains were installed in the approximate center of the rear yard requiring excavation to 3 feet below grade. One hotspot on the southeast corner and one hotspot on the northeast corner of the Site was excavated to 6 feet below grade and a tank was encountered on the northwest corner of the Site requiring excavation to approximately 4 feet below grade;
8. Transported and disposed off-Site all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and

the RAWP. A total of 8,304.5 tons / 5,536.3 cubic yards of non-hazardous soil and fill were removed during this remedial action as:

- On October 30, 2017, approximately 29.8 cubic yards / 44.8 tons of non-hazardous contaminated soil was excavated and transported on a non-hazardous manifest to the Fairless Landfill (Fairless) located at 1000 New Form Mill Road, Morrisville, Pennsylvania.
  - From October 30, 2017 to November 14, 2017, approximately 1,302.1 cubic yards / 1,955.1 tons of non-hazardous fill material/soil was excavated and transported on a non-hazardous manifest to the Former New Jersey Zinc site located at 1120 Mauch Chunk Road, Palmerton, Pennsylvania.
  - From November 14, 2017 to December 1, 2017, a total of approximately 2,355.2 cubic yards / 3,536.4 tons of non-hazardous fill material/soil was excavated and transported on a non-hazardous manifest to the Former Griffin Pipe Products Company Site West Side (Griffin Pipe) located at 1100 West Front Street, Florence, New Jersey.
9. Screened excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID;
  10. Conducted materials management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials;
  11. Collected and analyzed ten excavation endpoint soil samples (EP1-EP10) to determine the performance of the remedy with respect to attainment of SCOs. Additionally, ten hotspot endpoint samples were collected from two lead hotspots located at the northeast and southeast corners of the Site. Track 4 Site-Specific SCOs were achieved from these endpoint samples;
  12. A buried above-ground storage tank (AST) was encountered on the northwest corner of the Site during the early stages of excavation and redevelopment. Five tank endpoint samples were collected at 3 feet and 4 feet below grade. The endpoint results indicated non-detect and low levels of VOCs and elevated levels of SVOCs in exceedance of RRSCOs. The levels of SVOCs detected around and below the buried tank were consistent with levels detected in the same area during two Phase II investigations

conducted in 2013 and 2014. Levels of BTEX compounds and Naphthalene were either non-detect, or measured at very low levels. Thus the results were indicative of existing fill material and not impacts from the unearthed AST;

13. Submitted daily reports during construction oversight activities from October 30, 2017 through December 18, 2017. Monthly reports were submitted after the building foundation was completed from February 28, 2018 to March 11, 2019;
14. Installed a waterproofing/vapor barrier system beneath the entire cellar slab, around/below the elevator pits, behind all cellar/cellar foundation walls to grade. The waterproofing system consists of model Precon SealTight composite sheet membrane manufactured by W.R. Meadows. Precon SealTight is a composite sheet membrane comprised of a non-woven fabric, elastomeric membrane, and W.R. Meadows plastmatic core. Once the concrete slab and foundation sidewalls poured against the Precon membrane, a mechanical bond forms that secures the concrete to the membrane. The membrane is applied to both vertical and horizontal surfaces for underslab waterproofing and vaporproofing. The waterproofing/vapor barrier system is a permanent engineering control for the Site;
15. Constructed an engineered composite cover system over a portion of the Site. The composite cover system consists of the following:
  - 6 inch thick concrete poured cellar slab and foundation sidewalls underlain by a waterproofing membrane (Precon SealTight by W.R. Meadows)
  - 4 inch concrete-poured pavement over the rear and side yard areas
  - The composite cover system was installed by Sunshine Construction
  - The composite cover is a permanent engineering control for the Site
16. Performed all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;
17. Submitted a Sustainability Report; and,
18. Submitted this RAR that describes the Remedial Action; certifies that the remedial requirements defined in the RAWP have been achieved; defines the Site boundaries; and lists any changes from the RAWP.

## 2.4 End Point Sample Results

The following Track 4 Site-Specific SCOs were utilized for this project:

<b><u>Contaminant</u></b>	<b><u>Site-Specific SCOs</u></b>
Total SVOCs	250 ppm
Lead	750 ppm
Mercury	1.5 ppm

Following removal of all soil across the Site for construction of the new building, EBC collected ten (10) site-wide endpoint soil samples (EP1-EP10). An additional eight hot-spot endpoint soil samples were collected from boring locations, B3, mercury hot-spot (HS1N, HS1E, HS1S and HS1W) and, B1, lead hotspot (HS2N, HS2E, HS2S and HS2S) identified during the Remedial Investigation. Endpoint soil samples EP1-EP8 were collected at a depth of 6 feet below grade and endpoint soil samples EP9 and EP10 were collected at a depth of approximately 2 feet below grade. Dedicated disposable sampling equipment was utilized to collect each endpoint sample, eliminating the need for field equipment (rinseate) blanks.

