FINAL

Environmental Condition of Property Report

104-Acre Parcel of Land Surrounding Poultry Road

Beltsville, MD 20705

Environmental Documentation in Support of
USACE Baltimore

Contract #: W912DR18D007
Delivery Order #: W912DR19F0371

Prepared for:

U.S. Army Corps of Engineers-Baltimore District
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and

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January 2020

CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW

COMPLETION OF INDEPENDENT TECHNICAL REVIEW

SIA -TPMC, LLC has completed this Final Environmental Condition of Property Report for the 104-acre parcel of land surrounding Poultry Road in Beltsville, Maryland for the Environmental Documentation in Support of USACE Baltimore.

Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used, and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with existing USACE policy.

_____ January 31, 2020

Signature/ SIA-TPMC Report Preparer – Charlie Gaines Date

Sarah-Emma Watkins

_____ January 31, 2020

Signature/SIA-TPMC Independent Technical Reviewer – Sarah-Emma Watkins Date

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CERTIFICATION OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 Code of Federal Regulations Part 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. All information and documentation provided accurately reflects the environmental condition of the property. This Environmental Condition of Property Report is in general accordance with the U.S. Department of Defense requirements for completion of an Environmental Condition of Property Report.

January 31, 2020

Aravind Marella — Date

SIA Solutions, LLC

LIST OF ACRONYMS

ACM	Asbestos-Containing Material
AR	Army Regulation
ARS	Agricultural Research Center
ASTM	American Society for Testing and Materials International
BARC	Beltsville Agricultural Research Center
BEP	Bureau of Engraving and Printing
BGE	Baltimore Gas and Electric Company
CERCLA	Comprehensive Environmental Response Compensation and Liabilities Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CFR	Code of Federal Regulations
CORRACTS	Corrective Action Report
CZM	Coastal Zone Area Restrictions
DOD	Department of Defense
ECOS	Environmental Conservation Online System
ECP	Environmental Condition of Property
EDR	Environmental Data Resources
ESA	Environmental Site Assessment
FUDS	Formerly Used Defense Sites
HSWA	Hazardous and Solid Waste Amendments
LBP	Lead-Based Paint
MCL	Maximum Contaminant Level
MD	Maryland
MDE	Maryland Department of Environment
MDNR	Maryland Department of Natural Resources
MEC	Munitions and Explosives of Concern
NFA	No Further Action
NL	Not Listed in the Database
NonGen/NLR	Non-Generator / No Longer Regulated
NPL	National Priorities List
NR	Not Requested at this Search Distance
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OCP	Oil-Control Plan
PCBs	Polychlorinated Biphenyls
Pepco	Potomac Electric Power Company
POC	Point of Contact
RAATS	RCRA Administration Action Tracking System
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
REC	Recognized Environmental Condition
ROD	Record of Decision
ROP	Record of Performance

RSL	Regional Screening Level
SDAT	State Department of Assessments and Taxation
SEMS	Superfund Enterprise Management System
SHWS	State Hazardous Waste Sites
SIA	SIA Solutions, LLC
TP	Target Property
TSCA	Toxic Substances Control Act
U.S.	United States
USC	United States Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance

UNITS OF MEASURE

in	inch
ft	feet
kg	kilogram
mg/kg	milligrams per kilogram
pCi/L	picocuries per Liter
sf	square feet

EXECUTIVE SUMMARY

The United States Army Corps of Engineers (USACE) – Baltimore District, on behalf of the Bureau of Engraving and Printing (BEP), retained SIA-TPMC, LLC (SIA-TPMC) via Contract # W912DR18D007 and Delivery Order # W912DR19F0371 to prepare this Environmental Condition of Property (ECP) Report for the 104-acre parcel of land surrounding Poultry Road within the United States Department of Agriculture's (USDA) Beltsville Agricultural Research Center (BARC), hereafter referred to as the "Property."

This ECP Report was prepared in general conformance with the following standards:

- American Society for Testing and Materials International (ASTM) D6008-96 (2014), *Standard Practice for Conducting Environmental Baseline Surveys*.
- ASTM D5746-98 (2016), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.*
- ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.
- DoDI Instruction 4165.66-M (2018), *Base Redevelopment and Realignment Manual*.

The Property is a 104-acre parcel of land surrounding Poultry Road, Beltsville, in Prince George's County, Maryland 20705 (**Figure 1** in **Appendix A**). The Property has been owned by the USDA since 1910 and was developed and utilized for poultry research and scientific studies from 1914 to 2012. The Property contains 23 buildings previously used for poultry research, one of which is active for poultry quarantine purposes, and one active building currently serving as BARC's Wildlife Office. The Property consists of cropland, forest, pasture, wetlands and paved and unpaved roads. The main road that runs north/south through the property is Poultry Road. In general, surface water appears to drain from the northeast to the southwest border of the Property.

Due to the size of the Property, it was divided into three sectors for data management and organizational purposes as well as to help the reader conceptualize the areas discussed within the site boundary. **Figure 2** in **Appendix A** provides an overview of the Sectors. Sector 1 is located within the center region of the site where 16 buildings that were all dedicated to poultry research reside. Sector 2 is located along the western border of Sector 1 and outlines the western border of the site boundary. Sector 2 contains four buildings that were dedicated to poultry research and is also comprised of cropland, forest, and pasture. Sector 3 is located along the eastern border of Sector 1 and outlines the eastern border of the site boundary and is comprised of forested and pasture areas. Sector 3 contains two buildings and one small shed. One of the buildings was dedicated to poultry research and one currently serves as BARC's Wildlife Office. The shed is used by the Wildlife Office to store animal traps and related paraphernalia.

RECOGNIZED ENVIRONMENTAL CONDITIONS

The purpose of this ECP Report is to evaluate the current and past conditions to identify Recognized Environmental Conditions (RECs) in connection with the subject Property.

A REC is defined in ASTM D6008-96 (2014) as:

> *The presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into the environment. 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 material risk of harm to the public health or environment and that generally would not be the subject of an enforcement action if the conditions were brought to the attention of appropriate governmental agencies.*

As part of the ECP assessment, SIA-TPMC reviewed all currently available historical records pertaining to the Property, conducted a site reconnaissance of the Property during the week of July 8, 2019, and interviewed Mr. Christopher Bentley, Senior Advisor of the Director's Office at BARC and Mr. Dana Jackson, Senior Remedial Project Manager at BARC. The ECP assessment of the Property revealed evidence of several RECs regarding the Property.

1. Building 261 floor plans (**Appendix E**) dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House. The current condition of the UST(s) is unknown and was not visible during the site reconnaissance. Based on the listing of the Boiler House in the MDE OCP Database, there is a potential that the petroleum related spill incident affected the environmental condition of the Property.
2. According to MDE's OCP database (**Appendix F**), 12 petroleum related spill incidents have occurred at the Site between 1987 and 2009. The following buildings were listed within the database and were identified as RECs: Building 236, Building 254, Building 255, Building 261 and Building 267. No further documentation was identified during the document review or interviews with MDE regarding the petroleum related spill incidents. Based on the report incidents, there is a potential that the petroleum spills may have affected the environmental condition of the Property at the locations listed below. The summary of the OCP records, presented below, constitute as RECs for the Property.
    - Building 236
        - May 1987 and closed in September 1988;
        - December 1988 and closed in December 1988
        - July 1993 and closed in October 2009
        - February 1996 and closed in July 1999

    - December 1998 and closed in May 1999
- Building 254
    - November 1998 and closed in April 1999
- Building 255
    - October 1993 and closed in October 2009
    - December 1988 and closed in December 1988
- Building 261
    - February 1996 and closed in May 1999
    - May 1987 and September 1988
- Building 267
    - October 1993 and closed in December 1996

In January 2020, SIA-TPMC submitted a Final Phase II Investigation Report to assess the RECs and other environmental conditions identified at the Property. The purpose of the Phase II Investigation was to assess the potential risk posed to the Property from possible contamination of hazardous substances; assess the potential risk that hazardous substances may be located under the property; and assess the potential risk that existing conditions on the property may violate applicable environmental laws. As part of the Phase II Investigation, possible soil and groundwater contamination was investigated. SIA-TPMC collected Twenty-seven (27) soil and thirteen (13) groundwater samples from the soil borings and temporary groundwater monitoring wells, respectively. These samples were analyzed for full suite RCRA Analysis and/or radiological constituents by Eurofins TestAmerica, a Department of Defense (DoD) accredited analytical laboratory. The following presents a summary of the conclusions of the Phase II Investigation:

- Arsenic concentrations exceeded the current Industrial Soil Risk-Based Screening Level (RSL) (TR=1E-06, THQ=0.1) of 3 milligram (mg) per kilogram (kg) (mg/kg) in thirteen (13) of the soil samples collected. Concentrations ranges from 2.7 mg/kg to 13 mg/kg with an average concentration of 6.5 mg/kg. Background data compiled by MDE reported detected arsenic concentrations for the Central Maryland region ranging from 0.75 mg/kg to 6.7 mg/kg, and stated USGS average concentration was identified as 7.2 mg/kg (MDE, 2018). Individual site concentrations are slightly higher than the concentrations reported by MDE. However, the average site concentrations correlate with the averaged reported by MDE and USGS.
- MCPP concentrations exceeded the RSL (TR=1E-06, THQ=0.1) of 82 mg/kg in two (2) soil borings. Although the data were qualified as estimated and biased high, the data indicates that MCPP is present in the shallow soil at the two sampling locations. Further sampling may be needed to determine the actual concentrations and extent of MCPP. However, the reported concentrations of MCPP at these two locations fall below the RSL (TR=1E-06, THQ=1.0) of 820 mg/kg indicating concentrations do not present an unacceptable non-carcinogenic hazard or carcinogenic risk for the intended land use.
- Total recoverable arsenic, chromium, and lead concentrations were reported as exceeding their respective maximum contaminant level (MCL) in a total of five (5) groundwater samples. None of the metals in the dissolved metals fraction exceeded their respective

MCLs. Therefore, the total recoverable metal concentrations are attributed to suspended sediment in the samples.

- One pesticide, Endrin aldehyde, was detected in one groundwater sample. There is no published MCL for this analyte.
- Concentrations of Radium-228 exceeded the EPA Screening Level (SL) of 0.347 picocuries per gram (pCi/g) in all eleven (11) soil samples. Concentrations ranged from 0.819 pCi/g to 2.05 pCi/g with an average concentration of 1.58 pCi/g. Radium-226 exceeded the SL of 1.09 pCi/g in three (3) soil samples. Detected radium levels were compared to published background levels reported by USGS for Montgomery County, Maryland. The BARC site average concentrations correlate well with the published USGS background concentrations.

SIA-TPMC concluded that further investigation is not warranted at the Property and that no elevated readings of petroleum compounds were located in the vicinity of the RECs.

In accordance with ASTM D5746-98 (2016), it is recommended that the Property be classified as **ECP Area Type 2**, which is defined as:

> *An area or parcel of real property where only the release of petroleum products or their derivatives has occurred.*

This classification was selected based on this ECP assessment, as presented in **Section 2.0** through **7.0** of this report. This classification was selected because the subject property was identified within MDE's OCP, where twelve (12) petroleum related spill incidents occurred at the property between 1987 and 2008 at the following buildings: Building 236, Building 254, Building 255, Building 261, and Building 267. Despite these buildings being listed on the MDE OCP, a Phase II Investigation conducted by SIA-TPMC in January 2020 confirmed that no elevated readings of petroleum compounds were detected in soil or groundwater samples collected at the Property. While it is known petroleum related spill incidents occurred at the property, the results from the Phase II Investigation provide data that confirms the spills listed on the OCP occurred at concentrations that do not require a removal or remedial action.

Table E-1 provides a Project Environmental Overview of conditions at the Property. This table provides a brief description of environmental conditions that were evaluated during the ECP process.

