Periodic Review Report 2018

New Housing New York Legacy Project
700-730 Brook Avenue
Bronx, New York
Site # C203043

June 2018

Prepared for:
Via Verde Homes, LLC
Via Verde Rental Associates, L.P.
902 Broadway, 13th Floor
New York, New York 10010

Prepared by:

CA RICH Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

June 26, 2018

NYS Dept. of Environmental Conservation
Region 2 Office
Division of Environmental Remediation
47-40 21st Street
Long Island City NY 11101

Attn: Mandy Yau,
Project Manager

Re: Periodic Review Report 2018
New Housing New York Legacy Project
(AKA Via Verde)
700-730 Brook Avenue
Bronx, NY
Site # C203043

Dear Ms. Yau:

Enclosed, please find the 2018 Periodic Review Report for the above-referenced location. If you have any questions pertaining to this report, please feel free to contact the undersigned.

Respectfully Submitted,

CA RICH Consultants, Inc.

Richard J. Izzo, PG, CPG
Vice President

cc:
Michael Wadman
Chris Doroski

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CERTIFICATION

This certification is made on behalf of Via Verde Homes, LLC and Via Verde Rental Associates, L.P. (the Owners) for the New Housing New York Legacy Project (AKA Via Verde) property located at 700-730 Brook Avenue in the Bronx, New York (hereinafter referred to as "Site") under Brownfield Cleanup Program (BCP) Agreement, Index Number W2-1129-08-11; Site #C203043.

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

(a) the institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by DER;
(b) nothing has occurred that would impair the ability of such control to protect public health and the environment;
(c) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control;
(d) access to the site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control;

NY State PG No. 000501	June 26, 2018	
QEP Certification	Date	Signature

Stamp

EXECUTIVE SUMMARY

The following Periodic Review Report (PRR) has been prepared by CA RICH Consultants, Inc. (CA RICH) on behalf of Via Verde Homes, LLC and Via Verde Rental Associates, L.P. (the Owners) for the New Housing New York Legacy Project (AKA Via Verde) property located at 700-730 Brook Avenue in the Bronx, New York (hereinafter referred to as "Site"). This document was prepared in accordance with the Site Management Plan dated December 2011; revised May, 2013 and May 2017 (Ref. 1) under Brownfield Cleanup Program (BCP) Agreement, Index Number W2-1129-08-11; Site #C203043.

The New Housing New York Legacy Project Site is identified as Section 9, Block 2359, Lot 51 on the Bronx Borough Tax Map. The Site is a 1.41-acre area bounded by East 156th Street to the north, an athletic field to the south, New York City Housing Authority Bronxchester Houses and South Bronx High School to the east, and Brook Avenue to the west. The Site is located in an area consisting of mixed residential and commercial use. Historical records indicate that the Site was originally developed circa 1908 with three small buildings and was part of the New York Central and Hudson River Railroad Company's freight yard. Circa 1927, the Site was also developed with a provisions facility. In addition, a gasoline station existed on the northern portion of the Site circa 1935 through the late 1970's. In the early 1980's, the provisions facility was closed and the rail spurs were removed. A United States Geological Survey (USGS) topographical quadrangle map illustrating the Site location is enclosed as Figure 1. A Site Plan (including the composite cover system) is enclosed as Figure 2.

The Site was redeveloped into a new residential building complex with ground floor commercial space. The development consists of two building components ranging in height from 3 to 20 stories containing 221 apartment and co-op units. The ground level includes approximately 9,000 square feet of community facility and retail space. The development also includes approximately 20,000 square feet of open space. Redevelopment activities occurred from 2009 to 2012.

A Remedial Investigation (RI) was conducted at the Site in 2009 (Ref. 2). The RI identified five areas of concern: petroleum contaminated soil, petroleum contaminated groundwater, urban fill, underground storage tanks, and soil vapor. Remedial work on the Site began in February 2010 and was completed in October 2011. The Final Engineering Report (FER) dated December 2011 (Ref. 3) documents the results of the remedial action after its completion. After completion of the remedial work described in the Remedial Action Work Plan (Ref. 4), some residual soil and groundwater contamination was left in the subsurface at the Site. The Site Management Plan (SMP) was prepared to manage the residual contamination at the Site in perpetuity or until

extinguishment of the Environmental Easement in accordance with 6 NYCRR Part 375. NYSDEC issued a Certificate of Completion in December 2011 after approving the FER and SMP. The SMP was revised in May 2013. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

1.0 INTRODUCTION

The following PRR has been prepared by CA RICH Consultants, Inc. (CA RICH) on behalf of Via Verde Homes, LLC and Via Verde Rental Associates, L.P. for the New Housing New York Legacy Project (AKA Via Verde) property located at 700-730 Brook Avenue in the Bronx, New York (hereinafter referred to as "Site"). This document was prepared in accordance with the Site Management Plan dated December 2011; revised May, 2013 and May 2017 under Brownfield Cleanup Program (BCP) Agreement, Index Number W2-1129-08-11; Site #C203043.

1.1 Site Description

The New Housing New York Legacy Project Site is identified as Section 9, Block: 2359; Lot 51 on the Bronx Borough Tax Map. The Site is a 1.41-acre area bounded by East 156th Street to the north, an athletic field to the south, New York City Housing Authority Bronxchester Houses and South Bronx High School to the east, and Brook Avenue to the west. The Site is located in an area consisting of mixed residential and commercial use.

1.2 Current Site Usage

The Site was redeveloped into a new residential building complex with ground floor commercial space. The development consists of two building components (five attached sections) ranging in height from 3 to 20 stories containing 221 apartment and co-op units. The ground level includes approximately 9,000 square feet of community facility and retail space. The development also includes approximately 20,000 square feet of open space. Redevelopment activities occurred from 2009 to 2012.

2.0 SITE HISTORY

A Phase I Environmental Site Assessment ("Phase I ESA") was conducted by Earth Tech, Inc. in December 2004. The results of the Phase I ESA were documented in a report dated December 2004, which concluded and recommended the following:

- Based upon information provided in the historic maps and photographs, the northern, western, and eastern portions of the Site were occupied by a filling station, a store/warehouse operated by a provisions company, and railroad spurs as early as 1935, respectively, prior to being vacated. The maps (from 1944 through 1951) indicated that the Site had three gasoline tanks along the northern portion of the Site. No records could be obtained to confirm if the gasoline tanks and appurtenances were removed prior to the demolition of the former buildings on-Site. Based on this conclusion, it was recommended by a prior consultant (Earth Tech, Inc.) that a geophysical survey be performed. A site investigation consisting of the collection of soil samples was also recommended in the Phase I to evaluate the potential impact from the presence of former gasoline tanks and the former operations of the New York Central Railroad Company at the Site.

The findings of the Phase I ESA were further investigated and the results of the subsequent remedial investigation activities were documented as part of the Site Characterization and Data Summary ("SCDS") Report dated September 2006 conducted by URS Corporation and Supplemental Site Investigation ("SSI") Report dated April 2007 conducted by CA RICH.

The SCDS conducted by URS Corporation in 2006 included the following:

- Historical database review;
- Geophysical survey of the former gasoline station portion of the Site;
- Excavation of three test trenches;
- Drilling of eight soil borings;
- Installation of eight temporary wells; and
- Collection of seven soil samples from the borings, three soil samples from the test trenches, and eight groundwater samples from the temporary wells for analysis.

The geophysical survey revealed several anomalies that may be representative of buried USTs. Semi-volatile organic compounds ("SVOCs") and metals were detected in soil samples above NYSDEC Technical Administrative Guidance Memo ("TAGM") 4046 and/or Eastern USA background levels in one or more of the samples. Volatile organic compounds ("VOCs"), SVOCs, the polychlorinated biphenyl ("PCB") Aroclor 1260, and metals were detected above Technical and Operational Guidance Series ("TOGS") in one or more of the samples. It is noted that PCB analysis

was not requested for the soil samples; therefore, the presence of the PCB Aroclor 1260 in the groundwater could not be correlated with its associated soil sample.

