

**REPORT ON  
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT AND  
LIMITED PHASE II SUBSURFACE SAMPLING  
POTOMAC AVENUE & 1<sup>ST</sup> STREET SW  
WASHINGTON, DC**

by

**Haley & Aldrich, Inc.  
McLean, Virginia**

for

**McKissack & McKissack  
Washington, DC**

**File No. 40223-002  
9 September 2014**



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9 September 2014  
File No. 40223-002

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Attention: James Beall  
Senior Project Manager

Subject: ASTM Phase I Environmental Site Assessment and Limited Subsurface Sampling  
Potomac Electric Power Company Parcels at Buzzard Point, Square 0661, Lot 0805,  
Square 0661, Lot 0804 and Square 0665, Lot 0024  
Washington, DC

Ladies and Gentlemen:

The enclosed report presents the results of a Phase I environmental site assessment (Phase I assessment) conducted at the above-referenced Potomac Electric Power Company (PEPCO) properties, Square 0661, Lot 0805, Square 0661, Lot 0804 and Square 0665, Lot 0024, in Washington, DC (herein referred to as the "subject site"). A Phase I assessment was conducted by Haley & Aldrich, Inc. (Haley & Aldrich) for seven parcels at Buzzard Point proposed for redevelopment as a professional soccer stadium, in accordance with our proposal to McKissack & McKissack dated 28 June 2013 ("Agreement"). This report was prepared in response to a request from McKissack & McKissack to provide a separate stand-alone Phase I assessment for the subject site. The results of limited Phase II subsurface sampling, performed to evaluate the potential impact of "recognized environmental conditions" (RECs), are also included in this report.

Our conclusions regarding the presence and potential impact of RECs on the subject site are intended to help the user evaluate the "business environmental risk" associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

Thank you for the opportunity to perform these services for you. Please do not hesitate to contact us if you have any questions or comments.

Sincerely yours,  
HALEY & ALDRICH, INC.

Karin S. Holland  
Senior Technical Specialist

David A. Schoenwolf, P.E.  
Principal Consultant | Senior Vice President

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**REPORT ON  
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SUBSURFACE  
SAMPLING  
POTOMAC ELECTRIC POWER COMPANY PARCELS AT BUZZARD POINT, SQUARE  
0661, LOT 0805, SQUARE 0661, LOT 0804 AND SQUARE 0665, LOT 0024  
WASHINGTON, DC**

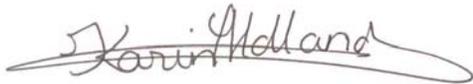
by

**Haley & Aldrich, Inc.  
McLean, Virginia**

The undersigned declare the following:

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312, §312.10.

We have the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the subject site and “develop opinions and conclusions regarding conditions indicative of releases or threatened releases.” We have developed and performed the “all appropriate inquiries” (AAI) in conformance with the standards and practices set forth in 40 CFR Part 312.



**Karin Holland  
Senior Technical Specialist**



**David A. Schoenwolf, P.E.  
Principal Consultant | Senior Vice President**

for

**McKissack & McKissack, Inc.  
Washington, DC**

**File No. 40223-002  
September 2014**

## EXECUTIVE SUMMARY

Haley & Aldrich, Inc. (Haley & Aldrich) performed a Phase I environmental site assessment (Phase I assessment) of the Potomac Electric Power Company (PEPCO) parcels at Buzzard Point, Square 0661, Lot 0805, Square 0661, Lot 0804 and Square 0665, Lot 0024 (herein referred to as the “subject site”) in Washington, DC. The scope of work is described and conditioned by our proposal dated 28 June 2013. As indicated in our proposal, this Phase I assessment was performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 [the All Appropriate Inquiries (AAI) Rule]. Deviations from this Standard, and/or data gaps and their significance are described in Section 1.5 of this report. Limited Phase II subsurface sampling was also conducted to evaluate issues identified during the Phase I portion of the assessment. Our conclusions are intended to help the user evaluate the “business environmental risk” associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

The subject site comprises three lots with the following current uses:

- Square 0661, Lot 0805 is used as a parking lot.
- Square 0661, Lot 0804 is vacant.
- Square 0665, Lot 0024 is used as an electrical substation.

The objective of a Phase I assessment is to identify known and suspect “recognized environmental conditions” (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site, as defined in the ASTM E 1527-05 Standard and in Section 1.1 of this report. The objective of the limited Phase II subsurface sampling is to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule impacts on the proposed development.

The ASTM E 1527-05 Standard requires an environmental professional’s opinion of the potential impacts of RECs, HRECs, and *de minimis* conditions identified on a site during a Phase I assessment. Our opinion is rendered with respect to a REC’s potential (high, medium, or low) to require remedial response based on prevailing agency requirements and our understanding that the subject site is one of seven parcels being evaluated for potential redevelopment as a professional soccer stadium. Our opinion regarding a REC's potential impact on the subject site (high, medium, low, or unknown) is based on the scope of our work, the information obtained during the course of our work, the conditions prevailing at the time our work was performed, the applicable regulatory requirements in effect at the time our work was performed, and/or our experience evaluating similar sites, and our understanding of the client's intended use for the subject site.

Access was not provided for Square 0665, Lot 0024. Square 0665, Lot 0024 is surrounded by a tall fence of at least 8 feet, blocking all views to this lot. A special permit is required for site access to Square 0665, Lot 0024 due to its current use as an electrical substation. It was therefore not possible to assess current conditions at this property. This non-accessible area comprises a data gap for this report.

## RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.” A material threat is defined by the ASTM E 1527-05 Standard as “a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment.”

This Phase I assessment has revealed nineteen RECs. Details regarding the nature of these RECs and our opinion regarding potential impacts are provided below.

## KNOWN RECOGNIZED ENVIRONMENTAL CONDITIONS

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs). Three KRECs has been identified on the subject site based on the limited Phase II subsurface sampling results.

**KREC #1:** Soil and groundwater petroleum impacts from historical sources or off-site source

**Potential Impact:** High

**Explanation:** Two soil samples (GTW-661-804-2 collected at a depth of 10-15 feet below ground surface [bgs] and GTW-661-804-3 at a depth of 20-25 feet bgs), (refer to Table I and Figure 3) collected by Haley & Aldrich from Square 0661, Lot 0804 in proximity to former ASTs revealed total petroleum hydrocarbons–diesel range organics (TPH-DRO) concentrations of 483 and 1,260 milligrams per kilogram (mg/kg) respectively. In addition, at GTW-661-804-3, total petroleum hydrocarbons–gasoline range organics (TPH-GRO) were detected at a concentration of 511 mg/kg. These concentrations of TPH exceed the D.C. Municipal Regulations (DCMR) Tier 0 Soil Standard for TPH of 100 mg/kg and thus confirm the presence of petroleum contamination in soil. The vertical extent of impacts in soil is currently not known. TPH-GRO and TPH-DRO were detected below DC Tier 1 Surface and Groundwater Standards in groundwater GTW-661-804-3, as well as at GTW-661-804-1 advanced in the southeastern portion of this parcel, and were not detected at GTW-661-804-2 (refer to Table II). The TPH-GRO concentration in GTW-661-804-1 and GTW-661-804-3 exceeded the EPA Regional Screening Level (RSL) of 0.033 mg/L for TPH low aromatics (benzene). The TPH-DRO concentration in GTW-661-804-3 exceeded the RSL of 0.005 mg/L for TPH medium aromatics (naphthalene). Furthermore, the horizontal extent of impacts is also unknown; however TPH was not encountered in soil, and TPH-GRO was detected in GTW-661-804-1 at a concentration of 0.66 mg/L, an order of magnitude below that observed at GTW-661-804-3 (3 mg/L).

Furthermore, benzene exceeded the DCMR Tier 1 Surface and Groundwater Standard, the EPA Maximum Contaminant Level (MCL) of 0.005 milligrams per liter (mg/L) for drinking water and EPA tap water RSL of 0.00045 mg/L in

wells GTW-661-804-1 (0.0344 milligrams mg/L) and GTW-661-804-3 (0.0082 mg/L). Ethylbenzene was detected at a concentration of 0.0122 mg/L in GTW-661-804-3 at depths of 20-25 feet bgs, above the associated EPA RSL for tap water of 0.0015 mg/L. Naphthalene was observed in wells GTW-661-804-1 and GTW-661-804-3 at 0.0014 mg/L and 0.0674 mg/L, respectively, which exceed the EPA RSL of 0.00017 mg/L.

**KREC #2:** Petroleum impacts in groundwater in southeastern corner of Square 0661, Lot 0804

**Potential Impact:** Moderate

**Explanation:** As described above, a groundwater sample (GTW-661-804-1, see Table II and Figure 3) collected at a depth of 20-25 feet bgs in the southeastern portion of Square 0661, Lot 0804 parcel revealed benzene at a concentration of 0.0344 mg/L. This concentration exceeds the respective DC Groundwater Standards and EPA MCL of 0.005 mg/L and the EPA RSL for tap water of 0.00045 mg/L. Naphthalene was also detected at concentrations of 0.0014 mg/L, above the associated EPA RSL for tap water of 0.00017 mg/L. Benzene and naphthalene were not detected in soil at this or other locations at Square 0661, Lot 0804, suggesting that groundwater may be impacted by an off-site source.

**KREC #3:** Petroleum impacts in soil at Square 0661, Lot 805

**Potential Impact:** Low

**Explanation:** TPH-DRO were detected at a concentration of 38.3 mg/kg in a composite soil sample, GTW-661-COMP-805-1, collected at 0-2 feet in the southeastern corner of Square 0661, Lot 805. This concentration exceeds the EPA RSL for Residential Soil of 0.61 mg/kg for TPH-DRO but does not exceed the DC Tier 0 Soil Standard for TPH-DRO of 100 mg/kg. Soil and groundwater at depths below 2 feet were not sampled at this location and therefore the vertical extent of impact in soil is currently not known. Due to the proposed future land use of this site, the EPA screening level for residential exposure is most likely not applicable to the subject site.

## **SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS**

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The Phase I assessment identified twelve SRECs.

### **Suspect Recognized Environmental Conditions**

**SREC #1:** Substation operations at PEPCO Square 665, Lot 0024

**Potential Impact:** High

**Explanation:** Site access was not provided for Square 665, Lot 0024. Due to the age of the substation and the nature of activities taking place, there is a potential for leaks, spills or Polychlorinated Biphenyl (PCB) containing materials to be present at this lot. A monitoring well, GTW-661-24-1, was advanced along the western boundary of this parcel. PCBs were not detected in soil suggesting that PCBs have not migrated to the west of this parcel.

The following SRECs were identified on the adjacent properties south of the subject site.

**SREC #2:** Potentially leaking AST and underground pipeline at PEPCO Square 609, Lot 0804  
**Potential Impact:** Low  
**Explanation:** A #6 fuel oil AST was installed in the late 1960s at the property at Square 0609, Lot 0804; and Square 0611, Lots 19 and 10. An underground pipeline was used to connect the AST to the nearby Generating Station. The AST was decommissioned and the underground pipeline filled in 1981. No information regarding releases from the AST or pipeline is known. The site was also formerly employed for bulk fuel storage and vehicle and equipment maintenance and storage. Two independent sampling programs conducted in 2005 indicated that soil and groundwater was affected by petroleum hydrocarbon releases. It is unknown whether more recent studies have been performed at this site and whether soil and groundwater are still impacted.

The following SRECs were observed on the adjacent properties west of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013.

**SREC #3:** Potentially unlined/unpaved sump at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** On-site stormwater and spills are captured and pumped to a sump in the southwestern portion of the lot before being disposed off-site by a licensed contractor. During a site visit to this property in August 2013, the sump contained large quantities of oily liquid and it was not possible to ascertain whether the sump was lined and/or confirm the integrity of the lining. The site representative could not confirm the status of the sump lining. A potential therefore exists for hydrocarbons to migrate from the sump to the subsurface, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #4:** Heavy staining of concrete at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** During the site visit to this property in August 2013, heavy concrete staining was observed at many locations. The concrete was in moderate to good condition where visible. In other areas, for example the area surrounding the sump's pump, the staining was too thick to confirm the integrity of the concrete. A potential therefore exists for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #5:** Oil layer in secondary containment under aboveground storage tanks (ASTs) at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** A thick layer of oil was observed at the bottom of the AST tanks in the eastern portion of this property during the site visit in August 2013. It is understood that the flooring of the containment is paved with concrete. However, the integrity of the concrete could not be confirmed. A potential therefore exists

for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #6:** Concrete staining in area of an AST at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** Concrete staining on paving next to an AST was observed in the northern portion of this property. The concrete paving was in relatively good condition. However a large quantity of waste had been dumped immediately adjacent to the AST preventing Haley & Aldrich representatives from confirming the condition of the concrete beneath this waste. A potential therefore exists for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

Two SRECs were identified on the Akridge parcel, Square 0607, Lot 0013, located adjacent to the subject site to the west during a limited Phase II subsurface investigation performed by Haley & Aldrich in December 2013.