Table E-1. Project Environmental Overview

No.	Category	Comment	ECP Section No.
STORAGE			
1	Hazardous Substance Underground Storage Tank Storage	No evidence of hazardous substance USTs on the Property were found from the review of previous documents pertaining to the Property (past reports), interviews with key personnel, or during the July 2019 site visit.	3.3.1
2	Exterior Hazardous Substance Storage	During the onsite inspection in July 2019, one location attached to the rear of Building 264 was identified as potentially being used for hazardous substance storage (Sector 1 Photolog, Page 39 in **Appendix B**). No previous documents pertaining to this storage area are available for review.	3.3.1
3	Interior Hazardous Substance Storage	During the onsite inspection in July 2019, many of the buildings on the site were not enterable due to barricaded entryways or welded shut doors. During review of available building construction drawings/floor plans, buildings 262, 264, 267, and 281 were identified containing coal bins. (**Appendix E**)	3.3.1
4	Petroleum UST Storage	Building 261 floor plans (**Appendix E**) dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House. At a site visit in October 2019, signage was located behind dead vegetation that stated a 6,000-gallon tank was located outside Building 261 (Sector 1 Photolog, Page 69 in **Appendix B**). According to the Maryland Department of Environment's (MDE's) Oil Control Program (OCP) database, there are 173 records related to BARC, of which 12 are related the Property. There is no information whether these records are related to petroleum USTs, leaking USTs or spills. The status of these records is reported as "Closed".	3.4.1
5	Exterior Petroleum Storage	No evidence of exterior petroleum storage on the Property was found from the review of past reports, interviews with key personnel, or during the July 2019 site visit. According to the MDE's OCP database, there are 173 records related to BARC, of which 12 are related the Property. There is no information whether these records are related to petroleum USTs, leaking USTs or spills. The status of these records is reported as "Closed".	3.4.1

6	Interior Petroleum Substance Storage	Building 261 was identified as a storage space for petroleum substances (Sector 1 Photolog, Pages 26-30 in **Appendix B**).	3.4.1
7	Radiological Material Storage	Building 246 was identified as being used for storing radioactive animal carcasses according to an interview with site POC Mr. Christopher Bentley (**Appendix C**). Building 246 was used to store radioactive materials including radioisotopes Iodine-125 (59.49 half-life) and Phosphorus-32 (14.26 half-life). Mr. Bentley also stated that the USDA's Radiation Safety Division considers Building 246 released for unrestricted use and has determined that no additional radiation contamination surveys are required due to the short half-lives of the radioisotopes stored at the Property. During the onsite inspection, the door to Building 246 was welded shut (Sector 1 Photolog, Page 4 in **Appendix B**). The date the door was welded shut is unknown.	2.2.6, 3.3.1, 6.2.5
RELEASES			
8	Hazardous Substance Release	No evidence of hazardous substance release was identified through the review of past reports, interviews, or from the site visit.	3.3.2
9	Petroleum Releases	According to the MDE's OCP database, there are 173 records related to BARC, of which 12 are related the Property. There is no information whether these records are related to petroleum USTs, leaking USTs or spills. No other evidence of petroleum releases was identified through the interviews, past reports, or from the site visit.	3.4.2
10	Radiological Material Release	No evidence of a radiological material release was identified through the review of past reports or interviews.	3.3.2. 6.2.5
11	Surrounding Properties	There are three locations surrounding the property that have environmental documentation regarding sampling, testing and removal action activities. BARC 9, BARC 26, and ENTECH R3 are all Areas of Concern (AOCs) which are now labeled as No Further Action (NFA). **Appendix E** contains final closure reports for all three previous AOCs.	4.0
OTHER PROPERTY CONDITIONS			
12	Munitions & Explosives	A cardboard box labeled "CARTRIDGES, SMALL ARMS" was identified in Building 254 (Sector 1 Photolog, Page 20 in **Appendix B**).	6.2.3
13	Asbestos Containing Materials	Based on the review of construction drawings/floor plans of the buildings located on the Property, several were identified as containing asbestos construction materials including shingles, pipe insulation, floor tiles/mastic, dry wall and cement boards (**Appendix E**). Due to the age of the buildings, results of the onsite inspection, and unavailability of documentation regarding asbestos abatement or surveys exists for these buildings, it is	6.2.1

		assumed the original asbestos construction materials reside on/within the buildings.	
14	Lead-Based Paint	Due to the age of the buildings, there is a potential that these buildings contain lead-based paint. No lead abatement studies or surveys were identified for the buildings within this Property.	6.2.2
15	Lead in Drinking Water	No evidence of lead in the drinking water was identified through the review of past reports, interviews, or from the site visit.	6.2.2
16	Polychlorinated Biphenyls (PCB) Equipment	Several locations were identified as being potentially impacted by PCBs. Due to the age of the pad-mounted transformers outside of Buildings 254 and 264, there is a strong potential these contain PCBs (Sector 1 Photolog, Pages 61-63 in **Appendix B**). There were also several areas where transformers were located on electrical line poles (Sector 1 Photolog, Pages 56-57 in **Appendix B**).	2.2.5, 6.2.4
17	Radon	Based on the information present in the EDR Report, there is no Property specific information pertaining to radon. The EDR Report provides an EPA Region 3 statistical summary of 541 readings for zip code 20705. The minimum radon level recorded was 0.1 pCi/L and the maximum radon level recorded was 34 pCi/L. Of the 541 readings for zip code 20705, 482 (89.09%) were recorded below the USEPA guidance action level for residential exposure to radon (**Appendix F**).	6.2.6
18	100-Year Floodplain	There are no 100-year floodplains within this property.	2.2.7
19	Historical Land Use	Ms. Lisa Bynum, Realty Specialist at BARC, provided SIA-TPMC with a 1997 report titled “Beltsville Agricultural Research Center – Beltsville, MD Survey Form: Structures” which provides a preliminary national register eligibility assessment for the buildings on the Property (**Appendix E**). Ms. Bynum also provided SIA-TPMC with Maryland Historical Trust Determination of Eligibility Forms for 10 of the buildings within the Property (**Appendix E**). Several of the buildings are located within a historic district and many buildings were recommended as contributing resources.	2.8
20	Coastal Zone Management	The Property is located within the Maryland Coastal Zone (Coastal Zone Map in **Appendix E**).	2.6
21	Wetlands	During the site inspection, characteristics associated with wetlands were observed in the southern pasture of Sector 3 (Sector 3 Photolog, Pages 14-16 in **Appendix B**). According to GIS data provided by USACE, there is only one identified wetland location within the Property which is located on the southern part of the site within Sector 2 (**Figure 5** in **Appendix A**). The U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory (NWI)	2.5

		map for the area including the Property did not indicate any wetlands within the Property (**Appendix E**).	
22	Biological Resources	SIA-TPMC reviewed updated lists of threatened and endangered species that may be present in Prince George's County, Maryland. This list was generated by the USFWS Environmental Conservation Online System (ECOS) (Appendix E). The USFWS ECOS indicated two federally listed species with the potential to occur in the vicinity of Property (Table 2-3).	2.7
23	Cultural Resources	Besides Historical Land Use mentioned above, no other evidence of cultural resources was identified through the review of past reports, interviews, or from the site visit	2.8
24	Other Special Resources	No evidence of other special resources was identified through the review of past reports, interviews, or from the site visit	2.8
ADJACENT PROPERTIES			
25	Petroleum Release	Based on information present in the EDR Report (**Appendix F**), adjacent properties of BARC are identified in the Oil Control Plan (OCP) database. These are cases that are monitored by the MDE Oil Control Program.	5.2.2

1.0 INTRODUCTION

The USACE – Baltimore District, on behalf of the Bureau of Engraving and Printing (BEP), retained SIA-TPMC, LLC (SIA-TPMC) to prepare this ECP Report for the 104-acre parcel of land surrounding Poultry Road within the United States Department of Agriculture (USDA) Beltsville Agricultural Research Center (BARC), hereafter referred to as the "Property." The Property is a 104-acre parcel of land surrounding Poultry Road, Beltsville, in Prince George's County, Maryland 20705 (**Figure 1** in **Appendix A**). The Property has been owned by the USDA since 1910 and was developed and utilized for poultry research and studies from 1914 to 2012.

Based on the information obtained from the site reconnaissance, interviews with personnel, and review of historical documents related to the Property, it is possible the activities performed by the USDA during their occupancy impacted the environmental condition at the Property. The purpose of this ECP is to determine the environmental condition of the Property prior to its transfer since it is no longer needed for research purposes.

1.1 PURPOSE OF ENVIRONMENTAL CONDITION OF PROPERTY REPORT

The purpose of this ECP report is to identify recognizable environmental conditions (RECs) affecting the Property, using the methodology recommended by American Society for Testing and Materials International (ASTM) to assess potential environmental conditions that could materially affect the environmental condition of the Property and classify the Property into one of seven environmental condition-of-property area types. This ECP report conforms with ASTM D6008-96 (2014), *Standard for Conducting Environmental Baseline Surveys* (ASTM, 2014).

ASTM D6008-96 (2014) defines RECs as:

> *The presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into the environment. 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 material risk of harm to the public health or environment and that generally would not be the subject of an enforcement action if the conditions were brought to the attention of appropriate governmental agencies.*

Additionally, this ECP report complies with EPA's All Appropriate Inquiries (AAI) rules and, specifically, with the ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM, 2013*) to satisfy the requirements for the Landowner Liability Protections provided by CERCLA's AAI Rule (Title 40 of the Code of Federal Regulations [CFR] Part 312).

1.2 SCOPE OF SERVICES

The ECP scope of services for the Property includes the following activities.

- Search and review of aerial photographs that may reflect prior uses of the real Property and that are reasonably obtainable through state or local government agencies. (**Appendix A**).
- Conduct and provide photographic documentation of a site reconnaissance of the Property and any buildings, structures, equipment, pipe, pipeline, or other improvements on the Property, and a physical inspection of adjacent properties, to the extent permitted by owners or operators of such properties. (**Appendix B**).
- Interviews with current and former personnel involved in operations on the Property. (**Appendix C**).
- Detailed search and review of federal government records in the possession of the Department of Defense (DoD) components, regulatory agencies, and other involved federal agencies, including but not limited to available maps, permits, surveys, inventories, management plans, reports, reviews, and any prior ECP Report, Environmental Baseline Survey, and Environmental Site Assessment. (**Appendix D** and **E**).
- Identification of the presence of other regulated materials or conditions, including threatened and endangered species, floodplains, pesticides, LBP, historical and archaeological resources, Native American human remains and funerary objects, equipment containing polychlorinated biphenyls (PCBs), radon, unexploded ordnance (UXO) or munitions and explosives of concern (MEC), wetlands, coastal zone area restrictions (CZM), the presence of coral reef ecosystems, essential fish habitat, marine mammals, and past or current activities involving the use of radiological substances or materials. (**Appendix E**).
- Identification of ongoing response actions or actions that have been taken at or adjacent to the Property. (**Appendix E**).
- Identification of sources of contamination on the Property and on adjacent properties which could migrate to the Property during USDA ownership. (**Appendix E** and **F**).
- Search and review of reasonably obtainable standard private and federal, state, and local government records of each adjacent facility where there has been a release of any hazardous substance or any petroleum product or its derivatives and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product or its derivatives on the Property. (**Appendix F**).
- Search and review of reasonably available standard federal, state and local government records pertaining to the Property, including available maps. (**Appendix F**).

- Identification and description of the presence of protected species and cultural resources on the Property.
- Identification of environmental permits, radioactive materials licenses or permits, and Resource Conservation and Recovery Act (RCRA) generator status for the Property.

The property classification categories as defined by ASTM D5746-98 (2016) are as follows:

- ECP Area Type 1 – An area or parcel of real property where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties).
- ECP Area Type 2 – An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.
- ECP Area Type 3 – An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.
- ECP Area Type 4 – An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
- ECP Area Type 5 – An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and removal or remedial actions, or both, are under way, but all required actions have not yet been taken.
- ECP Area Type 6 – An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated.
- ECP Area Type 7 – Areas that are unevaluated or that require additional evaluation. This is a geographically contiguous area or parcel of real property that is unevaluated, or a geographically contiguous area or parcel of real property where the presence of sources or releases of hazardous substances or petroleum products or their derivatives is suspected, but not well characterize, based on the results of a properly scoped records search, chain of title review, aerial photography review, visual inspection, set of employee interviews, and possibly sampling and analysis. They do not fit any of the previous area types with certainty because evaluation efforts have not occurred, are ongoing, or are inconclusive.

This ECP Report covers the BEP established site boundary surrounding Poultry Road, a 104-acre Property, located in Beltsville, Prince George's County, Maryland, 20705. The Property is located on USDA BARC's Central Farm. This ECP Report recommends classification of the Property as **ECP Area Type 2**, as defined by ASTM D5746-98 (2016). This classification was

selected because the subject property was identified within Maryland Department of Environment (MDE) Oil Control Program (OCP) Database, where twelve (12) petroleum related spill incidents occurred at the property between 1987 and 1998 at the following buildings Building 236, Building 254, Building 255, Building 261, and Building 267. Despite these buildings being listed on the MDE OCP, a Phase II Investigation conducted by SIA-TPMC in January 2020 confirmed that no elevated readings of petroleum compounds were detected in soil or groundwater samples collected at the Property. While it is known petroleum related spill incidents occurred at the property, the Phase II Investigation confirmed the spills occurred at concentrations that do not require a removal or remedial action.

1.3 ASSUMPTIONS AND LIMITATIONS

The information obtained from individuals interviewed and prior environmental reports were accurate unless reasonable inquiries indicated otherwise. Conditions observed were considered representative of similar areas that were not accessible unless otherwise indicated. This ECP Report presents a summary of reasonably ascertainable information on the environmental conditions of, and concerns relative to, the land, facilities, and real property assets at the Property. Its findings are based on a record search of publicly available documents, a thorough review of reasonably ascertainable documents, a visual reconnaissance of the Property conducted the week of July 8, 2019 and interviews with personnel knowledgeable about the Property and its history. Existing environmental investigations, reports and historical documents were reviewed in support of this ECP. Information obtained from these other sources is reflected within this report by reference.

All Property buildings and structures were visually inspected during the onsite inspection. However, a total visual reconnaissance of every single interior space within each building was not practical due to accessibility restrictions in the form of poor building conditions, barricaded entryways, vegetation overgrowth, and welded shut doors. No sampling or analysis of any media was conducted during this survey.

This ECP Report was prepared in general conformance with the following standards:

- American Society for Testing and Materials International (ASTM) D6008-96 (2014), *Standard Practice for Conducting Environmental Baseline Surveys*.
- ASTM D5746-98 (2016), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.*
- ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.
- DODI Instruction 4165.66-M (2018), *Base Redevelopment and Realignment Manual*.

SIA-TPMC has relied on certain information provided by federal, state, and local officials and other parties referenced therein, and on information contained in the files of governmental agencies, that were reasonably ascertainable at the time of this assessment. Although there may have been some degree of overlap in the information provided by these various sources, an attempt to independently verify the accuracy or completeness of all information reviewed or

received during this Property assessment was not conducted. Observations were made of the Property and of the structures on the Property as indicated in this report.

