Queens West Development
Parcel 11
QUEENS, NEW YORK

2020 Periodic Review Report and Certifications

NYSDEC VCA Number: V00194B

ATC Project Number: Z214DCAB11

Prepared for:

AvalonBay Communities
1633 Broadway, Suite 22B
New York, New York 10019

104 East 25th Street, 8th Floor
New York, New York 10010

MARCH, 2021

CERTIFICATION PAGE

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; and

(e) *if a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for their intended purpose under the document*

Gilbert Gedeon, P.E.

3/31/21
Date

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1.0 INTRODUCTION

AvalonBay Communities Inc., (AvalonBay), retained ATC Group Services LLC (ATC) to prepare the Periodic Review Report (PRR) for 2017 and Certification of Institutional and Engineering Controls for the site, which is identified as Queens West Development – Parcel 11. Starting in 2012, New York State Department of Environmental Conservation (NYSDEC) changed the report submission frequency from annually to triennially for the site. The following introductory and background discussions are according to the PRR prepared by AKRF Engineering, P.C. (AKRF) and dated March 2009.

The Queens West Development is a project of the Queens West Development Corporation (QWDC), a subsidiary of New York State's Empire State Development Corp., under the collective sponsorship of the Port Authority of New York and New Jersey, the New York City Economic Development Corporation, and Empire State Development Corporation. The overall Queens West Development site comprises 74 acres along the East River in Hunters Point, Queens, extending from Anable Basin to the north to Newtown Creek to the south (Figure 1). Stage 1 of the development involves construction of residential buildings on the portion of the site between 47th Road and 50th Avenue. The development sites in this area have been designated Parcels 8, 9, 10, and 11, as shown on Figure 2.

In August 1998, a Voluntary Cleanup Agreement was entered into between NYSDEC and QWDC. This agreement covered Parcels 8, 9, and 11 and the portion of Center Boulevard between Parcels 8 and 9. A Remediation Work Plan (RWP) for Parcel 11 was submitted to the NYSDEC in August 1998. In July 2000, the Voluntary Cleanup Agreement was amended to allow it to be divided into separate agreements for each parcel, which would be executed by the designated developer for the parcel. Accordingly, after AvalonBay Communities (AvalonBay) was selected as the developer of Parcels 8, 9, and 11, AvalonBay executed separate agreements for each of the three parcels in September 2000.

Remediation of the site was conducted between December 2000 and May 2006 in accordance with the NYSDEC-approved Remedial Work Plan (RWP) for Queens West Development Parcel 11 (August 1998). The majority of the remedial activities were completed between December 2000 and May 2001 during foundation work for the Avalon Riverview apartment building and garage, located in the southern and western portions of the site. Remedial work was completed in May 2006 with construction of the River View Gardens senior housing facility in the northeastern portion of the site to install the remaining piece of the composite cover system. The site remediation was documented in a Final Engineering Report (FER) dated March 2008, and on-going site management requirements were specified in a Site Management Plan (SMP), which was included as an attachment to the FER. NYSDEC issued an approval letter for the FER on March 31, 2008. The purpose of this Periodic Review Report and Annual Certification is to document on-going site management activities associated with Engineering and Institutional Controls for the site during the calendar years 2018 through 2020, and to certify those controls in accordance with the SMP.

2.0 BACKGROUND

2.1 SITE DESCRIPTION

Parcel 11 is located in the Hunters Point section of Queens, New York. The parcel is bound by 49th Avenue on the north, Center Boulevard on the west, and 50th Avenue on the south. It has a total area of approximately 1.17 acres, and is defined as Lots 21 and 28 of Tax Block 17 of Queens County. The site is currently occupied by an irregular-shaped high-rise apartment building. A Site Plan is provided as Figure 3.

2.2 REMEDIAL INVESTIGATION FINDINGS

A conceptual model of the site contamination was developed based on a review of the site history, local and regional geology/hydrogeology, and field/laboratory data from previous subsurface investigations of the site and surrounding area. The shallow site subsurface consists of urban fill material from ground surface to an average of 14 feet below grade, with wood, ash, cinders, coal, and asphalt present in the fill material. The fill is underlain by organic silty clay at most locations, followed by glacial outwash and till, and metamorphic bedrock. The water table at the site is located at approximately 6 to 9 feet below grade, within the fill material, and the general groundwater flow direction is to the west, towards the East River.

Historic on-site rail-yard operations likely resulted in surface releases of petroleum-based oils and solvents used for equipment maintenance and repair. As the product migrated downward through the unsaturated portion of the fill material, the petroleum-related compounds sorbed to the soil particles and leached into the groundwater. Tar-like material, which was either brought in with the fill or released in small amounts from treated railroad ties, remained in isolated pockets close to the source due to its viscous nature. However, the more soluble components of the tar likely leached into the surrounding soil and groundwater. Certain components of the fill material at the site, such as coal, ash, cinders, and asphalt, contributed to elevated concentrations of polycyclic aromatic hydrocarbons (PAHs), and heavy metals (e.g., arsenic, copper, zinc, and mercury) in the soil. Over time, concentrations of the lighter, more soluble compounds in soil and groundwater (volatile organic compounds) attenuated via dispersion and biodegradation, leaving only the heavier, more recalcitrant components, such as PAHs and metals. These compounds preferentially remained sorbed onto the soil particles, rather than dissolved in the groundwater, and are not currently mobile sources of contamination.

Off-site releases at historic ugradient varnish and paint manufacturing facilities to the east, and cross-gradient roofing tar and other processing facilities to the north (Parcels 8 and 9), likely included the lighter fraction of petroleum and coal tar compounds, which could have dissolved into groundwater and migrated toward the site. However, as demonstrated by the lack of significant VOC concentrations detected in on-site and downgradient monitoring wells, contamination from these releases has been largely eliminated through natural attenuation. Results from previous investigations of Parcel 8 and 9 indicate that subsurface DNAPL on these parcels was contained within a localized trough in the glacial till surface or on top of discontinuous layers of low permeability silt/clay, thus preventing significant migration toward Parcel 11.