**SREC #7:** Minor groundwater contamination associated with chlorinated solvents  
**Potential Impact:** Low  
**Explanation:** Advantage Environmental Consultants, LLC (AEC) detected chlorinated solvents (tetrachloroethylene, trichloroethylene [TCE], 1,2 dichloroethane, and vinyl chloride) in a groundwater sample collected near the southeast corner of the property during a Phase II assessment conducted in 2005. The source of the chlorinated solvents is not known; however, Geomatrix, Inc. indicated an “asphalt pit” in this area of the subject site on Figure 3 of a Phase II assessment report completed in 1990. Chlorinated solvents detected in groundwater may also be due to migration from an unknown source upgradient from the property. A groundwater sample collected by Haley & Aldrich in this area of the site confirmed the presence of minor contamination associated with chlorinated solvents, including relatively low concentrations of trichloroethylene and vinyl chloride (43.9 and 38 micrograms per liter [ $\mu\text{g/L}$ ], respectively). The vinyl chloride concentration exceeds the EPA RSL for residential exposure via ingestion, which may not be applicable to the subject site. The extent of impact is not known, although volatile organic compounds were reportedly not detected in groundwater samples collected by AEC at several other locations in 2005, suggesting the extent may be limited to the southeast corner of the subject site. However, due to the tidal nature of underlying groundwater, a potential exists for these hydrocarbons to have migrated to the subject site.

**SREC #8:** Heavy staining near floor drains in the on-site storage building  
**Potential Impact:** Low  
**Explanation:** Heavy staining of the concrete floor appearing to be caused by hydrocarbons was observed immediately surrounding two floor drains, one in the northwestern portion and a second in the southeastern portion of the building. Although no cracks were apparent in the concrete in the areas where staining was observed, it is unknown whether the source of the stains has also migrated

into these floor drains or where the floor drains discharge. In addition, the source of the staining could have penetrated the concrete floor. A potential therefore exists for apparent hydrocarbon spills or leaks to have migrated to the subsurface, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

The following SRECs were observed on the adjacent properties east and northeast of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013.

**SREC #9:** Open Leaking Underground Storage Tank (LUST) case adjacent to subject site at 1812 Half St., SW

**Potential Impact:** Low

**Explanation:** A LUST entry (case # 95015) in December 1994 reportedly impacted soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Based on groundwater being impacted and the tidal influence of the area, a potential exists for impacted groundwater to migrate under the subject site.

**SREC #10:** Open LUST case adjacent to subject site at 1601 S Capitol St., SW

**Potential Impact:** Medium

**Explanation:** A LUST entry (case # 2013006) for a release listed as heating oil, gasoline, diesel from a UST in April 2013 reported impacts to soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Haley & Aldrich advanced a monitoring well, GTW-661-800-1, in the southeastern portion of Square 0661, Lot 0800 in June 2014. Petroleum hydrocarbons were not detected in a soil sample collected at 10-15 feet bgs at this location. Groundwater was not encountered at the monitoring well depth of 22 feet bgs; however, there is a potential for deeper groundwater to be present and impacted. Due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site.

**SREC #11:** Open LUST case adjacent to subject site at 1625 S. Capitol St., SW

**Potential Impact:** Low

**Explanation:** A LUST entry (case # 2013005) associated with the release of heating oil, gasoline or diesel from an UST in March 2013 reported impacts to soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Based on groundwater being impacted by the LUST and the tidal influence of the area, a potential exists for impacted groundwater to migrate under the subject site. As noted above, Haley & Aldrich advanced a monitoring well, GTW-661-800-1, in the southeastern portion of Square 0661, Lot 0800 in June 2014. Petroleum hydrocarbons were not detected in a soil sample collected at 10-15 feet bgs at this location. Groundwater was not encountered at a depth of 22 feet bgs in this monitoring well. However, there is a potential for deeper groundwater to be present and impacted at this property. Due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site.

**SREC #12:** Open LUST case adjacent to subject site at 1721 S. Capitol Street, SW  
**Potential Impact:** Low  
**Explanation:** A LUST entry (case # 87012) for a release listed as gasoline/heating oil from the UST was reported in September 1987. The LUST reportedly impacted soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Low levels of benzene, toluene, xylenes, chloromethane, naphthalene and TPH-GRO were detected in groundwater at a monitoring well, GTW-661-804-1, located in the southeastern portion of Square 0661, Lot 0804 and advanced in June 2014. These concentrations were below applicable regulatory limits. Hydrocarbons were not detected in soil at this location. However, due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site to the north and south of this monitoring well.

### **HISTORICAL RECs**

The ASTM E 1527-05 Standard defines an HREC as an environmental condition “which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.”

This Phase I assessment has revealed the following four HRECs.

**HREC #1:** LUST case # 93051 in Square 0665, Lot 0024, PEPCO Generating Station. In 1993, significant gasoline and diesel contamination was discovered in soil and groundwater on the northern portion of Square 0665, Lot 0024. PEPCO performed monitoring and remediation activities during the 1990s, removing more than 1,000 gallons of liquid-phase hydrocarbons (LPH). A No Further Action letter was issued by the Government of the District of Columbia, dated 1 April 2010. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #2:** A 20,000 gallon gasoline LUST (case # 93094) at Square 0607, Lot 0013, immediately adjacent to the west of the subject site, historically impacted soil and groundwater under the subject site and was reported in August 1993. The LUST case received regulatory closure in May 1994. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #3:** LUST case # 96030 at Square 0605, Lot 0802, immediately adjacent to the west of the subject site, and related to a tank containing gasoline was reported to be impacting soil and was granted regulatory closure. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #4:** A LUST case was reported at Opportunity Concrete Garage, 1601 S Capitol St., SW. The LUST entry was associated with the release of gasoline from a UST in November 1993 and reportedly impacted soil. The status of this release is listed as closed. Based on the status of the LUST entry and impacts being limited to soil, the gasoline release does not present a threat to human health or the environment under current site conditions and is unlikely to require additional regulatory action.

### **DE MINIMIS CONDITIONS**

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which “do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.” The ASTM E 1527-05 Standard notes that “conditions determined to be *de minimis* are not recognized environmental conditions.”

This Phase I assessment revealed the following *de minimis* condition: Two drums containing unknown liquids were observed in the southern portion of Square 0661 Lot 0805 in a vegetated area. Staining of vegetation surrounding the drums was not observed.

### **SUMMARY AND RECOMMENDATIONS**

In summary, several RECs were identified during the comprehensive Buzzard Point Phase I assessment in August 2013 and subsequent Phase II sampling in June 2014. Limited Phase II subsurface sampling described in this report confirmed petroleum impacts were detected in soil and groundwater beneath the subject site. Based on the elevated hydrocarbon concentrations detected at Square 0661, Lot 0804 and Square 0661, Lot 0805, it is our opinion that further investigation is warranted if delineation of petroleum impacts is desired and to refine possible material management options and associated costs. Furthermore, it is still unknown whether soil and groundwater under Square 665, Lot 024 is impacted, and if so, what extent of impacts is present. Based on the data obtained, soil and groundwater management may be required during construction activities:

- Groundwater impacted by petroleum hydrocarbons in proximity to the former ASTs at Square 661 Lot 804 may require treatment prior to discharge or off-site disposal. If a deep structure (i.e. subsurface parking garage) is constructed in this area of the subject site that requires long-term dewatering, then a treatment system may be required, along with appropriate maintenance, permitting, and monitoring.
- Petroleum-impacted soil in proximity to the former ASTs at Square 661 Lot 804 may not be appropriate for use as off-site fill and may require special handling and disposal. However, depending upon the type or development proposed, the impacted soil may be able to be managed on-site with agency approval and the use of institutional and/or engineering controls.

We recommend developing a site-specific health and safety plan and a soil management plan to address proper handling of excavated soil. If groundwater will be encountered during the proposed development, then the soil management plan should include proper handling procedures for construction dewatering. Excavated soil may require characterization and treatment/off-site disposal. The District Department of the Environment (DDOE) may require submission of a Work Plan to document how the developer will comply with applicable standards.

Schedule impacts on the proposed development associated with the recommended tasks range from 3 to 6 months, depending upon DDOE review and approval. Potential order of magnitude cost impacts from

the identified RECs on the proposed development range from \$25,000 to \$250,000 (see Table III for assumptions regarding these order of magnitude costs). **Note that these cost ranges assume a nominal volume of soil (200 cubic yards) and groundwater (4,000 gallons) will require removal for the proposed development.** We have assumed deep foundation designs that produce minimal soil and groundwater spoils. If shallow foundations or a subsurface structure is constructed on the site, requiring the removal of a greater volume of soil and groundwater than we have assumed, then we request the opportunity to revise our order of magnitude cost and schedule impacts accordingly.

The remainder of this report contains additional information regarding the Phase I assessment, the resulting findings summarized above, and limitations affecting this report.

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## 1. INTRODUCTION

This report presents the results of a Phase I environmental site assessment (Phase I assessment) and limited Phase II subsurface sampling conducted at the PEPCO parcels at Buzzard Point (Square 0661, Lot 0805, Square 0661, Lot 0804 and Square 0665, Lot 0024) in Washington, DC (herein referred to as the “subject site”). A Phase I assessment was conducted by Haley & Aldrich, Inc. (Haley & Aldrich) for seven parcels at Buzzard Point proposed for redevelopment as a professional soccer stadium, in accordance with our proposal to McKissack & McKissack dated 28 June 2013 (“Agreement”, Appendix A). This report was prepared in response to a request from McKissack & McKissack to provide a stand-alone Phase I assessment for the subject site and the other parcels once Limited Phase II subsurface sampling was performed at the different parcels. Limited Phase II subsurface sampling was conducted on the subject site in accordance with our proposal dated 24 September 2013 (“Agreement”, Appendix A) to McKissack & McKissack. This Phase I assessment was performed in conformance with the scope and limitations of the American Society of Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) to comply with 40 Code of Federal Regulations (CFR) Part 312 (the All Appropriate Inquiries [AAI] Rule).

### 1.1 Objective

The objective of a Phase I assessment is to identify known and suspect “recognized environmental conditions” (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site by evaluating subject site history, existing observable conditions, current subject site use, and current and former uses of adjoining properties as well as potential releases at surrounding properties that may impact the subject site. RECs are defined in the ASTM E 1527-05 Standard as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water at the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.” A material threat is defined by the ASTM E 1527-05 Standard as “a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment.”

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The ASTM E 1527-05 Standard defines HRECs as environmental conditions “which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.”

The objective of the limited Phase II subsurface sampling was to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule implications on the proposed development. Our conclusions are intended to help the user evaluate the “business environmental risk” associated with the subject site, defined in the

ASTM E 1527-05 Standard as “a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations...”

The completion of this Phase I assessment is only one component of the process required to satisfy the AAI Rule. In addition, the user must adhere to a set of user responsibilities as defined by the ASTM E 1527-05 Standard and the AAI Rule. User responsibilities are discussed in Section 5.3 of this report. A user seeking protection from Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability as an innocent landowner, bona fide prospective purchaser, or contiguous property owner must complete all components of the AAI process in addition to meeting ongoing obligations. AAI components, CERCLA liability relief, and ongoing obligations are discussed in the AAI Rule and in Appendix XI of the ASTM E 1527-05 Standard.

## **1.2 Site Identification**

The subject site is owned by PEPCO and is bounded by R Street SW to the north, Half Street SW to the east, 1<sup>st</sup> Street SW to the west and T Street SW to the south, as shown on the Project Locus, Figure 1. The subject site comprises three parcels:

- Square 0661, Lot 0805 is employed as a parking lot.
- Square 0661, Lot 0804 is vacant.
- Square 0665, Lot 0024 is used as an electrical substation.

## **1.3 Scope of Services**

Haley & Aldrich performed the following scopes of service to complete this Phase I assessment. These services were performed either by, or under the direct supervision of, an environmental professional as defined by the AAI Rule.