The SCDS also noted that strong to moderate petroleum odors were identified at three soil borings in the former gasoline station area at a depth of 17 – 21 feet. A petroleum sheen with strong to moderate petroleum odors were noted while collecting groundwater samples in the former gas station area.

The SSI conducted by CA RICH in 2007 included the collection and analysis of surface (0 to 2 inches) and shallow (0 to 2 feet) soil samples at six locations at the Site. The lithology encountered during advancement of the borings revealed that the Site contains fill material from the surface to the explored depth of two feet below grade. Based on the analytical results, VOCs, PCBs, and pesticides were detected below TAGM guidance values in soil samples. However, benzo(a)anthracene, benzo(a)pyrene, and chrysene were detected above TAGM values in all soil samples, and benzo(b)fluoranthene, dibenzo(a,h)anthracene, and benzo(k)fluoranthene were detected above TAGM values in several borings.

In addition, arsenic, chromium, copper, lead, magnesium, mercury, and nickel were detected above TAGM values or Eastern USA Background levels in one or more of the soil borings. The SSI report noted that the occurrence of PCBs and pesticides at the Site may be attributable to former rail line operations and use. The SVOCs and metals detected are typical of fill material found in New York City, but their occurrence may also be attributable to the former use as a rail yard.

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following reports:

1. URS Corporation. Site Characterization and Data Summary Report. September 2006.
2. CA RICH. Supplemental Site Investigation Report. April 2007.
3. CA RICH. Remedial Investigation Report. February 2009.

The RI determined that the source of the VOCs detected in soil and groundwater samples from the Site are generally related to the historic use of the property as a gasoline service station. Several SVOCs and metals were identified which are related to historic fill materials. Based on the degree of soil and groundwater contamination, the former gasoline service station has been identified as a primary source area for the VOCs and PCBs (based upon the location of the PCB detection beneath the former service station possibly associated with the former hydraulic lifts). Meanwhile, the former rail yard/ provision facility mostly likely contributed to the detection of SVOCs and metals. Below is a summary of Site conditions when the RI was performed in 2006, 2007 & 2009.

Soil

Overall, the subsurface soil/fill materials encountered at the higher Site elevations (along Brook Avenue) during the RI generally consisted of concrete and/or asphalt at the surface followed by loose fill materials containing asphalt and brick fragments, which was in turn underlain by coarse sands and gravels. The subsurface soils at the lower elevations on the Site did not include loose fill materials, but mostly consisted of medium to coarse grain sand and gravel.

- The contaminants of concern at the Site included VOCs, SVOCs, PCB Aroclor 1260, and select metals.
- No pesticides were detected above 6 NYCRR Part 375 UUSCOs.
- VOCs of concern were detected in the soil samples collected at the Site at concentrations ranging from 0 to 1,400 ug/kg. These include both organic solvents and petroleum-related compounds along with their degradation products, including benzene, acetone, chloroform, ethylbenzene, isopropylbenzene, methyl tert-butyl benzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, toluene, tetrachlroethylene, and xylenes. It is noted that the only detections in excess of 6 NYCRR Part 375 UUSCOs were for acetone, a common laboratory interference compound.
- Several SVOCs commonly referred to as polynuclear aromatic hydrocarbons ("PAHs") were detected at varying depths in soil samples throughout the Site above 6 NYCRR Part 375 UUSCOs .
- PCB Aroclor 1260 was detected in the soil beneath the former gasoline station portion of the Site at concentrations below 6 NYCRR Part 375 UUSCOs.
- Several metals were detected in the soil above the 6 NYCRR Part 375 UUSCOs.

Site-Related Groundwater

Prior to site redevelopment, the shallow groundwater table was encountered from four to twenty feet below grade due to extreme elevation changes across the Site. The direction of shallow groundwater flow based upon static water levels collected from the network of five monitoring wells installed during the RI is toward the southwest.

VOCs – benzene, ethylbenzene, isopropylbenzene, n-Propylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, xylene, toluene, chloroform, acetone and MTBE were detected above their applicable TOGS standards.

SVOCs – benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, naphthalene, phenol and bis(2-Ethylexyl)phthalate, were detected at concentrations that exceeded the TOGS standards.

Metals – dissolved metals exceeding TOGS standards include antimony, iron, manganese, magnesium, and sodium.

Pesticides – There were no detections of pesticides exceeding TOGS standards.

PCBs – There was one detections of PCBs (Aroclor 1260) exceeding TOGS standards.

The VOCs and the PCB Aroclor 1260 were believed to be related to the Site's former usage as a gasoline station. The SVOCs and naturally occurring metals were believed to be a ramification of the historic fill conditions at the Site. Based upon the detection and distribution of groundwater contaminants, treatment including in-situ chemical oxidation ("ISCO") and monitored natural attenuation was performed in the area of the former service station (northwest corner of the Site). Post-remedial monitoring of the ISCO treatment includes installation of four monitoring wells and quarterly sampling and analysis to track the effectiveness of this treatment over time.

Site-Related Soil Vapor Intrusion

The potential for soil vapor intrusion at the Site was investigated as part of the RI, prior to redevelopment through the installation and sampling of ten temporary soil vapor points (SVP-1 through SVP-10). VOCs were detected in the soil vapor throughout the Site. The higher detections, 50 micrograms per meter cubed (ug/m3) or greater, include chloroform at 615 ug/m3 in SVP-6, dibromochloromethane at 57.9 ug/m3 in SVP-8, dibromochloromethane at 152 ug/m3 in SVP-9, and tetrachloroethylene at 121 ug/m3, acetone at 359 ug/m3, and toluene at 50.9 ug/m3 in SVP-10.

Soil Vapor sampling and analysis results indicated petroleum-related VOCs and chlorinated solvents exist in the subsurface soil vapor and are linked to the Site's former use as a gasoline station. The other compounds are believed to be related to the Site's former use as a provisions facility and rail yard or a ramification of the Site's historic fill condition. To prevent residual soil vapor from entering the new buildings' interior, installation of a vapor barrier as well as an active sub slab depressurization ("SSD") system were included in the construction of the new buildings' foundations. Post-remedial monitoring of this system includes periodic vacuum readings from the

Magnehelic® gauges installed in the SSD risers to confirm that vacuum is being maintained beneath the slab. Each of the five on-site buildings is equipped with two risers and fans attached to the sub-slab SSD piping.

Underground Storage Tanks

On-Site redevelopment activities revealed the presence of six underground storage tanks. These include: one 550-gallon number two fuel oil UST, one 550-gallon gasoline UST, one 275-gallon number two fuel oil UST, one 275-gallon waste oil UST, one 3,000-gallon number six fuel oil UST, and one 750-gallon number two fuel oil UST. All of the tanks were properly removed, registered and disposed of in accordance with NYSDEC regulations as per the provisions in the Remedial Action Work Plan ("RAWP"). Excavation for the two 275-gallon USTs encountered impacted soils and as such, a requisite telephone call to the NYSDEC's Spill Hotline was made, and Spill Number 0913723 was assigned to the Site. Soil excavation and disposal (approximately 550 tons) from the grave of the 275-gallon tanks along with end-point sampling and analysis from all of the tank excavations resulted in spill case closure. In addition, the required initial NYSDEC registration and substantial tank modification (Closed - Removed) was submitted to the NYSDEC for all of the tanks.

3.0 SUMMARY OF REMEDIAL ACTION

The Site was remediated in accordance with the NYSDEC-approved Remedial Action Work Plan, dated July 2009. The following is a summary of the Remedial Actions performed at the Site:

A Track 4 cleanup as per 6NYCRR Part 375-3.8(e)(4) was performed for the Site. The following is a summary of the selected remedy as set forth in the approved RAWP including all EC/ ICs:

1. Excavation of all soil/fill materials exceeding the Track 4 Site Specific Soil Action Levels ("SSSALs") established for the Site.