2.3 SITE REMEDIATION

2.3.1 Contaminated Materials Removal

Pre-construction sampling conducted in June 2000 at locations requiring deeper excavation (e.g., along the subway tunnel and at the proposed elevator pit/utility vaults) indicated that elevated levels of PAHs and field evidence of contamination were at depths of 8 feet below grade or greater in these areas. Excavation greater than 8 feet below grade was required only for installation of the Avalon building's southern elevator pit. Therefore, AKRF monitored the deeper excavation of the pit between March 3 and 7, 2001, and directed the excavation contractor to segregate all soil excavated from deeper than 8 feet below grade and stockpile it on-site for waste characterization. Approximately 60 cubic yards of soil were generated during these activities. One composite sample was collected from the stockpiled soil and analyzed for leachable VOCs and SVOCs listed in NYSDEC STARS Memo #1, using EPA methods 1311, 8260, and 8270. The results indicated that all VOC and SVOC concentrations were below the STARS TCLP Extraction Guidance Values. Therefore, the excavated soil (approximately 60 cubic yards) was used on-site as fill under the building slab, as specified in the RWP.

Excavation greater than 8 feet below grade was not required for construction purposes in any other areas of deep excavation at the site. In addition, the excavation depth for general foundation work in other areas of the site was generally 5 feet below grade or shallower. Therefore, all remaining soil was left in place under the site cover system, as specified in the NYSDEC-approved RWP.

2.3.2 Residual Contamination Remaining On-Site

Residual contamination remaining on-site includes urban fill containing elevated PAH concentrations and an isolated area of contamination containing elevated concentrations of VOCs and phenolic compounds in soil, and VOCs and PAHs in groundwater. The top of the "Residual Contamination Zone" (i.e., the elevation below which residual contamination remains is place) is located immediately below the composite cover system at the site. Since residual contaminated soil and groundwater are present beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment, as described in the following sections.

2.3.3 Engineering Controls (Complete Cover System)

Exposure to residual contaminated soil is prevented by an engineered, composite cover system that has been built on the site. This composite cover system is composed of concrete sidewalks, concrete building slabs, and two feet of clean top soil cover in landscaped areas (planters). Figure 3 shows the location of each cover type built at the site.

2.3.4 Institutional Controls

A series of Institutional Controls are required under the RWP to implement, maintain and monitor Engineering Control systems and prevent future exposure to residual contamination by controlling disturbances of the subsurface soil. These Institutional Controls for the site (Controlled Property) are:

- Compliance with the Deed Restriction by the owner/lessee and the owner/lessee's successors and adherence of all elements of the SMP is required;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- A composite cover system consisting of concrete sidewalks, concrete building slabs, and top soil cover in landscaped areas must be inspected, certified and maintained as required in the SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Data and information pertinent to site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP; and
- Engineering Controls may not be discontinued without an amendment or extinguishment of the Deed Restriction.

The site (Controlled Property) also has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required under the Deed Restriction. Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;

- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for the intended purpose;

- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in this SMP;

- The Controlled Property may be used for restricted residential only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;

- The Controlled Property may not be used for a higher level of use, such as unrestricted residential use, without an amendment or extinguishment of this Deed Restriction; and

- The owner/lessee of the Controlled Property or successor is to 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. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

3.0 SITE COVER OPERATION AND MAINTENANCE

3.1 SITE COVER INSPECTION

ATC conducted inspections of the entire site cover on December 11, 2018, December 11, 2019, and on December 12, 2020 to check the asphalt/concrete paving for cracking and/or signs of wear, and check for erosion of the soil cover in unpaved areas. All paving was found to be intact. Minor evidence of cracking and surficial damage was observed in paved parking garage. The site cap appeared to be intact in this area. No erosion was noted in the landscaped areas. Photographs documenting the most recent inspection on December 12, 2020 and a copy of the site cover inspection logs from all three inspections are provided in Appendix A.

3.2 MAINTENANCE

During ATC's annual Site cover inspection on December 11, 2019, ATC observed a small portion of the concrete slab (approximately 3' x 4') in the first level parking garage that was compromised during the installation/repair of a plumbing fixture. The Site Management Plan (SMP) was reviewed; however, the manufacturer specification as well as other specifications for the vapor barrier were not included in the SMP for Queens West Parcel 11, with the exception of it being 6 mil. As discussed with and concurred by the NYSDEC representative via email on December 19, 2021, the contractor selected a vapor barrier at their discretion and installed the patch to the manufacturer's specifications. This process was detailed in a TPG Contracting Corp. letter dated December 19, 2019. Accordingly, ATC reviewed and approved the vapor barrier patch repair procedure on January 8, 2020. The Corrective Measures Letter is included in Appendix C.