1. Conducted visual observations of site conditions, and of abutting property use, to evaluate the nature and type of activities that have been or are being conducted at and adjoining to the subject site, in terms of the potential for release or threat of release of hazardous substances or petroleum products.
2. Reviewed federal, state, tribal, and local environmental database information within the ASTM-specified distance from the subject site using a database service to access records. Used 7.5-minute topographic maps to evaluate the subject site’s physical setting.
3. Reviewed District environmental files pertaining to the subject site and nearby sites with the potential to impact the subject site.
4. Reviewed previous reports prepared for the subject site.
5. Reviewed the following sources of historical use information: Sanborn maps, aerial photographs and topographic maps.

6. Contacted District agencies regarding the subject site and surrounding properties and structures.
7. Interviewed the key site manager and property tenant representatives.
8. Performed limited Phase II subsurface sampling and analysis.
9. Interpreted the information and data assembled as a result of the above work tasks, and formulated conclusions regarding the potential presence and impact of RECs, including HRECs.

#### **1.4 Non-Scope Considerations**

The ASTM E 1527-05 Standard includes the following list of “additional issues” that are non-scope considerations outside of the scope of the ASTM Phase I assessment practice: asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, bio-agents, and mold. These items were not included in this Phase I assessment of the subject site.

A limited assessment of the presence of polychlorinated biphenyls (PCBs) is included in the ASTM work scope. Accordingly, our assessment of the presence of PCBs is limited to those potential sources specified in the ASTM E 1527-05 Standard as “electrical or hydraulic equipment known or likely to contain PCBs...to the extent visually and or physically observed or identified from the interview or records review.”

#### **1.5 Exceptions and Deviations**

##### **1.5.1 Deviations**

Haley & Aldrich completed this Phase I assessment in substantial conformance with the ASTM E 1527-05 Standard. In our opinion, no additions were made to or deviations and deletions made from the ASTM work scope in completing this Phase I assessment.

##### **1.5.2 Data Gaps**

Access was not provided for Square 0665, Lot 0024. This lot is surrounded by tall fence of at least eight feet, blocking all views to this lot. Due to the nature of activities taking place at Square 0665, Lot 0024, a special permit is required for site access. It was therefore not possible to assess current conditions at these this property. This non-accessible area comprises data gaps for this report.

##### **1.5.3 Limitations**

Our work for this project was performed in accordance with the standards and practices set forth in 40 CFR Part 312 and is consistent with the ASTM E 1527-05 Standard for Phase I Environmental Site Assessments. Several organizations other than ASTM, such as professional associations ASFE and AGWSE, have also developed guidelines or standards for environmental site assessments. The Phase I assessment presented in this report may vary from the specific guidelines or standards required by other organizations.

This Phase I assessment was prepared pursuant to an Agreement dated 22 July 2013 between McKissack & McKissack and Haley & Aldrich, which Agreement is attached hereto and is made a part of this report. The limited Phase II subsurface sampling was performed pursuant to an Agreement dated 30 October 2013 between McKissack & McKissack and Haley & Aldrich (Appendix A). All uses of this report are subject to, and deemed accepting of, the conditions and restrictions contained in these Agreements. The observations and conclusions described in this report are based solely on the Scope of Services provided pursuant to these Agreements. Haley & Aldrich has not performed any additional observations, investigations, studies, or other testing not specified in these Agreements. Haley & Aldrich shall not be liable for the existence of any condition the discovery of which would have required the performance of services not authorized under these Agreements.

This report is prepared for the exclusive use of McKissack & McKissack and their prime contract holder, the District of Columbia Department of General Services (DGS) in connection with the proposed development of the subject site. There are no intended beneficiaries other than McKissack & McKissack. Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreements or the report. Use of this report by any person or entity other than McKissack & McKissack or the DGS for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from McKissack & McKissack and from Haley & Aldrich. Use of this report by such other person or entity without the written authorization of McKissack & McKissack and Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this report by any person or entity, including by McKissack & McKissack, for a purpose other than for with the proposed development of the subject site is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the report is adequate for such other use. Use of this report by any person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entity's sole risk and shall be without legal exposure or liability to Haley & Aldrich.

This report reflects subject site conditions observed and described by records available to Haley & Aldrich as of the date of report preparation. The passage of time may result in significant changes in subject site conditions, technology, or economic conditions, which could alter the findings and/or recommendations of the report. Accordingly, McKissack & McKissack and any other party to whom the report is provided recognize and agree that Haley & Aldrich shall bear no liability for deviations from observed conditions or available records after the time of report preparation.

Use of this report by any person or entity in violation of the restrictions expressed in this report shall be deemed and accepted by the user as conclusive evidence that such use and the reliance placed on this report, or any portions thereof, is unreasonable, and that the user accepts full and exclusive responsibility and liability for any losses, damages, or other liability which may result.

## 2. SITE DESCRIPTION

### 2.1 Site Ownership and Location

#### 2.1.1 Name of Site Owners

PEPCO owns the subject site.

#### 2.1.2 Name of Site Operator

PEPCO operates Square 0661, Lot 0804 and Square 0665, Lot 0024. PEPCO leases Square 0661, Lot 0805 to a parking operator.

#### 2.1.3 Project Locus Map

The United States Geologic Survey (USGS) topographic map for the subject site is the Washington West, District of Columbia Quadrangle, dated 1983 (see Figure 1). The USGS topographic map was used as the source for subject site setting information.

### 2.2 Site and Vicinity Description

Figure 2 is a Site Plan of the subject site and shows relevant features of the subject site and immediately adjoining properties, as described below.

The subject site consists of three parcels:

- Square 0661, Lot 0805 is utilized as a parking lot.
- Square 0661, Lot 0804 is vacant.
- Square 0665, Lot 0024 is used as an electrical substation.

The area in the vicinity of the subject site is generally characterized as urban industrial and commercial.

- **North:** the parcel is used for storing sand and is owned and operated by the District of Columbia.
- **South:** the remainder of the substation property owned by PEPCO located to the south of T Street SW, not included in the scope of this report
- **West:** Super Salvage, Inc. which operates a salvage yard for diverse metal structures and a property owned by Akridge comprising a parking lot and a building used for storing end of life vehicles.
- **East:** Ready-Mix Concrete plant

### 2.3 Physical Setting

The subject site geology and hydrology were evaluated based on the results of the limited Phase II sampling (see Section 7 of this report) performed by Haley & Aldrich subsequent to the Phase I

assessment, available public information or references, and upon our experience and understanding of subsurface conditions in the subject site area.

### **2.3.1 Topography**

Topographically, the subject site and its vicinity is relatively flat with a gradual downward slope to the south. The subject site is at an elevation of approximately 21 feet above sea level [based on the Environmental Data Resources, Inc. (EDR) report].

### **2.3.2 Geology**

Five borings were advanced under the subject site as part of the limited Phase II sampling in June 2014. Soil under the site (to a depth of five feet bgs) generally comprises sand and clay with some gravel. Soils below five (5) feet and to a depth of 35 feet bgs also comprised sand and clay with some gravel. According to information obtained from the Environmental Data Resources (EDR), Inc., report, bedrock beneath the subject site consists of a stratified sequence of Cretaceous-aged sedimentary rock.

Soils details in the site vicinity were not available in the EDR report, however, due to the proximity of the Anacostia River, alluvial sediments likely exists above the sedimentary rock. The subject site and vicinity are located in an area comprised of urban land characterized by disturbed surface soils covered with structures and other impervious materials (pavement and concrete).

### **2.3.3 Hydrology**

Based on surface topography, surface water from the subject site appears to flow in a southerly direction.

Also based on topography and the location of nearest water bodies (the Anacostia River, located approximately 0.1 miles east and 0.2 miles south, and the Potomac River located approximately 0.3 miles west of the subject site), regional groundwater flow is anticipated to be tidally influenced. Hydrogeologic investigations were not performed at the subject site during this Phase I assessment; therefore, it is unknown to what extent localized variations in groundwater depth and flow occur on the subject site.

According to the Flood Insurance Rate Map (FIRM) supplied by EDR, the subject site is located within a floodplain. Potable water is supplied to the subject site by the District of Columbia Water and Sewer Authority (WASA). There is no known monitoring or pumping wells located on the property.

### 3. PREVIOUS REPORTS

The following reports previously prepared for the subject site were reviewed for this Phase I assessment. Information contained in these reports is included herein and summarized below. Copies of pertinent sections of these reports are included in Appendix B.

- No Further Action Letter for LUST case #93051, Pepco (Buzzard Generating Station) issued by the Government of the District of Columbia, dated 1 April 2010.
- “Limited Phase II Environmental Investigation, Buzzard Point, 2<sup>nd</sup> Street SW / V Street SW, Washington, D.C.,” prepared by URS Corporation, Inc. (URS), for Potomac Electric Power Company, dated 22 March 2005. *Note: This report included the multi-lot area located off the subject site, south of T Street, North of V Street, east of 2<sup>nd</sup> Street, and west of 1<sup>st</sup> Street. Only findings related to the subject site are discussed herein.*
- “Phase I Environmental Site Assessment, Buzzard Point, Squares 609 & 611, 2<sup>nd</sup> Street and V Street, SW, Washington, DC,” prepared by URS for PEPCO Holdings Inc., dated 4 April 2005. *Note: This report included the multi-lot area located off the subject site, south of T Street, North of V Street, east of 2<sup>nd</sup> Street, and west of 1<sup>st</sup> Street. Only findings related to the subject site are discussed herein.*
- “Phase I Environmental Site Assessment, Buzzard Point, 2<sup>nd</sup> Street and V Street, SW, Washington, DC,” prepared by Advantage Environmental Consultants, LLC (AEC), for The John Akridge Companies, Inc., dated 10 June 2005. *Note: This report included the multi-lot area located south of S Street, North of V Street, east of 2<sup>nd</sup> Street, and west of 1<sup>st</sup> Street. Only findings related to the subject site are discussed herein.*
- “Phase II Environmental Site Assessment, Buzzard Point, 2<sup>nd</sup> Street and V Street, SW, Washington, DC,” prepared by AEC for The John Akridge Companies, Inc., dated 10 June 2005. *Note: This report included the multi-lot area located south of S Street, North of V Street, east of 2<sup>nd</sup> Street, and west of 1<sup>st</sup> Street. Only findings related to the subject site are discussed herein.*
- “Assessment of the Buzzard Point Properties,” prepared by Geomatrix, Inc., for Potomac Electric Power Company, dated March 1990. *Note: This report included the multi-lot PEPCO properties located, south of Potomac Avenue, North of V Street, east of 2<sup>nd</sup> Street, and west of Half Street. Only findings related to the subject site are discussed herein.*
- Comprehensive Site Assessment Potomac Electric Power Company, Buzzard Point Station, 1<sup>st</sup> and V Street, Prepared by TPH Technology, Incorporated (TPH Technology), dated 11 August 1993. *Note: This report included the multi-lot PEPCO properties located, south of Potomac Avenue, North of V Street, east of 2<sup>nd</sup> Street, and west of Half Street. Only findings related to the subject site are discussed herein.*
- Excerpts from Corrective Action Plan Remedial Specifications and Implementation Details, Buzzard Point Generation Station, prepared by TPH Technology, March 1995. *This report included the multi-lot PEPCO properties located, south of Potomac Avenue, North of V Street,*

*east of 2<sup>nd</sup> Street, and west of Half Street. Only findings related to the subject site are discussed herein.*

- LUST Case #93051 – Buzzard Point Station, Letter to DC Department of Health dated 7 June 2002.
- LUST Case #93051 – Buzzard Point Station, Letter to DC Department of Health dated 19 August 2004.

**Subject site:** The AEC Phase I report covered the area bounded by S Street SW to the north, 1<sup>st</sup> Street SW to the east, V Street SW to the south and 2<sup>nd</sup> Street SW to the west and identified four LUST cases in proximity to the property, including LUST case # 93051. In the early 1970s, a release was reported from a four-inch diameter underground pipeline that connected the Generating Station (Square 665, Lot 0024) to the two, 0.411-million gallon number two fuel oil ASTs (Square 661, Lot 0804) under S Street. In 1993, significant gasoline and diesel contamination was discovered in soil and groundwater on the northern portion of Square 661, Lot 0024. Monitoring wells installed in both lots identified TPH-GRO, TPH-DRO, and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) in soil and monitoring wells as well as LPH. The groundwater flow direction was documented to be west and southwest.

