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March 6, 2014

Mr. Andrew L. Lick
Real Estate Coordinator
Pennsylvania Department of General Services
Bureau of Real Estate, Acquisitions and Dispositions Division
503 North Office Building
Harrisburg, Pennsylvania 17120

RE: Phase I Environmental Site Assessment
New Castle Youth Development Center Site
1745 Frew Mill Road
Shenango Township
Lawrence County, Pennsylvania
BL Project No. 14L3971

Dear Mr. Lick:

BL Companies, Inc. ("BL Companies") has performed a Phase I Environmental Site Assessment (ESA) of the property located at 1745 Frew Mill Road in Shenango Township, Lawrence County, Pennsylvania ("Site"). This ESA was conducted in general accordance with the scope and limitations of American Society for Testing and Materials (ASTM) E-1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", and in accordance with BL Companies' proposal, dated January 8, 2014.

Attached is BL Companies' report (the "Report") detailing the methods, findings, opinions, and conclusions of the assessment.

Based on the findings of this ESA, BL Companies recommends the following:

- In order to further evaluate the potential for the Site to have been adversely impacted by the historical use of the garage portion of Building 3 and the lower level of Building 9 at the Site for automotive maintenance activities and the former presence of an in-ground hydraulic lift located in the garage portion of Building 3, a Phase II Site Investigation, including (at a minimum) the collection of soil samples, should be completed. Based on the results of the soil boring and sampling investigation, the collection of ground water samples may also be warranted.
- The use of engineering controls, including sorbents and/or spill containment equipment, to minimize the risk of automotive fluids and associated waste products entering floor drains of the Site, particularly within the lower level of Building 9 (Maintenance Building).
- Prior to any further Site development activities in the south-central and extreme eastern portions of the Site, a wetland identification/delineation should be performed by a certified wetland scientist to prevent impacts to these regulated resources.

4242 Carlisle Pike, Suite 260 • Camp Hill, PA 17011 • T (717) 651-9850 • F (717) 651-9858 • www.blcompanies.com

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In addition, prior to any demolition or renovation activities of the Site structures, the following activities would be recommended:

- Any polychlorinated biphenyl (PCB)-containing equipment should be segregated from other construction-related debris and properly disposed of as PCB-containing waste.
- Suspect asbestos-containing materials (ACMs) should be sampled to determine asbestos content prior to any demolition or renovation activities. Any identified ACMs should be handled/disposed in accordance with all applicable regulations.
- Painted surfaces should be sampled to determine lead content prior to any demolition or renovation activities. In addition, workers should take precautions during renovation or demolition activities to avoid potential exposure to airborne lead.

BL Companies appreciates the opportunity to provide environmental services to you. Should there be any questions regarding this Report, please do not hesitate to contact us.

Sincerely,

BL Companies, Inc.



Scott J. Treherne, PG
Senior Project Scientist



Michael L. Beardsley
Project Manager

Attachment



Architecture
Engineering
Environmental
Land Surveying

PHASE I ENVIRONMENTAL SITE ASSESSMENT

New Castle Youth Development Center Site

1745 Frew Mill Road
Shenango Township
Lawrence County, Pennsylvania
BL Project No. 14L3971

Report Date:
March 6, 2014

Prepared For:
Mr. Andrew L. Lick
Real Estate Coordinator
Pennsylvania Department of General Services
Bureau of Real Estate, Acquisitions and Dispositions Division
503 North Office Building
Harrisburg, Pennsylvania 17120

Prepared By:
BL Companies, Inc.
4242 Carlisle Pike, Suite 260
Camp Hill, Pennsylvania 17011
(717) 651-9850
(717) 651-9858 fax

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At the request of the Pennsylvania Department of General Services, ("Client" or "User"), BL Companies, Inc. ("BL Companies") has completed a Phase I ESA of the property located at 1745 Frew Mill Road in Shenango Township, Lawrence County, Pennsylvania ("Site"). This ESA was conducted in general accordance with the scope and limitations of ASTM E-1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", and in accordance with BL Companies' contract, dated January 8, 2014.