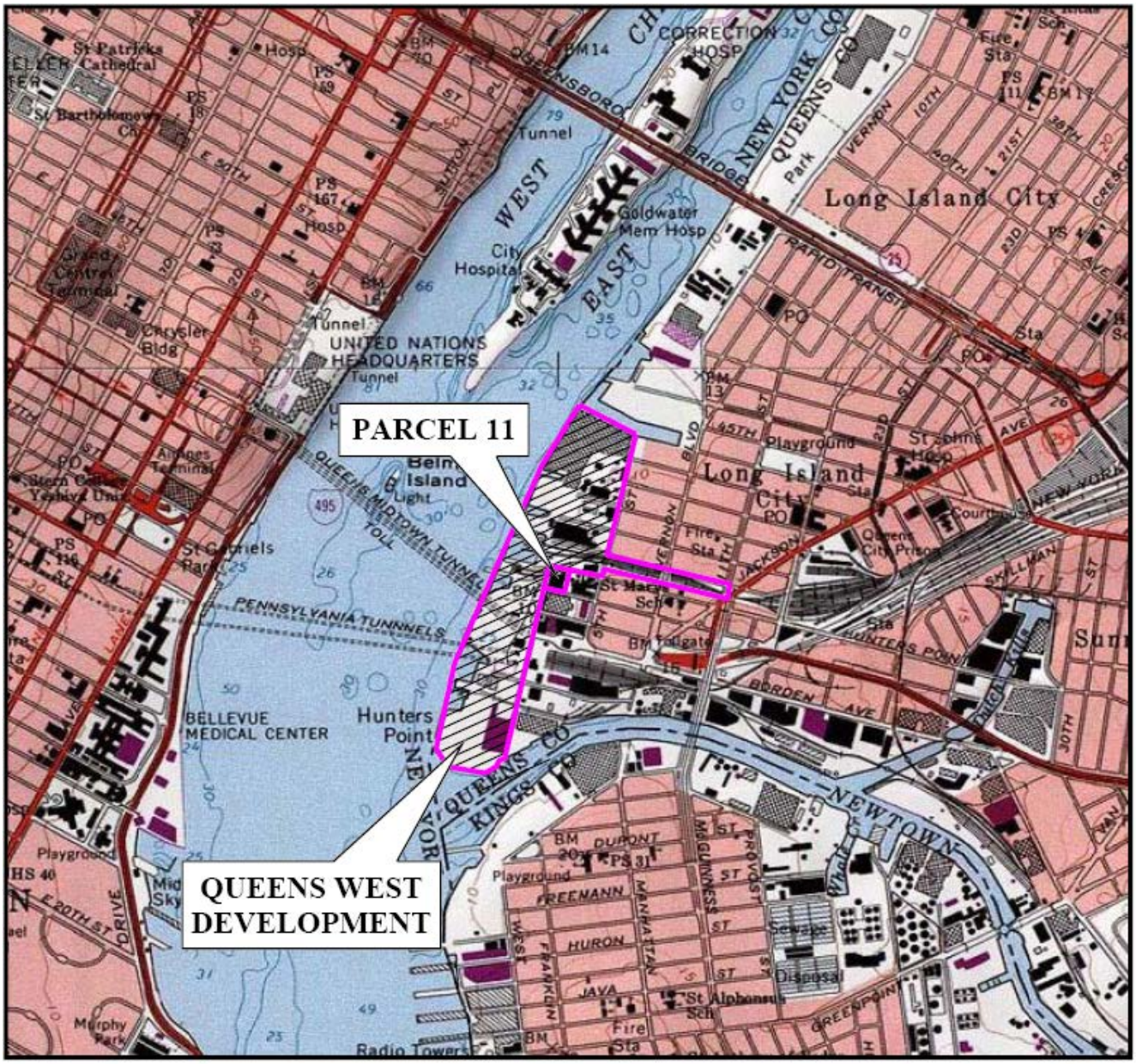
No additional disturbances of the site cover occurred during the 2018 and 2020 reporting period, and the cover was observed to be in good condition during each of the inspections conducted in 2018, 2019 and

2020. Therefore, no additional site cover maintenance was required during this reporting period.

4.0 INSTITUTIONAL AND ENGINEERING CONTROL CERTIFICATION

A site-wide inspection was conducted on December 12, 2020, as specified in the SMP to ensure that all aspects of the remedy were in-place and effective. The Institutional and Engineering Controls (IC/EC) Certification Form for the site was completed based on results from the inspection. Copies of the site-wide inspection and IC/EC Certification forms are provided as Appendix B. The IC/EC Certification Form indicates that all ICs/ECs at the site remain in place and effective.

FIGURES



SCALE IN FEET

0' 1000' 2000' 4000'

SCALE: 1"=2000'

QUADRANGLE

ENVIRONMENTAL • GEOTECHNICAL
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New York, NY 10010-2917
Phone (212) 353-8280 * Fax (212) 353-8306

N

USGS TOPO, Brooklyn, NY Quad.

FIGURE 1 – SITE LOCATION MAP

Client:	Avalon Bay Communities
Site:	Queens West Parcel 11
ATC Project No.:	Z214DCAB11
Year:	1995
Scale:	As shown