The endpoint soil samples were appropriately packaged, placed in a cooler and picked up by laboratory courier for transport to the analytical laboratory. The samples were containerized in laboratory provided glassware and shipped in plastic coolers preserved utilizing ice or “cold-paks” to maintain a temperature of 4°C.

Each of the ten site-wide endpoint samples (EP1-EP10) were submitted to Phoenix Environmental Laboratories, Inc. (Phoenix) located at 587 East Middle Turnpike, in Manchester, CT 06040 (NYS ELAP Certification No. 11301) for laboratory analysis utilizing the following methodology:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Pesticides/PCBs by EPA Methods 8081/8082; and,
- Target Analyte List metals by EPA Method 6010 and 7471.

Four hot-spot endpoint samples (HS1N, HS1E, HS1S, and HS1W) were collected from remedial investigation boring location B3 and submitted to Phoenix for laboratory analysis utilizing the following methodology:

- Total Mercury.

Four hot-spot endpoint samples (HS2N, HS2E, HS2S, and HS2W) were collected from remedial investigation boring location B1 and submitted to Phoenix for laboratory analysis utilizing the following methodology:

- Total Lead.

SVOCs, Pesticides and Metals were detected above Unrestricted Use SCOs within endpoint soil samples. The SVOC, dibenz(a,h)anthracene (max. 340 ug/kg) was detected at concentrations exceeding UUSCOs and RRSCOs in endpoint sample EP6. The UUSCO and RRSCO for dibenz(a,h)anthracene is 330 ug/kg which is just slightly below the detection at EP6. Even though this detection is a slight exceedance of Track 4 parameters, endpoint conditions were still considered to meet Track 4 goals as agreed by OER. This Additionally, all of the total SVOC concentrations were substantially lower than the Track 4 SCO for SVOCs which is 250,000 ug/kg. The pesticides 4,4'-DDE (max. of 21 ug/kg), 4,4'-DDT (max. of 55 ug/kg) and dieldrin (max. of 5.6 ug/kg) were detected above UUSCOs in endpoint sample EP10. Mercury (max. of 0.68 mg/kg), lead (max. of 171 mg/kg) and zinc (max. of 290 mg/kg) were detected above UUSCOs in endpoint soil sample EP10. However, these detections were well below Track 2 RRSCOs and Track 4 Site-Specific SCOs.

### **3.0 ENGINEERING AND INSTITUTIONAL CONTROLS**

#### **3.1 General**

Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for implementation and management of all ICs/ECs at the Site.

#### **3.2 Institutional Controls**

A series of Institutional Controls are required under this Remedial Action to assure permanent protection of public health by elimination of exposure to residual materials. These IC's define the program to operate, maintain, inspect and certify the performance of Engineering Controls and Institutional Controls on this property. These Institutional Controls will be implemented in accordance with the Site Management Plan included in this RAR.

Institutional Controls for this property are:

- (1) The property will continue to be registered with an E-Designation with the NYC Department of Buildings. Property owner and property owner's successors and assigns are required to comply with the approved SMP;
- (2) Compliance with an OER-approved Site Management Plan including procedures for appropriate operation, maintenance, inspection, and certification of performance of EC's and IC's. The property owner and property owner's successors and assigns will inspect EC's and IC's and submit to OER a written certification that evaluates their performance in a manner and at a frequency to be determined by OER;
- (3) Engineering Controls will not be discontinued without prior OER approval;
- (4) OER has the right to enter the Site upon notice for the purpose of evaluating the performance of EC's and IC's;
- (5) Vegetable gardens and farming in residual soil/fill on the Site are prohibited;

- (6) Use of groundwater underlying the Site without treatment rendering it safe for its intended use is prohibited;
- (7) All future activities on the Site that will disturb residual soil/fill must be conducted pursuant to the Soil/Materials Management provisions of the SMP, or otherwise approved by OER; and,
- (8) The Site is intended to be used for restricted residential use and will not be used for a higher level of use without prior approval by OER.

### **3.3 Engineering Controls**

Engineering Controls are employed in the remedial action to address residual materials remaining at the Site. The Site has two Engineering Controls. These are:

- Composite Cover System; and,
- Waterproofing/Vapor Barrier System.

#### **3.3.1 Operation and Maintenance of the Composite Cover System**

The engineered composite cover system consists of the following:

- 6 inch thick concrete cellar slab underlain by a Precon SealTight waterproofing/vapor barrier system manufactured by W.R. Meadows; and,
- 4 inch concrete poured pavement over the side and rear yard areas.