The purpose of the assessment was to evaluate and identify conditions indicative of RECs in connection with the Site, as well as certain environmental conditions outside the scope of ASTM E-1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

The Site is located north of the intersection of Frew Mill Road and Dougherty Road in New Castle, Pennsylvania. The Site consists of the former New Castle Youth Development Center, which was a boarding school-type facility for boys. The Site is situated in an area of residential and commercial land usage.

The Site contains 16 on-site buildings, plus two utility-related enclosures, which were owned and operated by the former school. Information related to the Site structures, as reported by the Client and current Site owner (Commonwealth of Pennsylvania), is summarized in the following table for the purposes of this report:

Building No.	Description	Square Footage	Date of Original Construction	Stories	Heating Source
1	Administration Building	15,292	1966	1*	Electric boiler
2	Intensive Treatment Unit (ITU)	31,038	1966	1*	Electric boiler
2A	ITU Education Annex	-	1966	1*	Electric boiler
3	Education Building	66,347	1966/1994	1*	Electric boiler
4	Dietary/Warehouse Building	30,558	1966	1*	Electric boiler
4A	Medical Building	-	1966	1*	Electric boiler
5	Male Dormitory	15,079	1966	1*	Electric boiler
6	Male Dormitory	15,079	1966	1*	Electric boiler
7	Male Dormitory	15,079	1966	1*	Electric boiler
8	Male Dormitory	15,079	1966	1*	Electric boiler
9	Maintenance Building	23,613	1966	2	Electric boiler
10	Electric Substation	N/A	1966	1	Electric boiler
11	Water Reservoir/Tower	2,112	1966	1	Electric boiler
12	School Modular Building	1,081	1989	1	Electric boiler
13	ITU Modular Building	2,500	1993	1	Electric boiler
14	Activities Modular Building	4,980	1993	1	Electric boiler

Building No.	Description	Square Footage	Date of Original Construction	Stories	Heating Source
20	Chapel	1,800	2002	1	Electric boiler
21	Greenhouse	496	2002	1	Electric boiler
*-Based on Site observations, it appears that heating oil-based systems were utilized					

The Site appears to have been used as an agricultural property with farm residences in the northeast and southeast portions of the tract prior to the development of the existing New Castle Youth Development Center starting around 1966.

No significant data gaps were encountered during completion of this assessment. Data gaps occur when, despite good faith efforts, the consultant is unable to identify information required to satisfy objectives of the assessment. Data gaps may result from incompleteness in any of the activities required by ASTM E-1527-13, or by limiting conditions encountered during completion of the work. ASTM E-1527-13 requires that data gaps be identified in the Report when they significantly impact the ability of the consultant to identify RECs at the Site.

This assessment has revealed no evidence of HRECs in connection with the Site, except for the following:

- The former presence of a 2,000-gallon unleaded gasoline UST system to the southeast of Building 9, which was removed in 1997. According to Mr. William Hilko, Facility Maintenance Manager for the Site, there were no significant leaks or failures observed in association with the gasoline UST system at the time of its removal, which was confirmed through the collection of soil samples that indicated that none of the unleaded gasoline-related VOCs analyzed were detected above the most stringent direct contact and soil to ground water quality standards published by the Pennsylvania Department of Environmental Protection (PADEP). Based on the confirmatory sampling results associated with the closure of the former 2,000-gallon unleaded gasoline UST system at the Site, no additional subsurface investigation appears warranted for this area of concern.

This assessment has revealed no evidence of RECs in connection with the Site, except for the following:

- The historical use of the garage portion of Building 3 and the lower level of Building 9 at the Site for automotive maintenance activities from approximately 1966 through 2013. Automotive service activities generally involve the use and storage of moderate to large quantities of petroleum products, solvents, and other regulated/potentially hazardous materials.

- The former presence of an in-ground hydraulic lift, located in the garage portion of Building 3, which had reportedly been abandoned/decommissioned sometime around 2008.