2. Collection of waste characterization samples as needed to profile the soil/fill excavated for disposal purposes.

3. Screening for indications of contamination (by visual means, odor, and monitoring with photoionization detector ("PID")) of all excavated soil/fill during intrusive Site work.

4. Collection and analysis of end-point samples in accordance with DER-10 Technical Guidance for Site Investigation and Remediation ("DER-10") dated May 2010 to

evaluate the performance of the remedy with respect to attainment of the Track 4 SSSALs.

5. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State and local rules and regulations for handling, transport, and disposal.

6. Removal of all USTs and hydraulic lifts and associated petroleum contaminated soil in accordance with applicable regulations.

7. Injection of Regenox™ and ORC® Advanced (ISCO treatment) into the shallow groundwater (approximately 22 feet below sidewalk grade) and soil/fill in the smear zone (approximately 17-21 feet below sidewalk grade) in the northern portion of the Site.

8. Construction and maintenance of an engineered composite cover consisting of: (1) a composite cover system in all landscaped and non-covered areas; and (2) concrete building foundations, sidewalks/pathways and asphalt roadways to prevent human exposure to residual contaminated soil/fill remaining under the Site.

9. A vapor barrier and an active SSD system incorporated into the building's foundation. The SSD system consists of horizontal trenches filled with perforated pipes. The horizontal pipes are connected to vertical risers that extend above the roof of the building. All pipe penetrations through the vapor barrier were sealed in accordance with the manufacturer's recommendations.

10. Collection and analysis of post-remedial groundwater samples to evaluate the performance of the remedy.

11. Recording of an Environmental Easement, including ICs, to prevent future exposure to any residual contamination remaining at the Site.

12. Publication of an SMP for long-term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional and Engineering Controls; (2) monitoring; (3) operation and maintenance; and (4) reporting.

13. Import of all materials used for fill in compliance with (1) the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) all Federal, State and local rules and regulations for handling and transport of material.

14. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal would: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the Site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the Site Management Plan unless otherwise approved by the Department.

Remedial activities were completed at the Site in October, 2011.

The remedial action was conducted in accordance with the approved Remedial Action Work Plan (RAWP). The Final Engineering Report (FER) prepared by Stephen J. Osmundsen, P.E. dated December 2011 documents the results of the remedial action after its completion. The SMP provides a detailed description of the procedures required to manage residual contamination left in place at the Site. NYSDEC issued a Certificate of Completion in December 2011 after approving the FER and SMP.

4.0 EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The SMP requires inspections of all systems installed at the Site at least annually. In addition, a comprehensive Site-wide inspection is required to be completed annually. Additional inspections in the event of an emergency, such as a natural disaster are also required. The information gathered during the inspection is reported in the following sections.

4.1 Site-wide Inspection

The site-wide inspection was conducted on June 25, 2018 by Richard Izzo (a QEP as per NYSDEC DER-10 Section 1.3(b) 49)) of CA RICH. Edgar Colon, the Site Superintendent provided access and accompanied Mr. Izzo on the site-wide inspection. Mr. Colon and his staff provide monthly

inspection of the SSD system to ensure its continued operation. Monthly logs were not completed by his staff, however, they verbally reported that the system remained in operation throughout the year. In addition, CA RICH performed semi-annual inspections and measured the vacuum at each riser location. The vacuum monitoring sheets are attached as Appendix B.

No additional site-wide inspections were conducted as there were no emergencies. The system was found to be operating properly and no repairs were needed. Select photographs of the Site during the inspection are enclosed as Appendix A. The site-wide inspection form is enclosed in Appendix B.

4.2 Engineering Controls

Engineering controls (ECs) at the Site consist of a vapor barrier, a composite cover system and a SSDS. The engineering controls were inspected and evaluated on June 25, 2018 by Richard Izzo. Based on the inspection, the ECs continue to perform as designed and be protective of human health and the environment. The inspection forms are enclosed in Appendix B. Details regarding the engineering controls and their inspection are outlined below.

4.2.1 Vapor Barrier

A 15-mil ASTM E-1745 compliant vapor barrier manufactured by Stego was installed underneath the building's foundation. The vapor barrier was overlapped by a minimum of six inches and secured with mastic or asphaltic tape. Conduits penetrating the vapor barrier were sealed with mastic. The vapor barrier specifications were included in the Final Engineering Report.

No penetrations of the vapor barrier were observed during the June 25, 2018 inspection.

4.2.2 Composite Cover System

For any residual contamination left in place, exposure to residual contaminated soils is prevented by an engineered, composite cover system that was built on the Site. The composite cover system consists of: (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human

exposure to residual contaminated soil/fill remaining under the Site. The composite cover system layout is documented as Figure 16 in the Site Management Plan.

The Site inspection included a visual inspection of the composite cover system to determine if it was intact and free from damage that might render it unsuitable for its intended purpose. Mr. Izzo did not identify any areas where the cover system appeared impaired, compromised, or otherwise damaged. In addition, Mr. Colon indicated that there have been no breaches of the composite cover system since the completion of construction.

4.2.3 Sub-slab Depressurization System

An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building. The SSD system consists of horizontal trenches with perforated pipe, a filter sock, and gravel. The horizontal pipes are connected to vertical risers (two risers for each building) which extend above the roof of the building. Any pipe penetrations through the vapor barrier were sealed in accordance with the manufacturer's recommendations. SSD fans (Fantech model HP220 vapor abatement fans) were mounted to each riser. A Magnehelic® gauge was retrofitted to each of the riser pipes above the slab to facilitate collection of vacuum readings. These gauges also serve as warning devices or indicators to ensure that this active system is working properly. Sample ports were also installed in each of the riser pipes to allow for the collection of sub-slab vapor samples, if needed. The SSD layout is illustrated on Figure 10 of the SMP. The Vent and Roof Detail is illustrated on Figure 11 and the SSD trench detail is shown on Figure 11A of the SMP.

Procedures for operating and maintaining the SSD system are documented in the Operation and Maintenance Plan (Section 4 of the SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of the SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

A start-up test was conducted on April 19, 2012 to confirm that sufficient vacuum has been achieved beneath the building slab. The start-up test was conducted in accordance with Section 2.3.2 of the SMP. The results of the start-up test confirmed that sufficient vacuum has been obtained. The PID registered zero at all locations except risers 5, 6 & 9 where readings of 1.6, 1.1 and 1.2 ppm were recorded (respectively). The SSDS start-up test results were certified by a Professional

Engineer in 2013. As discussed in Section 4.1, the system was found to be operating properly, and no repairs were needed at the time of the June 25, 2018 inspection.

5.0 INSTITUTIONAL AND ENGINEERING CONTROL (I & EC) PLAN COMPLIANCE REPORT

5.1 Institutional Controls

A series of Institutional Controls (ICs) were required at the Site to: (1) implement, maintain and monitor Engineering Control Systems; (2) prevent future exposure to residual contamination by controlling disturbances of the subsurface contamination; (3) restrict the use of the Site to residential/commercial uses only. Adherence to these ICs on the Site is required under the Environmental Easement and is implemented under the SMP. The ICs are:

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's successors and assigns;
- All ECs must be operated and maintained as specified in the SMP;
- The composite cover system must be inspected, certified, and maintained as required by the SMP;
- All ECs must be inspected and certified at a frequency and in the manner defined in the SMP;
- Environmental and/or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Site must be reported at the frequency and in a manner defined in the SMP;
- On-site environmental monitoring devices must be protected and replaced as necessary to ensure the devices function in the manner specified in the SMP;
- ECs may not be discontinued without an amendment or the extinguishment of the Environmental Easement;
- Vegetable gardens and farming on the Site are prohibited;
- The use of groundwater underneath the Site is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Site that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Site may only be used for residential/commercial use provided that the long-term IC/ECs included in the SMP are employed; and,

- The Site may not be used for a less restrictive use without an amendment or extinguishment of the Environmental Easement.

