

Final Phase I Environmental Site Assessment

Armed Forces Retirement Home-Main Campus

3700 N. Capitol Street
Washington, DC 20011



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ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Material
AFRH	Armed Forces Retirement Home
ASTM	American Society for Testing Materials
AST	Above Ground Storage Tanks
CA	Corrective Action
CERCLA	Federal Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Federal Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	No Further Remedial Action Planned
CORRACTS	Corrective Action Report
DRMO	Defense Reutilization Materials Office
EDR	Environmental Data Resources, Inc.
EHA	DC Environmental Health Administration
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
G&O	Greenhorne & O'Mara, Inc.
GSA	General Services Administration
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank
NPL	National Priorities List
NGVD	National Geodetic Vertical Datum
OCPCASES	Oil Control Program Cases
O&M	Operations and Maintenance
PCB	Polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
SHWS	Notice of Potential Hazardous Waste Sites
SQG	Small Quantity Generator
SWRCY	The Recycling Directory
SWF/LF	Permitted Solid Waste Disposal Facilities
TSD	Treatment, Storage, and Disposal
UST	Underground Storage Tank
VCP	Voluntary Clean-up Program

1.0 Executive Summary

Greenhorne & O'Mara, Inc. (G&O) has completed a Phase I Environmental Site Assessment (ESA) for the U.S. Armed Forces Retirement Home (AFRH) main campus, located at 3700 N. Capitol Street, in Washington, DC. The study consisted of a records review of historical and regulatory information and a site inspection to identify potential recognized environmental conditions associated with the property. Recognized environmental conditions may include the presence or likely presence of hazardous substances or petroleum products under conditions that may indicate an existing or potential release to the environment.

The AFRH main campus is located on a 276-acre parcel in north central Washington, D.C. The southern border of the campus follows Irving Street, NW. The western border is formed by Park Place, NW and Rock Creek Church Road, NW. The eastern border is formed by N. Capitol Street and the northeastern border follows Harewood Road, NE.

The property includes a hospital, retirement and nursing homes, a cemetery, a golf course and various other administrative and support facilities. A total of 93 buildings are listed on the site's building inventory. The Phase I ESA identified several recognized environmental conditions associated with on-site facilities and waste management practices

- Three (3) registered out-of-service USTs are present associated with the former vehicle refueling station at Building 75. The USTs are reportedly designated for removal and permanent closure in the near future. Evidence of suspected abandoned USTs was also noted adjacent to Buildings 46 and 76. No further information was available for these areas.
- At least three (3), registered, active USTs are present at the AFRH, storing diesel for emergency generator systems. Several USTs are known to have been removed in recent years, although no closure documentation was available for review.
- Dry cleaning operations are suspected to have been conducted in the former laundry facility in Building 46. No record of solvent waste handling, dry cleaning processes or facilities was available. Open floor drains were noted in the former laundry building, as well as other likely hazardous material/petroleum use areas in Building 73, 76 and 77. It could not be determined where the floor drains discharge.
- Pesticide application at the AFRH has recently been outsourced to private contractors. However, significant quantities of surplus and out-of-date pesticides remain in storage in Building 77.

According to a search of the Federal Resource Conservation and Recovery Act (RCRA) database, the AFRH is not currently identified as a RCRA hazardous waste generator. According to interview information, current operations at the AFRH generate only minimal quantities of hazardous wastes. However, the site is known to have been a generator of hazardous waste in the recent past and suspect hazardous wastes associated with past and current operations were identified in several areas of the AFRH. Drums of unlabeled waste are located in many areas, including Building 46 and

Building 75. Other remaining suspect hazardous wastes identified include spent solvents remaining in parts cleaning stations in Buildings 73 and 76, paint thinner and paint waste in the Paint Shop of Building 72, drummed lead paint debris and solvent sludge waste in Building 46, and incinerator ash in Building 69.

Hydraulic lifts are present beneath the floor slab in Buildings 76 and 77. According to interview information the lifts are no longer used by AFRH personnel.

Waste oil collection facilities are unsecured, unlabelled and lack secondary containment. Staining was noted on the asphalt pavement adjacent to an overflowing oil drum receptacle.

Asbestos containing materials are found in many of the buildings. Asbestos abatement is conducted in connection with building renovations. An operations and maintenance program has reportedly not been implemented for the AFRH.