This assessment has revealed no evidence of BERs/de minimis conditions in connection with the Site, except for the following:

- The presence of known and suspect PCB-containing equipment at the Site, including two electrical transformers in the Electric Substation, one aboveground hydraulic lift in the lower level of Building 9, and a hydraulic freight elevator located in Building 4. No evidence of hydraulic fluid leakage in the form of significant surface staining or odors was observed in the area of this equipment at the time of the Site reconnaissance.
- The presence of one 2,000-gallon unleaded gasoline and one 300-gallon diesel fuel AST systems, which were installed to the southeast of Building 9 in the late-1990s. Additionally, five 'belly' ASTs for diesel fuel storage associated with the five emergency generators were located throughout the Site. No evidence of obvious surface staining or petroleum odors was observed in the area of the existing ASTs at the time of the Site reconnaissance.
- The presence of numerous drums of automotive fluids and associated waste products within and outside of the lower level of Building 9. Although no evidence of significant surface staining or chemical spills/leakage was observed in this portion of the Site, floor drains were observed in proximity to some of these materials.
- The potential presence of ACMs on/within Buildings 1 through 11 at the Site, based on the reported age of these structures.
- The potential presence of LBP on/within Buildings 1 through 11 at the Site, based on the reported age of these structures.
- The presence of potential/suspect wetlands in the south-central portion and along the eastern property boundary of the Site.

Phase Two
Environmental Site Assessment Report


NEW CASTLE YOUTH DEVELOPMENT CENTER
1745 FREW MILL ROAD
NEW CASTLE, PA 16101

Prepared for:
Commonwealth of Pennsylvania
Department of General Services
Bureau of Real Estate
401 North Street
North Office Bldg - Rm 503
Harrisburg, PA 17120


June 2014

Prepared by:
Insite Group, Inc.
611 S Irvine Ave
Sharon, PA 16146

Submitted by:



Paul Rogers
Senior Environmental Professional



Sara Giordano, PhD
Senior Environmental Professional

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Table 4.0: Soil Analytical Results - Polychlorinated Biphenyls (PCBs)

ATTACHMENTS

Attachment A: Photographs

Attachment B: Laboratory Analytical Report

EXECUTIVE SUMMARY

A Phase II Environmental Site Assessment (ESA) was conducted in accordance with ASTM Standard E 1903-11 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process in May 2014 at the New Castle Youth Development Center (YDC) located in New Castle, PA. The Phase II ESA scope of work followed a Phase I ESA completed by BL Companies, Inc. that identified two recognized environmental conditions (*RECs*): a lift rack and associated activities in Building No. 3 and a former maintenance area in Building No. 9. The goal of this Phase II ESA was to determine if chemical impacts are present in soil beneath these areas.

A sampling plan was developed that included analyses for several chemicals used in historical operations occurring in Building Nos. 3 and 9. Soil samples were collected from each area and submitted to a Pennsylvania-certified laboratory for analyses.

The analytical results show that multiple constituents were detected. However, only one constituent, arsenic, was detected at a concentration that exceeds a Pennsylvania Statewide Health Standard.

1.0 INTRODUCTION

IGI provides this Phase II Environmental Site Assessment (ESA) Report for the New Castle Youth Development Center. The property is located in Shenango Township in Lawrence County at 1745 Frew Mill Road, New Castle, PA. A site map, showing an aerial view of the property, is provided as Figure 1.

The purpose of the Phase II ESA was to evaluate two *RECs* identified during the completion of a Phase I ESA completed by BL Companies, Inc. These areas included a lift rack in Building No. 3 and a former maintenance area in Building No. 9.

Site Description

The property consists of approximately 180 acres with fencing surrounding approximately 90 acres. The facility operated as a former youth development center. Limited staff remain on the premises for upkeep and maintenance. There are multiple structures on the property that served varied purposes, historically. Access to the property is gained through a locked main gate with permission. In addition to the buildings, there are grassy areas and woodlands, paved parking lots and roadways on the property.

2.0 SAMPLING AND ANALYSIS PLAN

IGI evaluated Building Nos. 3 and 9 to determine optimal locations for sampling of soil beneath the buildings. Two sampling locations, 3-1 and 3-2, were selected in Building No. 3. The locations are on opposite sides of the former hydraulic lift, as shown on Figure 2.