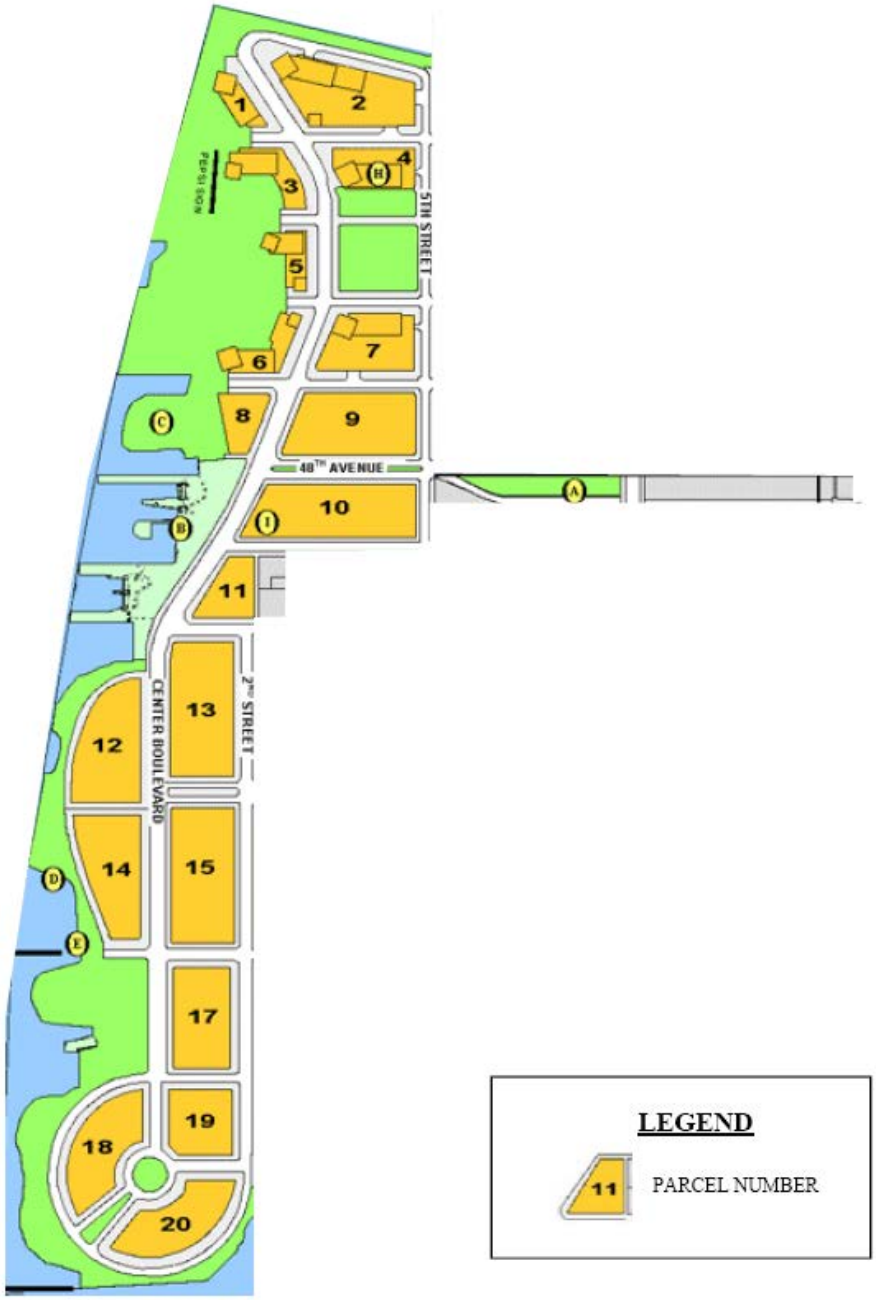

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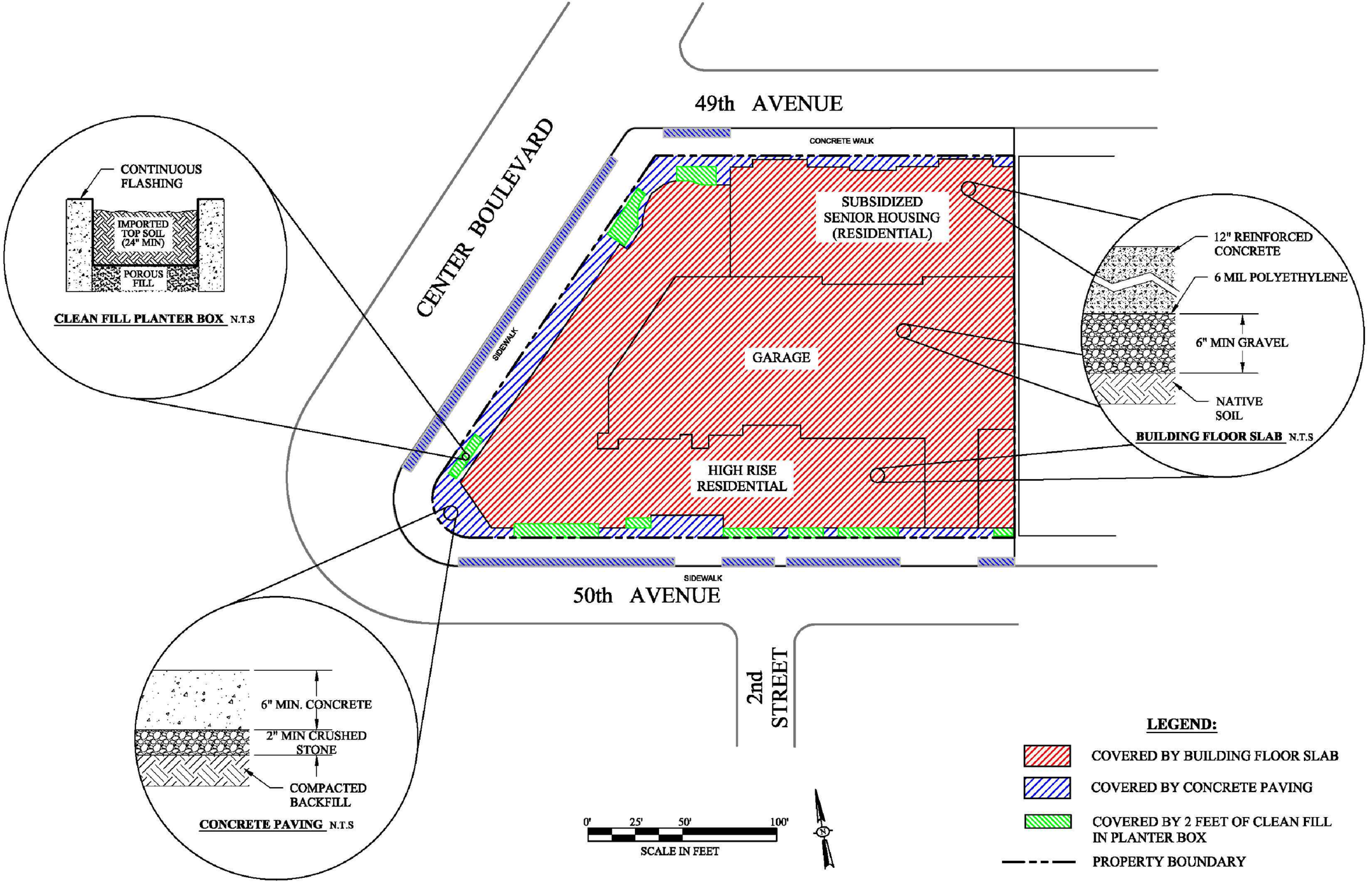
FIGURE 2 – QUEENS WEST DEVELOPMENT PARCELS

Client: Avalon Bay Communities
Site: Queens West Parcel 11
ATC Project No.: Z214DCAB11



Source: 2009 AKRF PRR

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QUEENS WEST PARCEL 11
QUEENS, NEW YORK
SITE PLAN & ENGINEERING CONTROLS

DATE
FEB. 2018

SCALE
As shown

PROJECT No.
Z214DCAB11

FIGURE
3

M:\ACADD-WORKS\ENVIRONMENTAL INVESTIGATION\2018\Z214DC0051-Queens West Parcel 11

Appendix A
Site Cover Inspection Form and Photographs

SITE CAP INSPECTION FORM
QUEENS WEST PARCEL 11
50th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

Inspector: Denise Cosenza

Date: 12/11/2018

1. Courtyard/landscaped areas:

Adequate top soil cover present?

YES

Signs of erosion?