2.0 PROPERTY DESCRIPTION

The Property is located within the USDA BARC Central Farm surrounding Poultry Road, Beltsville, in Prince George's County, Maryland 20705 and encompasses approximately 104-acres (**Appendix A**, **Figure 3**). The Property is owned by the USDA and was utilized from 1910 to 2012 primarily for poultry research and scientific studies. Refer to **Appendix D** to view Property search results from Prince George's County Advanced Mapping Atlas and Maryland Department of Assessments & Taxation (MDAT) Real Property Data Search findings.

2.1 PROPERTY LOCATION

Figure 1 in **Appendix A** provides a general Property location map**. Figure 3** in **Appendix A** depicts the general vicinity surrounding the Property location. Property details are presented in Table 2-1 below.

Table 2-1. Property Details for Site Boundary Surrounding Poultry Road

Property Details	
Facility Name & Address:	Poultry Research Area at USDA BARC, Poultry Road, Beltsville, Maryland 20705
Property Owner:	USDA
Date of Purchase:	1910
Total Buildings	23
Current Occupants:	Building 253A is currently occupied by the Wildlife Office, Building 277 is currently being used to quarantine chickens, and Building 267 is being used as a bee sanctuary.
County, State	Prince George's County, Maryland
Zoning	Residential; Reserved-Open-Space (ROS)[1] (**Appendix D**)
USGS Quadrangle(s)	Beltsville 7.5-Minute
Section/Township/Range	Beltsville
Latitude/Longitude	39° 2'23.58"N, 76°52'59.31"W

[1] Reserved Open Space - Provides for permanent maintenance of certain areas of land in an undeveloped state, with the consent of the property owners; encourages preservation of large areas of trees and open space; designed to protect scenic and environmentally sensitive areas and ensure retention of land for non-intensive active or passive recreational uses; provides for very low density residential development and a limited range of public, recreational, and agricultural uses. Minimum dwelling units per net acre - 20 acres* Maximum dwelling units per net acre - 0.05 * Except for public recreational uses, for which no minimum area is required.

Property Details	
Legal Description	(0070136 & 44 &77 & 69&73 & PT 2 8 & 0070219 DL& COMB) (**Appendix D**)

2.2 PHYSICAL DESCRIPTION

2.2.1 Site and Vicinity

The Property consists of a 104-acre parcel on which 23 buildings previously used for poultry research and one building serving as BARC's Wildlife Office reside. The remainder of the 104-acres is covered with cropland, forest, pasture, wetlands, two main parking areas, and paved/unpaved roads. The main road that runs north/south through the property is Poultry Road. In general, surface water appears to drain from the northeast to the southwest border of the Property.

Due to the size of the Property, it was divided into three sectors for data management and organizational purposes as well as to help the reader conceptualize the areas discussed within the site boundary. **Figure 2** in **Appendix A** provides an overview of the sectors. Sector 1 is located within the center region of the site where 15 buildings that were all dedicated to poultry research reside. Sector 2 is located along the western border of Sector 1 and outlines the western border of the site boundary. Sector 2 contains three buildings that were dedicated to poultry research and is also comprised of cropland, forest, and pasture. Sector 3 is located along the eastern border of Sector 1 and outlines the eastern border of the site boundary. Sector 3 contains two buildings, one that was dedicated to poultry research and one that serves as BARC's Wildlife Office and is also comprised of forest and pasture.

During review of the aerial photographs generated in the EDR Report, several buildings that previously resided within the Property no longer exist on current aerials. POC, Mr. Christopher Bentley, provided SIA-TPMC with electronic copies of construction drawings, as well as an aerial highlighting the demolished buildings (**Appendix E**). A summary of SIA-TPMC's 8 July 2019 visual inspection findings is included in **Appendix G**. Figure 2 in **Appendix A-1** provides a visual overview of building locations within the Property.

2.2.2 Building Descriptions

The construction drawings/floor plans and building descriptions were utilized in providing the building information in this section (**Appendix E**). The construction drawings/floor plans and building descriptions were utilized in providing the building information in this section.

Building 236 – Poultry Record of Performance Brooder House

Building 236, constructed in 1934, is an approximately 4,550-square foot (sf) two-story wood-frame building that has a two-story, cross-gabled central section flanked on either side by long, single-story, side-gabled wings. The building rests on a concrete slab foundation and is oriented on an east-west axis with the front façade facing north. The medium-pitch roofs are covered by metal raised-seams. The cross-gabled central section is clad with stucco and the wings are clad

with horizontal wood clapboard. The roof of the cross-gabled central section has an interior, off-ridge brick chimney with a terracotta cap. The roofs of the east and west wings each have two large metal ventilators. Floor plans of Building 236 show the presence of floor drains that appear to drain into a septic tank located below the building. Building 236 has been vacant since 2008. Overall, the building is in poor condition.

Building 236 is one of four buildings associated with the Record of Performance (ROP) work of the Poultry Unit. This research focused on studying the growth patterns and weight gain of the poultry for breeding and feeding experiments.

According to the Maryland Department of Environment's (MDE's) Oil Control Program (OCP) database (**Appendix F**), five (5) incidents are associated with this building. The record indicates that five (5) spill incidents occurred in May 1987 and closed in September 1988; December 1988 and closed in December 1988; July 1993 and closed in October 2009; February 1996 and closed in July 1999; and, December 1998 and closed in May 1999, respectively. No additional information related to these incidents is available at the time of preparation of this report.

Buildings 246 – Subterranean Poultry House

Building 246, constructed in 1944, is an approximately 910 sf two-story building that was constructed into the south side of a hill. Building 246 has an underground level that is banked into the hill and an aboveground level that has a rectangular plan with an east-west orientation. The building is constructed of concrete block and has a concrete stucco finish. The building has a flat roof covered by large terracotta tiles. The south elevation contains the main entry for the underground chamber on the lower level and has a window and a square vent on the upper level. There is a side entry at the aboveground level's west elevation. Floor plans of Building 246 show the presence of floor drains, however details on where they drain are not present. Overall, the building is in poor condition.

Building 246 was the only building constructed in the 1940s and is the only building capable of conducting subterranean poultry research. It is likely that this building served as an experimental poultry house to determine the influence of subterranean living on poultry. The 1996 BARC Masterplan states this building as being used for radioactive waste storage (**Appendix E**). The building's entrance is welded shut and is currently vacant.

Building 252 – Carpenter Shop

Building 252, constructed in 1934, is an approximately 2,814 sf one-story wood frame building that sits on a concrete foundation and is clad with exterior wood siding. This building is oriented on an east-west axis. The central pavilion features a medium-pitch, front gable roof with shingle cladding and a vent opening. The north elevation features a gable-end central entrance and two flanking windows. The north elevations of each wing feature alternating windows and door openings. The door openings are mostly filled with five panel wood doors in singles or sets of double doors. The east and west elevations feature identical fenestration of two evenly spaced windows and an end-gable vent. The west elevation features a mid-range brick chimney which emerges from the roof directly on the ridgeline. Overall, the building is in poor condition.

Building 252 was primarily used as a carpenter's shop, but also had room for a stable, hay and oats storage, and a room for diseased chickens. This building was most recently utilized for various storage purposes but is currently vacant.

Building 253A – Wildlife Office

Building 253A is the only active building residing on the site. It serves as BARCs Wildlife Office.

No data was provided or identified regarding Building 253A.

Building 253B – Storage Shed

Building 253B is a storage shed that resides east of the Wildlife Office and is used for storing hunting/trapping gear.

No data was provided or identified regarding Building 253B.

Building 254 – Poultry House

Building 254, constructed in 1957, is an approximately 18,160 sf three-story masonry building with a brick veneer exterior and is oriented on a north-south axis. It has a central two-story section flanked on each end by single-story extensions. The building's foundation is a concrete slab and its single, paired, or ribbons of windows have two and three-light awning casement sashes. The central section has a recessed entry filled with glass doors and a ribbon of large, full-length windows. The rear of the central section has a small concrete loading dock and a central door with paired metal doors. The front entry and the rear loading dock are sheltered by small cantilevered awning roofs. All three sections of the building have flat roofs. Floor plans of Building 254 show the presence of floor drains. The building has been vacant since 2008. Overall, the building is in poor condition.

Building 254 was a late addition in the development of the poultry area and utilized as a breeder house. According to the MDE's OCP database (**Appendix F**), one (1) spill is associated with this building. The record indicates that this occurred in November 1998 and the case was closed in April 1999. No additional information related to this incident is available at the time of preparation of this report.

Building 255A – Experimental Poultry Breeder House

Building 255A is an approximately 2,800 sf one-story wood-frame building that is clad with an engineered pressed board siding. The building rests on a concrete block foundation with poured concrete slab and is oriented on a north-south axis. This building features a metal gable roof with an elastomeric covering and two ridgeline vents. The building features two metal doors and three louvered vents on the west elevation, a wood door on the south elevation, a door opening on the north elevation, and three ventilators on the east elevation. In 1998, the building was altered, including the infilling of some exterior doors and interior trenches, and the installation of steel doors and changes to the interior layout. Floor plans of Building 255A show the presence of floor drains that appear to drain directly into the sanitary sewer that services the building. The building has been vacant since 2008. Overall, the building is in poor condition.

Building 255A was used as an Experimental Poultry Breeder House.

Building 261 – Boiler House

Building 261, constructed in 1934, is an approximately 1,963 sf one-story building constructed of concrete blocks and poured concrete. This building is oriented on a north-south axis. The exterior of the building has a projecting brick water table with brick windowsills, with a stucco finish above the brick. The west side has a central ribbon of windows filled with steel awning sashes flanked by single-leaf entrances with wood doors. The north side has a central entrance with wood doors. The east side has a central ribbon of windows, flanked by paired windows. A metal chimney projects upward from the south side of the building and is attached to the building between the two windows. The flat, built-up roof is surrounded on all four sides by a short parapet wall surmounted by terracotta coping with a simple brick cornice.

The interior of Building 261 was accessible during the site reconnaissance. There are two large metal boilers in the center of the room. The interior is mostly all one level, but the south end of the interior contains pipe trenches and a rectangular section in the southwest corner several feet below the poured-concrete floor, surrounded by metal railings and flooded with water. Floor drains were identified during the on-site inspection, but they appeared to be flooded. Building 261 floor plans dated March 1934 indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House. The presence of the oil tank could not be determined during the site reconnaissance because the tank is underground. According to the MDE's Oil Control OCP database (**Appendix F**), two incidents are associated with this building. The record indicates that two spill incidents occurred in May 1987 and the case was closed in September 1988, and in February 1996 and the case was closed in May 1999, respectively. No additional information related to these incidents is available at the time of preparation of this report.

Building 261 was designed to supply the Poultry Area with heat. Building 261 has been vacant since 2012. Overall, the building is in poor condition.

Building 262 – **Poultry Fattening Laboratory**

Building 262, constructed in 1937, is an approximately 10,420 sf three-story building constructed of cinder block walls with a stucco finish and is oriented on a north-south axis. Precast concrete lintels are buried within the wall structure and are covered by the stucco exterior. Building 262 has central entrances on the east and west elevations. Building 262 has a penthouse that projects from the flat roof which features a stepped parapet wall on the east elevation. It has a small concrete-block addition that is appended to the west elevation of the ground floor. The building has a central stairway and elevator. The interior of Building 262 has been renovated multiple times with rooms being subdivided, enlarged and/or repurposed over time. The stairway and cross halls still exhibit original materials such as flooring and light fixtures. Floor drains can be identified in floor plans of the building. The building has been vacant since 2002. Overall, the building is in poor condition.

Building 262 is one of four main laboratories in the poultry area. This building is different in resemblance compared to the other three laboratories. This building was designed with a space for a killing and plucking room, a fattening room, a brooder room, and feed storage.

Building 263 – Fundamental Research Lab

Building 263, constructed in 1934, is an approximately 8,600 sf three-story building constructed of cinder blocks and is oriented on a north-south axis. The first story is clad on the exterior with brick and the second and third stories are covered with stucco. The side-gable roof is clad with composition shingles. The building features a central entrance on the east elevation. The façade includes a symmetrical window arrangement on the second and third floors, featuring a single central window flanked by four windows each to the north and south, arranged in pairs. The attic story has three dormer windows. The south elevation contains a door in the southeast bay, and a metal fire escape in the western half. The gable end has a single window to the fire escape, and a pent roof along the cornice line. The remainder of the first-story elevation is punctuated by windows and semi-recessed openings filled with brick. The windows on all elevations have brick sills. The gable end has a single window to the fire escape, and a pent roof along the cornice line. The north and south façade gable end has a substantial permanent fire stair with landings at each floor. Floor drains can be identified in floor plans of the building. Overall, the building is in poor condition.

Building 263 was primarily used as a poultry research laboratory. The ground story of the building was used for storage. The first story contained a space for live birds, a holding room and preparation room, an operating room, and offices. The second story has additional space for live birds and offices. The attic had a conference room and space for storage.

Building 264 – Poultry Laboratory Building

Building 264, constructed in 1931, is an approximately 8,250 sf two-and-a-half-story building constructed of cinder blocks and is oriented on a north-south axis. The building is covered in stucco and has a shingled gable roof with three projecting gabled dormers on each façade. An interior brick chimney is located on the ridge at the south end of the roof. The north and south façade gable end has a substantial permanent fire stair with landings at each floor. Floor drains can be identified in floor plans of the building. Overall, the building is in poor condition.