A landfill, previously owned and operated by the AFRH, is located on a 49-acre parcel east of the site. This landfill has reportedly operated since 1974 and only received construction and landscape debris. The landfill is not upgradient of the subject property and is not expected to adversely impact the AFRH main campus. No other off-site sources were identified that are anticipated to adversely impact the AFRH main campus.

The conclusions and recommendations presented in this report are based upon data obtained and evaluated for the Phase I assessment. This report has been prepared in accordance with generally accepted scientific practices; no other warranty, expressed or implied, is made.

2.0 Introduction

2.1 Purpose of Investigation

Past contamination of property by hazardous materials, hazardous wastes, petroleum products or other contaminants creates potential for liability with respect to site remediation and possible civil and/or criminal penalties. Greenhorne & O'Mara, Inc. (G&O) was contracted by the General Services Administration (GSA) on behalf of the AFRH to perform a Phase I Environmental Site Assessment (ESA) of the property located at 3700 N. Capitol Street, in Washington, DC.

A Phase I ESA investigation includes a site inspection to assess the physical characteristics of the site and surrounding area to identify observable evidence of contamination; historical research and informal interviews with persons knowledgeable of the site and area; the review of regulatory databases and relevant environmental records; and the preparation of the report with findings and recommendations. The purpose of the investigation is to identify previous and existing activities on or near the site that could potentially constitute a recognized environmental condition. A Phase I study is conducted to identify potential problem areas and to determine the appropriate level of any subsequent studies that may be required.

Recognized environmental conditions may include the presence or likely presence of hazardous substances or petroleum products under conditions that may indicate an existing or potential release to 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 public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

A Phase II ESA typically consists of a more intensive records search with site-specific qualitative/quantitative sampling and analysis of air, soils, sediment, and/or water (surface and/or groundwater), as appropriate. The sampling and analysis conducted during a Phase II ESA can confirm the presence, identity, and concentration of contaminants, providing data that are used to decide whether site remediation is necessary. This report is the result of a Phase I records search and site assessment only, and did not involve environmental sampling and analyses of any media (air, solids, or liquids) from the site.

The AFRH – Washington campus (hereafter also referred to as “the AFRH property,” “the property,” “the site,” or the “subject site”) is an approximately 276-acre parcel. The site is bounded by North Capitol Street, Scales Gate Road, Harewood Road, Rock Creek Church Road, Park Place and Irving Street. The site vicinity is shown on Figure 1 and the site layout is shown on Figure 2.

2.2 Scope of Investigation

This assessment was conducted and the report prepared in accordance with the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation: E-1527-00*. This Phase I ESA report was prepared for, and may be relied upon by the

AFRH. Specifically, the scope of services for this Phase I ESA consisted of the following:

Historical Research

A historical evaluation was performed for the site, which consisted of a review of available information regarding historical ownership and previous uses and activities conducted on the site. Historical sources typically used for Phase I ESA's include deed records, historical maps, city directories and aerial photographs of the site and vicinity, and informal interviews with persons having first-hand knowledge of the site. This evaluation was performed to determine whether the site has ever been owned or used by any entities that may have manufactured, used, stored, disposed of, or otherwise may have been involved with hazardous substances or other potential contaminants on or near the property. Recent building studies, including building condition assessments and environmental conditions reports were also reviewed.

Physical Setting Characterization

A review of existing data was performed to characterize geology, topography, soils, and surface and subsurface hydrology for the area. This information is used to evaluate the potential for migration of site contaminants via shallow groundwater and surface water flow. The sources reviewed for soil and geological data include the various published reports and/or maps from geological and hydrological studies conducted in the area.

Site Reconnaissance

An inspection of the property was conducted to characterize the property and to identify potential recognized environmental conditions. Evidence of such conditions could include active or former refuse dump sites, unusual excavated or filled areas, areas exhibiting discolored soils and/or vegetative stress, discolored surface water, areas exhibiting noticeable odors, and the presence of underground storage tanks (USTs), unusual discarded drums or containers, and any other suspicious materials. Nearby properties were also visually scanned for such evidence.

Regulatory Database Review

Regulatory database information was obtained from a commercial vendor, Environmental Data Resources, Inc (EDR). Federal and D.C. databases were reviewed to identify regulated facilities located in the vicinity of the subject property. Several of the U.S. Environmental Protection Agency (EPA) and D.C. databases reviewed for this investigation are described below. The search radius selected for each database was based on the current (ASTM) standards.