In Building No. 9, IGI selected two sampling locations, 9-1 and 9-2, based on their proximity to areas of staining, as shown on Figure 2. A third sampling location, 9-3 was selected based on its proximity to a floor drain and a sink that discharges to the concrete surface.

The types of products used in hydraulic lifts and automobile maintenance operations include petroleum-based oils and solvents, both of which may contain performance enhancing additives. The chemicals in these products include polyaromatic hydrocarbons (PAHs), RCRA metals, volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs). The table below lists the tests and methods proposed for the laboratory analyses of sub-surface soil.

Area	Laboratory Tests	Method
Building No. 3 Automotive repair facility	RCRA Metals VOCs PAHs PCBs	6010B, 7471 8260B 8270C 8082
Building No. 9 Maintenance garage	RCRA Metals VOCs PCBs	6010B, 7471 8260B 8082

3.0 SOIL INVESTIGATION

IGI completed the subsurface investigation on May 13, 2014 in accordance with the sampling and analysis plan. A total of five soil borings were drilled inside the two buildings. Photographs of the work area are provided as Attachment A.

A six-inch diamond core bit was used to drill through the concrete floor at each location. The concrete was approximately 5-inches thick and underlain with gravel. Soil consisted of gravel, silt and clay, generally dry to moist. The sample from boring 9-3 (adjacent to the floor drain) was wet. No discolored soil or soil exhibiting odors was observed during the sampling process.

All of the soil samples were collected from an interval of one to two feet below ground surface (bgs) using a hand auger. The samples were placed in laboratory-provided containers, stored on ice and shipped via overnight courier to ESC Lab Sciences in Mt. Juliet, TN.

The boreholes were backfilled with gravel or sand to approximately six inches bgs, and then resurfaced with concrete.

Results

The results of analytical testing are summarized in Tables 1.0 through 4.0 and the laboratory analytical report is provided as Attachment B.

RCRA metals arsenic, barium, chromium, lead and mercury were detected in all of the samples; cadmium was detected in 3-1, 3-2, 9-1 and 9-2; selenium was detected in 9-3; and silver was detected in 3-2. Arsenic exceeds a regulatory standard in three of the samples:

- The arsenic concentration in sample 3-2 (38 mg/kg) exceeds the Statewide Health Standard, Residential, Used Aquifer (SHS-RUA) soil to groundwater value (29 mg/kg) and residential, direct contact value (12 mg/kg).
- The arsenic concentration in sample 9-1 (22 mg/kg) exceeds the SHS-RUA direct contact value.
- The arsenic concentration in sample 9-3 exceeds the SHS-RUA direct contact value.

One VOC, tetrachloroethene, was detected in sample 9-3 at a concentration that does not exceed a regulatory standard. No PAHs or PCBs were detected in the samples.

4.0 CONCLUSIONS

A Phase II Environmental Site Assessment was conducted to evaluate two previously identified RECs: a lift rack and associated maintenance activities in Building No.3 and a former maintenance area in Building No. 9. The results of analytical testing on subsurface soil samples do not indicate that a release of automotive repair/maintenance products occurred in either of the buildings. Although arsenic was detected at concentrations that exceed the SHS, many of the other components of those products were not detected. If the arsenic exceedances were the result of a release, we would expect to see multiple other constituents present, as well.

Therefore, the previously identified *RECS*, a lift rack and associated maintenance activities in Building No.3 and a former maintenance area in Building No. 9 are reclassified as *de minimis* conditions.

However, the presence of arsenic at concentrations that exceed a regulatory standard for soil is a new *REC*. IGI provides three possible explanations for this finding:

- The New Castle area has a long history of coal mining, and arsenic can be found in coal. It is possible that fill material on the property contained coal ash.
- A review of historic aerial photos revealed that the subject area was farmland, historically. At one time, arsenic was used for pest control on crops.
- Pennsylvania is known to have areas with elevated background levels of arsenic.

IGI recommends further evaluation of the elevated concentrations of arsenic at the New Castle Youth Development Center.