A Comprehensive Site Assessment was performed by TPH Technology in 1993 for LUST case #93051 following the discovery of free phase hydrocarbons in an existing groundwater monitoring well, located in the northern portion of the generating station. The assessment included a shallow soil gas survey, the installation of eleven groundwater monitoring wells and sampling and analysis of soil and groundwater. Elevated concentrations of TPH and BTEX were detected in soil and groundwater. Naphthalene was also present at elevated concentrations in groundwater, indicating a plume of free phase and dissolved phase hydrocarbons, extending to the property boundaries along the S Street to the north. The report identified a vacant lot to the north of S street which was reportedly a former fuel terminal operated by Steuart Petroleum where site assessment and remedial activities are currently taking place. Free phase petroleum, comprising gasoline and #2 fuel oil was encountered under this site. Approximately 2,717 gallons of liquid product have been estimated to have been recovered from this property during the late 1980s. The report concluded that the risk to human health and the environment from this property were moderate. The deeper portions of storm and sanitary sewers under the property might also become impacted as a result of hydrocarbons migrating deeper in the subsurface towards these utilities. Additional delineation would be needed to confirm the extent and exact sources of the subsurface hydrocarbons.

The Corrective Action Plan prepared by TPH Technology provides an overview of the results of soil and groundwater quality assessment activities completed within the combustion turbine yard (located on the subject site at Square 0665, Lot 0024), and subsurface assessment activities at the former AST farm and gasoline fueling area (located immediately west of the subject site) and was prepared following the submittal of the Comprehensive Site Assessment described above. Free-phase product was found to cover a relatively larger area than the reported petroleum release at the combustion turbine yard would suggest. The highest concentration of BTEX and TPH-GRO in soil was encountered at a boring location adjacent to the former ASTs at Square 0661, Lot 0804. The report concluded that, based on information collected, there was a lack of data suggesting that the former AST farm or the gasoline fueling area (located immediately west of the subject site) are a major contributing source of the hydrocarbons in groundwater under the combustion yard. The highest BTEX concentrations in groundwater were encountered in a monitoring well located on S Street, between Square 0661, Lot

0804 and Square 0665, Lot 0024. TPH-GRO and TPH-DRO was encountered in groundwater under Square 0661, Lot 0804. Naphthalene was also detected at elevated concentrations in groundwater at the subject site, as well as under the property immediately west of the subject site. Characterization of product encountered at several groundwater monitoring wells was performed and revealed different sources of hydrocarbons causing impacts under the site. The product plume under the Square 0661, Lot 0804 was estimated to cover an area of at least 17,200 square feet and represents 1,600-3,600 gallons of hydrocarbons. *Note, that sections of this report were missing, and the information provided above thus only reflects excerpts from the report reviewed.*

In January 1996, PEPCO installed a soil vapor extraction (SVE) system that operated through November 1999 that removed approximately 6,925 gallons of petroleum. From May 2001 to April 2002, a portable high vacuum pump and treat system was also used to recover petroleum compounds. The site had been monitored monthly since 1993 with semi-annual sampling events. Results were reported to DC Department of Health (now DC Department of the Environment) in quarterly reports. A letter to the DC Department of Health dated 7 June 2002 requested that the existing SVE system be deactivated and replaced by a passive remediation approach. 1,350 gallons of hydrocarbons had been removed from the wells. The Department of Health's response is unknown. A subsequent letter dated 19 August 2004 to the DC Department of Health described recent groundwater sampling events at monitoring wells located down gradient of the groundwater plume. BTEX levels were generally below MCLs for drinking water and TPH levels were below the District of Columbia Water Quality Standards for groundwater.

The AEC 2005 Phase I reviewed the March 2004 groundwater sampling data. TPH GRO, TPH DRO, and BTEX were above applicable regulatory standards except in three down gradient wells. Only passive remediation with absorbent booms and monitoring was ongoing.

A No Further Action Letter was issued by the Government of the District of Columbia in April 2010 pertaining to the LUST case # 93051 as a result of the above activities and those subsequently performed by other consultants (the subsequent activities are summarized in documents that were not available for review).

**Square 0609, Lot 0804; Square 0611, Lots 19 & 10, located immediately south of the subject site:**

At the time of the URS and AEC 2005 Phase Is, these lots were used as a fenced parking lot with an unused 1.9-million gallon bulk #6 fuel oil AST installed in the late 1960s, an associated firefighting foam house, and a small storage shed. These lots were used as a coal storage yard from the late 1920s until the Generating Station began using fuel oil to power the station in 1968. From 1968 until the Generating Station was decommissioned in 1981, the lots were used by PEPCO for bulk fuel storage and leased to W.A. Chester for use as a vehicle and equipment maintenance and storage lot. An underground pipeline installed beneath 1<sup>st</sup> Street was used to connect the 1.9-million gallon AST to the Generating Station. The AST was decommissioned and the underground pipeline was filled in 1981. No information regarding releases from the AST or pipeline is known.

A URS sampling program conducted in 2005 indicated that soil and groundwater was affected by releases of petroleum hydrocarbons. No visual or olfactory evidence of contamination was observed, but laboratory analysis identified various levels of metals and TPH-DRO and TPH-GRO in soil and groundwater samples collected. An AEC sampling program conducted in 2005 also indicated that soil and groundwater were impacted by releases of petroleum hydrocarbons with low levels of TPH-DRO and lead detected.

**Akridge property located immediately west of the subject site:** In 1990, Geomatrix collected soil samples for TPH, BTEX, PCBs, and toxicity metals. The site was identified as a gasoline filling station for PEPCO vehicles at the time of the investigation. Soil samples were collected from 0 to 2 feet bgs. Of the thirteen samples collected, ten showed TPH concentrations ranging from 100 to 360 parts per million (ppm). Geomatrix concluded that TPH concentrations were fairly well distributed throughout the site.

At the time of the AEC 2005 Phase I, the site was used as a fenced parking lot with a prefabricated metal storage building and trailers. The site was used for vehicle fueling and storage by PEPCO from the late 1960s until 1993. Three USTs were located on-site:

- 6,000 gallon gasoline UST removed in 1988;
- 6,000 gallon diesel UST removed in 1988; and
- 20,000 gallon gasoline UST removed in 1993 and assigned LUST case # 93094 due to the discovery of petroleum impact to groundwater at the site during removal of the UST. Confirmatory soil samples were not significantly contaminated; however, groundwater samples were above regulatory limits. One monitoring well (MW-13) was later installed in this area. Petroleum concentrations in soil were below action limits at the time, although BTEX (1.77 mg/L) and TPH (3.0 mg/L) were above action limits for groundwater. The LUST case received regulatory closure in May 1994.

In May 2005, AEC advanced borings (B-1 through B-9, B-27, B-29, and B-30) using Geoprobe rigs, screened soils with a photoionization detector, collected soil samples for total TPH-DRO, TPH-GRO, Volatile Organic Compounds (VOCs), and priority pollutant metals, PCBs, metals, and ignitability, installed groundwater monitoring wells, and collected groundwater samples for TPH -DRO, VOCs, and lead. Soil results indicated:

- TPH-DRO/GRO were below detection limits in soil except for DRO detected on the southwest corner of this property at 11 ppm and DRO detected on the southeast corner near the former USTs at 45 ppm.
- VOCs and PCBs were below detection limits.
- Lead was detected across Lot 0013 at concentrations below 170 ppm.

Groundwater samples indicated:

- TPH DRO and lead were below detection limits.
- VOCs detected on the southeast corner of the site near the former USTs included benzene and solvents.

**Super Salvage, Inc. located immediately west of the subject site:** These lots operated as a metal scrap yard since the 1960s. The URS and AEC 2005 Phase Is identified these lots on the RCRA Small Quantity Generator, LUST, and UST databases. One 2,000 gallon UST was permanently out of use. The LUST case was granted regulatory closure. No additional details were provided.

#### 4. SITE HISTORY

Past usage of the site and/or adjoining properties was assessed through a review of Sanborn maps dated 1928, 1959, 1977, 1984, 1988, 1990, 1991, 1992, 1994, and 1998; a review of aerial photographs dated 1944, 1949, 1951, 1957, 1963, 1968, 1970, 1977, 1983, 1988, 1994, 1998, 2000, 2005, 2007, 2008, 2009, 2011 and 2012; and topographic maps dated 1885, 1894, 1947, 1951, 1956, 1965, 1971, 1972, 1983 and 1994 prepared for the subject site (Appendix C).

By 1944, the subject site was developed with residential properties. Grading of residential properties took place in 1957. Site activities did not change until the late 1960s. At this time, two large fuel oil ASTs were located in the central portion and a transfer yard was located in the southern portion of the subject site. A parking lot was located in the northern portion of the subject site by 2008. By 2009, a small structure is shown in the southeastern portion of the parking lot.

The table below provides a detailed summary of pertinent information from the historical sources reviewed:

Dates	Description of Subject Site	Description of Adjoining Properties	Sources
1944-1963	The subject site comprised residential properties until 1957, when the site is observed to be razed.	<p>North: grading activities are shown on the properties located immediately north and northeast of the subject site. A commercial/industrial structure and a steel tank were present on the northeastern property by the late 1950s. By 1963, a commercial building was developed immediately adjacent to the north of the subject site.</p> <p>South: Grading activities are shown beyond which a power plant is.</p> <p>East: a commercial/industrial property appeared developed with three ASTs. These storage tanks were identified as fuel oil tanks on the 1984 Sanborn map. By 1949, a commercial/industrial building was located south of this property.</p> <p>West: By 1944, a small commercial/industrial structure was located to the west. Residential properties are shown south this structure. An additional commercial facility was located northwest of the subject site. By 1949, additional residential dwellings were located to the west.</p>	1944, 1949, 1951, 1957 and 1963 aerial photos, and 1959 and 1984 Sanborn maps

Dates	Description of Subject Site	Description of Adjoining Properties	Sources
1968-1997	Two ASTs are shown in the central portion of the subject site by 1968. These are later identified as fuel oil tanks on the 1984 Sanborn map. A transfer yard was located to the south of these ASTs. According to the Sanborn map dated 1984, PEPCO owned the subject site during that time.	<p>North: The commercial structure adjacent to the north were razed by 1970. An auto repair shop was located east of the warehouses located northeast of the subject site by 1977. A tank reportedly storing sand was present immediately adjacent to the subject site by 1988. This tank was later identified as storing sand on the 1992 Sanborn map.</p> <p>South: a conveyor yard was located adjacent to the site by 1984.</p> <p>East: by 1990, the tanks on the adjacent property were no longer present. The entire footprint of the property on which the tanks were located was razed.</p> <p>West: Additional grading took place immediately west of the subject site, now reportedly owned by Onec. A scrap metal yard was located immediately west of the subject site. To the south of the scrap metal yard was located a garage owned by PEPCO, as well as a parking lot.</p>	1968, 1970, 1977, 1983, 1988 and 1994 aerial photos and 1984, 1988, 1990, 199, 1992 and 1994 Sanborn maps
1998-2012	A parking lot was located in the northern portion of the subject site by 1998. In 2009, a small structure is shown in the southeastern portion of the parking lot.	No changes were observed on adjacent properties during this time.	1998, 2000, 2005, 2007, 2008, 2009, 2011 and 2012 aerial photos and 1998 Sanborn map

**Notes:**

1. Unless otherwise noted above, per the ASTM standard, sources were reviewed dating back to 1940 or first developed use, whichever is earlier, and at five-year intervals if the use of the property has changed within that time period.

## 5. ENVIRONMENTAL RECORDS REVIEW

### 5.1 Standard Environmental Records Review

Haley & Aldrich used the electronic database service EDR to complete the environmental records review. The database search was used to identify properties that may be listed in the referenced agency records, located within the ASTM-specified approximate minimum search distances as shown in the table below. Section 5.1.1 presents a description of each database searched.