- **National Priority List (NPL)** of known, uncontrolled, or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program;
- **Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)** listing of known, suspected uncontrolled, or abandoned hazardous waste sites;

- **No Further Remedial Action Planned Sites (NFRAP)** listing which contains information pertaining to sites which have been removed from the federal CERCLIS database. NFRAP sites may be sites where, following an initial investigation, no contamination was found, or the contamination was not serious enough to require federal Superfund action or NPL consideration;
- **Resource Conservation and Recovery Act (RCRA) Resource Conservation and Recovery Information System (RCRIS)** listing of facilities which treat, store, or dispose of hazardous waste (TSD) in addition to facilities which have conducted, or are currently conducting, a corrective action(s) (CA) as well as the listing for Large Quantity Generators (LG) and Small Quantity Generators (SG);
- **Emergency Response Notification System (ERNS)** records and stores information on reported releases of oil and hazardous substances.
- **District of Columbia Leaking Underground Storage Tank Report (LUST)** contains an inventory of reported leaking underground storage tanks incidents. The District of Columbia Environmental Health Administration (EHA) is the source of this database.
- **District of Columbia Underground Storage Tank Report (UST)** lists Registered Underground Storage Tanks. USTs are regulated under RCRA Subtitle I and must be registered with the state department or agency responsible for administering the UST program. The District of Columbia EHA is the source of this database.

Supplemental federal, state and local databases were also searched. The full list of databases searched and the complete database report is provided in Attachment A.