The environmental easement on this property is enforceable in perpetuity and is the mechanism that will be used to continually implement, maintain, monitor, and enforce such specified controls both by the BCP Volunteer, the BCP Volunteer's successors and assigns, and by State or local governments. A copy of the environmental easement with proof of filing with the responsible municipal authority is enclosed in the Final Engineering Report.

5.2 Engineering Controls

Engineering controls (ECs) at the Site consist of a vapor barrier, a composite cover system and a SSDS. Assurance of the ECs developed for the Site will be achieved using a combination of site inspections, monitoring, and annual certifications. The engineering controls were inspected and evaluated on June 25, 2018 by Richard Izzo. Details regarding the engineering controls and their inspection are outlined in Section 4.0.

5.3 Certification

The annual certification for the Site consists of a completed NYSDEC IC/EC Certification Form for BCP Site#C203043. The completed IC/EC Certification Form was signed on June 26, 2018 and is enclosed as Appendix C. The annual certification was prepared in accordance with the SMP and has been certified by Mr. Michael Wadman, on behalf of Via Verde Homes, LLC and Via Verde Rental Associates, L.P.; and Richard J. Izzo, NY State PG., a Qualified Environmental Professional as defined in NYSDEC DER-10, Section 1.3(b) 49.

6.0 MONITORING PLAN COMPLIANCE REPORT

6.1 Groundwater Monitoring

CA RICH Consultants, Inc. conducted quarterly monitoring of the four on-site wells (MW-6 through MW-9) in the post remedial groundwater monitoring well network in accordance with the provisions in the approved SMP since the wells were installed in August 2011. The quarterly monitoring program extended through June 2013 and results of the monitoring have been submitted to NYSDEC and NYSDOH in the form of Monitoring Reports (QMRs) (Ref. 5-14). A petition to reduce sampling frequency and parameters was submitted to NYSDEC on April 2, 2013 and approved via NYSDEC's letter dated May 9, 2013. The revised sampling frequency was then semi-annually and the approved parameter list included volatile organic compounds and dissolved TAL metals. The

modified sampling program began in December 2013 and the most recent semi-annual sampling is summarized in CA RICH's report entitled "Semi-Annual Monitoring Report; Second Half 2016", dated March 2017 (Ref. 17). Following submittal of the most recent Monitoring Report, a formal request was made to NYSDEC on April 24, 2017 to terminate the on-site groundwater monitoring program and approved via NYSDEC's letter dated April 25, 2017. Modifications to the approved SMP have been made, approved by NYSDEC and submitted to NYSDEC, NYSDOH and the document repository. In addition, the four on-site wells were properly abandoned in accordance with NYSDEC CP-43 on June 9, 2017. The procedures followed are summarized below.

The four onsite wells were decommissioned by tremie-grouting and partial casing removal. Standard grout mixture (as per section 6.1 of CP-43) was mixed and tremie piped into each well from the bottom, up. The grout mixture was piped to a depth of approximately 5 feet below land surface. Following grouting, approximately five feet of PVC casing was removed from each well along with the protective steel stand pipes (in the landscaped area wells) and the protective curb box (in the well along the sidewalk). The remaining borehole void was backfilled with sand to a depth of approximately 1 foot below land surface and then backfilled with topsoil in the upper foot for the well locations in landscaped areas, and cement in the well location along the sidewalk.

7.0 OPERATION & MAINTENANCE PLAN COMPLIANCE REPORT

7.1 Sub-slab Depressurization System

Since the SSDS was started up in April 2012, operations and maintenance visits have been conducted in the frequency outlined in the SMP. In addition, monthly inspection of all of the fans by maintenance staff has been performed to monitor the continued operation of the system. The SSDS has been functioning normally. Checklists from the June 25th inspection are enclosed in Appendix B.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The overall objective of the remedial action was to remediate environmental conditions at the Site to the satisfaction of the NYSDEC and NYSDOH for the future restricted residential/commercial use. As documented in the FER, the results of the remedial activities conducted at the Site indicate that the identified areas of concern were satisfactorily addressed. NYSDEC issued a Certificate of Completion in December 2011 after reviewing the FER and SMP.

Based on the evaluation of the inspection and monitoring data, the following has been concluded:

- ECs and associated ICs were in place, performed properly, and remain effective;
- The monitoring plan was properly implemented;
- Operation and maintenance activities were conducted properly;
- The remedy continues to be protective of public health and the environment and compliant with the decision document for the Site.

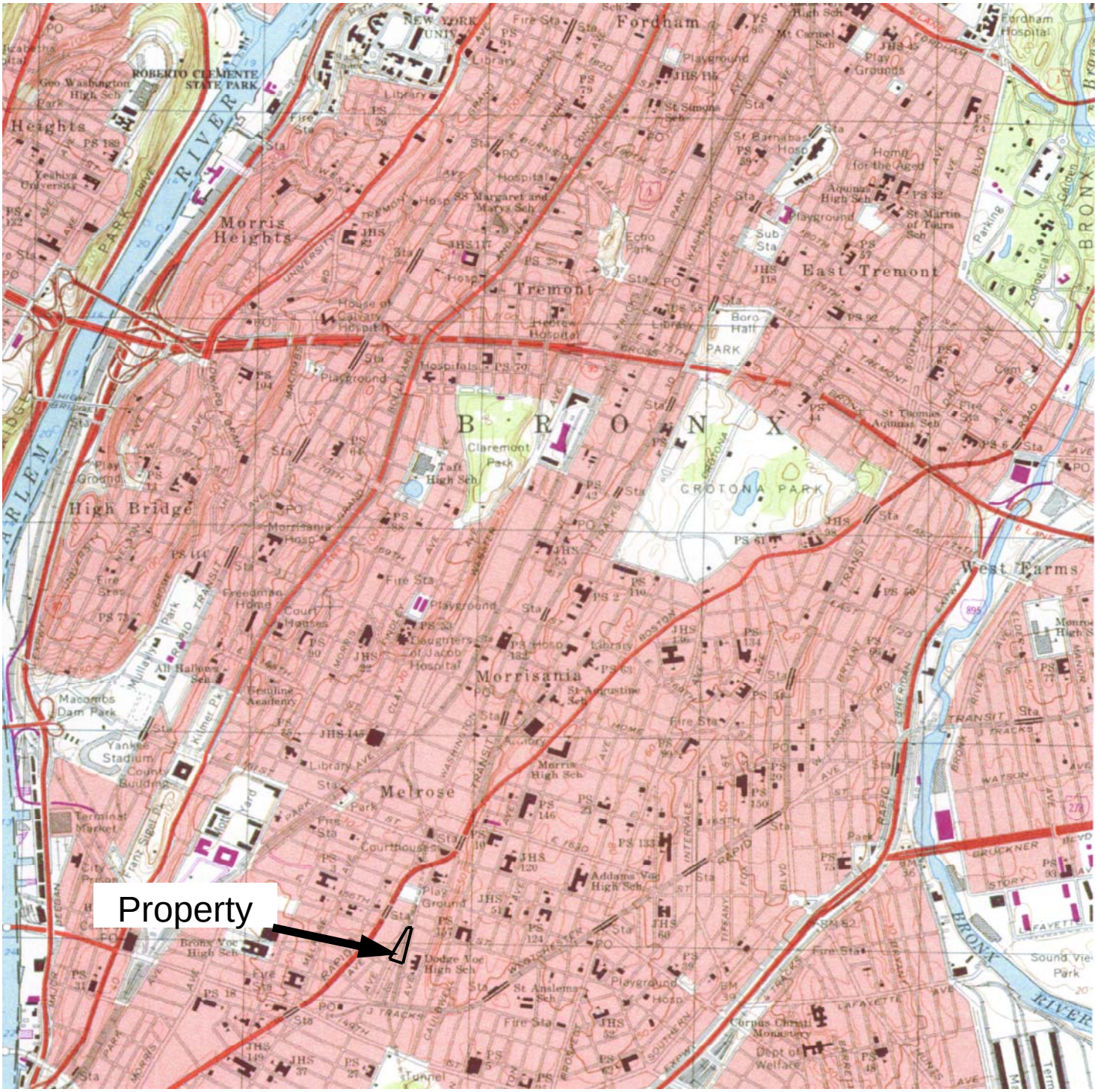
Based on the above conclusions, the following is recommended:

- Operations and maintenance activities should continue in accordance with the scheduled outlined in the approved SMP.
- The next Periodic Review Report should be submitted by June 2019.
- Because the groundwater quality has improved and monitoring is no longer required, it is recommended that testing be performed to determine if the active SSDS may be converted to a passive system.