Database Searched	Approximate Minimum Search Distance	Subject Site Listed?	Number of Sites within Search Distance
NPL Sites	1 mile	No	1
Delisted NPL Sites	0.5 mile	No	0
CERCLIS Sites	0.5 mile	No	1
CERCLIS-NFRAP Sites	0.5 mile	No	3
Federal ERNS	Site only	No	0
RCRA non-CORRACTS TSD Facilities	0.5 mile	No	0
RCRA CORRACTS TSD Facilities	1 mile	No	1
RCRA Generators	Site & Adjoining	Yes	4
Federal Institutional Controls/Engineering Controls	Site Only	No	0
State and Tribal Equivalent NPL Sites	1 mile	No	0
State and Tribal Equivalent CERCLIS Sites	0.5 mile	No	0
State and Tribal Registered Storage Tanks	Site & Adjoining	No	9
State and Tribal Landfills and Solid Waste Disposal Sites	0.5 mile	No	0
State and Tribal Leaking Storage Tanks	0.5 mile	Yes	33
State and Tribal Institutional Controls/Engineering Controls	Site Only	No	0
State and Tribal Voluntary Cleanup Sites	0.5 mile	No	1
State and Tribal Brownfield Sites	0.5 mile	Yes	13
DC Historical USTs	0.25 mile	Yes	7

The Environmental Data Resources (EDR) report also contains search results of other State environmental databases that are relevant to the subject site.

Haley & Aldrich also searched the Orphan Site List provided in the EDR report for the subject site and sites adjoining the subject site. Orphan sites are those that, due to incorrect or incomplete addresses,

could not be mapped. Neither the subject site nor the adjoining properties were identified on the Orphan Site List. The complete environmental database report is provided in Appendix D.

### 5.1.1 Descriptions of Databases Searched

Numerous regulatory databases were searched during this Phase I assessment. Each database reviewed is described in the EDR report presented in Appendix D. Those databases required by the ASTM E 1527-05 Standard are identified below.

1. **NPL Sites:** The National Priorities List (NPL) is a list of contaminated sites that are considered the highest priority for cleanup by the U.S. Environmental Protection Agency (USEPA).
2. **Delisted NPL Sites:** The Delisted National Priorities List (NPL) is a list of formal NPL sites formerly considered the highest priority for cleanup by the USEPA that met the criteria of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for deletion from the NPL because a no further response was appropriate.
3. **CERCLIS Sites:** The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) list identifies sites which are suspected to have contamination and require additional investigation to assess whether they should be considered for inclusion on the NPL.
4. **CERCLIS-NFRAP Sites:** CERCLIS-NFRAP status indicates that a site was once on the CERCLIS List but has No Further Response Actions Planned (NFRAP). Sites on the CERCLIS-NFRAP List were removed from the CERCLIS List in February 1995 because, after an initial investigation was performed, no contamination was found, contamination was removed quickly, or the contamination was not significant enough to warrant NPL status.
5. **Federal ERNS:** The Federal Emergency Response Notification System (ERNS) list tracks information on reported releases of oil and hazardous materials.
6. **RCRA non-CORRACTS TSD facilities:** The Resource Conservation and Recovery Act (RCRA) non-CORRACTS TSD Facilities List tracks facilities which treat, store, or dispose of hazardous waste and are not associated with corrective action activity.
7. **RCRA CORRACTS TSD facilities:** The RCRA CORRACTS TSD Facilities list catalogues facilities that treat, store, or dispose of hazardous waste and have been associated with corrective action activity.
8. **RCRA Generators:** The RCRA Generator list is maintained by the USEPA to track facilities that generate hazardous waste.
9. **Federal Institutional Controls/Engineering Controls:** The Federal Institutional Control list and Engineering Control list are maintained by the USEPA. Some Institutional Control and Engineering Control information may not be made publicly available and therefore will not be included on this registry.

10. **State and Tribal Equivalent NPL/CERCLIS Sites:** The (ASTM E 1527-05 Standard) requires searching “State and Tribal Equivalent NPL Sites.” A state equivalent to the Federal NPL list is not maintained in District of Columbia. The subject site is not within tribal jurisdiction.
11. **State and Tribal Equivalent CERCLIS Sites:** The (ASTM E 1527-05 Standard) requires searching “State and Tribal Equivalent CERCLIS Sites.” A state equivalent to the Federal CERCLIS list is not maintained in District of Columbia. The subject site is not within tribal jurisdiction.
12. **State and Tribal Registered Storage Tanks:** The District of Columbia Department of the Environment maintains a list of aboveground and underground storage tanks. The subject site is not within tribal jurisdiction.
13. **State and Tribal Landfills and Solid Waste Disposal Sites:** The District of Columbia Solid Waste Disposal Division is responsible for waste disposal at facilities located in Virginia. The subject site is not within tribal jurisdiction.
14. **State and Tribal Leaking Storage Tanks:** The District of Columbia Department of the Environment maintains an inventory of reported leaking underground storage tank incidents. The subject site is not within tribal jurisdiction.
15. **State and Tribal Voluntary Cleanup Sites:** The District of Columbia Department of Health maintains a list of Voluntary Cleanup sites. The subject site is not within tribal jurisdiction.
16. **State and Tribal Brownfield Sites:** The District of Columbia Department of the Environment maintains a list of Brownfield sites which includes properties where redevelopment or re-use may be compromised by the presence or presumed presence of hazardous materials or petroleum. The subject site is not within tribal jurisdiction.
17. **Other Databases Searched (Historical Cleaners and Auto Stations):** EDR Proprietary Records include Historical Cleaners, a database that consists of potential dry cleaner sites; and Historical Auto Stations, available listings of potential gas station/filling station/service station sites.

### 5.1.2 Detailed Description of Relevant Subject Site Listings

The EDR report identified the following database listings in searched databases (including more databases than listed above) at the subject site.

PEPCO, located at 1<sup>st</sup> and T Street, SW (Square 0665, Lot 0024 Map ID # 7) is listed on the UST database. Two entries are included in this database for tanks of capacity 6,000 gallons and containing diesel. These entries are listed as Permanently Out of Use.

An entry located at 1700 1<sup>st</sup> Street, SW (Square 0661, Lots 0805, Map ID # C10) is listed on the Brownfield database. No additional details are provided.

### 5.1.3 Detailed Descriptions of Relevant Nearby Site Listings

The EDR report identified database listings in searched databases (including more databases than listed above) within the prescribed search radii. The majority of the database listings were USTs and LUST sites. Based on the urban area of the site, characterized by subsurface building levels, subway tunnels, and utilities that create barriers to groundwater flow, and based on the assumption that the groundwater under the subject site is tidally influenced, only those sites adjacent to the subject site would be anticipated to have the potential to affect the subject site. These sites are listed below.

100 S Street, SW (Map ID #1), adjacent to the west and cross-gradient of the subject site, is listed on the Brownfields database.

Super Salvage, Inc. located at 1711 1<sup>st</sup> Street, SW (Map ID #C9, C10 and C11), immediately to the west and cross-gradient of the subject site, is listed on the LUST (case # 96030), UST and RCRA-CESQC databases. A tank containing gasoline was reported to be leaking in October 1995 and reportedly impacted soil. The status of this release is listed as Closed. A 2,000-gallon gasoline located at the site is listed as Permanently Out of Use. Additionally, this entity is listed as a Conditionally Exempt Small Quantity Generator for storing ignitable hazardous wastes, as well as waste cadmium, lead, benzene, methyl ethyl ketone, tetrachloroethylene, and trichloroethylene. No violations have been reported associated with this listing. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

An entry located at 1824 Half Street, SW (Map ID # B8), adjacent to the east and cross-gradient of the subject site, is located on the Brownfields database. No additional details are provided.

Home Moving & Storage located at 1812 Half St., SW (Map ID # B5), located adjacent to the east and cross-gradient of the subject site, is listed on the LUST database (case # 95015). The site owned and operated a gasoline UST. A release from the UST was reported in December 1994 and reportedly impacted soil and groundwater. The status of the release is listed as open. Based on the status of the LUST, there is a potential for this release to impact the subject site. Borger Management, Inc. (Map ID # B6) is also located at 1812 Half St., SW and is listed on the UST database. This 4,000-gallon UST contained gasoline and is listed as Permanently Out of Use.

PEPCO Buzzard - Tank #1 located at 180 S Street, SW (Map ID # A2), is located approximately 230 feet west and cross-gradient of the subject site, is listed on the LUST (case # 93094) and Brownfields databases. The site owned and operated a gasoline or diesel UST. A release from the UST was reported in August 1993 and reportedly impacted soil. The status of the release is listed as closed. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action. Buzzard Point Facility, also located at 180 S Street, SW (Map ID # I36) is listed on the UST database. Three tanks storing gasoline are listed as Permanently Out of Use.

Attis located at 1714 2<sup>nd</sup> Street, SW (Map ID # A3), located approximately 230 feet west and cross-gradient of the subject site, is listed on the UST database. The 3,500-gallon tank contained gasoline. The entry is listed as Permanently Out of Use. AT&T is also located at 1714 2<sup>nd</sup> Street, SW (Map ID # A4) and is listed on the LUST (case # 92076) and Brownfield databases. The site owned and operated a 3,500 gallon gasoline UST. A release from the UST was reported in July 1992 and impacted soil and groundwater. The status of the release is listed as closed. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

Opportunity Concrete Garage, 1601 S. Capitol St., SW (Map ID # H29 and H30): The 1601 S. Capitol St., SW property, located 300 feet northeast and cross-gradient of the subject site is listed on the UST, RCRA NonGen/NLR, FINDS and LUST (case # 2013006) databases. Seven USTs are listed, generally containing used oil, gasoline or heating oil. This Non-Generator stored ignitable hazardous waste, benzene, and tetrachloroethylene. The site received a violation in April 1994 relating to recordkeeping. Compliance was achieved during the same month. A LUST entry (case # 2013006) for the release listed as heating oil, gasoline, diesel from a UST in April 2013 reported impacts to soil and groundwater. The status of the release is listed as open. An additional LUST entry (case #94012) associated with the release of gasoline from a UST in November 1993 reportedly impacted soil only. The status of this release is listed as closed. Based on the status of the open LUST entry and the tidal influence of the area, the release from the UST may be adversely affecting the subject property.

Solon Automated Services, 1625 S. Capitol St., SW (Map ID # H31): The 1625 S. Capitol St., SW property, located 300 feet northeast and cross-gradient from the subject site, is listed on the UST database. A 1,000-gallon tank containing a non-specified hazardous substance is listed as Permanently Out of Use. 625 South Capitol Street LLC (Map ID # H32) is also listed at this address and is listed on the LUST database. A LUST entry (case # 2013005) associated with the release of heating oil, gasoline or diesel from a UST in March 2013 reported impacts to soil and groundwater. The status of the release is listed as open. Based on the status of the LUST entry and the tidal influence of the area, the release from the UST may be adversely affecting the subject property. Pak-American Corporation (Map ID # H32) is also located at this address and is listed on the RCRA-CESQG and NJ Manifest databases. The property is listed as storing ignitable hazardous wastes, cadmium, lead, mercury, benzene, 1,4-dichloroethylene, tetrachloroethylene, and trichloroethylene. No violations have been reported.

Stuart Petroleum, 1721 S. Capitol Street, SW (Map ID #G25 and G26): The 1721 S. Capital Street property, located 400 feet east northeast and cross-gradient of the subject site is listed on the UST, LUST and RCRA NonGen/NLR databases. The site is listed as a gas station and owned and operated a heating oil UST, listed as Permanently Out of Use. A LUST entry (case # 87012) for a release listed as gasoline/heating oil from the UST was reported in September 1987. The LUST reportedly impacted soil and groundwater. The status of the release is listed as open. The RCRA listing pertains to the storage of ignitable hazardous waste at the property. Two violations are listed related to the site's RCRA permit. Both violations were closed by the mid-1990s. Based on the status of the LUST entry and the tidal influence of the area, this release may be adversely affecting the subject site.

Pepco, Buzzard Point, 33 V Street, SW (Map ID #I37): This property is listed on the LUST database (case #93051) for a release listed as gasoline and diesel from a UST in January 1993

with reported impacts to soil and groundwater. The status of the release is listed as No Further Action.

## **5.2 Additional Environmental Records Review**

To supplement the (ASTM E 1527-05 Standard) environmental record sources, we contacted the following state and local government agencies, and/or reviewed the following additional sources:

### **5.2.1 D.C. Department of the Environment**

Additional environmental records were requested for this assessment through a Freedom of Information Act (FOIA) request to the D.C. Department of the Environment. To date, no response has been received from the FOIA request. Due to the information obtained through interviews with key subject site personnel, and other records reviews, it does not appear that responses to the FOIA requests should affect our conclusions regarding the site. However, if a response is received that affects our conclusions regarding the subject site, we will provide an addendum to this report.