NO

Recommended corrective action:

None

2. Outdoor paving/sidewalks:

Note any signs of cracking or other damage:

Surficial hairline cracks - Not significant

Note any areas where greater than 25% of surface is cracked/damaged:

None

Recommended corrective action:

None

3. Lower level garage slab:

Note any signs of cracking or other damage:

None

Note any areas where greater than 25% of surface is cracked/damaged:

None

Recommended corrective action:

None

Comments (attach photos/sketches to illustrate any damage noted):

None

SITE CAP INSPECTION FORM
QUEENS WEST PARCEL 11
50th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

Inspector: Denise Cesena

Date: 12/11/2019

1. Courtyard/landscaped areas:

Adequate top soil cover present?

Yes

Signs of erosion?

No

Recommended corrective action:

None

2. Outdoor paving/sidewalks:

Note any signs of cracking or other damage:

Surficial hairline cracks

Note any areas where greater than 25% of surface is cracked/damaged:

None

Recommended corrective action:

None

3. Lower level garage slab:

Note any signs of cracking or other damage:

3'x4' Area disturbed to repair plumbing fixture detailed in separate letter

Note any areas where greater than 25% of surface is cracked/damaged:

None

Recommended corrective action:

None

Comments (attach photos/sketches to illustrate any damage noted):

None

SITE CAP INSPECTION FORM
QUEENS WEST PARCEL 11
50th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

Inspector: DENISE COSENZA

Date: 12-12-2020

1. Courtyard/landscaped areas:

Adequate top soil cover present?

YES

Signs of erosion?

NONE

Recommended corrective action:

NONE

2. Outdoor paving/sidewalks:

Note any signs of cracking or other damage:

NONE - hairline cracks - NOTHING significant

Note any areas where greater than 25% of surface is cracked/damaged:

NONE

Recommended corrective action:

NONE

3. Lower level garage slab:

Note any signs of cracking or other damage:

NONE

Note any areas where greater than 25% of surface is cracked/damaged:

NONE

Recommended corrective action:

NONE

Comments (attach photos/sketches to illustrate any damage noted):

NONE

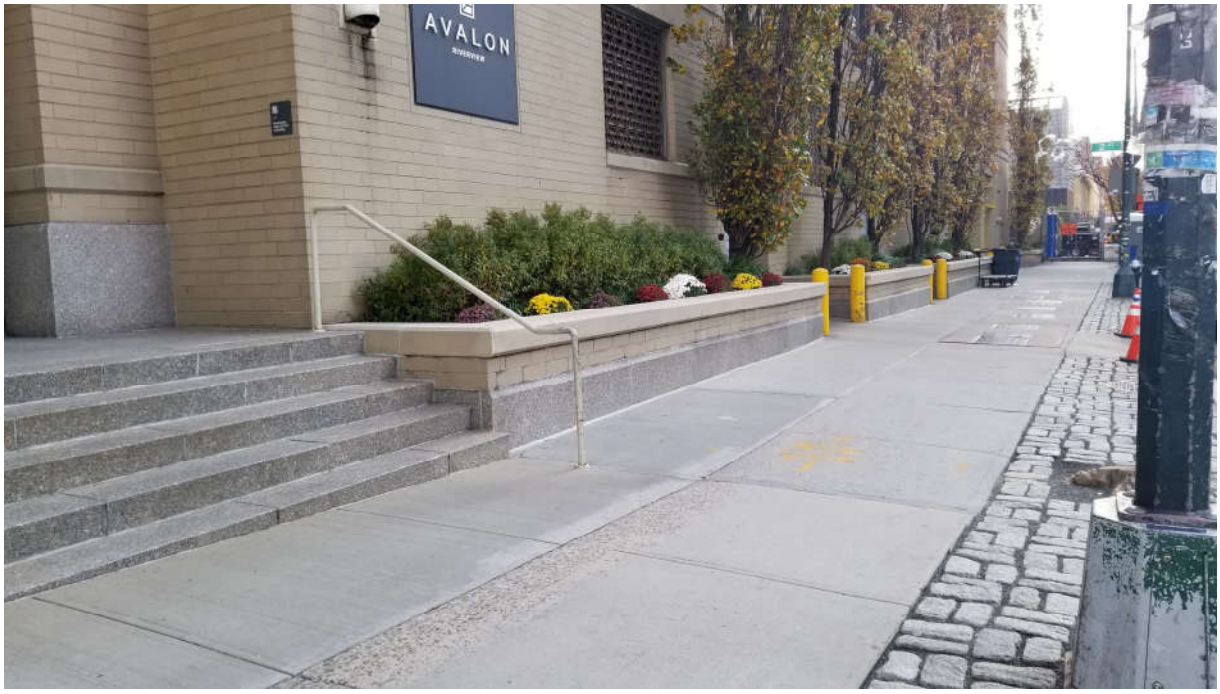

Photo 1: View of 50th Avenue looking east.