Building 264 was the first modern laboratory constructed in the poultry area. A variety of activities were performed at this building and included a space in the basement for an egg storage room, a cold room, a still room, an ether distillation room, an extraction room, and a small animal room. On the first story, there was a record and computing room, offices, a chemistry laboratory, an autopsy room, and a bacteriology room. The second story had more offices, another chemistry laboratory, and a weighting room. The third story had a library and storage space.

Building 264B – Supply Shed

Building 264B, constructed in 1936, is an approximately 192 sf one-story wood-frame building and oriented on an east-west axis. The building has a medium-pitch, gable roof covered by metal

and the overhanging eaves on the north and south elevations have rafter tails. The exterior walls are clad by clapboard siding. There is a single, wood door made from vertical boards on the east gable end. The south elevation has a central fixed window; the west elevation features a central fixed window, and a casement window at ground level. The north elevation features three fixed windows. The building's interior is unfinished with exposed wall framing and roof timbers. The building has been vacant since 2009. Overall, the building is in poor condition.

Building 264B was used for storage purposes and is located to the west of Building 264.

Building 264C – Poultry Physiology Cage House

Building 264C is an approximately 2,880 sf one-story wood-frame building that is clad with wallboard panels. The building was constructed on a concrete foundation and is oriented on an east-west axis. The metal gable roof has an elastomeric covering. The building features single metal door on the east and north elevations and a single metal door and a large wood frame double door covered with wallboard panels on the west elevation. Double louvered vents are located in each gable end. The building was vacated in 2008. Overall, the building is in poor condition.

Building 264C was used as a Poultry Physiology Cage House and is located to the west of Building 264. The building was used for storing metal poultry cages and a small room served as an autopsy room.

Building 265 – Office/Laboratory

Building 265, constructed in 1934, is an approximately 8,600 sf three-story building constructed of cinder blocks and is oriented on a north-south axis. The first story is clad on the exterior with brick and the second and third stories are covered with stucco. The side-gable roof is clad with composition shingles. The building features a central entrance on the east elevation. The façade includes a symmetrical window arrangement on the second and third floors, featuring a single central window flanked by four windows each to the north and south, arranged in pairs. The attic story has three dormer windows. The south elevation contains a door in the southeast bay, and a metal fire escape in the western half. The gable end has a single window to the fire escape, and a pent roof along the cornice line. The remainder of the first-story elevation is punctuated by windows and semi-recessed openings filled with brick. The windows on all elevations have brick sills. The gable end has a single window to the fire escape, and a pent roof along the cornice line. The north and south façade gable end has a substantial permanent fire stair with landings at each floor. Floor drains can be identified in floor plans of the building, but do not include information on where they drain. Overall, the building is in poor condition.

Building 265 was designed to resemble Building 263 and 264. The basement contained an incubator unit, hatcheries, refrigerators, and offices. The first floor has offices, a physical and electrometrical laboratory, and a physiology laboratory. The second story housed offices, more laboratories, and a record room. The attic was used for storage and served as a conference room.

Building 267 – Turkey Brooder and Feed House

Building 267, constructed in 1936, is an approximately 5,290 sf low two-story wood-frame building with clapboard siding and a gable roof. The building was constructed on a concrete foundation and is oriented on an east-west axis facing south. There is a central two-story section and two long wings that form a prominent cross-gable roof. The north and east exterior sides of the building have large metal vats. Overall, the building is in poor condition.

Building 267 was designed to house turkey research and was used to conduct brooding research. During the onsite inspection, it was observed that the exterior of Building 267 was being utilized to house bee colonies. Per BARC's request, SIA-TPMC did not disturb the bees or the areas surrounding Building 267. According to the MDE's OCP database (**Appendix F**), one (1) spill is associated with this building. The record indicates that this occurred in October 1993 and the case was closed in December 1996. No additional information related to this incident is available at the time of preparation of this report.

Building 270 – Turkey Mating and Breeding House

Building 270, constructed in 1936, is an approximately 1,050 sf one-story wood-frame building with clapboard siding. The building was constructed on a concrete foundation and is oriented on an east-west axis. This building has a metal gabled roof with no gutters. The north façade is characterized by two vent openings and the south façade has four projecting box-like frames around the window openings. The façade provides access to the interior through a door and the west façade contains a triangular vent in the apex of the gable. Overall, the building is in poor condition.

Building 270 is one of two remaining buildings that was used for turkey mating and breeding.

Building 271 – Turkey Mating and Breeding House

Building 271, constructed in 1936, is an approximately 1,341 sf one-story wood-frame building with clapboard siding. The building was constructed on a concrete foundation and is oriented on an east-west axis. This building has a metal gabled roof with no gutters. The north façade is characterized by two vent openings and the south façade has four projecting box-like frames around the window openings. The façade provides access to the interior through a door and the west façade contains a triangular vent in the apex of the gable. Overall, the building is in poor condition.

Building 271 is one of two remaining buildings that was used for turkey mating and breeding.

Building 273, 274, 275, 277 and 278 – Experimental Laying House for Breeding

Each building is an approximately 890 sf one-story wood-frame building with vertical board siding. All the buildings were constructed in 1935 on concrete foundations and are oriented on an east-west axis. They all have shed roofs that are higher at the southern façade and that slope down towards the north façade. These buildings do feature overhangs at the front of the buildings. Overall, these buildings are in poor condition.

These buildings were utilized as experimental laying houses for breeding.

Building 281 – House for Poultryman

Building 281, constructed in 1914, is an approximately 4,000 sf two-and-a-half-story wood-frame building with clapboard siding. The building is oriented on an east-west axis. The building is characterized by a hipped gable roof with overhanging eaves, covered in diamond-shaped shingles. On the south façade there is a porch. This building features an elongated brick chimney with a hipped-shaped cap along the façade. Floor drains can be identified in floor plans of the building, but they do not provide information on where they drain. Overall, the building is in poor condition.

Building 281 was erected as part of the first building campaign that the Bureau of Animal Husbandry undertook after acquiring the Beltsville land in 1910. This building was used as a residence for poultry men.

2.2.3 Other Facilities and Site Features

As indicated in Section 2.2.1, the remainder of the Property also features parking areas and paved/unpaved roads.

Parking Areas

There are two main parking areas located on the Property and both reside in the upper region of Sector 1. The largest parking area is located west of building 254 and the other is located between Buildings 262 and 263.

Paved/Unpaved Roads

One main paved road, Poultry Road, runs north/south through the property. The only other paved road on the Property runs off Poultry Road and behind Buildings 261, 262, 263, 264, and 265 and connects back to Poultry Road. The other roads on this Property are unpaved and appear to be made of a combination of rock and gravel. These unpaved roads provide cars access to the various building locations within the Property.

2.2.4 Site Waste and Wastewater

Solid Waste

One dumpster was located at the Property during the Onsite Inspection. The dumpster was labeled “G 8535” and RJ’s Disposal Service INC. is the responsible party for collecting the waste. The waste disposed of in this dumpster is presumably generated by the only active building on the site, the Wildlife Office.

Sanitary Sewage

Sanitary sewage lines enter the Property along the eastern portion of the site and head northwest where the line wraps around the main laboratory buildings (**Appendix E**). There is not a wastewater treatment plant located on the Property.

2.2.5 Polychlorinated Biphenyls (PCBs)

Based on the site inspection, it is possible the Property contains PCB transformers regulated by the EPA under 40 CFR Part 761. No “PCB Free” signage was identified on the transformer at the Property.

Transformers

Pad-mounted and pole-mounted, oil-filled transformers were observed on the Property during the site inspection. None of the transformers identified contained a yellow M_L label “Contains PCBs” or blue label “No PCBs” on the Property. No stressed vegetation or soil staining was observed beneath or around any of the units. Any unlabeled transformer should be assumed to contain PCBs and management and disposal must be in accordance with local, state and federal requirements.

Fluorescent Light Ballasts

Florescent light ballasts manufactured through 1979 may contain PCBs. Given that the original structures on the Property were constructed between 1914 and 1957, there is a possibility that the ballasts in fluorescent light fixtures installed at that time may contain PCB ballasts. Any light ballast not marked with "No PCBs" labeling should be assumed to contain PCBs and management and disposal must be in accordance with local, state and federal requirements.

Mercury Switches

Given that the original structures on the Property were constructed between 1914 and 1957, there is a possibility that mercury switches may be contained within several thermostats identified inside the buildings.

2.2.6 Radioactive Commodities

The SIA-TPMC did receive information through POC, Mr. Christopher Bentley, that Building 246 on the Property was used for storing radiological waste in the form of radioactive animal carcasses. Mr. Bentley stated that through his research of the site, it was determined that BARC Building 246 was used to store radioactive materials including radioisotopes Iodine-125 and Phosphorus-32.

2.2.7 Site Hydrology

Surface water bodies are located on the Property and can be found in **Figure 4** of **Appendix A-1**. According to topographic maps pertaining to the Property, it appears groundwater flows from the northeast to southwest portion of the Property (**Appendix A-2**). The Property is not located in the 100-year flood zone (**Figure 4** in **Appendix A-1**).

In a Municipal Separate Storm Sewer Evaluation conducted by Arro Consulting in May 2017, BARC’s facility stormwater infrastructure was reviewed, including areas within the subject Property (**Appendix E**). This report included a list of illicit discharge locations, unsatisfactory swales, storm sewer systems with surging inlets – based on 100-year storm event, unsatisfactory manholes, unsatisfactory headwalls, unsatisfactory outlets, unsatisfactory outfalls, unsatisfactory

storm sewer pipes, and unsatisfactory culverts. The following locations were listed as illicit or unsatisfactory within the Property.

- Storm sewer systems with surging inlets – based on 100-year storm event: OF009, OF024, OF025.
- Unsatisfactory headwalls: HW024001
- Unsatisfactory culverts: C025001

2.2.8 Geology

The USDA Natural Resources Conservation Service soil maps for Prince George's County describe numerous soil associations and groups of soils within the facility. Many of these units are described as comprising silty loam, loamy sand, and sandy loam of variable slope, drainage characteristics, and susceptibility to erosion. Surface soils are underlain by highly variable deposits ranging from gravels to clays, some as old as the Cretaceous Period.

The geology at BARC consists of Lower Cretaceous sediments of the Potomac Group, which consists of the Patuxent, the Arundel, and the Patapsco Formations, respectively decreasing in age. The Patuxent and Patapsco Formations are composed primarily of sand and gravel and comprise the most prevalent water bearing aquifers in Prince George's County. The Arundel is mostly clay and creates artesian conditions in the underlying Patuxent Formation in some locations. Recharge of the Patuxent Formation occurs where it outcrops in the western portions of BARC. This wedge of sediments made up of the Patuxent, Arundel, and Patapsco Formations dips to the southeast, parallel to the regional groundwater flow (Apex, 1991).

The Property lies on the Patuxent Formation. Soil textures beneath the site are well-sorted sand and gravel with minor clay lenses. This sand and gravel sequence overlie several feet of clay, below which are the igneous and metamorphic rocks of the Piedmont Province.

2.3 PROPERTY UTILITIES

The following organizations listed in Table 2-2 below provide utilities to the Property.

Table 2-2. Utilities Providers

Utilities	Providers
Water:	BARC
Sanitary Sewer:	BARC
Storm Sewer:	Stormwater from pastures, buildings and paved surfaces flow to the nearest catch basins, which drain into the stream in the southeast portion of the Property.
Electric:	Baltimore Gas and Electric Company (BGE) and Potomac Electric Power Company (Pepco)
Natural Gas:	BGE and Pepco

2.4 WATER SUPPLY WELLS, DRY WELLS AND SEPTIC SYSTEMS

There are no water supply wells or dry wells located within the Property. Based on the construction drawings/floor plans (**Appendix E**), there are possible septic systems associated with the buildings 236, 267, 270, 271, 272, 274, 275, 277 and 278, respectively, at the Property. There are no known leach fields associated with the Property.

2.5 WETLANDS

The USACE defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

During the site inspection, characteristics associated with wetlands were observed in the southern pasture of Sector 3. However, according to GIS data provided by USACE, there is only one identified wetland location within the Property which is located on the southern part of the Property within Sector 2 (**Figure 5** in **Appendix A**). The U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory (NWI) map for the area including the Property did not indicate any wetlands within the Property (**Appendix E**).

2.6 COASTAL ZONE

The Maryland coastal zone is comprised of the land, water and subaqueous land between the territorial limits of Maryland in the Chesapeake Bay, Atlantic Coastal Bays and the Atlantic Ocean, as well as the towns, cities and counties that contain and help govern the thousands of miles of Maryland shoreline. The Maryland coastal zone extends from three miles out in the Atlantic Ocean to the inland boundaries of the 16 counties and Baltimore City that border the Atlantic Ocean, Chesapeake Bay and the Potomac River up to the District of Columbia. This area encompasses two-thirds of the State's land area and is home to almost 70% of Maryland's residents.

According to the Maryland Department of Natural Resources (MDNR), this Property is located within a Maryland coastal zone (**Appendix E**).

2.7 BIOLOGICAL RESOURCES

As indicated in Section 2.2.1, the remainder of the Property also features cropland, forest and pasture.

Cropland

Along the western boundary of the site located in Sector 2 resides a patch of cropland. During the time of the onsite inspection, corn was growing on this part of the land. No documentation was identified regarding known uses of herbicides or pesticides on the cropland.