9.0 REFERENCES

1. Stephen J. Osmundsen, P.E. Site Management Plan; December 2011; Revised May 2017.
2. CA RICH Consultants, Inc. Remedial Investigation Report; February 2009.
3. Stephen J. Osmundsen, P.E. Final Engineering Report; December 2011.
4. Stephen J. Osmundsen, P.E. Remedial Action Work Plan; July 2009.
5. CA RICH Consultants, Inc. Quarterly Monitoring Report; March 2012.
6. CA RICH Consultants, Inc. Quarterly Monitoring Report; May 2012.
7. CA RICH Consultants, Inc. Quarterly Monitoring Report; September 2012.
8. CA RICH Consultants, Inc. Quarterly Monitoring Report; December 2012.
9. CA RICH Consultants, Inc. Quarterly Monitoring Report; February 2013.
10. CA RICH Consultants, Inc. Quarterly Monitoring Report; May 2013.
11. CA RICH Consultants, Inc. Quarterly Monitoring Report; August 2013.
12. CA RICH Consultants, Inc. Semi-Annual Monitoring Report; March 2014.
13. CA RICH Consultants, Inc. Semi-Annual Monitoring Report Second Half 2014; April 2015.
14. CA RICH Consultants, Inc. Semi-Annual Monitoring Report First Half 2015; June 2015.
15. CA RICH Consultants, Inc. Semi-Annual Monitoring Report Second Half 2015; Feb. 2016.
16. CA RICH Consultants, Inc. Semi-Annual Monitoring Report First Half 2016; June 201.
17. CA RICH Consultants, Inc. Semi-Annual Monitoring Report Second Half 2016; March 2017.

FIGURES



APPROX. SCALE (ft.)

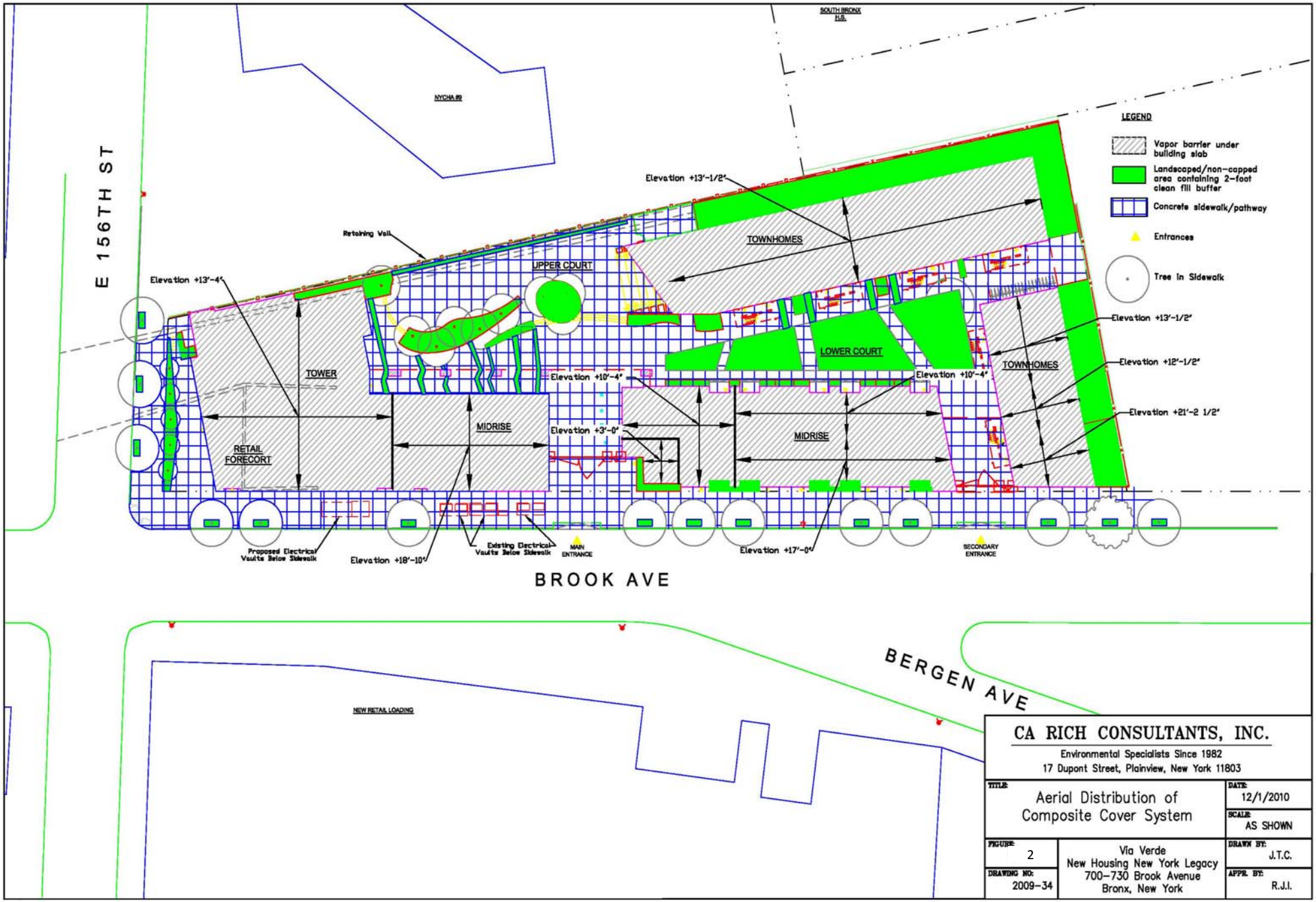
0 1,200 2,400

N

Adapted from USGS 1995 Central Park Quadrangle Map.

CA RICH CONSULTANTS, INC.
Certified Ground Water and Environmental Specialists
17 Dupont Street, Plainview, NY 11803

TITLE: **PROPERTY LOCATION MAP ON TOPOGRAPHIC QUAD**		DATE: 09/3/09
		SCALE: AS SHOWN
FIGURE: 1	Via Verde aka New Housing New York Legacy 700-730 Brook Avenue Bronx, New York	DRAWN BY: J.E.P.
DRAWING:		APPR. BY: D.S.



CA RICH CONSULTANTS, INC.
Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: Aerial Distribution of Composite Cover System	DATE: 12/1/2010
	SCALE: AS SHOWN
FIGURE: 2	DRAWN BY: J.T.C.
DRAWING NO: 2009-34	APPR. BY: R.J.I.