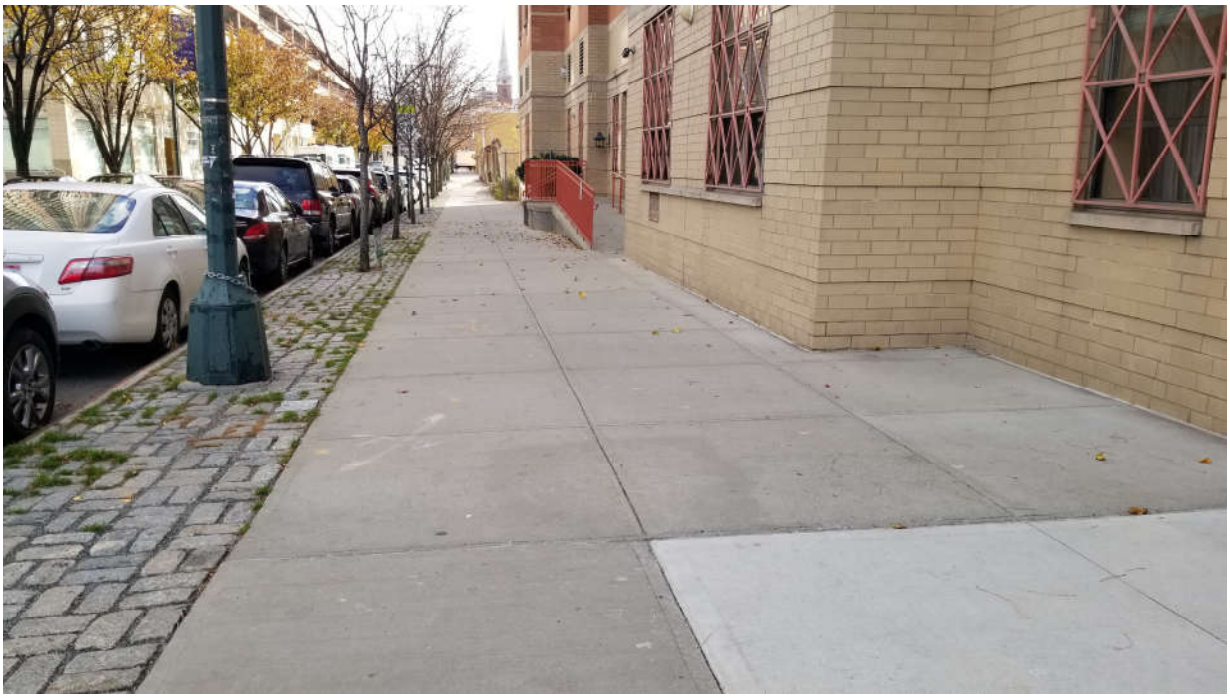

Photo 2: View of 49th Avenue looking east.

Photo 3: View of Center Blvd. looking south.

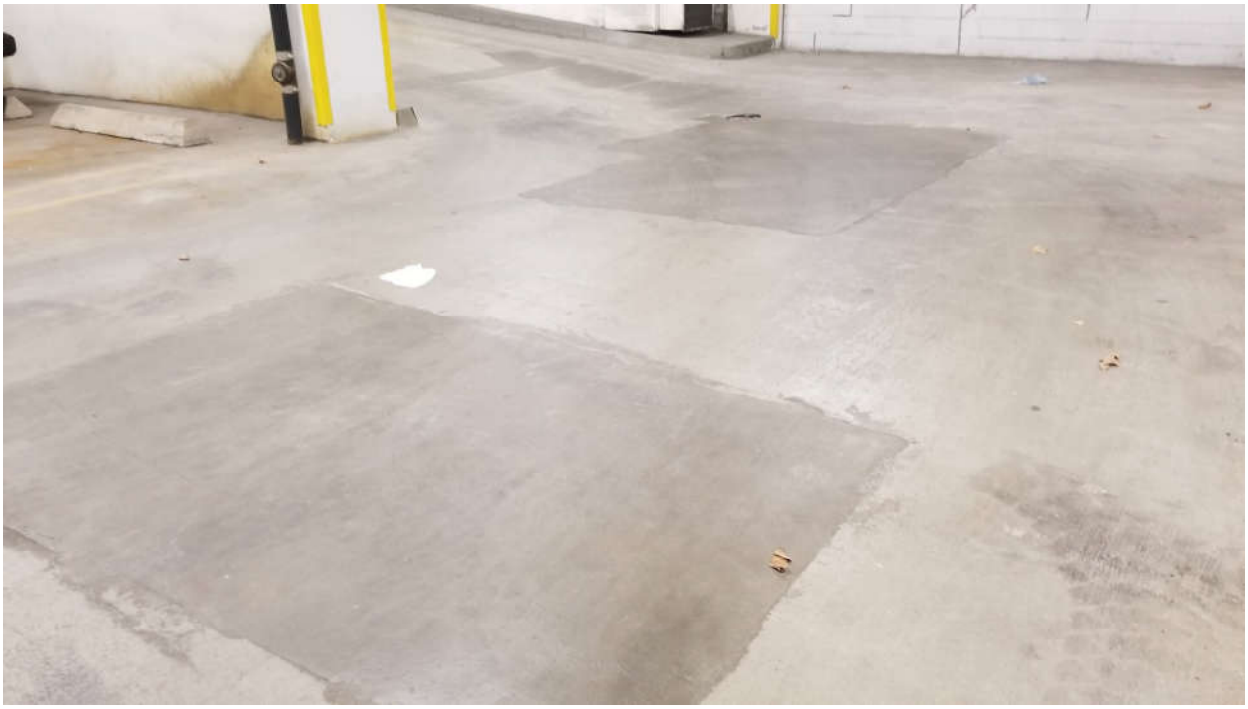

Photo 4: View of typical concrete slab on ground level.

Appendix B
Site Wide Inspection Form and IC/EC Certification

SITE WIDE INSPECTION FORM
QUEENS WEST PARCEL 11
50th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

Inspector: Denise Cosanza
Date: December 12, 2020

1. Site Use Restrictions

No on-site vegetable gardens?

None

No groundwater withdrawal for potable/non-potable use?

None

Restricted residential maintained (single owner, or common ownership)?

YES

2. Site Cap

Note the date that the annual site cap inspection was performed:

12/11/2018, 12/11/2019, 12/12/2020

Repairs made as noted during inspection?

YES, as detailed on 12/11/2019

3. Soil Management

Note the date(s) of any soil disturbance activities conducted during the past year:

None

Proper soil management procedures implemented (cite appropriate close out reports)?

Not Applicable

4. Recordkeeping

Check that the following records/reports are being maintained/completed (note report/log dates as appropriate):

1) Annual site cap inspection log

12/11/2018, 12/11/2019, 12/12/2020

2) Close-out report(s) for soil disburbance activities (including manifests for soil disposal)

Not Applicable

5. Comments

(Note any deficiencies and recommendations for corrective actions.)