Forest

Several areas within the site are classified as forested. In Sector 2, the northern part of the sector contains reforestation areas. In Sector 3, the northeastern part of the sector is also comprised of reforestation areas and the eastern part of the sector is comprised of mature forested area.

Pasture

The southern part of the Property, within Sectors 2 and 3, is classified as pasture. The pasture stretches from the western boundary of Sector 2 to the eastern boundary of Sector 3.

2.7.1 Endangered Species Act

SIA-TPMC reviewed updated lists of threatened and endangered species that may be present in Prince George's County, Maryland. This list was generated by the USFWS Environmental Conservation Online System (ECOS) (**Appendix E**). These listings identified the species classified as threatened, endangered, or candidate species.

The USFWS ECOS indicated two federally listed species with the potential to occur in the vicinity of Property (Table 2-3).

Table 2-3. Federal and State Special Status Species in Prince George's County, MD

Common Name	Scientific Name	Status
Mammals		
Northern Long-Eared Bat	*Myotis septentrionalis*	Threatened
Flowering Plants		
Sensitive joint-vetch	*Aeschynomene virginica*	Threatened

2.8 CULTURAL AND HISTORIC RESOURCES

As part of the ECP assessment, a cultural resources site screening was conducted, which included review of available site records and previous survey reports, archaeological and historic architectural site records, local historical records as applicable, and BARC property records.

During the review of available site records and previous survey reports, Ms. Lisa Bynum, Realty Specialist at BARC, provided SIA-TPMC with a 1997 report titled "Beltsville Agricultural Research Center – Beltsville, MD Survey Form: Structures" which provides a preliminary national register eligibility assessment for the buildings on the Property (**Appendix E**). Ms. Bynum also provided SIA-TPMC with Maryland Historical Trust Determination of Eligibility Forms for 10 of the buildings within the Property (**Appendix E**). According to these documents/forms, the following table depicts the buildings that were recommended a contributing resource to the National Register (NR) and reside within a historic district:

Table 2-4. Buildings Contributing to the National Register

Property Building #	1997 Preliminary National Register Eligibility Assessment		Maryland Historical Trust Determination of Eligibility	
	Eligible as contributing to Potential Historic District? (Y/N)	Retains Integrity? (Y/N)	Located within a Historic District? (Y/N)	Recommended a Contributing Resource? (Y/N)
236	Y	Y	Y	Y
246	Y	Y	Y	Y
252	Y	Y	Y	Y
253A	N/A	N/A	N/A	N/A
253B	N/A	N/A	N/A	N/A
254	Y	Y	Y	Y
255A	N/A	N/A	Y	Y
261	Y	Y	Y	Y
262	Y	N	Y	Y
263	Y	Y	Y	Y
264	Y	Y	N/A	N/A
264B	Y	Y	Y	Y
264C	N/A	N/A	Y	Y
265	Y	Y	N/A	N/A
267	Y	Y	N/A	N/A
270	N/A	Y	N/A	N/A
271	N/A	Y	N/A	N/A
273	Y	Y	N/A	N/A
274	Y	Y	N/A	N/A
275	Y	Y	N/A	N/A
277	Y	Y	N/A	N/A
278	Y	Y	N/A	N/A
281	Y	Y	N/A	N/A

N/A denotes no documentation provided or available for that building.

No other cultural or historic resource documents were identified for the Property.

3.0 PROPERTY HISTORY

3.1 HISTORY OF OWNERSHIP

The USDA moved from Bethesda, Maryland due to high land prices and purchased the land of this Property in 1910. The USDA has held ownership and characterized the Property as the Poultry Area since their purchase date in 1910.

The EDR-City Directory Image Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities and provides a search of available city directory data at 5-year intervals. This Report identified an individual “Stroud, Ben H” who appeared to list Building 281 as his residence between 1982 and 1995 (**Appendix D**). No documentation regarding real estate transactions were provided or identified for the Property outside of this report.

3.2 PAST USES AND OPERATIONS

Located in the USDA’s Agricultural Research Service’s (ARS) BARC Central Farm, the Property was used for part of the Bureau of Animal Industry (BAI). In 1910, the Experimental Farm for Dairy & Animal Husbandry was established. In 1917, the Poultry Farm was established and by the late 1930s, several poultry research laboratories and buildings were constructed off Poultry Road. The poultry research conducted at the Property included experiments on poultry breeding, studying the incubation of eggs, and the effects of feeding on egg production. Researchers focused on breeding and nutritional studies with the goal of making chickens more economically productive for farmers and the poultry industries.

3.3 PAST USE, STORAGE, DISPOSAL AND RELEASE OF HAZARDOUS SUBSTANCES

There is no environmental documentation regarding past use, storage, disposal and release of hazardous substances within the Property. However, given the Property was utilized for poultry research and the due diligence conducted on the buildings that reside on the site, it is likely hazardous substances were used on the Property. During the onsite inspection and interviews, a few items were noted for potentially being related to hazardous substances and are listed in the sections below.

3.3.1 Past Use and Storage of Hazardous Substances

During the onsite inspection, one location attached to the rear of Building 264 was identified as potentially being used for hazardous substance storage due to a caged storage area attached to the rear of the building (Sector 1 Photolog, Page 39 in **Appendix B**). The caged storage area showed no indications of a past release during the site reconnaissance. Many of the buildings on the site were not enterable due to barricaded entryways or welded shut doors. With that being stated, due to the research conducted on this site, it is possible hazardous substances were stored inside of these buildings.

SIA-TPMC was informed by POC, Mr. Christopher Bentley, that Building 246 on the Property was used for storing radiological waste. Refer to **Appendix C** to view Mr. Bentley's interview form.

There is no environmental documentation regarding past use and storage of hazardous substances within the Property.

3.3.2 Past Disposal and Release of Hazardous Substances

There is no formal environmental documentation regarding past disposal and release of hazardous substances within the Property.

3.4 PAST USE, STORAGE, DISPOSAL AND RELEASE OF PETROLEUM

According to the Maryland Department of Environment's (MDE's) Oil Control Program (OCP) database (**Appendix F**), there are 173 records related to BARC, of which 12 are associated with five (5) buildings located at the Property. There is no information whether these records are related to petroleum USTs or leaking USTs or spills. The status of these records is reported as "Closed".

3.4.1 Past Use and Storage of Petroleum

Building 261 floor plans dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House. Construction drawings of the Boiler House show an associated UST with the building. During the time of the onsite inspection, the area where the UST was suspected to be located was flooded and the SIA-TPMC personnel conducting the inspection were unable to verify the UST's existence. Construction drawings for Building 262, 264, 267 and 281 were identified containing coal bins.

There is no other environmental documentation available regarding past use and storage of petroleum within the Property.

3.4.2 Past Disposal and Release of Petroleum

According to the MDE's OCP database, there are 173 records related to BARC, of which 12 are associated with the Property. There is no information whether these records are related to petroleum USTs or leaking USTs or spills. The status of these records is reported as "Closed". On a call with MDE, it was discovered that the OCP database contains all the information available regarding past spills.

The summary of the OCP records, presented below, indicate that spills or incidents occurred at:

- Building 236
    - May 1987 and closed in September 1988
    - December 1988 and closed in December 1988
    - July 1993 and closed in October 2009
    - February 1996 and closed in July 1999
    - December 1998 and closed in May 1999

- Building 254
    - November 1998 and closed in April 1999
- Building 255
    - October 1993 and closed in October 2009
    - December 1988 and closed in December 1988
- Building 261
    - February 1996 and closed in May 1999
    - May 1987 and September 1988
- Building 267
    - October 1993 and closed in December 1996

There is no other environmental documentation regarding the past disposal and release of petroleum within the Property.

3.5 REVIEW OF PREVIOUS ENVIRONMENTAL REPORTS

While conducting the historical data review and research on this property and working with staff members at BARC, it was determined that no previously completed environmental reports are available for the Property.

4.0 ADJACENT PROPERTIES

Figure 3 in **Appendix A** provides an aerial view of the Property and adjacent properties. **Table 4-1** provides adjacent properties with their directional location with respect to the Property. Photographs presented in **Appendix B** provide views of adjacent properties and surrounding land use.

Table 4-1. Adjacent Properties

Direction from Property	Name / Type of Property	Address	Zoning
North	Residential Properties off Odell Road	Texas Route 77	Residential
South	USDA BARC Poultry Research	Intersection of Powder Mill Road and Poultry Road	Residential; R-O-S
East	USDA BARC 300 Building Cluster	Center Road, Beltsville, MD 20705	Residential; R-O-S
West	USDA BARC Cropland	North Dairy Road, Beltsville, MD 20705	Residential; R-O-S

The EDR Report in **Appendix F** and historical aerial photographs and topographic maps in **Appendix A** were used to evaluate any potential environmental impacts on adjacent properties that may have also impacted the environmental condition of the Property. Three (3) Areas of Concern (AOC) were identified adjacent to the eastern border of the Property which may have impacted environmental conditions on the Property. All the information provided below can be found at the USDA BARC Data Repository.

BARC 9

The BARC 9 AOC covers approximately 70 acres in the Central Farm, east of the Poultry Area and south of Odell Road. The western portion of this AOC stretches onto the eastern part of the Property. This AOC was first identified in the 1991 Preliminary Assessment/Site Inspection as a surface disposal area. Evidence of possible surface disposal was first detected in 1943 aerial photographic coverage of the AOC. Disposal operations continued through the 1950s until approximately 1963 when the area was apparently abandoned and overgrown by vegetation.

A non-CERCLA removal action of surface debris was completed in 1997. Eighty-seven dump truck loads of miscellaneous solid waste were removed from the site for disposal. Subsequent investigations were carried out in 2001 and 2002 as part of the Site Screening Process to delineate the extent of elevated concentrations of lead, manganese, and Polycyclic Aromatic Hydrocarbons in surface soils. PAHs are found in oils and fuels and can be carcinogenic. High concentrations of these contaminants were not extensive and did not exceed the facility wide ecological cleanup goals.

The current status for this AOC is registered as No Further Action (NFA). Refer to **Appendix E** to view the BARC 9 Final Close-out Report. Due to BARC 9 being registered as NFA, this AOC is not considered a REC to the property.

BARC 26

The Dump Off Poultry Road is located to the southwest of BARC 9 and is situated in an excavated area approximately 80 feet long by 100 feet wide near the crest of a south-facing hillside.

This AOC was identified in the 1991 PA/SI as being the site of a former "trench silo." BARC personnel indicated that this AOC was used to dispose of chicken manure and other unspecified wastes from poultry operations.

The site was investigated in 2001 as part of the Site Screening Process. Metals, including arsenic, were found in soil samples. The concentrations of contaminants detected at the site were not considered to be at levels that posed significant human or ecological risks, and no further action was recommended and accepted for the site.

The current status for this AOC is registered as NFA. Refer to **Appendix E** to view the BARC 26 Final Close-out Report. Due to BARC 26 being registered as NFA, this AOC is not considered a REC to the property.

ENTECH R3

ENTECH R3 is located west of the Food and Drug Administration facility, approximately 100 feet south of the BARC Well #5 pump house.

ENTECH R3 was identified and investigated during a 1996 field reconnaissance. Numerous surface-disposed items were identified at this AOC, including spray paint cans, scrap metal, small animal hutches, aluminum trash cans, metal buckets, and metal cones.

The 2000 Site Screening Process investigation identified concentrations of metals in soil (primarily manganese) in soil greater than their EPA Region III Human Health Risk screening levels. The concentrations of contaminants detected at the site were not considered to be at levels that posed significant human or ecological risks, and no further action was recommended and accepted for the site.

The current status for this AOC is registered as NFA. Refer to **Appendix E** to view the ENTECH R3 Final Close-out Report. Due to ENTECH R3 being registered as NFA, this AOC is not considered a REC to the property.

5.0 REVIEW OF REGULATORY INFORMATION

A component of the ECP assessment is the review of all reasonably obtainable federal, state, and local government records for the Property and surrounding properties. The review determines whether there has been a release or likely release of any hazardous substance or any petroleum product, as well as which areas are likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the federal real property. SIA-TPMC acquired a regulatory database summary from EDR on 20 June 2019. The regulatory database summary consolidates standard federal, state, local, and tribal environmental record sources based on ASTM D6008-96 (2014) recommended minimum search distances from the Property. A copy of the complete EDR Report is included in **Appendix F**. "High Risk" properties are those that exhibit significant environmental conditions that have the probability of adversely affecting the environmental conditions at another site.

5.1 FEDERAL ENVIRONMENTAL RECORDS

The information presented in **Table 5-1** was obtained from the EDR Report regulatory database search report (**Appendix F**). Bold database entries indicate findings that were identified on the Property or surrounding properties and are further discussed in the sections below.