The composite cover system is a permanent Engineering Control for the Site. The composite cover system does not require any special operation or maintenance in order to perform as designed in the RAWP. Figure 3 shows the layout of the composite cover system at the Site. A Soil/Materials Management Plan is included in this Site Management Plan (Section 6.0) to outline the procedures to be followed in the event that the composite cover system and underlying residual soil/material must be disturbed after the remedial action is complete.

The system will be inspected and its performance certified at specified intervals defined in this SMP. Procedures for the inspection and maintenance of this cover are provided below.

#### **3.3.2 Operation and Maintenance of Waterproofing/Vapor Barrier System**



The vapor barrier is a permanent Engineering Control for the Site. The layout of the waterproofing/vapor barrier is provided in Figure 4. The system will be inspected and its performance certified at specified intervals defined in this SMP.

The waterproofing/vapor barrier system does not require any special operation or maintenance activities. If the system is breached during future construction activities, the system will be rebuilt by reconstructing the vapor barrier layers and sealing the newly constructed materials with equivalent barrier materials in accordance with manufacturer specifications.

A complete list of components to be checked is provided in the Composite Cover Inspection Checklist, presented in Appendix A.

## **4.0 INSPECTIONS**

Engineering controls and institutional controls will be inspected by a qualified environmental professional (QEP) in 2020 and every ten years thereafter.

The QEP inspections will evaluate the following:

- If engineering controls or institutional controls employed at the Site continue to perform as designed and continue to be protective of human health and the environment;
- If anything has occurred that impairs the ability of the engineering controls or institutional controls to protect public health and the environment;
- If changes are needed to the remedial systems or controls;
- If compliance with this SMP has been maintained;
- If site records are complete and up to date; and,
- General Site conditions at the time of inspection.

In an addition, if an emergency occurs, such as a natural disaster, or if an unforeseen failure of any of the Engineering Controls occurs, an inspection of the Site will be performed within 30 days to evaluate the Engineering Controls and a letter report of findings will be submitted to OER.

### **4.1 Engineering Control Inspections**

#### *4.1.1 Inspection of Composite Cover System*

The Site is developed with a new 7-story residential use building with full cellar and rear yard. The composite cover consists of a 6" concrete poured cellar foundation over the building footprint and 4" concrete pavers over the rear yard. Inspection of the composite cover will consist of a visual inspection of the cellar and rear yard. The inspection will include all accessible locations including the site perimeter and all internal access points. The inspector will

document any faulty or defective conditions observed during the inspection, broken or damaged concrete, or any failure in the integrity of the floor that would compromise the ability of the composite cover to perform as an Engineering Control. Cracks, holes, perforations or slab disturbances shall be recorded on the Composite Cover Inspection Checklist (Appendix A).

#### *4.1.2 Inspection of Vapor Barrier System*

The vapor barrier system will be inspected by a qualified environmental professional to assure that it is functioning properly. The vapor barrier system is not visible and cannot be directly inspected. However, it can be inspected in concert with inspection of the building slab. If the inspector observes a failure in the slab that exposes the vapor barrier, then the underlying vapor barrier will be inspected for any damage, including tears or perforations, which would prevent the vapor barrier from completing its intended purpose. Cracks, holes, perforations or slab disturbances shall be recorded on the Inspection Checklist (Appendix A) and remediated as appropriate.

## **4.2 Site Use Prohibitions**

Inspections to evaluate the status of site use prohibitions will include an evaluation of all of the ICs listed above, including:

- whether there is vegetable gardening or farming in residual soil/fill;
- whether groundwater underlying the site has been used without treatment rendering it safe for its intended use;
- whether activities that have disturbed site soil/fill have been conducted pursuant to the Soil/Material Management provisions of the SMP, or otherwise approved by OER; and,
- whether the site has been used for a higher level of use other than the restricted residential use addressed by the Remedial Action.

## **5.0 INSPECTION AND CERTIFICATION LETTER REPORT**

Results of inspections performed during a reporting period and certification of performance of all Engineering Controls and Institutional Controls will be included in an Inspection and Certification Letter Report to be submitted by July 31, 2031 (for 2021-2031) and every ten years thereafter. Inspection and Certification Letter Reports will be submitted to OER in digital format. The letter report will include, at a minimum:

- Date of inspections;
- Personnel conducting inspections;
- Description of the inspection activities performed;
- Any observations, conclusions, or recommendations;
- Copy of any inspection forms;
- Photographs;
- Certification of the performance of Engineering Controls and Institutional Controls executed by the P.E or QEP responsible for this Inspection and Certification Letter Report, as discussed below; and,
- Confirmation of regular periodic inspection of engineering controls by building superintendent.