### **5.2.2 D.C. Fire and EMS Department**

Additional environmental records were requested for this assessment through a FOIA request to the DC Fire and EMS Department. This department responded to our request on 27 December 2013. According to the files held by this department, operations taking place at the subject site and adjoining properties are unlikely to be impacting the subject site. The response from the DC Fire and EMS Department is included in Appendix D.

## **5.3 User Responsibilities**

The AAI Rule requires that the user of the report consider the following:

- Whether the user has specialized knowledge about previous ownership or uses of the subject site that may be material to identifying RECs;
- Whether the user has determined that the subject site's Title contains environmental liens or other information related to the environmental condition of the property, including engineering and institutional controls and Activity and Use Limitations (AULs), as defined by ASTM;
- Whether the user is aware of commonly known or reasonably ascertainable information about the subject site including whether or not the presence of contamination is likely on the subject site and to what degree it can be detected; and
- Whether the user has prior knowledge that the price of the subject site has been reduced for environmentally related reasons.

We requested such information for inclusion in this report. Though neither the AAI Rule nor the ASTM E 1527-05 Standard requires that this information be provided to the environmental professional(s),

failure on the part of the user to obtain such information for their own records, should it be reasonably ascertainable, may invalidate the user's compliance with the AAI Rule for CERCLA liability protection in the future.

## **6. SITE RECONNAISSANCE AND KEY PERSONNEL INTERVIEW(S)**

A site visit to observe site conditions was conducted by Karin Holland and Christian-Noel Tschibelu of Haley & Aldrich on 28 August 2013. Access to the subject site was provided by Tat-Lin Angus of PEPCO. Haley & Aldrich observed the exterior portions of the subject site, including the property boundaries, and observed adjoining property conditions from the subject site boundaries and/or public thoroughfares. No weather-related conditions or other conditions that would limit our ability to observe the subject site or adjoining properties occurred during our subject site visit. Access was not provided for Square 0665, Lot 0024. Square 0665, Lot 0024 is surrounded by tall fence of at least eight feet, blocking all views to this lot. Due to the nature of activities taking place at Square 0665, Lot 0024, a special permit is required for site access. It was therefore not possible to assess current conditions at this property. Site photographs are provided in Appendix E.

Tat-Lin Angus of PEPCO was interviewed during the subject site visit. Gustav Hamilton Jr. of PEPCO was subsequently interviewed in June 2014. The findings of the subject site visit and interviews are discussed below.

ASTM E 1527-05 Standard Section 10.8 requires that, prior to the subject site visit, the current subject site owner or key site manager and user, if different from the current owner or key site manager, be asked if there are any helpful documents that can be made available for review. These consist of environmental site assessment reports, audits, permits, tank registrations, Material Safety Data Sheets, Community Right-to-Know plans, safety plans, hydrogeologic or geotechnical reports, or hazardous waste generator reports. We made such a request but were not provided with any documents.

### **6.1 Subject Site Observations**

#### **6.1.1 Current Use of the Property and General Description of Structures**

Square 0661, Lot 0805: The lot is currently owned by PEPCO and is employed as a parking lot. The site is paved with asphalt. A small trailer is located in the southeastern portion of the property. A small concrete pad was observed in the southwestern portion of the lot.

Square 0661, Lot 0804: The lot is owned by PEPCO and is vacant. The lot is generally vegetated with the exceptions of two large circular sanded areas in the location of the former ASTs and at least four concrete pads in the southern portion of the lot.

Square 0665, Lot 0024: This lot is used as an electrical substation. The lot was not accessible during the site visit.

#### **6.1.2 Potable Water Supply and Sewage Disposal System or Septic Systems**

According to the PEPCO site representatives, none of the lots at the subject site are connected to a potable water supply or sewage disposal system/septic systems.

### **6.1.3 Use and Storage of Petroleum Products and Hazardous Materials**

Bulk storage tanks were not observed or reported associated with the subject site during the site visit.

### **6.1.4 Disposal of Petroleum Products and Hazardous Materials**

The subject site does not generate petroleum products and hazardous materials.

### **6.1.5 Odors**

No odors were detected at the subject site during the site visit. Hydrocarbon odors were however detected during the limited Phase II sampling, as described in section 7.

### **6.1.6 PCBs Associated with Electrical or Hydraulic Equipment**

Square 0665, Lot 0024 is used as an electrical substation. According to historical aerial photos, the substation was constructed during the 1960s. There is therefore a potential for PCB-containing materials to be present at this lot.

### **6.1.7 Unidentified Substance Containers**

Two 55-gallon drums containing unidentified substances were observed in Square 0661 Lot 0805. The drums appeared to be in good condition with no evidence of releases.

### **6.1.8 Heating and Cooling System**

The subject site is not connected to a heating and cooling system.

### **6.1.9 Stains or Corrosion on Floors, Walls, or Ceilings**

Buildings were not observed on the accessible portions of the subject site. According to the PEPCO site representatives, buildings are not present on the portion of the subject site occupied by a substation.

### **6.1.10 Floor Drains and Sumps**

Stormwater drains and sumps were observed at the following locations:

Square 0661, Lot 0805: A stormwater drain was observed in the south western portion of this lot.

Square 0661, Lot 0804: At least four stormwater drains were observed in the central, southern and western portion of this lot.

### **6.1.11 Hydraulic Elevators**

No hydraulic elevators were observed or reported at the subject site.

#### **6.1.12 Vehicle Maintenance Lifts**

No hydraulic vehicle maintenance lifts were observed or reported at the subject site.

#### **6.1.13 Emergency Generators and Sprinkler System Pumps**

No emergency generators and sprinkler system pumps were observed or reported at the subject site.

#### **6.1.14 Catch Basins**

No catch basins were observed or reported at the subject site.

#### **6.1.15 Dry Wells**

Dry wells were not observed or reported at the subject site.

#### **6.1.16 Pits, Ponds, Lagoons, and Pools of Liquid**

Pits, Ponds, Lagoons, and Pools of Liquid were not observed or reported at the subject site.

#### **6.1.17 Stained Soil or Pavement**

Minor stains appearing to be caused by hydrocarbons were observed in the southern portion of Square 0661, Lot 0804, near to the vehicular entrance.

#### **6.1.18 Stressed Vegetation**

The majority of Square 0661, Lot 0804 is covered in vegetation. Grasses and shrubs were also observed on the other accessible lots comprising the subject site. Evidence of stressed vegetation was not observed.

#### **6.1.19 Solid Waste and Evidence of Waste Filling**

No evidence of solid waste or waste filling was observed at the subject site.

#### **6.1.20 Wastewater and Stormwater Discharge**

None of the accessible lots generate wastewater.

#### **6.1.21 Monitoring, Water Supply, or Irrigation Wells**

Monitoring, water supply, and irrigation wells were not observed or reported at the subject site.

#### **6.1.22 Sanitary Sewer and Septic Systems**

Septic systems were not observed or reported at the subject site.

## **6.2 Adjoining Property Observations**

Properties adjoining the subject site were generally observed to be light industrial or commercial in nature.

## **7. SUBSURFACE EXPLORATION**

In order to evaluate subsurface conditions of the subject site and assess whether current and former operation at and adjacent to the subject site are impacting the subject site, Haley & Aldrich conducted a limited Phase II subsurface assessment at the subject site. The approximate locations of explorations are shown on Figure 3.

### **7.1 Geoprobe Sampling and Monitoring Well Installations 26 June through 1 July 2014**

On 26 June through 1 July 2014, Haley & Aldrich oversaw the advancement of four temporary groundwater monitoring wells within the Pepco property and one just outside the Pepco property (see Figure 3) at the subject site by Vironex Drilling, Inc.:

- GTW-661-24-1: advanced to a depth of 23 feet, on the western boundary of the substation at Square 0665, Lot 0024
- GTW-661-804-1: advanced to a depth of 30 feet at Square 0661, Lot 0804, in proximity to LUST cases adjacent to subject site
- GTW-661-804-2: advanced to a depth of 25 feet at Square 0661, Lot 0804, in proximity to the location of the former ASTs
- GTW-661-804-3: advanced to a depth of 35 feet at Square 0661, Lot 0804, in proximity to the location of the former ASTs
- GTW-661-805-1: advanced to a depth of 24 feet at Square 0661, Lot 0805, in proximity to LUST cases adjacent to subject site

In addition, three Geoprobe borings (GTW-661-805-2, GTW-661-805-3 and GTW-661-805-4) were advanced to a depth of five feet at Square 0661, Lot 0805.

Geoprobe reports and observation well installation reports are included in Appendix F.

#### **7.1.1 Soil Sampling 26 and 27 June 2014**

Soil samples collected during the advancement of the temporary groundwater monitoring wells (GTW-661-24-1, GTW-661-804-1, GTW-661-804-2, GTW-661-804-3 and GTW-661-805-1) and the Geoprobe (GTW-661-805-2, GTW-661-805-3 and GTW-661-805-4) were screened for VOCs by exposing a photoionization detector (PID) to vapors accumulated on the Geoprobe sample sleeves. The soil sample corresponding to the highest PID reading was submitted for laboratory analysis. Samples were collected for TPH-DRO, TPH-GRO, BTEX, naphthalene and PCBs (only the sample collected at GTW-661-24-1 was analyzed for PCBs). The soil samples were placed on ice in the field prior to being shipped via overnight courier to Pace Analytical Services, Inc. (Pace) in Huntersville, North Carolina.

#### **7.1.2 Groundwater Sampling 1 and 2 July 2014**

Monitoring wells GTW-661-804-1, GTW-661-804-2, GTW-661-804-3 and GTW-661-24-1 were sampled using low-flow sampling techniques on 1 and 2 July 2014. The following groundwater quality parameters were monitored and recorded prior to sampling: pH, temperature, conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity. Well GTW-661-805-1 was dry and therefore not sampled. No evidence of free product or sheens

were observed in groundwater from the sampled monitoring wells. Groundwater sampling records are included in Appendix G. Groundwater samples were collected and placed in laboratory prepared containers and stored on ice in the field prior to being submitted for TPH and VOCs analyses at the Pace laboratory in Charlotte, North Carolina.

## **7.2 Subsurface Findings**

Subsurface investigations described in this report did not define the lateral extent of petroleum impacts to soil or groundwater at the subject site. The objective was to explore SRECs and KRECs to evaluate current conditions to assess the general magnitude of potential impacts.

### **7.2.1 Soil Results**

Soil analytical results are summarized in Table I, along with regulatory screening levels for comparison. Laboratory analytical reports are included in Appendix H.

Analytical results for two soil samples, GTW-661-804-2 at a depth of 10-15 feet bgs and GTW-661-804-3 at a depth of 20-25 ft bgs (see Figure 3), collected in proximity to the former ASTs beneath Square 0661, Lot 0804 revealed TPH-DRO concentrations of 483 and 1,260 milligrams per kilogram (mg/kg) respectively. In addition, TPH-GRO were detected at a concentration of 511 mg/kg at a depth of 20-25 feet bgs at GTW-661-804-3. These concentrations of TPH exceed the DCMR Tier 0 Soil Standard for TPH of 100 mg/kg. These soil results confirm the presence of petroleum contamination in the area of the former ASTs. Petroleum-like odors were detected at these sample locations during sample collection.

TPH-DRO were also detected at a concentration of 38.3 mg/kg in a composite soil sample, GTW-661-COMP-805-1, collected at 0-2 feet in the southeastern corner of Square 0661, Lot 805. This concentration exceeds the EPA RSL for Residential Soil of 0.61 mg/kg for TPH-DRO but does not exceed the DC Tier 0 Soil Standard for TPH-DRO of 100 mg/kg.

BTEX and naphthalene were not detected in any soil samples collected at the subject site.

### **7.2.2 Groundwater Results**

Groundwater analytical results are summarized in Table II, along with regulatory screening levels for comparison. Laboratory analytical reports are included as Appendix H.

Benzene was detected in groundwater at GTW-661-804-1, located in the southeastern corner of Square 0661, Lot 804, at depths of 20-25 feet bgs at a concentration of 0.0344 mg/L and at GTW-661-804-3, located in proximity to the former ASTs, at depths of 20-25 feet bgs at a concentration of 0.0082 mg/L. These benzene concentrations exceeded the DCMR Tier 1 Surface and Groundwater Standard, the EPA Maximum Contaminant Level (MCL) of 0.005 milligrams per liter (mg/L) for drinking water and EPA tap water RSL of 0.00045 mg/L. Ethylbenzene was also detected at GTW-661-804-3 at a concentration of 0.0122 mg/L, above the respective EPA RSL for tap water of 0.0015 mg/L. Benzene and Ethylbenzene were not detected in other groundwater samples collected at the subject site. Toluene and xylenes were not detected in concentrations above regulatory limits in the groundwater samples collected at the subject site.