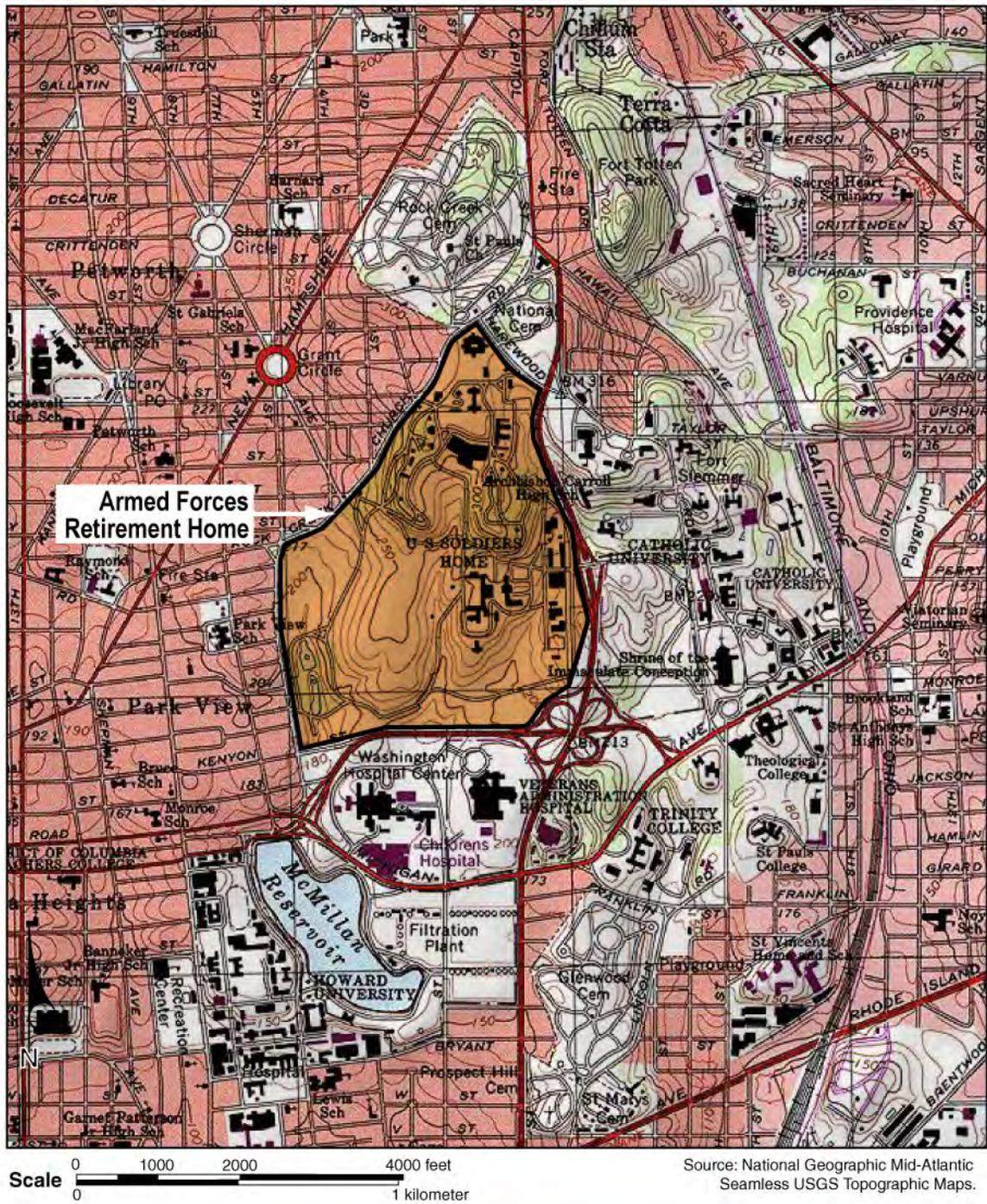


Figure 1 – USGS Map with site boundaries shown

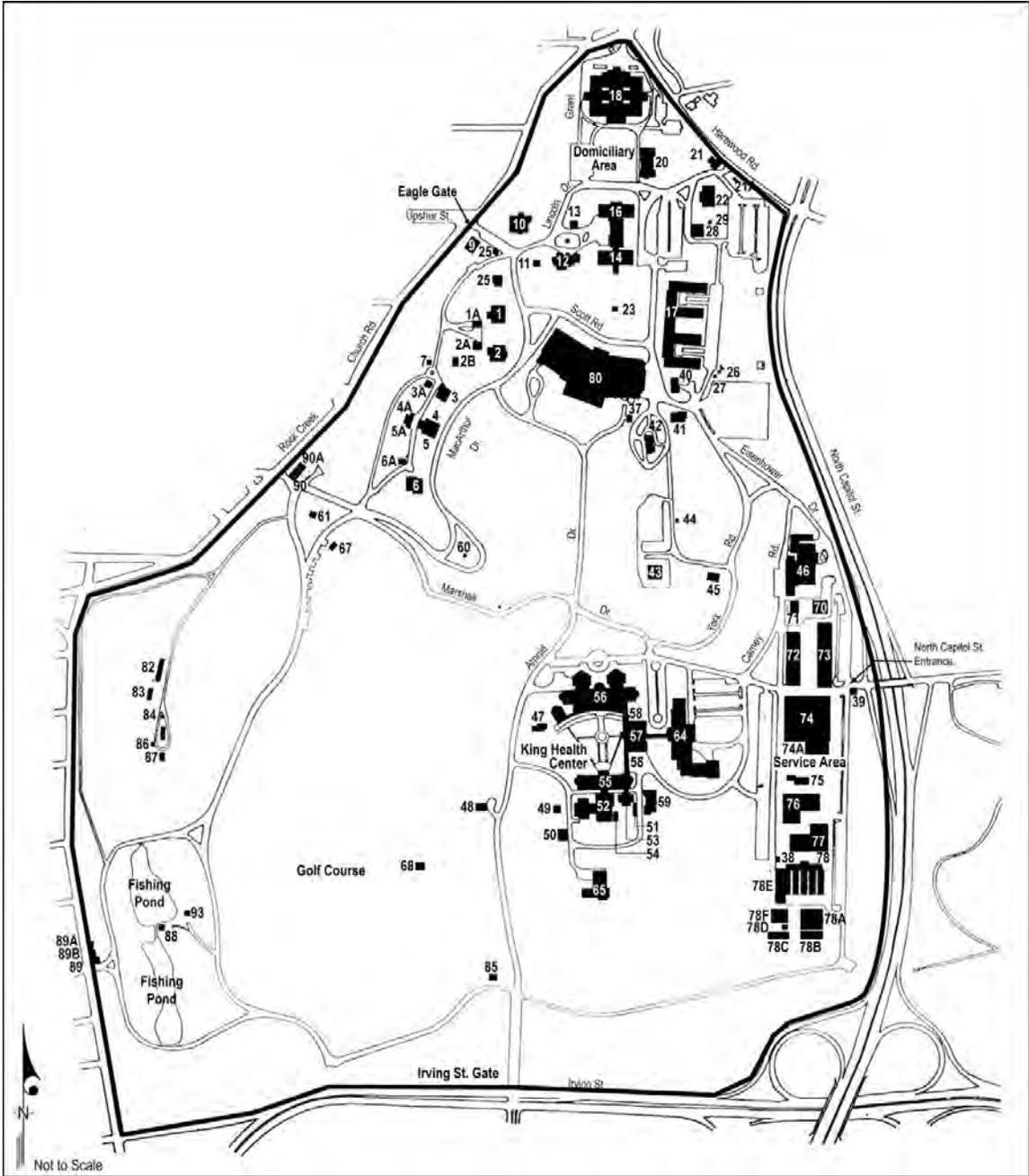


Figure 2 – Site Layout Map

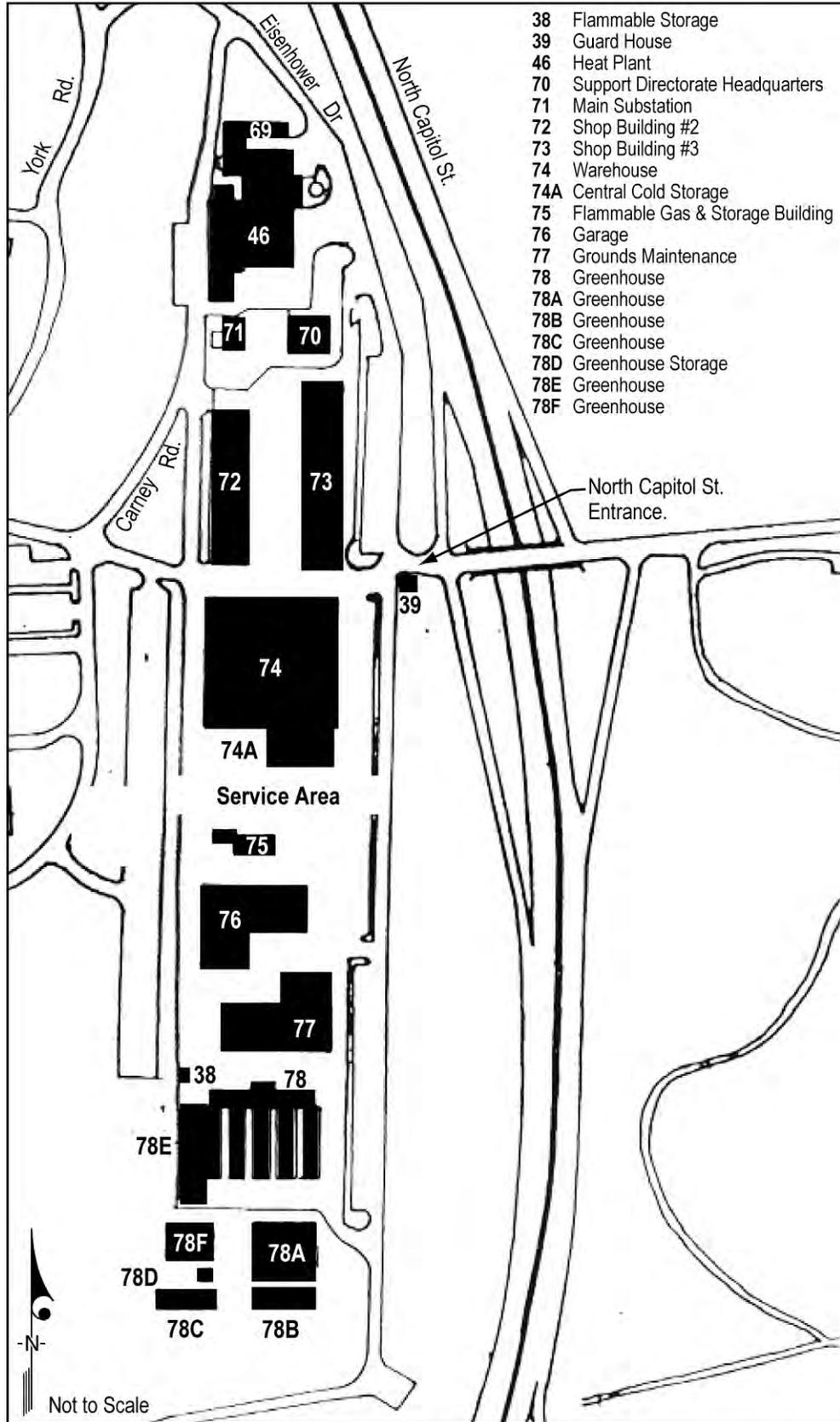


Figure 3 – Main Campus Service Area and Heat Plant Complex Detail

3.0 Site Overview

The AFRH-Washington site is located at 3700 North Capitol Street in the Brookland Neighborhood of Washington, DC. The Petworth and Columbia Heights neighborhoods are to the northwest and west, respectively. The southern border of the site follows Irving Street, NW across which are the Washington Hospital Center, Children's Hospital, Trinity College, and a Veteran's Hospital. The western border follows a combination of two public roads: Park Place, NW and Rock Creek Church Road, NW, across which are residential housing. The northern border follows Harewood Road across which are a cemetery and several buildings of Archbishop Carroll High School. The eastern border follows North Capitol Street.

The total area of the AFRH main campus is approximately 276 acres. The main campus includes a hospital, retirement and nursing homes, a cemetery, and various other buildings. There are 93 buildings listed on the AFRH's building inventory.

Steam for heating is provided from a central heating plant in Building 46. Potomac Electric Power Company (PEPCO) provides electric service. Natural gas is provided by Washington Gas Light Company. Water and sewer service is provided by the District of Columbia public municipal system.

The majority of the main campus is developed and highly disturbed by grading, filling, and construction. Natural drainages on the main campus have been replaced by paved flumes of concrete, brick, or stone. The topography of the site slopes gently to the southeast.