The certification of the performance of EC's and IC's will establish:

- If Engineering Controls or Institutional Controls employed at the Site continue to be in place and perform as designed and continue to be protective of human health and the environment;
- If anything has occurred that impairs the ability of Engineering Controls or Institutional Controls to protect public health and the environment;
- If changes are needed to the remedial systems or controls;
- If compliance with this Site Management Plan has been maintained;

- If vegetable gardening and farming in residual soils has been prevented;
- If groundwater underlying the Site is being utilized without treatment rendering it safe for the intended purpose has been prevented;
- If activities on the Site that have disturbed residual soil/fill material have been in accordance with the Soil/Materials Management Plan in this SMP;
- If the Site has been used for a higher level of use other than the restricted residential use addressed by the Remedial Action;
- If site records are complete and up to date; and,
- If the Site continues to be registered as an E-Designated property by the NYC Department of Buildings.

OER may enter the Site upon notice for the purpose of evaluating the performance of EC's & IC's.

## **NOTIFICATIONS**

Notifications are to be submitted by the property owner to OER as described below:

- 60-day advance notice of any proposed changes in Site use to Unrestricted Use that is not contemplated is the Remedial Action; and,
- Notice within 30 days of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site.

## **6.0 SOIL/MATERIALS MANAGEMENT PLAN**

Any future intrusive work that will disturb residual soil/fill beneath the property, including modifications or repairs to the existing composite cover system, will be performed in compliance with this Soil/Materials Management Plan (SMMP). Intrusive work will also be conducted in accordance with the procedures defined in the Community Air Monitoring Plan (CAMP) included in this chapter and a Construction Health and Safety Plan (HASP). The HASP is the responsibility of the property owner and should be in compliance with NYSDEC DER-10 Technical Guide and 29 CFR 1910 and 1926, and all other applicable Federal, State and City regulations. Intrusive construction work should be compliant with this SMMP and described in the next Inspection and Certification Letter Report.

### **Soil Screening Methods**

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional (QEP). Soil screening will be performed during any future intrusive work.

### **Stockpile Methods**

If stockpiles are used to isolate excavated soil they will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 6-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet

from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters, and other discharge points.

### **Characterization of Excavated Materials**

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Excavated soil will only be reused on-site with prior approval by OER.

### **Materials Excavation, Load-Out and Departure**

The PE/QEP overseeing the remedial action will:

- Oversee intrusive work and the excavation and load-out of excavated material;
- Ensure that there is a party responsible for the safe execution of invasive and other work performed under this management plan;
- Ensure that Site maintenance activities and maintenance-related grading cuts will not interfere with, or otherwise impair or compromise the remedial measures established during the remediation construction phase;
- Ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate permits or authorized notifications;
- Ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site; and,
- Ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site intrusive work.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

### **Off-Site Materials Transport**

Loaded vehicles leaving the Site will comply with all applicable materials transportation

requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible, in order to minimize off Site disturbance.

Truck routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing 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. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

### **Materials Disposal Off-Site**

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) an OER Historical Fill Notification Form and letter from the PE/QEP or property owner to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York City under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include, as an attachment, a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material.

Documentation associated with disposal of all material will include records and approvals for receipt of the material. All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-Site disposal in a manner required by the



receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be retained and included in the following Inspection and Certification Report. A manifest system for off-Site transportation of exported materials will be employed. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

### **Materials Reuse On-Site**

All of the non-hazardous soil excavated during any future repair or construction purposes will be placed in the same excavation it was derived from or will be disposed of off-site unless otherwise approved by OER beforehand.

### **Repair of Remedial Systems**

After completion of invasive work, any damage to the engineering controls (composite cover system, vapor barrier, etc.) will be restored to the original condition established during initial construction.

### **Import of Backfill Soil from Off-Site Sources**

In the event that soil importation is needed for the backfilling purposes, this Section presents the requirements for imported fill materials. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill and cover soil quality objectives include NYSDEC Part 375 Track 2 Residential SCOs and groundwater protections standards. A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with

applicable laws and regulations;

- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC; and,
- Virgin quarried material or other materials with an approved Beneficial Use Determination (BUD) from NYSDEC for reuse as clean fill; and,
- Asphalt Millings from approved Park Department facilities.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this SMP. The Inspection and Certification Letter Report will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

### **Source Screening and Testing**

Inspection of imported fill material will include visual, olfactory, and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and,
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material from the identified clean soil sources will be taken at a minimum frequency of one sample for every 500 cubic yards of material. One composite sample will be collected from each source of virgin quarried material or other material with an NYSDEC approved BUD, unless otherwise approved by OER. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements, is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) or asphalt millings, without fines, may be imported from facilities permitted or registered by NYSDEC. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the

period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA/millings will not be used as cover material.

