SITE MANAGEMENT PLAN

Site Management is the last phase of the remedial process and begins after the approval of the RCR and issuance of the NOS by OER. It is the responsibility of the property owner to ensure that all Site Management responsibilities are performed. The penalty for failure to implement the SMP includes revocation of the NOS and all associated certifications and liability protections providing notice of the revocation to the NYCDOB.

ECs have been incorporated into this Remedial Action to ensure that the site remains protective of public health and the environment. This SMP has been established to govern long-term performance of ECs for this 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 OER. This includes: (1) operation and maintenance of ECs; (2) inspection of ECs; and (3) certification of performance of ECs.

ENGINEERING CONTROLS

ECs were employed in the remedial action. The Site has two protective systems and one Engineering Control Systems. ECs for this property are:

(1) a composite cover system consisting of the concrete building slab;

(2) vapor barrier system; and

(3) sub-slab depressurization system. (Engineering Control)

Although no residual contaminated soil remains at the Site, a composite cover system consisting of the concrete building slab is present across the entire Site. Exposure to any potential residual soil/fill is prevented by an engineered, composite cover system that has been built on the Site. Exposure to soil vapor is prevented by a vapor barrier system that has been built on the Site. Migration of soil vapor is prevented by an active Sub-Slab Depressurization System (SSDS) built on the Site. The active SSDS consists of a network of horizontal pipes set in the middle of a gas permeable layer constructed beneath the entire building slab and vapor barrier system.

Operation and Maintenance of Vapor Barrier System

Chapter 5 of the Remedial Closure Report (RCR) describes the vapor barrier system utilized in this remedial action and provides as-built design details and the system location. The vapor barrier system is a permanent Engineering Control for the Site. The system will be inspected, and its performance certified at specified intervals defined in this SMP.

The 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 existing barrier materials in accordance with manufacturer specifications.

Operation and Maintenance of Active Sub-Slab Depressurization System

Chapter 5 of the RCR describes the active SSDS utilized in this remedial action and provides as-built design details and the system location. The SSDS is a permanent Engineering Control for the Site. The active sub-slab depressurization system will be operated and maintained as prescribed below. SSD system components to be evaluated include, but are not limited to, the following:

o Fantech Rn4-4 Inline exhaust fan;

o Exposed system piping;

o System alarm; and,

o water manometer.

The SSDS installed beneath the sub cellar slab of the building consists of a network of horizontal perforated vent pipes located around the foundation perimeter with four lateral vent lines set within a gas permeable layer immediately beneath the building slab and vapor barrier system. The horizontal piping consists of fabric wrapped, perforated schedule 80, 4-inch diameter polyvinyl chloride (PVC) pipe connected to a 4-inch steel riser pipe that penetrates the slab and travels through the building to the roof. The riser piping has access ports to allow the measurement of vacuum pressure as needed. The gas permeable layer consists of a 6-inch thick layer of 2-inch trap rock stone. The pipe was finished at the roof line with an active Fantech Rn-4-4 inline exhaust

fan. The active SSDS is an Engineering Control for the remedial action. The SSDS was inspected on September 13, 2017 and a vacuum was applied to the system. Negative pressure readings were observed at each of the three sub-slab vapor monitoring points, which confirms that the SSDS was properly designed and installed to establish a vacuum in the gas permeable layer and create a negative (decreasing outward) pressure gradient across the building slab to prevent vapor migration into the building. The completed SSDS was inspected on April 19, 2019, to confirm that the system was operating successfully.

The system is designed to establish a vacuum of approximately 1.0 inches of water or higher within the SSDS riser pipe. If the blower is found to be non-operational by the building superintendent during a monthly inspection, or if the blower is operating, but no vacuum reading is observed on the vacuum gauge, the SSDS should be evaluated and the blower replaced or repaired if necessary. The Owner's representative(s) shall immediately contact the appropriate parties from the contact list provided below. These emergency contact lists will be maintained by the building superintendent and in a package secured to the SSDS discharge pipe.

If any of the SSDS components fail, they will be repaired in accordance with the manufacturers specifications or replaced.

INSPECTIONS

The EC (SSDS) will be inspected on a periodic basis at a frequency established in this plan. The inspections will evaluate the following:

- If the EC employed at the Site continues to perform as designed and continues to be protective of human health and the environment;
- If anything has occurred that impairs the ability of the EC 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 addition, if an emergency occurs, such as a natural disaster, or if an unforeseen failure of any of the ECs occurs, an inspection of the Site will be performed within 30 days to evaluate the ECs, and a letter report of findings will be submitted to OER.

Inspection of Vapor Barrier System

- The vapor barrier system is inaccessible and not visible. Therefore, monitoring of the vapor barrier system is contingent on monitoring of the composite cover system.

Inspection of Active Sub-Slab Depressurization System

- Inspections will include obtaining pressure readings from the three sub-slab vapor monitoring points to confirm that the system is creating a negative pressure gradient; obtaining a vacuum reading from the manometer installed just upstream of the exhaust fan; and collecting an effluent sample and analyzing it for VOCs to evaluate whether effluent treatment is required. The inspection will also include a visual evaluation of all accessible system components to assess wear and tear to the system components.

INSPECTION AND CERTIFICATION LETTER REPORT

Results of inspections performed during a reporting period and certification of performance of all ECs will be included in an Inspection and Certification Letter Report. Inspections will be performed once per year in 2020, 2021, and every three years thereafter. Inspection and Certification Letter Reports will be submitted by July 30, 2020 (for the reporting period calendar years 2019-2020), July 30, 2021 (for the reporting period calendar years 2020-2021), and every three years thereafter (for the reporting period consisting of the three prior calendar years). Inspection and Certification Letter Reports will be submitted to OER in digital format. The letter report will utilize a form established by OER. This form includes, at a minimum:

- Date of inspections;
- Personnel conducting inspections;

- Description of the inspection activities performed;
- Observations, conclusions, or recommendations;
- Copy of any inspection forms;
- Photographs; and
- Certification of the performance of the EC executed by the PE or QEP responsible for this Inspection and Certification Letter Report, as discussed below.

The certification of the performance of the EC will establish:

- If the EC employed at the Site continues to be in place, perform as designed and continues to be protective of human health and the environment;
- If anything has occurred that impairs the ability of the EC 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 activities on the Site that have disturbed residual soil have been in accordance with the SMMP in this SMP;
- 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 DOB.

OER may enter the Site upon notice for evaluating the performance of ECs.

NOTIFICATIONS

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

- 60-day notice of any proposed changes in Site use, such as an upgrade from existing use to residential use that was not contemplated is the Remedial Action.

- Notice within 30 days of any emergency, such as a fire, flood, or earthquake that has the potential to reduce the effectiveness of ECs in place at the Site.

SOIL/MATERIALS MANAGEMENT PLAN

Unrestricted Use soil SCOs were achieved during site remediation. A SMMP is not required.