NONE

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. **V00194B**

Site Name Queens West (Hunter's Point) Parcel 11

Site Address: 4-12 49th Avenue and 2-01 50th Avenue Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 1.160

Reporting Period: March 01, 2018 to March 01, 2021

	YES	NO
1. Is the information above correct?	X	☐
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?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
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? Residential, Restricted-Residential, Commercial, and Industrial	X	☐
7. Are all ICs in place and functioning as designed?	X	☐

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.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. V00194B **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
1-17-21	Avalon Riverview I LLC c/o AvalonBay	Site Management Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction

A series of Institutional Controls are required under the RWP to implement, maintain and monitor Engineering Control systems and prevent future exposure to residual contamination by controlling disturbances of the subsurface soil. Adherence to these on-Site Institutional Controls is required under the Deed Restriction and will be implemented under the SMP attached to this FER. These Institutional Controls for the Site (Controlled Property) are:

- Compliance with the Deed Restriction by the owner/lessee and the owner/lessee's successors and adherence of all elements of the SMP is required;
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- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for the intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in this SMP;
- The Controlled Property may be used for restricted residential only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as unrestricted residential use, without an amendment or extinguishment of this Deed Restriction; and
- The owner/lessee of the Controlled Property or successor is to 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. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

1-17-28	Avalon Riverview I LLC c/o AvalonBay	Ground Water Use Restriction Soil Management Plan Landuse Restriction

A series of Institutional Controls are required under the RWP to implement, maintain and monitor Engineering Control systems and prevent future exposure to residual contamination by controlling disturbances of the subsurface soil. Adherence to these on-Site Institutional Controls is required under the Deed Restriction and will be implemented under the SMP attached to this FER. These Institutional Controls for the Site (Controlled Property) are:

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1-17-9021 Avalon Riverview I LLC c/o AvalonBay

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction

A series of Institutional Controls are required under the RWP to implement, maintain and monitor Engineering Control systems and prevent future exposure to residual contamination by controlling disturbances of the subsurface soil. Adherence to these on-Site Institutional Controls is required under the Deed Restriction and will be implemented under the SMP attached to this FER. These Institutional Controls for the Site (Controlled Property) are:

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- The Controlled Property may be used for restricted residential only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as unrestricted residential use, without an amendment or extinguishment of this Deed Restriction; and
- The owner/lessee of the Controlled Property or successor is to 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. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
1-17-21	Cover System
1-17-28	Cover System
1-17-9021	Cover System

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 Engineering Control 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
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The 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
X	☐

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.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00194B

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 BARIS SEVINC at 1633 BROADWAY, SUITE 22B, NY, NY 10019
print name print business address

am certifying as PORTFOLIO MAINTENANCE DIR. (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

3/26/2021
Date

EC CERTIFICATIONS

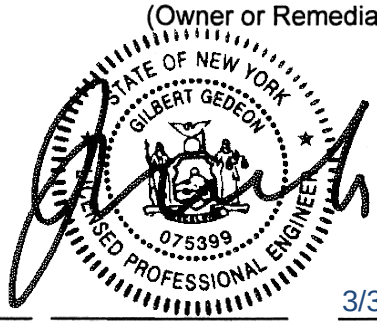
Box 7

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 Gilbert Gedeon (print name) at ATC Group Services, 104 E. 25th St., New York, NY 10010 (print business address),

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



Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
		3/31/21

Appendix C
Corrective Measure Letter

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

104 East 25 Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306
www.atcgroupservices.com

January 8, 2020

Ms. Sondra Martinkat
New York State Department of Environmental Conservation
Hunters Point Plaza
47-40 21st Street
Long Island City, New York 11101

Subject: Corrective Measures Letter
Site Name: Queens West (Hunter's Point) Parcel 11
Site No.: V00194B

Dear Ms. Martinkat:

ATC Group Services LLC (ATC) is pleased to submit this Corrective Measures Letter to the New York State Department of Environmental Conservation (NYSDEC) for Queens West Parcel 11 (Site). At the Site, exposure to residual contaminated soil is prevented by an engineered, composite cover system. This composite cover system is composed of concrete sidewalks, concrete building slabs, and two feet of clean top soil cover in landscaped areas (planters).

During ATC's annual Site cover inspection on December 11, 2019, a small portion of the concrete slab (approximately 3' x 4') in the first level parking garage was compromised during the installation of a plumbing fixture. The Site Management Plan (SMP) was reviewed; however, the manufacturer specification as well as other specifications for the vapor barrier were not included in the SMP for Queens West Parcel 11, with the exception of it being 6 mil. The location of the vapor barrier breach is within the garage, where there is no basement present. As discussed with and concurred by the NYSDEC representative via email on December 19, 2019, the contractor selected a vapor barrier at their discretion and installed the patch to the manufacturer's specifications. This process was detailed in a TPG Contracting Corp. letter dated December 19, 2019. A copy of this letter is attached with photographs. Accordingly, ATC reviewed and approved the vapor barrier patch repair procedure on January 8, 2020, following concurrence by NYSDEC.

Should you have any questions or comments regarding this report please do not hesitate to contact the undersigned.

Sincerely,

Denise Cosenza
Project Manager

Gilbert Gedeon, P.E.
Principal Engineer

TPG Contracting Corp.

Nicolas Kladias
48-09 37th Street
Long Island City, NY 11101
December 19, 2019

Gideon Sorkin, PE
Senior Manager, Retail Construction
Avalon Bay Communities

Dear Gideon Sorkin, PE:

This letter is to describe the method of restoration to repair vapor barrier portion the drain pit in the garage of AvalonBay Riverview. TPG used a 10Mil Polyethylene Film from Poly-America as a vapor barrier. It was placed below all rebar and the P-Trap on the drain. The edge of the Vapor Barrier was mechanically fastened to the lower four inches of the existing 12.0in concrete slab using a Siplast® PA-311 M Rubberized Asphalt Adhesive in an overlapping a method. One coat of Adhesive was placed on the slab, then the vapor barrier was pressed on the adhesive. A second coat of adhesive was then applied to the top of the vapor barrier and over edge to encase the edge entirely.

Sincerely,

Nicolas Kladias

48-09 37th Street Long Island City, NY 11101 • www.tpgcontracting.com
Tel: (718) 255-6990 • Fax: (718) 255-6854 • Toll Free: (866) 920-2555

PA-311 M ADHESIVE

Commercial Product Data Sheet

Product Description

PA-311 M Adhesive is a specially formulated cold process adhesive designed for use with Siplast Paradiene 20/30, Paradiene 40 FR, and Parafor 50 LT Roofing Systems. PA-311 M Adhesive is an asphalt cutback adhesive containing non-asbestos fibers and special bond enhancing modifiers.