There are two fishing ponds and two other freshwater ponds near the golf course in the southeastern portion of the site. Stormwater from the facility is generally directed into the combined sewer system that flows to the Blue Plains wastewater treatment plant. Some stormwater is collected in the on-site stormwater management pond located southeast of Building 65. There is also a 15 million-gallon underground reservoir leased to the District public water system from AFRH in the golf course area.

The subject property is located within zip code area 20011. The geographic coordinates of the site are approximately 38° 56' 12.8" North latitude and 77° 0' 39.6" West longitude. As a federal property, zoning is not applicable.

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4.0 Site Background / Operating History

4.1 General Site History

The site has been a retirement home for military personnel since it was established in 1851 as an “asylum for old and disabled veterans.” Additional uses since 1851 have included retirement and hospital functions, a retreat for Presidents in the 1800s, a communication center in the 1940s, a greenhouse, and other institutional uses.

Four of the original buildings and the land immediately surrounding them are considered a National Historic Landmark. Two of the buildings, Quarters 1 and Anderson Cottage, served as the summer White House for U.S. Presidents including Chester Arthur, Rutherford B. Hayes, James Buchanan, and most notably, Abraham Lincoln.

President Lincoln lived in what is now called Anderson Cottage, during the Civil War. Historic Anderson Cottage was constructed in 1842-43 as the home of George W. Riggs, who went on to establish the famous Riggs National Bank in Washington, D.C. In 1851, the cottage and farmland surrounding it was purchased by the government to form the core of what is today the AFRH-Washington.