### **Fluids Management**

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported, and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. If discharge to the City sewer system is not feasible, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility or some other means compliant with applicable laws and regulations. Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by NYSDEC.

### **Storm-water Pollution Prevention**

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. All existing storm-water systems will be inspected to ensure proper operation.

### **Odor Control**

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

The odor control plan must be capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor

complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP.

### **Dust Control**

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles;
- Use of properly anchored tarps to cover soil/fill stockpiles;
- Exercise extra care during dry and high-wind periods; and,
- Use of asphalt millings, gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

If nuisance dust emissions are identified, work will be halted and the source of dust will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEPs.

### **Noise**

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

## **CONTINGENCY PLAN**

### **Emergency Telephone Numbers**

In the event of any emergency condition pertaining to this remedial system, or if the building slab is disturbed, removed or altered, the Owner's representative(s) should contact the appropriate parties from the contact list below. Prompt contact should also be made to EBC. These emergency contact lists must be maintained in an easily accessible location at the Site.

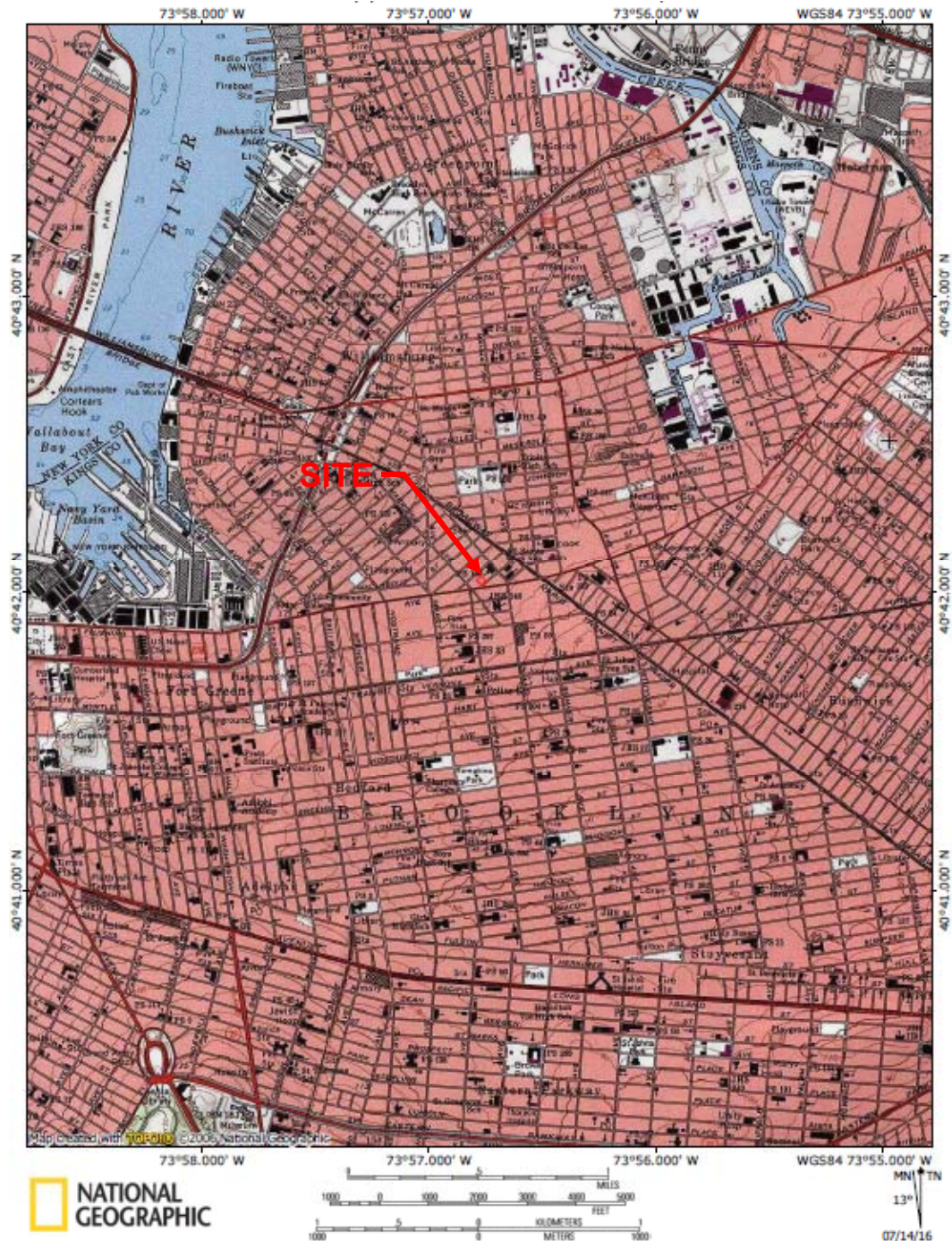
#### **Emergency Contact Numbers**

Medical, Fire, and Police:	911
One Call Center: 3 day notice required for utility markout	(800) 272-4480
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