Naphthalene was observed in wells GTW-661-804-1 and GTW-661-804-3 at 0.0014 mg/L and 0.0674 mg/L, respectively, which exceed the EPA RSL of 0.00017 mg/L.

TPH-GRO and TPH-DRO were encountered at low levels in groundwater at GTW-661-804-3 at a depth of 20-25 feet bgs. The TPH-GRO and TPH-DRO concentrations were 3 mg/L, below the respective DC Groundwater Standards of 7.30 mg/L for TPH-GRO and 3.57 mg/L for TPH-DRO. However, the TPH-GRO concentrations encountered in this well exceeded the EPA RSL for tap water of 0.033 mg/L for TPH low aromatics (benzene). The TPH-DRO concentration in GTW-661-804-3 also exceeded the EPA RSL for tap water of 0.005 mg/L for TPH medium aromatics (naphthalene). TPH was not detected in other groundwater samples collected at the subject site.

## 8. FINDINGS AND CONCLUSIONS

Haley & Aldrich, Inc. (Haley & Aldrich) performed a Phase I environmental site assessment (Phase I assessment) of the Potomac Electric Power Company (PEPCO) parcels at Buzzard Point, Square 0661, Lot 0805, Square 0661, Lot 0804 and Square 0665, Lot 0024 (herein referred to as the “subject site”) in Washington, DC. The scope of work is described and conditioned by our proposal dated 28 June 2013. As indicated in our proposal, this Phase I assessment was performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 [the All Appropriate Inquiries (AAI) Rule]. Deviations from this Standard, and/or data gaps and their significance are described in Section 1.5 of this report. Limited Phase II subsurface sampling was also conducted to evaluate issues identified during the Phase I portion of the assessment. Our conclusions are intended to help the user evaluate the “business environmental risk” associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

The subject site comprises three lots with the following current uses:

- Square 0661, Lot 0805 is used as a parking lot.
- Square 0661, Lot 0804 is vacant.
- Square 0665, Lot 0024 is used as an electrical substation.

The objective of a Phase I assessment is to identify known and suspect “recognized environmental conditions” (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site, as defined in the ASTM E 1527-05 Standard and in Section 1.1 of this report. The objective of the limited Phase II subsurface sampling is to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule impacts on the proposed development.

The ASTM E 1527-05 Standard requires an environmental professional’s opinion of the potential impacts of RECs, HRECs, and *de minimis* conditions identified on a site during a Phase I assessment. Our opinion is rendered with respect to a REC’s potential (high, medium, or low) to require remedial response based on prevailing agency requirements and our understanding that the subject site is one of seven parcels being evaluated for potential redevelopment as a professional soccer stadium. Our opinion regarding a REC's potential impact on the subject site (high, medium, low, or unknown) is based on the scope of our work, the information obtained during the course of our work, the conditions prevailing at the time our work was performed, the applicable regulatory requirements in effect at the time our work was performed, and/or our experience evaluating similar sites, and our understanding of the client's intended use for the subject site.

Access was not provided for Square 0665, Lot 0024. Square 0665, Lot 0024 is surrounded by a tall fence of at least 8 feet, blocking all views to this lot. A special permit is required for site access to Square 0665, Lot 0024 due to its current use as an electrical substation. It was therefore not possible to assess current conditions at this property. This non-accessible area comprises a data gap for this report.

## RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.” A material threat is defined by the ASTM E 1527-05 Standard as “a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment.”

This Phase I assessment has revealed nineteen RECs. Details regarding the nature of these RECs and our opinion regarding potential impacts are provided below.

## KNOWN RECOGNIZED ENVIRONMENTAL CONDITIONS

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs). Three KRECs has been identified on the subject site based on the limited Phase II subsurface sampling results.

**KREC #1:** Soil and groundwater petroleum impacts from historical sources or off-site source

**Potential Impact:** High

**Explanation:** Two soil samples (GTW-661-804-2 collected at a depth of 10-15 feet below ground surface [bgs] and GTW-661-804-3 at a depth of 20-25 feet bgs), (refer to Table I and Figure 3) collected by Haley & Aldrich from Square 0661, Lot 0804 in proximity to former ASTs revealed total petroleum hydrocarbons–diesel range organics (TPH-DRO) concentrations of 483 and 1,260 milligrams per kilogram (mg/kg) respectively. In addition, at GTW-661-804-3, total petroleum hydrocarbons–gasoline range organics (TPH-GRO) were detected at a concentration of 511 mg/kg. These concentrations of TPH exceed the D.C. Municipal Regulations (DCMR) Tier 0 Soil Standard for TPH of 100 mg/kg and thus confirm the presence of petroleum contamination in soil. The vertical extent of impacts in soil is currently not known. TPH-GRO and TPH-DRO were detected below DC Tier 1 Surface and Groundwater Standards in groundwater GTW-661-804-3, as well as at GTW-661-804-1 advanced in the southeastern portion of this parcel, and were not detected at GTW-661-804-2 (refer to Table II). The TPH-GRO concentration in GTW-661-804-1 and GTW-661-804-3 exceeded the EPA Regional Screening Level (RSL) of 0.033 mg/L for TPH low aromatics (benzene). The TPH-DRO concentration in GTW-661-804-3 exceeded the RSL of 0.005 mg/L for TPH medium aromatics (naphthalene). Furthermore, the horizontal extent of impacts is also unknown; however TPH was not encountered in soil, and TPH-GRO was detected in GTW-661-804-1 at a concentration of 0.66 mg/L, an order of magnitude below that observed at GTW-661-804-3 (3 mg/L).

Furthermore, benzene exceeded the DCMR Tier 1 Surface and Groundwater Standard, the EPA Maximum Contaminant Level (MCL) of 0.005 milligrams per liter (mg/L) for drinking water and EPA tap water RSL of 0.00045 mg/L in

wells GTW-661-804-1 (0.0344 milligrams mg/L) and GTW-661-804-3 (0.0082 mg/L). Ethylbenzene was detected at a concentration of 0.0122 mg/L in GTW-661-804-3 at depths of 20-25 feet bgs, above the associated EPA RSL for tap water of 0.0015 mg/L. Naphthalene was observed in wells GTW-661-804-1 and GTW-661-804-3 at 0.0014 mg/L and 0.0674 mg/L, respectively, which exceed the EPA RSL of 0.00017 mg/L.

**KREC #2:** Petroleum impacts in groundwater in southeastern corner of Square 0661, Lot 0804

**Potential Impact:** Moderate

**Explanation:** As described above, a groundwater sample (GTW-661-804-1, see Table II and Figure 3) collected at a depth of 20-25 feet bgs in the southeastern portion of Square 0661, Lot 0804 parcel revealed benzene at a concentration of 0.0344 mg/L. This concentration exceeds the respective DC Groundwater Standards and EPA MCL of 0.005 mg/L and the EPA RSL for tap water of 0.00045 mg/L. Naphthalene was also detected at concentrations of 0.0014 mg/L, above the associated EPA RSL for tap water of 0.00017 mg/L. Benzene and naphthalene were not detected in soil at this or other locations at Square 0661, Lot 0804, suggesting that groundwater may be impacted by an off-site source.

**KREC #3:** Petroleum impacts in soil at Square 0661, Lot 805

**Potential Impact:** Low

**Explanation:** TPH-DRO were detected at a concentration of 38.3 mg/kg in a composite soil sample, GTW-661-COMP-805-1, collected at 0-2 feet in the southeastern corner of Square 0661, Lot 805. This concentration exceeds the EPA RSL for Residential Soil of 0.61 mg/kg for TPH-DRO but does not exceed the DC Tier 0 Soil Standard for TPH-DRO of 100 mg/kg. Soil and groundwater at depths below 2 feet were not sampled at this location and therefore the vertical extent of impact in soil is currently not known. Due to the proposed future land use of this site, the EPA screening level for residential exposure is most likely not applicable to the subject site.

## **SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS**

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The Phase I assessment identified twelve SRECs.

### **Suspect Recognized Environmental Conditions**

**SREC #1:** Substation operations at PEPCO Square 665, Lot 0024

**Potential Impact:** High

**Explanation:** Site access was not provided for Square 665, Lot 0024. Due to the age of the substation and the nature of activities taking place, there is a potential for leaks, spills or Polychlorinated Biphenyl (PCB) containing materials to be present at this lot. A monitoring well, GTW-661-24-1, was advanced along the western boundary of this parcel. PCBs were not detected in soil suggesting that PCBs have not migrated to the west of this parcel.

The following SRECs were identified on the adjacent properties south of the subject site.

**SREC #2:** Potentially leaking AST and underground pipeline at PEPCO Square 609, Lot 0804  
**Potential Impact:** Low  
**Explanation:** A #6 fuel oil AST was installed in the late 1960s at the property at Square 0609, Lot 0804; and Square 0611, Lots 19 and 10. An underground pipeline was used to connect the AST to the nearby Generating Station. The AST was decommissioned and the underground pipeline filled in 1981. No information regarding releases from the AST or pipeline is known. The site was also formerly employed for bulk fuel storage and vehicle and equipment maintenance and storage. Two independent sampling programs conducted in 2005 indicated that soil and groundwater was affected by petroleum hydrocarbon releases. It is unknown whether more recent studies have been performed at this site and whether soil and groundwater are still impacted.

The following SRECs were observed on the adjacent properties west of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013.

**SREC #3:** Potentially unlined/unpaved sump at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** On-site stormwater and spills are captured and pumped to a sump in the southwestern portion of the lot before being disposed off-site by a licensed contractor. During a site visit to this property in August 2013, the sump contained large quantities of oily liquid and it was not possible to ascertain whether the sump was lined and/or confirm the integrity of the lining. The site representative could not confirm the status of the sump lining. A potential therefore exists for hydrocarbons to migrate from the sump to the subsurface, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #4:** Heavy staining of concrete at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** During the site visit to this property in August 2013, heavy concrete staining was observed at many locations. The concrete was in moderate to good condition where visible. In other areas, for example the area surrounding the sump's pump, the staining was too thick to confirm the integrity of the concrete. A potential therefore exists for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #5:** Oil layer in secondary containment under aboveground storage tanks (ASTs) at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** A thick layer of oil was observed at the bottom of the AST tanks in the eastern portion of this property during the site visit in August 2013. It is understood that the flooring of the containment is paved with concrete. However, the integrity of the concrete could not be confirmed. A potential therefore exists

for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

**SREC #6:** Concrete staining in area of an AST at Super Salvage Inc., 1711 1<sup>st</sup> Street SW  
**Potential Impact:** Low  
**Explanation:** Concrete staining on paving next to an AST was observed in the northern portion of this property. The concrete paving was in relatively good condition. However a large quantity of waste had been dumped immediately adjacent to the AST preventing Haley & Aldrich representatives from confirming the condition of the concrete beneath this waste. A potential therefore exists for hydrocarbons to migrate to soil and groundwater under this property, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

Two SRECs were identified on the Akridge parcel, Square 0607, Lot 0013, located adjacent to the subject site to the west during a limited Phase II subsurface investigation performed by Haley & Aldrich in December 2013.

**SREC #7:** Minor groundwater contamination associated with chlorinated solvents  
**Potential Impact:** Low  
**Explanation:** Advantage Environmental Consultants, LLC (AEC) detected chlorinated solvents (tetrachloroethylene, trichloroethylene [TCE], 1,2 dichloroethane, and vinyl chloride) in a groundwater sample collected near the southeast corner of the property during a Phase II assessment conducted in 2005. The source of the chlorinated solvents is not known; however, Geomatrix, Inc. indicated an “asphalt pit” in this area of the subject site on Figure 3 of a Phase II assessment report completed in 1990. Chlorinated solvents detected in groundwater may also be due to migration from an unknown source upgradient from the property. A groundwater sample collected by Haley & Aldrich in this area of the site confirmed the presence of minor contamination associated with chlorinated solvents, including relatively low concentrations of trichloroethylene and vinyl chloride (43.9 and 38 micrograms per liter [ $\mu\text{g/L}$ ], respectively). The vinyl chloride concentration exceeds the EPA RSL for residential exposure via ingestion, which may not be applicable to the subject site. The extent of impact is not known, although volatile organic compounds were reportedly not detected in groundwater samples collected by AEC at several other locations in 2005, suggesting the extent may be limited to the southeast corner of the subject site. However, due to the tidal nature of underlying groundwater, a potential exists for these hydrocarbons to have migrated to the subject site.