Table 5-1. Federal Database Search

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
NPL	**1.0**	**NL**	**1**	**0**	**0**	**0**	**1**
Proposed NPL	1.0	NL	0	0	0	0	0
Delisted NPL	0.5	NL	0	0	0	0	0
CORRACTS	**1.00**	**NL**	**2**	**0**	**0**	**0**	**2**
FEDERAL FACILITY	0.5	NL	0	0	0	NR	0
SEMS	**0.5**	**NL**	**1**	**0**	**0**	**NR**	**1**
RCRA TSDF	0.5	NL	0	0	0	NR	0
RCRA LQG	0.25	NL	0	0	NR	NR	0

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
RCRA SQG	0.25	NL	0	0	NR	NR	0
RCRA CESQG	0.25	NL	0	0	NR	NR	0
ERNS	TP	NL	NR	NR	NR	NR	0
US ENG CONTROLS	**0.5**	**NL**	**1**	**0**	**0**	**NR**	**1**
US INST CONTROLS	**0.5**	**NL**	**1**	**0**	**0**	**NR**	**1**
DOD	1.0	0	0	0	0	NR	0
RCRA NonGen / NLR	**0.250**	**NL**	**1**	**0**	**NR**	**NR**	**1**
FUDS	**1.0**	**0**	**0**	**0**	**1**	**NR**	**1**
CONSENT	1.0	NL	0	0	0	NR	0
ROD	**1.0**	**1**	**0**	**0**	**0**	**0**	**1**
UMTRA	0.5	NL	0	0	0	NR	0
US MINES	0.25	NL	0	0	NR	NR	0
TRIS	TP	NL	NR	NR	NR	NR	0
TSCA	TP	NL	NR	NR	NR	NR	0
FTTS	TP	NL	NR	NR	NR	NR	0
HIST FTTS	TP	NL	NR	NR	NR	NR	0
SSTS	TP	NL	NR	NR	NR	NR	0
ICIS	TP	NL	NR	NR	NR	NR	0

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
PADS	TP	NL	NR	NR	NR	NR	0
MLTS	TP	NL	NR	NR	NR	NR	0
DOCKET HWC	TP	NL	NR	NR	NR	NR	0
ECHO	TP	NL	NR	NR	NR	NR	0
RADINFO	TP	NL	NR	NR	NR	NR	0
FINDS	TP	NL	NR	NR	NR	NR	0
RAATS	TP	NL	NR	NR	NR	NR	0
RMP	TP	NL	NR	NR	NR	NR	0
UIC	TP	NL	NR	NR	NR	NR	0
DRYCLEANERS	0.25	NL	0	0	NR	NR	0
LEAD	TP	NL	NR	NR	NR	NR	0
INDIAN RESERV	1.0	NL	0	0	0	0	0
SCRD DRYCLEANERS	0.5	NL	0	0	0	NR	0
LRP	0.5	NL	0	0	0	NR	0
FINANCIAL ASSURANCE	TP	NL	NR	NR	NR	NR	0
COAL ASH	0.5	NL	0	0	0	NR	0
LEAD SMELTERS	TP	NL	NR	NR	NR	NR	0
US AIRS	TP	NL	NR	NR	NR	NR	0
US MINES	TP	NL	NR	NR	NR	NR	0

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
EPA WATCH LIST	TP	NL	NR	NR	NR	NR	0
Financial Assurance	TP	NL	NR	NR	NR	NR	0
COAL ASH EPA	0.5	NL	0	0	0	NR	0
NPDES	TP	NL	NR	NR	NR	NR	0
UXO	1.0	NL	0	0	0	0	0
PCB TRANSFORMER	TP	NL	NR	NR	NR	NR	0
RADINFO	TP	NL	NR	NR	NR	NR	0
COAL ASH DOE	TP	NL	NR	NR	NR	NR	0
2020 COR ACTION	0.25	NL	0	0	NR	NR	0
ABANDONES MINES	0.25	NL	0	0	NR	NR	0
PRP	TP	NL	NR	NR	NR	NR	0

Acronyms – Are defined in detail in the attached 2019 EDR Report, **Appendix F.**
TP=Target Property (the Property); NR=Not Requested at this Search Distance

5.1.1 National Priorities List (NPL)

Also known as Superfund, the National Priority List database is a subset of Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA. An approximately 4-acre parcel of land titled “BARC 27 Beaver Dam Road Landfill,” is identified in the NPL database (see **Appendix F**) listed under EPA ID# MD0120508940. This 4-acre site has had a Final NPL status as of 31 May 1994. Historically, sixteen (16) different hazardous contaminants were released to surface waters at this site. The 4-acre area was used for disposal of metal drums, plastic containers, casings for transformers, and lab wastes. In 1990 and 1992, USDA analyses of soil, groundwater, surface water, and surface water sediments detected elevated levels of PAHs, pesticides, polychlorinated biphenyls (PCBs), 1,1,1-trichloroethane, trichloroethene, xylene, arsenic, barium, beryllium, copper, lead, manganese, mercury, nickel, and zinc. This evidence of a release of hazardous substances at the Property constitutes a historical REC. Cleanup at some areas of the BARC 27 Beaver Damn Road Landfill is complete, while remediation and feasibility studies are being undertaken in other

areas. The BARC 27 Beaver Dam Road Landfill does not affect the condition of the subject Property because it is located to the south and lays at a lower elevation than the subject Property.

5.1.2 Superfund Enterprise Management System (SEMS)

SEMS tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

- The BARC 27 Beaver Dam Road Landfill is identified on the SEMS list. The most recent action has a finish date of 15 September 2016. This location is at a lower elevation relative to the subject Property and does not affect its condition.

5.1.3 RCRA Corrective Action Report (CORRACTS)

CORRACTS identifies hazardous waste handlers with the Resource Conservation and Recovery Act (RCRA) corrective action activity.

- The BARC 27 Beaver Dam Road Landfill is identified in the CORRACTS database and has had past RCRA violations. A Clean Water Act (CWA) related violation was reported in April 2018. The BARC 27 Beaver Damn Road Landfill has been non-compliant with CWA regulations due to past releases of hazardous substances into surrounding surface water. Certain areas of the area have been remediated, while other areas are RCRA NonGen / NLR. As this location is at a lower elevation relative to the subject Property, it does not affect the condition of the Property.
- BARC Building 33A is also identified in the CORRACTS database as a facility or area of high corrective action priority. This location is located on the North Farm of BARC and does not affect the condition of the property.

5.1.4 RCRA NonGen/NLR

RCRAInfo is EPA's comprehensive information system, providing access to data supporting RCRA and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste. One (1) listing was identified in this database:

- Building 33A BARC-West has been a RCRA non generator since 22 September 1992. This location is located on the North Farm of BARC and does not affect the condition of the property.

5.1.5 US ENG CONTROLS

US ENG CONTROLS provides a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

- The database lists the BARC at Beaverdam and Sheep Roads in this database. Several engineering controls are listed for the site. These controls all records of decision (ROD) for the site, and include passive treatment walls, groundwater monitoring wells, groundwater flocculation, and operation and maintenance plans for groundwater. As this location is at a lower elevation relative to the subject Property, it does not affect the condition of the Property.

5.1.6 US INST CONTROL

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

- The database lists the BARC 27 Beaver Dam Road Landfill in this database. The database lists building, demolition, or excavation regulation in this listing, completed in September 2011. Well drilling for groundwater use is restricted in this area. As this location is at a lower elevation relative to the subject Property, it does not affect the condition of the Property.

5.1.7 Formerly Used Defense Sites (FUDS)

The Listing includes locations of FUDS Properties where the USACE is actively working or will take necessary cleanup actions.

- The database lists the site ‘AMC-Beltsville Section’ in this database. The subject property is located within Beltsville; however, no documentation was identified regarding the property requiring cleanup actions. Due to these findings, this does not affect the condition of the Property.

5.1.8 Record of Decision (ROD)

ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

- The database lists the BARC 27 Beaver Dam Road Landfill in this database. A RCRA Statement of Basis / RTC, completed in September 2011, is listed as the ROD action for this site. The site is currently listed on the NPL. As this location is at a lower elevation relative to the subject Property, it does not affect the condition of the Property.

5.1.9 RCRA Administrative Action Tracking System (RAATS)

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued.

- The database lists the BARC 27 Beaver Dam Road Landfill in this database. No other information is provided. As this location is at a lower elevation relative to the subject Property, it does not affect the condition of the Property.

5.2 State and Local Environmental Records

The regulatory information presented below was obtained from the EDR State and Local regulatory database search report. Sites identified by this database search are discussed in the following subsections.

Table 5-2. State and Local Environmental Records

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
SHWS	**1.0**	**NL**	**1**	**0**	**0**	**1**	**2**
SWF/LF	0.5	NL	0	0	0	NR	0
OCP CASES	**0.5**	**12**	**3**	**1**	**6**	**NR**	**10**
HIST LUST	**0.5**	**NL**	**1**	**0**	**0**	**NR**	**1**
UST	0.25	NL	0	0	NR	NR	0
FEMA UST	0.25	NL	0	0	0	NR	0
AST	0.25	NL	0	0	0	NR	0
INST CONTROL	0.5	NL	0	0	0	NR	0
ENG CONTROL	0.5	NL	0	0	0	NR	0
LIENS 2	TP	NL	NR	NR	NR	NR	0
VCP	0.5	NL	0	0	0	NR	0

Database	Search Distance (miles)	Target Property	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	Total
BROWNFIELDS	0.5	NL	0	0	0	NR	0
US Hist Auto Stat	0.25	NL	0	0	NR	NR	0
DEBRIS REGION 9	0.5	NL	0	0	0	NR	0
IHS OPEN DUMPS	0.5	NL	0	0	0	NR	0
US HIST CDL	TP	NL	NR	NR	NR	NR	0
HMIRS	TP	NL	NR	NR	NR	NR	0
US CDL	TP	NL	NR	NR	NR	NR	0
SPILLS	TP	NL	NR	NR	NR	NR	0
SWRCY	0.5	NL	0	0	0	NR	0
ODI	0.5	NL	0	0	0	NR	0

Acronyms – Are defined in detail in the attached 2019 EDR Report, **Appendix F.**
NR=Not Requested at this Search Distance

5.2.1 State Hazardous Waste Sites (SHWS)

State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state. Two (2) SHWS listings were identified in this database

- The BARC – Buildings 1321 and 204 are identified in this database. The site is identified in this database because of its listing on the NPL. BARC Building 204 is located south of and at a lower elevation relative to the subject Property. BARC Building 1321 was not identified in the 1996 BARC Master Plan but is considered to be co-located with Building 204 on the EDR. These buildings do not affect the condition of the Property.

5.2.2 Oil Control Program (OCP) Cases

OCP cases are cases that are monitored by the MDE Oil Control Program. Twelve records, pertaining to the Property are identified and ten (10) sites within the one (1)-mile search radius from the Property are identified in this database:

There are 173 records related to BARC, of which 12 are associated with the Property. There is no information whether these records are related to petroleum USTs or leaking USTs or spills. The status of these records is reported as “Closed”.

The summary of the OCP records, presented below, indicate that spills or incidents occurred at:

1. Building 236
    - May 1987 and closed in September 1988
    - December 1988 and closed in December 1988
    - July 1993 and closed in October 2009
    - February 1996 and closed in July 1999
    - December 1998 and closed in May 1999
2. Building 254
    - November 1998 and closed in April 1999
3. Building 255
    - October 1993 and closed in October 2009
    - December 1988 and closed in December 1988
4. Building 261
    - February 1996 and closed in May 1999
    - May 1987 and September 1988
5. Building 267
    - October 1993 and closed in December 1996

There is no other environmental documentation regarding the past disposal and release of petroleum within the Property. Details on the 10 OCP Cases within the one (1)-mile search radius are detailed below:

- Roger Zickafoose Residence, located at 5518 Odell Road at a relatively higher elevation than the Property. This site lists a closed AST that contained heating oil. The AST was closed in 1994. No spills or cleanups were reported. As no spills have occurred at this site, it does not affect the condition of the Property.
- Benfield Property, located at 5602 Odell Road at a relatively higher elevation than the Property. This site lists a closed AST that contained heating oil. The AST was closed in 1999. No spills or cleanups were reported. As no spills have occurred at this site, it does not affect the condition of the Property.
- Robert Marquez Property, located at 5512 Odell Road at a relatively higher elevation than the Property. An AST was closed in July 1999. A spill and cleanup were reported. As this spill has been cleaned, it does not affect the condition of the Property.

- Moyland Property, located at 11446-48-50 Horsesoldier Place at a relatively higher elevation than the Property. This facility was closed in April 1996. As this facility was closed and there are no records of a spill, it does not affect the condition of the Property.
- Moore Residence, located at 6142 Odell Road at a relatively higher elevation than the Property. A heating oil AST was closed in August 2010. A spill and cleanup was reported at this site. As this spill has been cleaned, it does not affect the condition of the Property.
- Johnson Crane Service, located at 11708 Old Baltimore Pike at a relatively higher elevation than the Property. A motor/lube oil AST was closed in March 2000. No spill or cleanup was reported for this tank. A second motor/lube oil AST was closed in June 2002. No release or cleanup was reported. The facility also lists two (2) gasoline USTs and two (2) diesel USTs that are all permanently out of use, with no spills reported. As no spills have occurred at this site, it does not affect the condition of the Property.
- Egg Pressure Science, located at 11600 Old Baltimore Pike, at a relatively higher elevation than the Property. This facility was closed in July 1995 with no signs of spills or leaks reported. As no spills have occurred at this site, it does not affect the condition of the Property.
- Orndorff & Spaid Inc, located at 11722 Old Baltimore Pike. A motor/lube oil AST was closed in July 2002. No spill or cleanup was reported. Four (4) gasoline USTs are reported as permanently out of use as of May 1975. No spills or cleanups were reported. As no spills have occurred at this site, it does not affect the condition of the Property.
- Halle Enterprises, located at 11830 Old Baltimore Pike at a relatively higher elevation than the Property. A motor/lube oil tank was closed in August 2002. A release and cleanup were reported. As this spill has been cleaned, it does not affect the condition of the Property.
- Gresham Residence, located at 5225 Cochran Road at a relatively lower elevation than the Property. An AST was closed in November 2002. A cleanup and spill were reported for this tank. As this spill has been cleaned and occurred at a lower elevation relative to groundwater, it does not affect the condition of the Property.