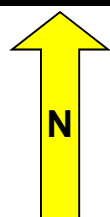
#### **Contact Numbers**

Environmental Business Consultants	(631) 504-6000
Office of Environmental Remediation	(212) 788-8841 or 311

## **FIGURES**



**FIGURE 1 – SITE LOCATION MAP**

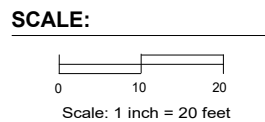
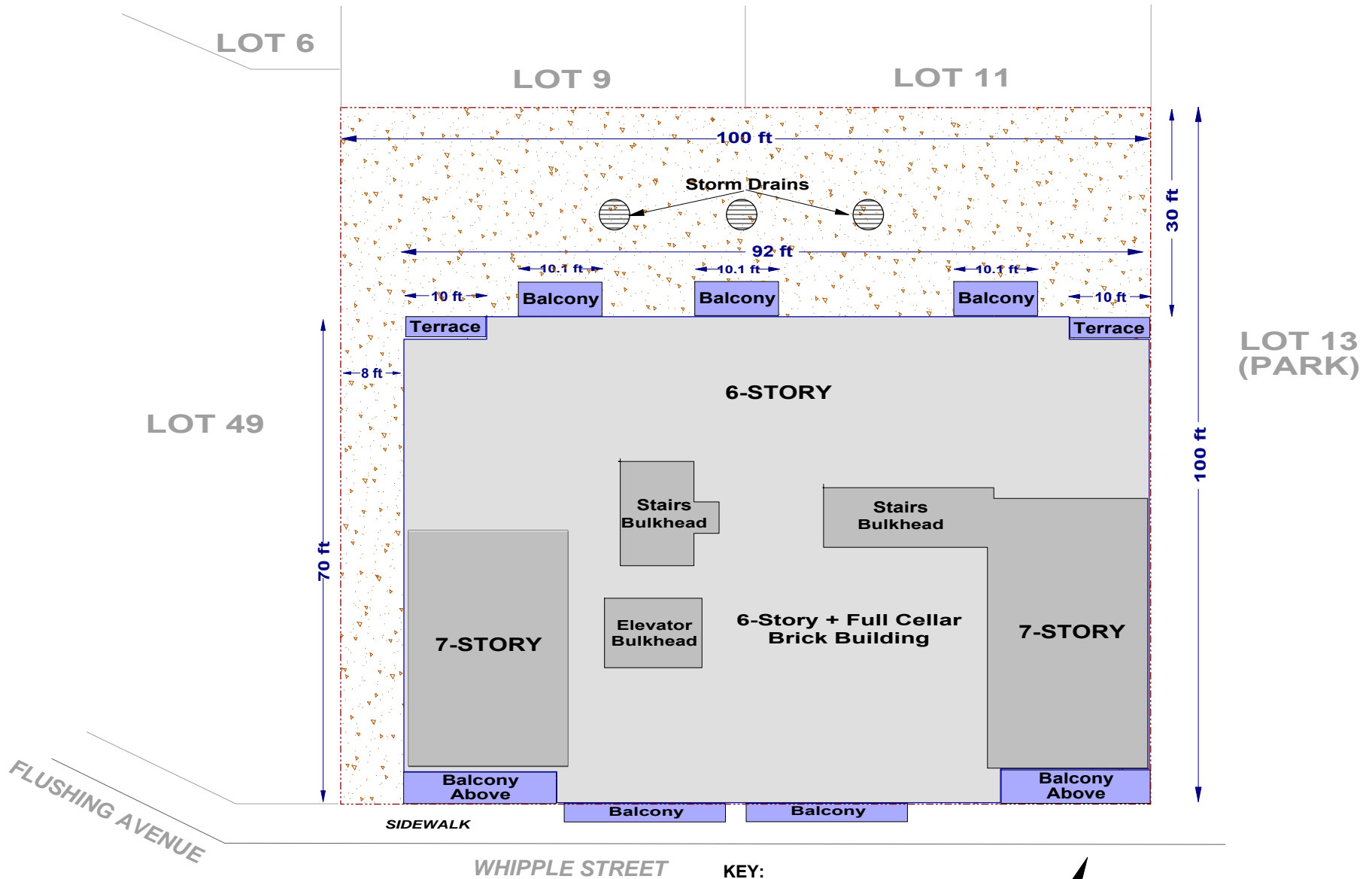