Product Uses

PA-311 M Adhesive is designed for use with Siplast Paradiene 20/30, Paradiene 40 FR, and Parafor 50 LT Roofing Systems at roof inclines in excess of 1/4 inch (2%) per foot. PA-311 M Adhesive is not approved for use with Siplast Veral Roofing and Flashing Systems. Contact Siplast for specific approval on other product uses.

PA-311 M Adhesive can be applied by brush, roller, squeegee, Paraflow Adhesive Spreader, or spray unit. Base ply application rates will vary over irregular or porous substrates. Inter-ply applications typically require approximately 1½ to 2 gallons per square (0.6 - 0.8 liters per square meter). On granule-surfaced materials, end lap usage of PA-311 M Adhesive should be approximately double that of the field sheet application.

Temperature Considerations and Limitations

In ambient temperatures below 50°F (10°C), materials should be stored in a warm environment and the use of pre-heaters or in-line heaters may be required in order to obtain the minimum desired material temperature of 70°F (21°C) at point of application. Membrane materials should be stored in a warm place prior to application in order to facilitate proper installation and avoid wrinkling. Additionally, rolls may be unrolled and relaxed and/or cut into shorter lengths to avoid wrinkling.

Product Approvals

PA-311 M Adhesive is approved by Factory Mutual Research (FM Standard 4470) for use as a Siplast Paradiene 20/30 and Paradiene 20/30 FR adhesive in Class 1 insulated steel roof deck constructions and insulated and non-insulated concrete roof deck constructions, subject to FM conditions and limitations.

PA-311 M Adhesive is Listed by Underwriters Laboratories as a substitute for Type IV asphalt for all cULus Classified Siplast Paradiene and Parafor Roof Systems.

PA-311 M Adhesive meets current regional VOC regulations.

VOC content: This product contains an average 203 g/l VOC.

COMMERCIAL PRODUCT INFORMATION

Unit: 5-Gallon Pail
4.7 gallons (17.8 liters) net content
Unit: 55-Gallon Drum
53 gallons (200.6 liters) net content
Unit: 350-Gallon Tote
340 gallons (1,287 liters) net content

Coverage:		
Base Ply	1½ - 2½ gal/sq	(0.6-1.0 L/m²)
Inter-ply	1½ - 2 gal/sq	(0.6-0.8 L/m²)
Thickness @ 1½ gal/sq:	24 mils wet film gauge	(0.6 mm) wet film gauge
Thickness @ 2 gal/sq:	32 mils wet film gauge	(0.8 mm) wet film gauge
Coverage Weight		
@ 1½ gal/sq coverage:	14 lb / square wet film weight	(0.7 kg/m²) wet film weight
@ 2 gal/sq coverage:	19 lb / square wet film weight	(0.8 kg/m²) wet film weight

Flash Point, Cleveland Open Cup: >105°F min. (41°C)

Recommended adhesive temperature for application - 70°F (21°C) (minimum)

Packaging: The pails are stacked three high on pallets and stretch wrapped.

Pallet: 44 in X 48 in (112 cm X 122 cm) wooden pallet
Number Pails Per Pallet: 42
Number Drums Per Pallet: 4
Number Pallets Per Truckload: 22

Weight Per Pail: 50 lb (22.7 kg)
Weight Per Drum: 563 lb (255 kg)
Weight Per Tote (Full): 4025 lb (1826 kg)

Shipping Classification: White Label (combustible)
Totes shipments require Registered Hazardous Material Carrier and Driver (HazMat).

Storage and Handling: All containers of PA-311 M Adhesive should be stored upright on a clean, flat surface. Care should be taken that containers are not dropped and container seals are not broken prior to use. All containers should be stored in a dry place, out of direct exposure to the elements, and should be kept away from excessive heat, fire, or open flames.

Current copies of all Siplast Commercial Product Data Sheets are posted on the Siplast Web site at www.Siplast.com.

Rev 5/2018

Siplast 1000 Rochelle Blvd. Irving, TX 75062-3940
201 Bewicke Ave., Suite 208 North Vancouver, BC, Canada V7M 3M7
Customer Service in North America 1.800.922.8800 www.siplast.com

Poly-America
CONSTRUCTION SHEETING

Poly-America's construction sheeting is made from polyethylene which provides optimum in economy and performance. Because of its good weatherability, chemical inertness and toughness, Poly-America's polyethylene sheeting has successfully been used for over 30 years in a wide variety of applications. Thickness ranges from as little as 0.3 mil (8 μm) for paint drop cloths to 20 mil (0.51 mm) sheeting for construction vapor barriers. Widths range up to 40 ft (12 m). If you have a special application or need more information on our products, contact your area sales representative.

Poly-America's standard sheeting will meet or exceed the following standard technical specifications:

CONSTRUCTION SHEETING

Commercial Item Description A-A-3174 Plastic Sheet, Polyolefin
Type 1
Class 1
Grade A or B
Finish 1

ASTM C171 Standard Specification for Sheet Materials Used for Curing Concrete

ASTM D2103 Specification for Polyethylene Film and Sheeting
Standard Classification 12230
Note: If requested, custom sheeting can be made to meet the following classifications:
12130 13130 13230 12330 13330

ASTM D4635 Standard Specification for Polyethylene Films Made from Low-Density Polyethylene for General Use and Packaging Applications
Type 1
Class 2
Surface 2
Finish 1

ASTM D4397 Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
(see Table 1 for Impact Resistance and WVTR requirements)

TABLE 1

Thickness	**Dart Impact**	**WVTR**	**WVTR**	**WVTR**
	ASTM D1709	ASTM E96	ASTM E96	ASTM E96
mils (μm)	g	g/100 sq in-day	perms	metric perms
1(25)	40	1.4	.76	.50
2(51)	85	.7	.38	.25
3(76)	125	.47	.25	.17
4(102)	165	.35	.19	.12
5(127)	205	.28	.15	.10
6(152)	260	.23	.13	.084
7(178)	315	.2	.11	.070
8(203)	370	.18	.096	.063
9(229)	420	.16	.082	.054
10(254)	475	.14	.076	.050

NOTE: The above is for our standard sheeting products. Poly-America will produce custom sheeting products to meet other classifications or specifications. Contact Poly-America to see how we can help you with your needs.