5.2.3 Historical Leaking Underground Storage Tanks (HIST LUST)

In 1999, the Department of the Environment stopped adding new sites to its Recovery Sites Database. Current leaking underground storage tank information may be found in the OCP CASES database.

One (1) site was identified in this database:

BARC – Building 312 was located in this database at a relatively higher elevation relative to the Property. This listing reports ongoing remediation resulting from historic groundwater contamination. No remediation is currently taking place at the site. BARC Building 312 is located at a higher elevation relative to the subject property, however due to it being located southeast of the Property, it does not affect the condition of the Property.

5.3 Tribal Environmental Records

The regulatory information presented in **Table 5-3**, below, was obtained from the EDR's Tribal database search report (see **Appendix F**).

Table 5-3. Tribal Database Search

Database	Search Distance (miles)	Target Property (TP)	<0.125	0.125 –0.25	0.25– 0.50	0.50 – 1.0	>1.0	Total
Indian UST	0.25	NL	0	0	NR	NR	NR	0
Indian VCP	0.50	NL	0	0	0	NR	NR	0
Indian LUST	0.50	NL	0	0	0	NR	NR	0
Indian ODI	0.50	NL	0	0	0	NR	NR	0

Acronyms are defined in detail in the attached EDR Report, **Appendix F.**
"TP" = Target Property (the Property); "NL" =Not Listed in the Database; "NR" =Not Requested at this Search Distance.

According to the EDR Report, no sites were located within the designated radius for any of the searched Tribal Databases.

5.4 EDR Proprietary Records

The regulatory information presented in **Table 5-4**, below, was obtained from EDR's Proprietary Records database search report (see Appendix F). According to the EDR Report, no sites were located within the designated radius for any of the searched EDR Proprietary Databases.

Table 5-4. EDR Proprietary Database Search

Database	Search Distance (miles)	Target Property (TP)	<0.125	0.125– 0.25	0.25 – 0.50	0.50 – 1.0	>1.0	Total
Manufactured Gas Plants	1.000	NL	0	0	0	0	NR	0
EDR Historical Auto Stations	0.125	NL	0	NR	NR	NR	NR	0
EDR Historical Cleaners	0.125	0.125	NL	NR	NR	NR	NR	0
RGA LF	TP	NL	NR	NR	NR	NR	NR	0

Acronyms are defined in detail in the attached EDR Report, **Appendix F.**
"TP" =Target Property (the Property); "NL" = Not Listed in the Database; "NR" = Not Requested at this Search Distance

According to the EDR Report, no sites were located within the designated radius for any of the searched EDR proprietary databases

5.5 Unmapped Sites

There are 49 unmapped sites listed in the EDR Report. All these sites are listed in the MD OCPCASES database. There were five (5) listings in the Orphan summary that are located within the Property (see **Appendix F**):

- Buildings 236 and 261 on Poultry Road. MDE reports this listing closed in September 1988, with no release or cleanup reported.
- Buildings 267 and 255 on Poultry Road. No information was found for this building in OCPCASES.

5.6 DATA GAPS

During the performance of this ECP Report, SIA-TPMC conducted an onsite inspection and employed database search reports prepared by EDR to investigate fire insurance maps, city directories, building permits, and other public records concerning the Property. Two data gaps were discovered regarding the Property: access to interior of buildings on the Property; and the unknown presence of a UST at Building 261.

Access to Interior of Buildings on the Property

During the ECP on-site inspection, the SIA-TPMC field team was unable to access the interior of all the buildings on the Property, with the exception of Building 254 and 261, due to deteriorated buildings conditions and several barricaded entryways. Due to these interior access difficulties, the interior inspection of the buildings residing on the Property is considered a data gap.

Potential UST at Building 261

During the Phase II Investigation in October and November of 2019, signage was located attached to the eastern exterior wall of Building 261 that read “FUEL OIL 6,000 GALS.” Building 261 floor plans dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House (**Appendix E**). Also, as mentioned in this Section, the Boiler House is listed on Maryland Department of Environment’s (MDE) Oil Control Program (OCP). The Final Phase II Investigation report conducted by SIA-TPMC in January 2020, stated there were no indications of petroleum compounds located in close proximity of the Boiler House.

5.7 SUMMARY OF PROPERTIES EVALUATED TO DETERMINE RISK TO THE PROPERTY

After review of the information provided by the EDR Report, the Property is located within the BARC, which encompasses 7,000 acres in Beltsville. BARC has been identified in NPL, SEMS, CORRACTS, US Engineering and Institutional Controls, SHWS, HIST LUST, CORRACTS, RCRA NonGen / NLR, ROD and RAATS databases. The BARC also features under several unmapped

sites in MDE's OCPCASES. Due to the locations identified within BARC in the EDR Report, many of the locations are either located at a lower elevation in relation to the Property or have listings identified as "closed" and do not affect the condition of the Property.

BARC conducted research on animal husbandry, dairying, and animal diseases since 1910. Large agricultural plots and 800 buildings, including research laboratories, administrative offices, shops, greenhouses, barns, and a few houses are located on the site. According to the EDR Report, of the 16 sources of hazardous wastes BARC has identified to date, only the 4-acre Biodegradable Materials Disposal Site has been evaluated in detail. From at least 1946 to the mid-to-late 1970s, the 4-acre area was used for disposal metal drums, plastic containers, transformer casings and laboratory wastes.

The BARC 27 Beaver Dam Road Landfill has been designated in the NPL. USDA analysis in 1990 and 1992 of soil, groundwater, surface water and surface water sediments detected elevated levels of PAHs, trichloroethene, 1,1,1-trichloroethane, xylenes, arsenic, barium, beryllium, copper, lead, manganese, mercury, nickel, pesticides and PCBs have been identified; and surface water sediments detected elevated levels of polyaromatic wastes. The BARC 27 Beaver Dam Road Landfill is located at a lower elevation than the subject Property, and it is not believed migration of hazardous substances is likely or has occurred.

Additionally, 12 neighboring properties have been identified, within 0.5-mile radius from the Property, in the OCPCASES, SHWS, UST, LEAD and Financial Assistance databases. These properties, based on their closed case status, are considered to have minimal impacts to the Property's environmental condition.

During the ECP on-site inspection, the SIA-TPMC field team noted one item that could potentially impact the environmental condition of the property. As outlined in section 3.0, during the onsite inspection, one location attached to the rear of Building 264 was identified as potentially being used for hazardous substance storage due to a caged storage area attached to the rear of the building. The caged storage area showed no indications of a past release during the site reconnaissance and was not identified within the EDR Report. Due to these factors, the caged storage area was not classified as a REC and does not affect the condition of the Property.

6.0 ENVIRONMENTAL CONDITION OVERVIEW

SIA-TPMC conducted an onsite inspection of the Property and surrounding areas during the week of July 8, 2019 and conducted interviews with BARC POC, Mr. Christopher Bentley, to learn more about the operation and history of the Property. In addition, SIA-TPMC reviewed existing documentation concerning the Property, conducted database searches using the MDE website and reviewed the database searches prepared by EDR. The EDR searches identified historical topographic maps, historical aerial photographs, federal and state environmental databases and other sources. These materials were reviewed to identify any information concerning the use, storage or release to the environment of hazardous substances, hazardous waste, or petroleum products at the Property. A release "to the environment" means that the hazardous substance or petroleum is released to an environmental media that is part of the Property, such as soil, sediment, and groundwater. **Appendix G** provides a summary of onsite inspection and regulatory research findings.

6.1 Discussion and Identification of Recognized Environmental Conditions

Several RECs were identified within the property during the July 8, 2019 site visit and are listed below.

1. Building 261 floor plans (**Appendix E**) dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House. The current condition of the UST(s) is unknown and was not visible during the site reconnaissance. Based on the listing of the Boiler House in the MDE OCP Database, there is a potential that the petroleum related spill incident affected the environmental condition of the Property.
2. According to MDE's OCP database (**Appendix F**), 12 petroleum related spill incidents have occurred at the Site between 1987 and 2009. The following buildings were listed within the database and were identified as RECs: Building 236, Building 254, Building 255, Building 261 and Building 267. No further documentation was identified during the document review or interviews with MDE regarding the petroleum related spill incidents. Based on the report incidents, there is a potential that the petroleum spills may have affected the environmental condition of the Property at the locations listed below. The summary of the OCP records, presented below, constitute as RECs for the Property.
    - Building 236
        - May 1987 and closed in September 1988;
        - December 1988 and closed in December 1988
        - July 1993 and closed in October 2009
        - February 1996 and closed in July 1999
        - December 1998 and closed in May 1999
    - Building 254
        - November 1998 and closed in April 1999
    - Building 255

  - October 1993 and closed in October 2009
  - December 1988 and closed in December 1988
- Building 261
  - February 1996 and closed in May 1999
  - May 1987 and September 1988
- Building 267
  - October 1993 and closed in December 1996

Despite these RECs being identified, the Final Phase II Investigation Report conducted by SIA-TPMC in January 2020, concluded that further investigation is not warranted at the Property and that no elevated readings of petroleum compounds were located in the vicinity of the RECs.

6.2 DISCUSSION AND IDENTIFICATION OF OTHER PROPERTY CONDITIONS

6.2.1 Asbestos Containing Material (ACM)

Usage of most spray-applied, surfacing ACMs was banned by the National Emission Standards for Hazardous Air Pollutants (NESHAPS) during the 1970s. Specifically, asbestos-containing spray-on fireproofing and insulation were banned under NESHAPS in 1973, followed by the banning of decorative spray-on applications in 1978. NESHAPS also banned the installation of wet-applied and pre-formed asbestos-containing pipe insulation and pre-formed boiler and hot water tank insulation in 1975. Although revised in 1990, NESHAPS still prohibits spray-on applications of ACMs to buildings, structures, pipes, and conduits unless such material is encapsulated in a bituminous or resinous binder that is not friable after drying.

Under the Toxic Substances Control Act (TSCA), the use of asbestos-containing corrugated paper, roll-board, commercial paper, specialty paper, flooring felt, and new uses of asbestos were banned in 1989. Notwithstanding the forgoing, most U.S. firms voluntarily ceased production of asbestos-containing building materials not covered by the aforementioned federal bans by the mid-1980s.

Record Search and Review for the property determined that construction drawings were available for some of the buildings residing within the site boundary. The construction drawings provided detailed information on the building materials used during construction. Several buildings were identified containing asbestos construction materials according to these construction drawings. The following buildings were identified having asbestos containing materials due to their age and construction drawings:

- Building 236 – shingles and pipe insulation
- Building 252 – shingles, floor tiles, mastic and dry wall
- Building 254 – shingles
- Building 255A – shingles
- Building 261 – pipe insulation
- Building 262 – shingles, pipe insulation, floor tiles and mastic
- Building 263 – shingles, pipe insulation, floor tiles and mastic

- Building 264 – shingles, pipe insulation, floor tiles and mastic
- Building 265 – shingles, pipe insulation, floor tiles and mastic
- Building 267 – shingles
- Building 270 – shingles
- Building 271 – shingles
- Building 273 – shingles
- Building 274 – shingles
- Building 275 – shingles
- Building 277 – shingles
- Building 278 – shingles
- Building 281 – shingles

No asbestos abatement studies or sampling events were identified for the Property.

6.2.2 Lead-Based Paint and Other Lead Sources

LBP is a hazard in residential properties that were constructed prior to 1978. Lead accumulates in the body and can cause significant health problems in small children when ingested.

Due to the age of these buildings and construction dates ranging from 1914 to 1957, it is safe to assume that lead-based paint was potentially used on the buildings within the Property.

No lead abatement studies or sampling events were identified for the Property.

6.2.3 Munitions and Explosives of Concern (MEC)

No indications were found during the site inspection or records review process pertaining to a past presence of MEC, including UXO.

BARC POC, Mr. Christopher Bentley, did state during an interview that the special services utilized Building 254 for training purposes in the early 2000s. During the onsite inspection, a box labeled “CARTRIDGES, SMALL ARMS” was located within Building 254 (Sector 1 Photolog, Page 20 in **Appendix B**).

6.2.4 PCB Equipment

In 1978, the manufacture and use of PCBs was banned due to the risk to human health and the environment. These toxic components of dielectric and hydraulic fluids were formerly used in electrical equipment such as transformers and hydraulic elevators / lifts and in construction materials such as exterior caulking. Based on the site inspection, it is possible the Property contains PCB transformers regulated by the EPA under 40 CFR Part 761. Given that the original structures on the Property were constructed between 1914-1957, there is a possibility that the ballasts in fluorescent light fixtures installed at that time may contain PCB ballasts. Mr. Dana Jackson’s, Senior Remedial Project Manager at BARC, interview form stated that due to the age of the facility, PCB containing ballasts are likely (**Appendix C**).

6.2.5 Radioactive Materials

As previously stated, the SIA-TPMC did receive information through POC, Mr. Christopher Bentley, that Building 246 on the Property was used for storing radiological waste in the form of radioactive animal carcasses. Mr. Bentley stated that through his research of the site, it was determined that BARC Building 246 was used to store radioactive materials including radioisotopes Iodine-125 and Phosphorus-32. Mr. Bentley also stated that the USDA's Radiation Safety Division considers Building 246 released for unrestricted use and has determined that no additional radiation contamination surveys are required due to the short half-lives of the radioisotopes stored at the Property. Refer to **Appendix C**, Interview Documentation, to view Mr. Bentley's interview.