**SITE NAME:** 11 Whipple Street  
**STREET ADDRESS:** 11 Whipple Street  
**MUNICIPALITY, STATE, ZIP:** Brooklyn, NY 11206



**Phone** 631.504.6000  
**Fax** 631.924.2870

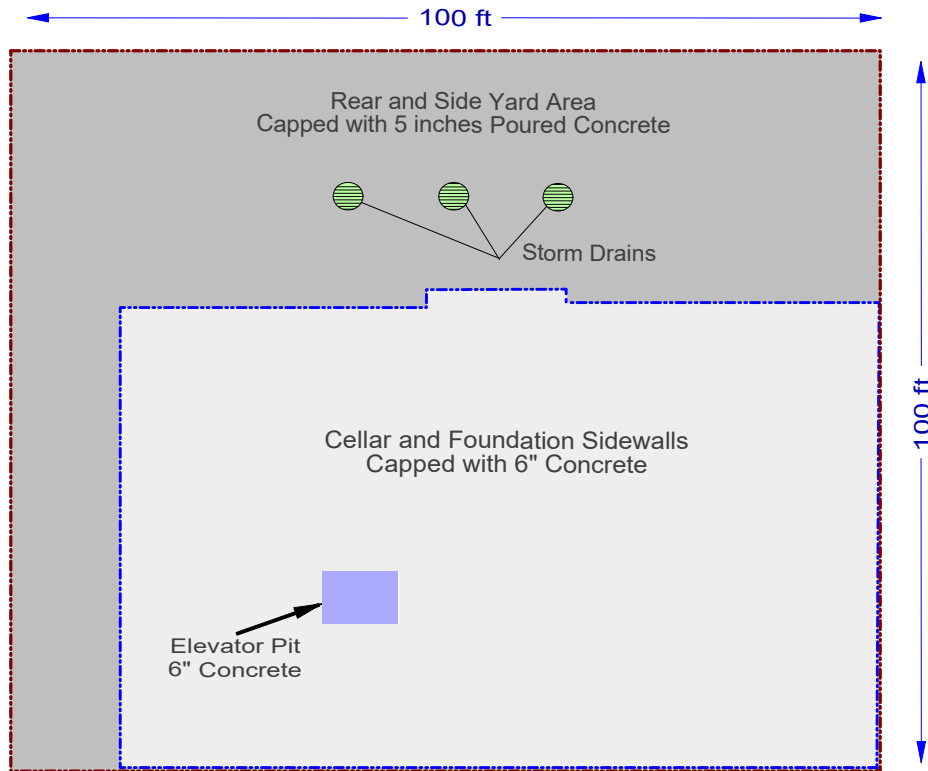
**ENVIRONMENTAL BUSINESS CONSULTANTS**



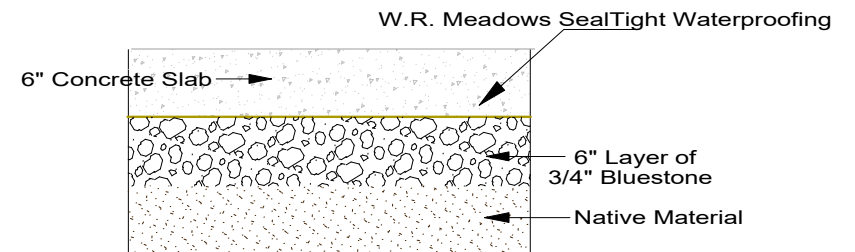
- KEY:**
- Property Boundary
  - 6-7 Story Building
  - Paved Rear/Side Yard Area
  - Storm Drain