**SREC #8:** Heavy staining near floor drains in the on-site storage building  
**Potential Impact:** Low  
**Explanation:** Heavy staining of the concrete floor appearing to be caused by hydrocarbons was observed immediately surrounding two floor drains, one in the northwestern portion and a second in the southeastern portion of the building. Although no cracks were apparent in the concrete in the areas where staining was observed, it is unknown whether the source of the stains has also migrated

into these floor drains or where the floor drains discharge. In addition, the source of the staining could have penetrated the concrete floor. A potential therefore exists for apparent hydrocarbon spills or leaks to have migrated to the subsurface, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

The following SRECs were observed on the adjacent properties east and northeast of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013.

**SREC #9:** Open Leaking Underground Storage Tank (LUST) case adjacent to subject site at 1812 Half St., SW

**Potential Impact:** Low

**Explanation:** A LUST entry (case # 95015) in December 1994 reportedly impacted soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Based on groundwater being impacted and the tidal influence of the area, a potential exists for impacted groundwater to migrate under the subject site.

**SREC #10:** Open LUST case adjacent to subject site at 1601 S Capitol St., SW

**Potential Impact:** Medium

**Explanation:** A LUST entry (case # 2013006) for a release listed as heating oil, gasoline, diesel from a UST in April 2013 reported impacts to soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Haley & Aldrich advanced a monitoring well, GTW-661-800-1, in the southeastern portion of Square 0661, Lot 0800 in June 2014. Petroleum hydrocarbons were not detected in a soil sample collected at 10-15 feet bgs at this location. Groundwater was not encountered at the monitoring well depth of 22 feet bgs; however, there is a potential for deeper groundwater to be present and impacted. Due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site.

**SREC #11:** Open LUST case adjacent to subject site at 1625 S. Capitol St., SW

**Potential Impact:** Low

**Explanation:** A LUST entry (case # 2013005) associated with the release of heating oil, gasoline or diesel from an UST in March 2013 reported impacts to soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Based on groundwater being impacted by the LUST and the tidal influence of the area, a potential exists for impacted groundwater to migrate under the subject site. As noted above, Haley & Aldrich advanced a monitoring well, GTW-661-800-1, in the southeastern portion of Square 0661, Lot 0800 in June 2014. Petroleum hydrocarbons were not detected in a soil sample collected at 10-15 feet bgs at this location. Groundwater was not encountered at a depth of 22 feet bgs in this monitoring well. However, there is a potential for deeper groundwater to be present and impacted at this property. Due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site.

**SREC #12:** Open LUST case adjacent to subject site at 1721 S. Capitol Street, SW  
**Potential Impact:** Low  
**Explanation:** A LUST entry (case # 87012) for a release listed as gasoline/heating oil from the UST was reported in September 1987. The LUST reportedly impacted soil and groundwater. The status of the release is listed as open. No additional information related to this case is available. Low levels of benzene, toluene, xylenes, chloromethane, naphthalene and TPH-GRO were detected in groundwater at a monitoring well, GTW-661-804-1, located in the southeastern portion of Square 0661, Lot 0804 and advanced in June 2014. These concentrations were below applicable regulatory limits. Hydrocarbons were not detected in soil at this location. However, due to the tidal influence of the area, a potential exists for impacted groundwater to have migrated under the subject site to the north and south of this monitoring well.

### **HISTORICAL RECs**

The ASTM E 1527-05 Standard defines an HREC as an environmental condition “which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.”

This Phase I assessment has revealed the following four HRECs.

**HREC #1:** LUST case # 93051 in Square 0665, Lot 0024, PEPCO Generating Station. In 1993, significant gasoline and diesel contamination was discovered in soil and groundwater on the northern portion of Square 0665, Lot 0024. PEPCO performed monitoring and remediation activities during the 1990s, removing more than 1,000 gallons of liquid-phase hydrocarbons (LPH). A No Further Action letter was issued by the Government of the District of Columbia, dated 1 April 2010. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #2:** A 20,000 gallon gasoline LUST (case # 93094) at Square 0607, Lot 0013, immediately adjacent to the west of the subject site, historically impacted soil and groundwater under the subject site and was reported in August 1993. The LUST case received regulatory closure in May 1994. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #3:** LUST case # 96030 at Square 0605, Lot 0802, immediately adjacent to the west of the subject site, and related to a tank containing gasoline was reported to be impacting soil and was granted regulatory closure. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

**HREC #4:** A LUST case was reported at Opportunity Concrete Garage, 1601 S Capitol St., SW. The LUST entry was associated with the release of gasoline from a UST in November 1993 and reportedly impacted soil. The status of this release is listed as closed. Based on the status of the LUST entry and impacts being limited to soil, the gasoline release does not present a threat to human health or the environment under current site conditions and is unlikely to require additional regulatory action.

### **DE MINIMIS CONDITIONS**

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which “do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.” The ASTM E 1527-05 Standard notes that “conditions determined to be *de minimis* are not recognized environmental conditions.”

This Phase I assessment revealed the following *de minimis* condition: Two drums containing unknown liquids were observed in the southern portion of Square 0661 Lot 0805 in a vegetated area. Staining of vegetation surrounding the drums was not observed.

### **SUMMARY AND RECOMMENDATIONS**

In summary, several RECs were identified during the comprehensive Buzzard Point Phase I assessment in August 2013 and subsequent Phase II sampling in June 2014. Limited Phase II subsurface sampling described in this report confirmed petroleum impacts were detected in soil and groundwater beneath the subject site. Based on the elevated hydrocarbon concentrations detected at Square 0661, Lot 0804 and Square 0661, Lot 0805, it is our opinion that further investigation is warranted if delineation of petroleum impacts is desired and to refine possible material management options and associated costs. Furthermore, it is still unknown whether soil and groundwater under Square 665, Lot 024 is impacted, and if so, what extent of impacts is present. Based on the data obtained, soil and groundwater management may be required during construction activities:

- Groundwater impacted by petroleum hydrocarbons in proximity to the former ASTs at Square 661 Lot 804 may require treatment prior to discharge or off-site disposal. If a deep structure (i.e. subsurface parking garage) is constructed in this area of the subject site that requires long-term dewatering, then a treatment system may be required, along with appropriate maintenance, permitting, and monitoring.
- Petroleum-impacted soil in proximity to the former ASTs at Square 661 Lot 804 may not be appropriate for use as off-site fill and may require special handling and disposal. However, depending upon the type or development proposed, the impacted soil may be able to be managed on-site with agency approval and the use of institutional and/or engineering controls.

We recommend developing a site-specific health and safety plan and a soil management plan to address proper handling of excavated soil. If groundwater will be encountered during the proposed development, then the soil management plan should include proper handling procedures for construction dewatering. Excavated soil may require characterization and treatment/off-site disposal. The District Department of the Environment (DDOE) may require submission of a Work Plan to document how the developer will comply with applicable standards.

Schedule impacts on the proposed development associated with the recommended tasks range from 3 to 6 months, depending upon DDOE review and approval. Potential order of magnitude cost impacts from

the identified RECs on the proposed development range from \$25,000 to \$250,000 (see Table III for assumptions regarding these order of magnitude costs). **Note that these cost ranges assume a nominal volume of soil (200 cubic yards) and groundwater (4,000 gallons) will require removal for the proposed development.** We have assumed deep foundation designs that produce minimal soil and groundwater spoils. If shallow foundations or a subsurface structure is constructed on the site, requiring the removal of a greater volume of soil and groundwater than we have assumed, then we request the opportunity to revise our order of magnitude cost and schedule impacts accordingly.

## **9. CREDENTIALS**

This Phase I assessment report was prepared by Karin Holland under the direct supervision of David Schoenwolf, who served as the Project Manager of this project. Qualification information for the project personnel is provided below.

### **KARIN HOLLAND** **Senior Specialist**

Ms. Holland received a Bachelor of Arts degree in Natural Sciences from the University of Cambridge, United Kingdom in 2002 and a Master of Science degree in Law and Environmental Science from the University of Nottingham, United Kingdom in 2003. Ms. Holland is involved in a variety of projects including environmental site assessments, soil management, and field sampling events. Her responsibilities with Phase I Environmental Site Assessments include site history research, interaction with clients and state regulatory agencies, interpretation and evaluation of environmental conditions, and development of recommendations for future investigations.

### **DAVID SCHOENWOLF** **Principal Consultant | Senior Vice president**

Mr. Schoenwolf has over 36 years of experience in the engineering and environmental consulting practice. Mr. Schoenwolf has been an Officer-in-charge and project manager for geotechnical engineering and environmental evaluations for a broad range of projects. His scope of projects has ranged from preliminary feasibility studies, environmental site assessments, and master plan site development studies to complete design investigations for major projects including preparing geotechnical data and interpretive reports; preparing contract documents, technical specifications, and reviewing contractor submittals; instrumentation monitoring; and construction consulting. He is a registered professional engineer in the District of Columbia.

## REFERENCES

1. Topographic Map, Washington West, District of Columbia Quadrangle, United States Geological Survey 7.5 minute series, dated 1983.
2. Haley & Aldrich, Inc., site visit conducted by Karin Holland and Christian-Noel Tschibelu on 28 August 2013.
3. Tat-Lin Angus of PEPCO, Terrance Jones of Akridge and John Keller of Super Salvage, Inc. interviews with Haley & Aldrich, Inc., on 28 August 2013.
4. Environmental Data Resources, Database Report, dated July 2013.
5. No Further Action Letter for LUST case #93051, Pepco (Buzzard Generating Station) issued by the Government of the District of Columbia, dated 1 April 2010.
6. "Limited Phase II Environmental Investigation, Buzzard Point, 2nd Street SW / V Street SW, Washington, D.C.," prepared by URS Corporation, Inc. (URS), for Potomac Electric Power Company, dated 22 March 2005. Note: This report included the multi-lot area located off the subject site, south of T Street, North of V Street, east of 2nd Street, and west of 1st Street. Only findings related to the subject site are discussed herein.
7. "Phase I Environmental Site Assessment, Buzzard Point, Squares 609 & 611, 2nd Street and V Street, SW, Washington, DC," prepared by URS for PEPCO Holdings Inc., dated 4 April 2005. Note: This report included the multi-lot area located off the subject site, south of T Street, North of V Street, east of 2nd Street, and west of 1st Street. Only findings related to the subject site are discussed herein.
8. "Phase I Environmental Site Assessment, Buzzard Point, 2nd Street and V Street, SW, Washington, DC," prepared by Advantage Environmental Consultants, LLC (AEC), for The John Akridge Companies, Inc., dated 10 June 2005. Note: This report included the multi-lot area located south of S Street, North of V Street, east of 2nd Street, and west of 1st Street. Only findings related to the subject site are discussed herein.
9. "Phase II Environmental Site Assessment, Buzzard Point, 2nd Street and V Street, SW, Washington, DC," prepared by AEC for The John Akridge Companies, Inc., dated 10 June 2005. Note: This report included the multi-lot area located south of S Street, North of V Street, east of 2nd Street, and west of 1st Street. Only findings related to the subject site are discussed herein.
10. "Assessment of the Buzzard Point Properties," prepared by Geomatrix, Inc., for Potomac Electric Power Company, dated March 1990. Note: This report included the multi-lot PEPCO properties located, south of Potomac Avenue, North of V Street, east of 2nd Street, and west of Half Street. Only findings related to the subject site are discussed herein.
11. Comprehensive Site Assessment Potomac Electric Power Company, Buzzard Point Station, 1st and V Street, Prepared by TPH Technology, Incorporated (TPH Technology), dated 11 August 1993. Note: This report included the multi-lot PEPCO properties located, south of Potomac

Avenue, North of V Street, east of 2nd Street, and west of Half Street. Only findings related to the subject site are discussed herein.

12. Excerpts from Corrective Action Plan Remedial Specifications and Implementation Details, Buzzard Point Generation Station, prepared by TPH Technology, March 1995. This report included the multi-lot PEPCO properties located, south of Potomac Avenue, North of V Street, east of 2nd Street, and west of Half Street. Only findings related to the subject site are discussed herein.
13. LUST Case #93051 – Buzzard Point Station, Letter to DC Department of Health dated 7 June 2002.
14. LUST Case #93051 – Buzzard Point Station, Letter to DC Department of Health dated 19 August 2004.