No formal documentation regarding the proper storage or handling of these radioactive commodities exists for the Property.

6.2.6 Radon

Radon is a naturally occurring, colorless, odorless gas that is a by-product of the decay of radioactive materials potentially present in bedrock and soil. Radon gas may enter the lowest level of a building through floor cracks, structural joints, or plumbing conduits. The concentration of radon gas in a building depends on subsurface soil conditions, the integrity of the building's foundation, and the building's ventilation system. The potential adverse health effects associated with radon gas depend on various factors, such as the concentration of the gas and duration of exposure. The USEPA guidance action level for residential exposure to radon is 4.0 picocuries per liter (pCi/L) of air. The guidance action level is not a regulatory requirement for private owners of real property but is commonly used for comparison purposes to suggest whether further action at a building may be prudent.

Based on the information present in the EDR Report, there is no Property specific information pertaining to radon. The EDR Report provides an EPA Region 3 statistical summary of 541 readings for zip code 20705. The minimum radon level recorded was 0.1 pCi/L and the maximum radon level recorded was 34 pCi/L. Of the 541 readings for zip code 20705, 482 (89.09%) were recorded below the USEPA guidance action level for residential exposure to radon (**Appendix F**).

6.2.7 Biological and Chemical Hazards

According to the Centers for Disease Control and Prevention, The National Institute for Occupational Safety and Health (NIOSH) recognizes several potential health hazards associated with poultry breeding, farming, and transport (**Appendix E**). Given that the Property was utilized for poultry research, these health hazards pose a potential risk to individuals located within the Property.

During the onsite inspection, it was observed that the exterior of Building 267 was being utilized to house bees.

6.3 PREVIOUS REPORTS

SIA-TPMC conducted a Phase II Environmental Site Investigation at the Property in October/November 2019 and summarized their findings in a Final Phase II Investigation Report in January 2020 (**Appendix E**). The purpose of the Phase II Investigation was to assess the potential risk posed to the property from possible contamination of hazardous substances; assess the potential risk that hazardous substances may be located under the property; and assess the potential risk that existing conditions on the property may violate applicable environmental laws.

As part of the Phase II Investigation, possible soil and groundwater contamination was investigated. SIA-TPMC collected twenty-seven (27) soil and thirteen (13) groundwater samples from the soil borings and temporary groundwater monitoring wells, respectively. These samples were analyzed for full suite RCRA Analysis and/or radiological constituents by Eurofins TestAmerica, a Department of Defense (DoD) accredited analytical laboratory.

6.3.1 Soil Analysis

Twenty (20) soil borings were advanced throughout the site and a total of twenty-seven (27) soil samples were collected for Full Suite RCRA laboratory analysis. Arsenic concentrations exceeded the current Industrial Soil RSL (TR=1E-06, THQ=0.1) of 3 mg/kg in thirteen (13) of the soil samples collected. Concentrations ranges from 2.7 mg/kg to 13 mg/kg with an average concentration of 6.5 mg/kg. Background data compiled by MDE reported detected arsenic concentrations for the Central Maryland region ranging from 0.75 mg/kg to 6.7 mg/kg, and stated USGS average concentration was identified as 7.2 mg/kg (MDE, 2018). Individual site concentrations are slightly higher than the concentrations reported by MDE. However, the average site concentrations correlate with the averaged reported by MDE and USGS. MCPP concentrations exceeded the current Industrial Soil RSL (TR=1E-06, THQ=0.1) of 82 mg/kg in two (2) soil borings. Although the data were qualified as estimated and biased high, the data indicates that MCPP is present in the shallow soil at the two sampling locations. Further sampling may be needed to determine the actual concentrations and extent of MCPP. However, the reported concentrations of MCPP at these two locations fall below the RSL (TR=1E-06, THQ=1.0) of 820 mg/kg indicating concentrations do not present an unacceptable non-carcinogenic hazard or carcinogenic risk for the intended land use.

6.3.2 Groundwater Analysis

Thirteen (13) one-inch diameter temporary monitoring wells were installed throughout the site and sampled for Full Suite RCRA laboratory analysis. Total recoverable arsenic, chromium, and lead concentrations were reported as exceeding their respective MCL in a total of five (5) groundwater samples. None of the metals in the dissolved metals fraction exceeded their respective MCLs. Therefore, the total recoverable metal concentrations are attributed to suspended sediment in the samples. One pesticide, Endrin aldehyde, was detected in one groundwater sample. There is no published MCL for this analyte.

6.3.3 Radionuclide Analysis

Six soil borings were advanced along the eastern part of the property and a total of eleven (11) soil samples were collected for radiological constituent laboratory analysis. Concentrations of Radium-228 exceeded the EPA SL of 0.347 picocuries per gram (pCi/g) in all eleven (11) soil samples. Concentrations ranged from 0.819 pCi/g to 2.05 pCi/g with an average concentration of 1.58 pCi/g. Radium-226 exceeded the SL of 1.09 pCi/g in three (3) soil samples. Detected radium levels were compared to published background levels reported by USGS for Montgomery County, Maryland. The BARC site average concentrations correlate well with the published USGS background concentrations.

6.3.4 Conclusion

SIA-TPMC concluded that further investigation is not warranted at the Property and that no elevated readings of petroleum compounds were located in the vicinity of the RECs. SIA-TPMC came to the following conclusions for each REC/Other Property Condition:

- REC: Potential underground storage tanks (UST) at Building 261 (Boiler House)
  - No elevated readings of petroleum compounds were detected in soil or groundwater samples collected within the vicinity of the REC.
- REC: Petroleum Related Spill Incidents
  - No elevated readings of petroleum compounds were detected in soil or groundwater samples collected within the vicinity of the REC.
- Other property conditions – Building 246
  - No elevated readings of radionuclides were detected in soil samples collected within the vicinity of Building 246.
- Other property conditions – Rusted equipment between Buildings 262 and 263
  - No elevated readings pertaining to the rusted equipment between Buildings 262 and 263 were detected in soil samples collected within the vicinity of the sample location.
- Other property conditions – Empty transformer pad west of Building 262
  - No elevated readings of petroleum compounds were detected in soil samples collected within the vicinity of the empty transformer pad west of Building 262.

7.0 CONCLUSIONS

SIA-TPMC has performed an ECP assessment and prepared this report in conformance with the scope and in general conformance with the following standards:

- American Society for Testing and Materials International (ASTM) D6008-96 (2014), *Standard Practice for Conducting Environmental Baseline Surveys*.
- ASTM D5746-98 (2016), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.*
- ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.
- DODI Instruction 4165.66-M (2018), *Base Redevelopment and Realignment Manual*.

Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

7.1 ECP AREA TYPE CATEGORIZATION

In accordance with ASTM D5746-98 (2016), it is recommended that the Property be classified as **ECP Area Type 2**, which is defined as:

> *An area or parcel of real property where only the release of petroleum products or their derivatives has occurred.*

This classification was selected based on this ECP assessment, as presented in Section 2.0 through 7.0 of this report. This classification was selected because the subject property was identified within MDE's OCP, where twelve (12) petroleum related spill incidents occurred at the property between 1987 and 2008 at the following buildings: Building 236, Building 254, Building 255, Building 261, and Building 267. Despite these buildings being listed on the MDE OCP, a Phase II Investigation conducted by SIA-TPMC in January 2020 confirmed that no elevated readings of petroleum compounds were detected in soil or groundwater samples collected at the Property. While it is known petroleum related spill incidents occurred at the property, the results from the Phase II Investigation provide data that confirms the spills listed on the OCP occurred at concentrations that do not require a removal or remedial action.

7.2 OTHER ENVIRONMENTAL CONCERNS

As discussed in this ECP Report, several environmental concerns were noted during the site inspection. These environmental concerns include the following:

- Asbestos was used during construction of the buildings in the form of shingles, tiles, mastic, pipe insulation, dry wall, and cement boards. These materials will require regular maintenance, repair and management in the future. No asbestos abatement studies or sampling events were identified for the Property.
- Due to the age of the buildings, it is possible lead was used within the buildings. SIA-TPMC did observe visible chipped paint during the onsite inspection; however, additional survey work would be required to determine the distribution and quantity of lead paint at

the Property. No lead abatement studies, or sampling events were identified for the Property.

- PCBs may be present in light ballasts due to the age of the building. Any disposal of these ballasts, if present, must be performed in accordance with applicable universal waste regulations and requirements.
- Mercury switches may be contained within several thermostats identified inside the building. Should it be necessary to replace any of these thermostats, the mercury content should be determined so they can be disposed of in accordance with applicable regulations.
- With the history of the Property being used for poultry research and scientific studies, there is potential chemical and biological hazards located within the Property.

7.3 DATA GAPS

Two data gaps were discovered regarding the Property: access to interior of buildings on the Property; and the unknown presence of a UST at Building 261.

Access to Interior of Buildings on the Property

During the ECP on-site inspection, the SIA-TPMC field team was unable to access the interior of all the buildings on the Property, with the exception of Building 254 and 261, due to deteriorated buildings conditions and several barricaded entryways. Due to these interior access difficulties, the interior inspection of the buildings residing on the Property is considered a data gap.

Potential UST at Building 261

During the Phase II Investigation in October and November of 2019, signage was located attached to the eastern exterior wall of Building 261 that read “FUEL OIL 6,000 GALS.” Building 261 floor plans dated March 1934 for the Boiler House indicates the presence of a five-foot diameter oil tank and supply lines to the boilers. Additional floor plans of Building 261 from 1963, show the presence of a 6,000-gallon fuel oil UST and a 2,000-gallon fuel oil UST located east of the Boiler House (**Appendix E**). Also, as mentioned in this Section, the Boiler House is listed on Maryland Department of Environment’s (MDE) Oil Control Program (OCP). The Final Phase II Investigation report conducted by SIA-TPMC in January 2020, stated there were no indications of petroleum compounds located in close proximity of the Boiler House.

8.0 REFERENCES

8.1 PERSONS CONTACTED

- Mr. Christopher Bentley, Senior Advisor, Director's Office – U.S. Department of Agriculture, Beltsville Agricultural Research Center, ARS.
- Ms. Lisa Bynum, Realty Specialist – U.S. Department of Agriculture, Beltsville Agricultural Research Center, ARS.
- Ms. Mindy Leach, Facilities, Safety and Real Property – U.S. Department of Agriculture, Beltsville Agricultural Research Center, ARS.
- Mr. Chizo Irechukwu, Facilities Services– U.S. Department of Agriculture, Beltsville Agricultural Research Center, ARS.
- Mr. Dana Jackson, Senior Remediation Project Manager – U.S. Department of Agriculture, Beltsville Agricultural Research Center, ARS.

8.2 RESOURCES CONSULTED

- Environmental Data Resources, Inc. Report, BARC Site, Poultry Road, Beltsville, MD 20705 Inquiry Number: 5694535.2s, June 20, 2019
- Maryland Department of the Environment, 2018. Cleanup Standards for Soil and Groundwater. Interim Final Guidance (Update No. 3.0). October 2018.
- Beltsville Agricultural Research Center Information Repository: https://cercla.ba.ars.usda.gov/ (July 2019)
- Maryland Department of Assessments & Taxation Real Property Data Search: http://sdat.dat.maryland.gov/RealProperty/Pages/viewdetails.aspx?County=17&SearchType=ACCT&District=01&AccountNumber=0070151 (July 2019)
- Maryland-National Capitol Park & Planning Commission, Prince George's County: http://www.pgatlas.com/ (July 2019)
- U.S. Fish and Wildlife Service, Environmental Conservation Online System: https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=24033 (July 2019)
- Centers for Disease Control and Prevention: https://www.cdc.gov/niosh/topics/poultry/breed.html (July 2019)

8.3 AGENCIES CONTACTED

- Maryland Department of Environment (MDE)
- United States Department of Agriculture (USDA)

8.4 PREVIOUS REPORTS

- Bernard Johnson Young Inc. Beltsville Agricultural Research Center 1996 Master Plan Update Master Plan Report, September 1996.
- BMT Entech, Inc. 2010. Final Closeout Report: BARC 9 – Dump off Odell Road, August 2010

- BMT Entech, Inc. 2009. Final Close-out Report: BARC 26 – Dump off Poultry Road, August 2009
- BMT Entech, Inc. 2009. Final Close-out Report: Entech R3 – Possible Disposal Area, August 2009
- ARRO Consulting, Inc. 2017. Final Municipal Separate Storm Sewer Evaluation for USDA Beltsville Agricultural Research Center Beltsville, MD, May 2017.
- SIA-TPMC, LLC, 2020. Final Phase II Investigation Report. 104-Acre Parcel of Land Surrounding Poultry Road, Poultry Road, Beltsville, Maryland 20705. January 2020.

APPENDIX A FIGURES, MAPS AND/OR HISTORICAL AERIAL PHOTOGRAPHS

APPENDIX B PHOTOGRAPHIC LOG

APPENDIX C INTERVIEW DOCUMENTATION

APPENDIX D CHAIN OF TITLE DOCUMENTATION

APPENDIX E PREVIOUS REPORTS AND SUPPORTING DOCUMENTATION

APPENDIX F REGULATORY DATABASE SEARCH REPORTS

APPENDIX G ONSITE INSPECTION SUMMARY