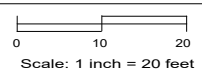
## Detail A



SIDEWALK

**WHIPPLE STREET**

### SCALE:



### KEY:

- Property Boundary
- Building Footprint
- Rear Yard Area
- Elevator Pit



**EBC**

ENVIRONMENTAL BUSINESS CONSULTANTS

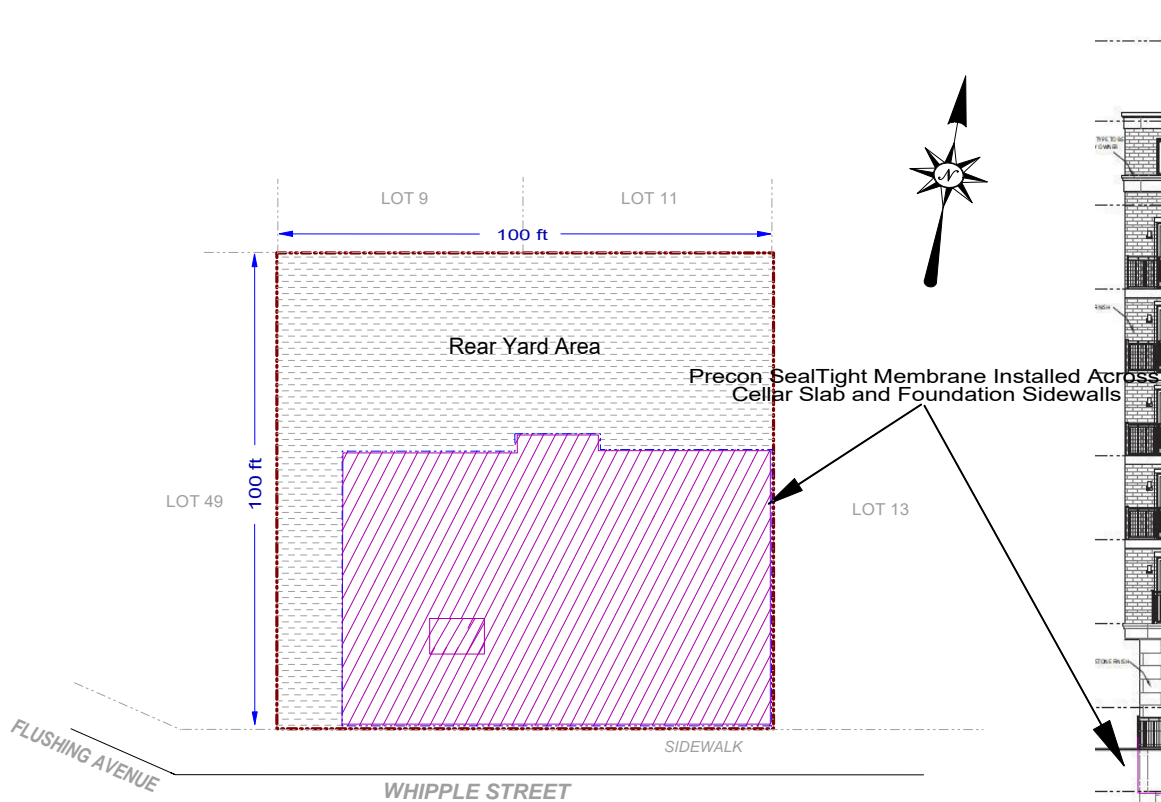
Phone 631.504.6000  
Fax 631.924.2870

**Figure  
3**





Site Name: **11 WHIPPLE STREET**

Site Address: **7-11 WHIPPLE STREET, BROOKLYN, NY**

Drawing Title: **CAPPING PLAN (COMPOSITE COVER)**

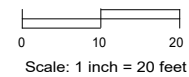


**KEY:**

-  Property Boundary
-  Building Footprint (6,310 sf)
-  Rear Yard Area
-  Waterproofing Membrane across Cellar and Elevator Pit



**SCALE:**



ENVIRONMENTAL BUSINESS CONSULTANTS

Phone 631.504.6000  
Fax 631.924.2870

**Figure**  
**4**

Site Name: **11 WHIPPLE STREET**

Site Address: **11 WHIPPLE STREET, BROOKLYN, NY**

Drawing Title: **WATERPROOFING/VAPOR BARRIER LAYOUT**

## **APPENDIX A**

### **COMPOSITE COVER INSPECTION CHECKLIST**

**Site Inspection Checklist - Cover System**  
**7-11 Whipple Street**  
**Brooklyn, NY**

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Inspector Name/Organization: \_\_\_\_\_

**Visual Inspection of Building Slab**

**Building**

Describe General Condition of Building Slab

Inspect concrete slab for cracks, perforations and patching

Describe any Cracks or New Penetrations

Describe any Patching

Repairs Needed and / or Maintenance at this time?

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CONTACT LIST IF SLAB NEEDS REPAIR**

REMEDIAL ENGINEER  
ENVIRONMENTAL CONSULTANT  
NYC OER PROJECT MANGER  
MANAGEMENT COMPANY  
PROPERTY OWNER

Ariel Czemerinski, PE  
Robert Bennett  
Shaminder Chawla  
Sunshine  
South Side Units

516-417-8588  
631-504-6000  
212-788-8841  
917-612-8851  
718-599-6796

[ariel@amc-engineering.com](mailto:ariel@amc-engineering.com)  
[rmbennett@ebcincny.com](mailto:rmbennett@ebcincny.com)  
[schawla@dep.nyc.gov](mailto:schawla@dep.nyc.gov)  
[israel@southsideunits.com](mailto:israel@southsideunits.com)  
[joel@southsideunits.com](mailto:joel@southsideunits.com)