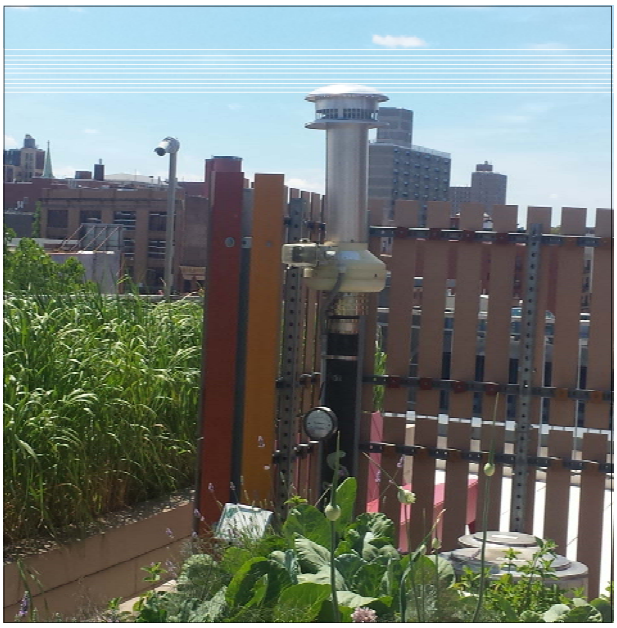
Via Verde
New Housing New York Legacy
700-730 Brook Avenue
Bronx, New York

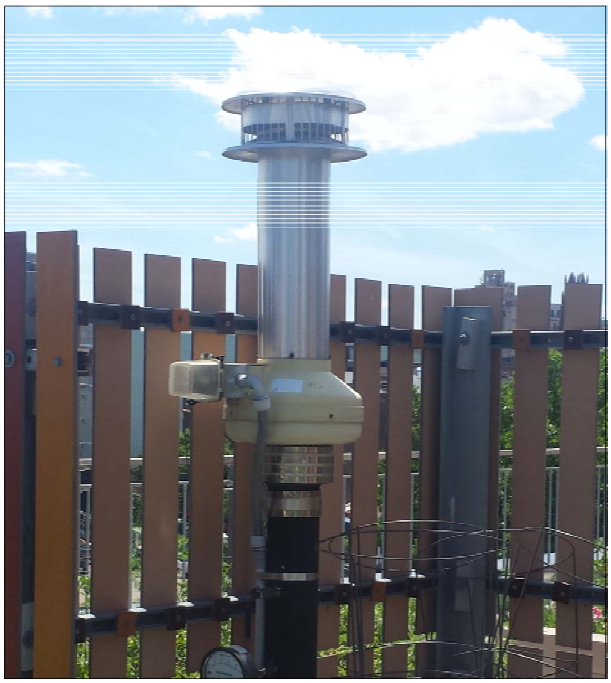
APPENDIX A

Selected Photographs

Via Verde
Digital Photo Log
June 25, 2018 Inspection

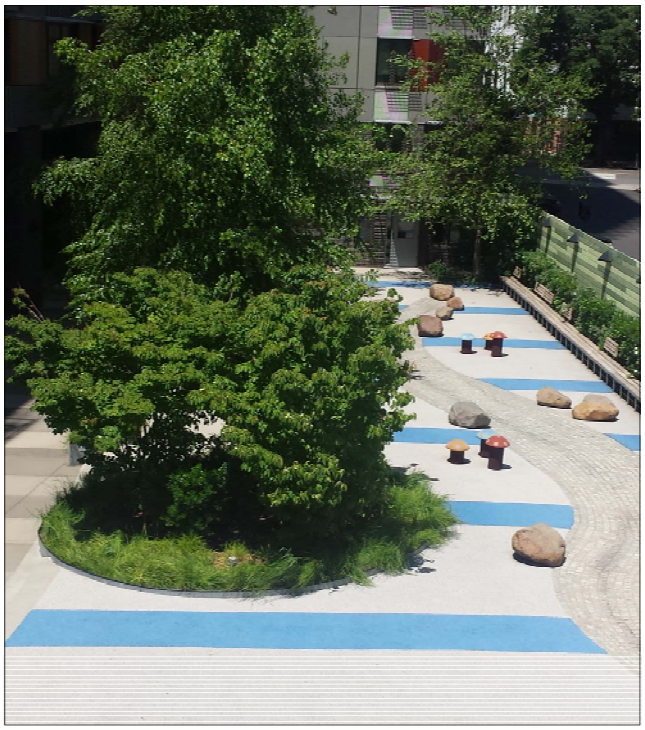
SSD System

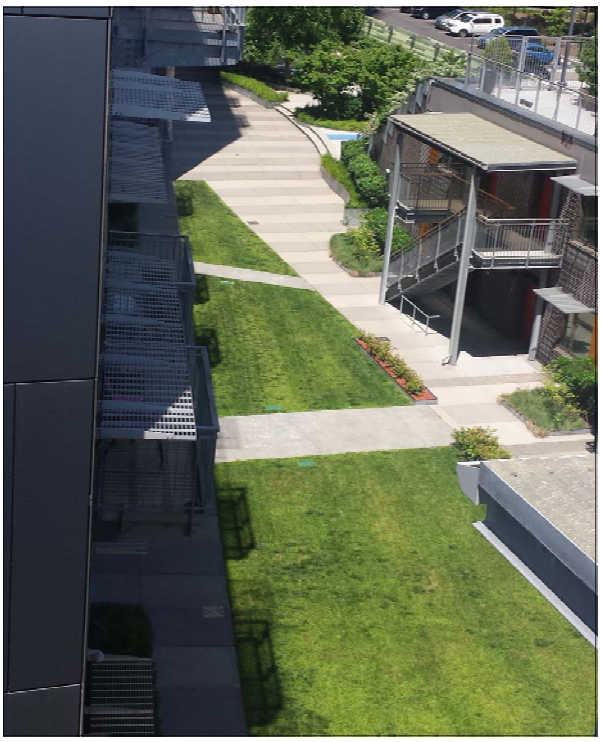


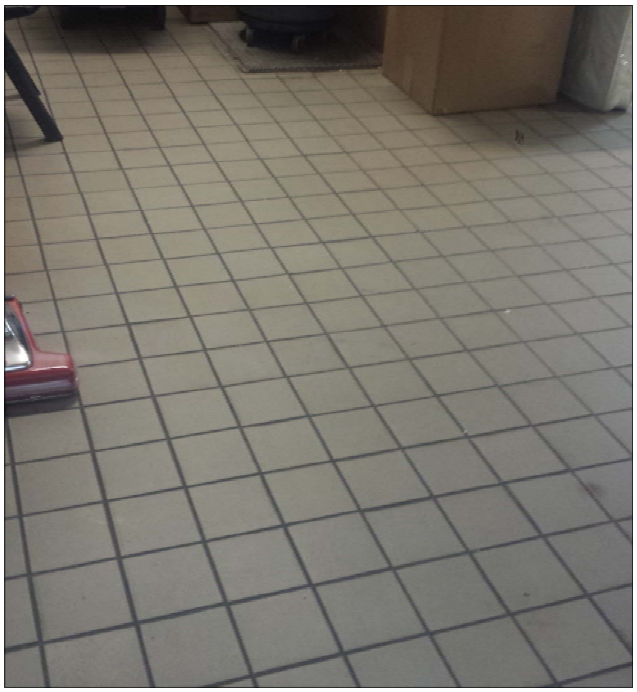


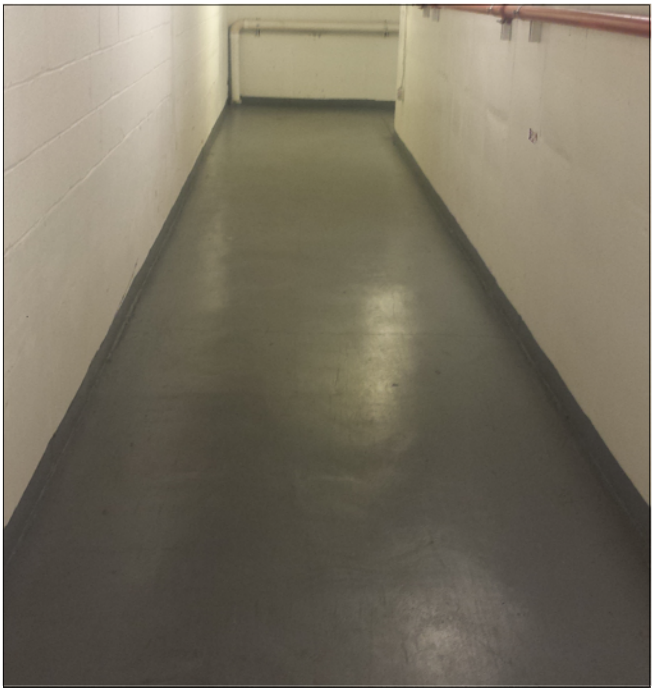
Via Verde
Digital Photo Log
June 25, 2018 Inspection

Composite Cover System









APPENDIX B

Inspection & Monitoring Forms

Site-Wide Inspection Check List
Via Verde
700-730 Brook Avenue
Bronx, New York
BCP #C203043

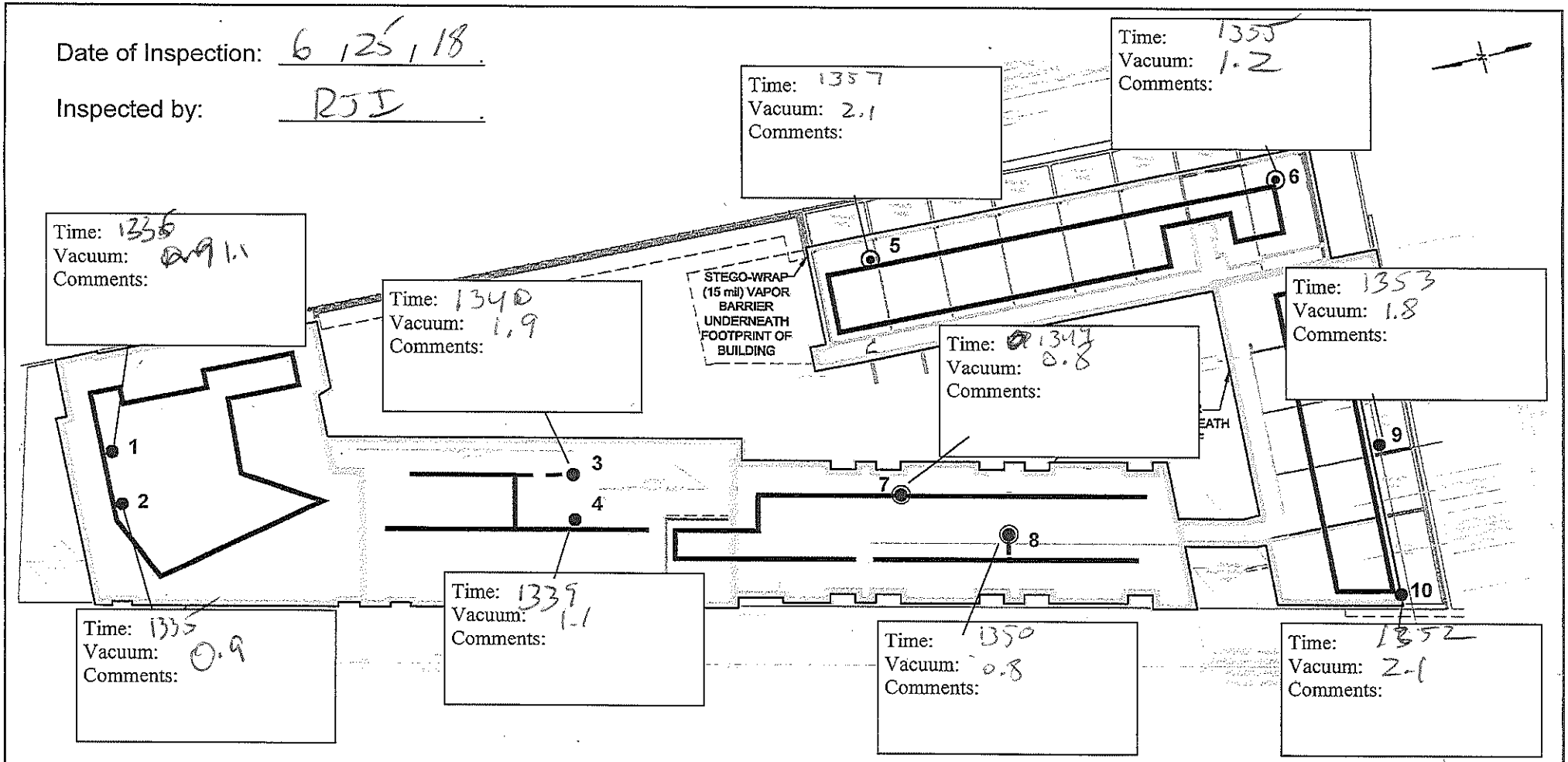
Compliances to be Addressed	Comments
Provide an evaluation of the condition and continued effectiveness of engineering controls (foundation walls/slabs, vapor barrier, and concrete sidewalks).	All Engineering Controls were observed to be in excellent condition with no evidence of any breaches or penetrations to the vapor barrier or composite cover system
Are all institutional controls, including Site usage in compliance?	Yes
What are the general Site conditions?	The Site is well maintained and in excellent condition
Are Site management activies being conducted including, confirmation sampling and a health and safety inspection?	Yes
Are all Site records up to date?	Yes
Does Site access remain available to maintain engineering controls?	Yes
Are all permits and schedules included in the Operation and Maintenance Plan in Compliance?	Yes
Are any air supply, HVAC intakes, or adjoining/adjacent buildings constructed within 10 feet of any of the SSDS exhausts?	No
Has any intrusive work been done on the site within the reporting period; if so was the composite cover system breached? If so was the SMP adhered to?	No

Inspector- Richard J. Izzo

Date/Time- June 25, 2018/2:00 PM

Date of Inspection: 6/25/18

Inspected by: RJI



Legend

- 4" SSD Riser
- 6" SSD Riser
- SSD Lateral (Typical)
- Above grade cross over connection due to elevation change

Vacuum readings in inches of water

Note: If there is any problem with the system or no vacuum at one or more of the risers, call CA RICH at (516) 576-8844

0 20 40 60

Graphic Scale in Feet

CA RICH CONSULTANTS, INC.

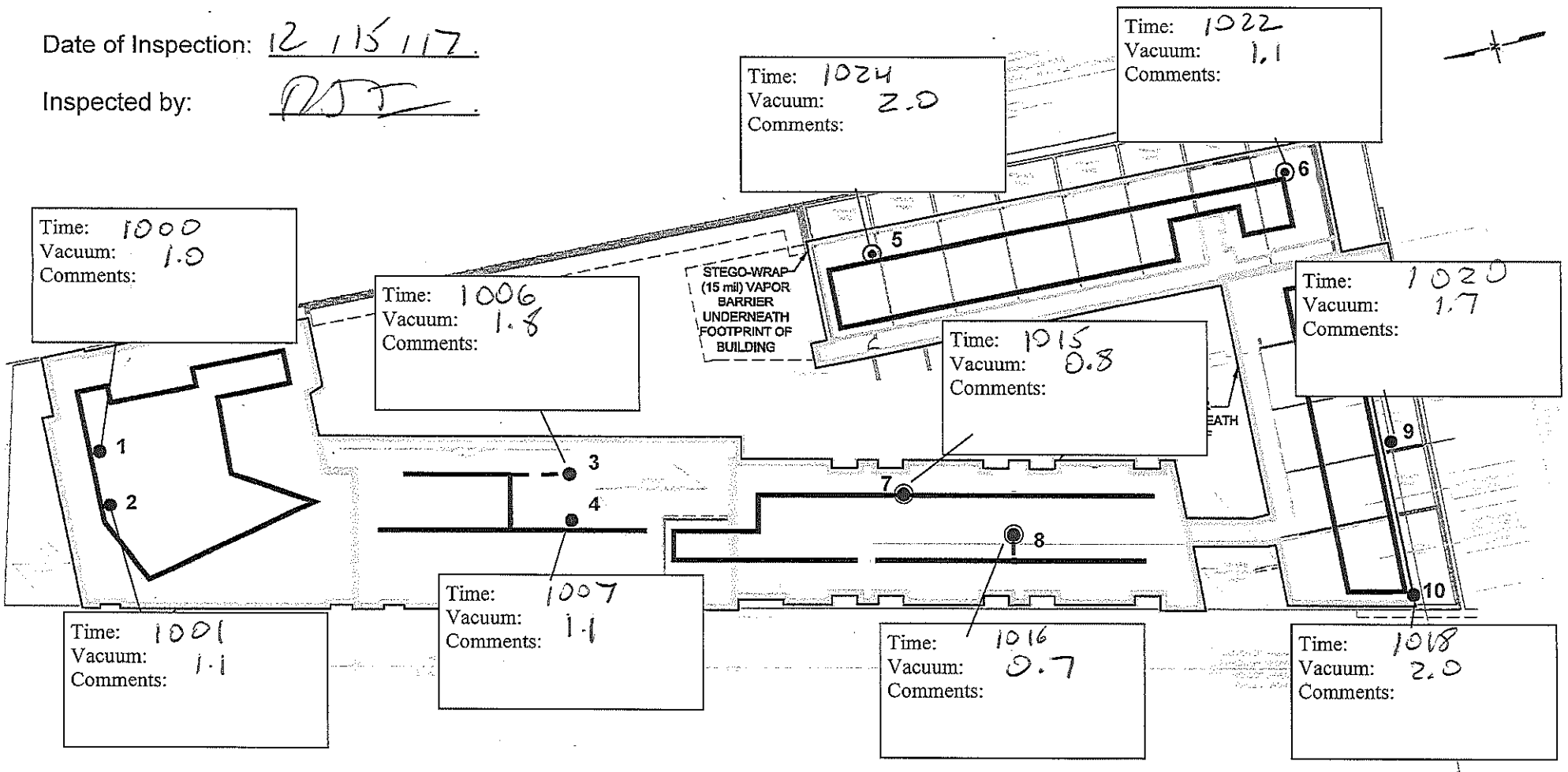
Environmental Specialists Since 1982

17 Dupont Street, Plainview, New York 11803

TITLE: **Monthly Inspection Form**	DATE: 7/11/12
	SCALE: As Shown
FIGURE: 10	Via Verde New Housing New York Legacy 700–730 Brook Avenue Bronx, New York
DRAWING NO: 2009–30	DRAWN BY: J.T.C.
	APPR. BY: R.I.

Date of Inspection: 12/15/17.

Inspected by: RJT.



Legend

- 4" SSD Riser
- 6" SSD Riser
- SSD Lateral (Typical)
- Above grade cross over connection due to elevation change

Vacuum readings in inches of water

Note: If there is any problem with the system or no vacuum at one or more of the risers, call CA RICH at (516) 576-8844

0 20 40 60

Graphic Scale in Feet

CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982

17 Dupont Street, Plainview, New York 11803

TITLE: Monthly Inspection Form	DATE: 7/11/12
	SCALE: As Shown
FIGURE: 10	Via Verde New Housing New York Legacy 700–730 Brook Avenue Bronx, New York
DRAWING NO: 2009–30	DRAWN BY: J.T.C.
	APPR. BY: R.I.

APPENDIX C

IC/EC Form

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Site Management Periodic Review Report Notice

Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C203043**

Site Name New Housing New York Legacy Project

Site Address: 700 Brook Avenue Zip Code: 10455
City/Town: Bronx
County: Bronx
Site Acreage: 1.4

Reporting Period: May 01, 2017 to May 01, 2018

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

NA
Signature of Owner, Remedial Party or Designated Representative

Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☒	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C203043 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
9-2359-1001	Via Verde Homes LLC	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Institutional Controls

- The property may only be used for restricted residential and commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

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

- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;

- Vegetable gardens and farming on the property are prohibited (this does not include raised bed gardens or green roofs);

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

9-2359-1002	Via Verde Homes LLC	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Institutional Controls

- The property may only be used for restricted residential and commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

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

- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;

- Vegetable gardens and farming on the property are prohibited (this does not include raised bed gardens or green roofs);

- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP.

NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

9-2359-1003	Via Verde Homes LLC	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Institutional Controls

- The property may only be used for restricted residential and commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

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

- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;

- Vegetable gardens and farming on the property are prohibited (this does not include raised bed gardens or green roofs);

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

9-2359-1004	Via Verde Homes LLC	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Institutional Controls

- The property may only be used for restricted residential and commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

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

- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;

- Vegetable gardens and farming on the property are prohibited (this does not include raised bed gardens or green roofs);

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

9-2359-51	Via Verde Homes LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Institutional Controls

• The property may only be used for restricted residential and commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

• The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

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

• The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;

• Vegetable gardens and farming on the property are prohibited (this does not include raised bed gardens or green roofs);

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

Box 4

Description of Engineering Controls

Parcel	Engineering Control
9-2359-1001	Vapor Mitigation Cover System

Engineering Controls

• A composite cover system is comprised of (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human exposure to residual contaminated soil/fill remaining under the Site. In addition, a vapor barrier was installed underneath the entire building foundation as additional protection.

- Groundwater monitoring activities to assess the effectiveness of the ISCO injections will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period.

- An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building.

9-2359-1002

Vapor Mitigation
Cover System

Engineering Controls

- A composite cover system is comprised of (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human exposure to residual contaminated soil/fill remaining under the Site. In addition, a vapor barrier was installed underneath the entire building foundation as additional protection

- Groundwater monitoring activities to assess the effectiveness of the ISCO injections will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period.

- An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building.

9-2359-1003

Vapor Mitigation
Cover System

Engineering Controls

- A composite cover system is comprised of (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human exposure to residual contaminated soil/fill remaining under the Site. In addition, a vapor barrier was installed underneath the entire building foundation as additional protection

- Groundwater monitoring activities to assess the effectiveness of the ISCO injections will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period.

- An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building.

Parcel	Engineering Control
9-2359-1004	Vapor Mitigation Cover System

Engineering Controls

- A composite cover system is comprised of (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human exposure to residual contaminated soil/fill remaining under the Site. In addition, a vapor barrier was installed underneath the entire building foundation as additional protection

- Groundwater monitoring activities to assess the effectiveness of the ISCO injections will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period.

- An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building.

9-2359-51	Vapor Mitigation Cover System

Engineering Controls

- A composite cover system is comprised of (1) a two-foot clean fill buffer in all landscaped/non-capped areas. The two-foot thick cover consists of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the residual soil. The top six inches of soil are of sufficient quality to support vegetation. Clean soil meets the soil cleanup objectives outlined in 6 NYCRR Part 375-6.7(d); and (2) Non-vegetated areas (concrete building foundations, sidewalks/pathways and asphalt roadways) covered by a paving system or concrete at least 4 inches thick to prevent human exposure to residual contaminated soil/fill remaining under the Site. In addition, a vapor barrier was installed underneath the entire building foundation as additional protection

- Groundwater monitoring activities to assess the effectiveness of the ISCO injections will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period.

- An active SSD system was installed at the Site for additional protection in preventing the off-gassing of any residual VOCs in the soil and groundwater. The SSD system maintains a negative pressure underneath the slab while allowing the vapors below the concrete slab to vent outdoors without intruding into the building.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my 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 the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

NA

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C203043

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael Wadman (print name) at 902 Broadway,13th Fl.,New York,NY 10010 (print business address)

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

6/26/18
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Richard J. Izzo, PG (print name) at CA RICH Consultants, Inc. 17 Dupont St., Plainview, NY 11803 (print business address),

am certifying as a Qualified Environmental Professional for the Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

6/26/18
Date