In response to military advocates promoting the need for military asylums, Congress, in 1851 identified the site now known as one of three regional military asylums. General Winfield Scott applied the larger portion of \$150,000 in capitulation money from the capture of Mexico City in 1847 towards the establishment of the military asylum.

In 1991, the U.S. Soldiers’ and Airmen’s Home in Washington, DC and the Naval Home in Gulfport, MS were renamed the Armed Forces Retirement Home – Washington and – Gulfport respectively.

4.2 Review of Aerial Photographs

Aerial photographs of the site vicinity, dated 1957, 1963, 1970, 1980, and 1988, were obtained through the EDR’s Aerial Photography Print Service. The photographs were reviewed to assess historical site conditions. Copies of the aerial photographs are presented in Attachment B.

- **1957** – Most of the major buildings and physical features of the AFRH present today are identifiable in the photograph, including the Grant and Scott Buildings along with the Heating Plant. The AFRH main campus appears to extend to Harewood Road on the east side as North Capitol Street had not yet been extended through the site. The Service Shop buildings and greenhouse complex have not yet been constructed in the southeastern portion of the property. Most of the medical center complex and the golf course are present. The Soldiers’ and Airmen’s Cemetery, a national cemetery, is shown in the northernmost portion of the site. Rock Creek Church and Cemetery are shown adjacent to the north end of the AFRH. Dense residential development is noted northwest of the property. The Shrine of the Immaculate Conception and Catholic University are shown on the east side of Harewood Road. The Washington Hospital Center complex is shown south of the site.

- **1963** – North Capitol Street has now been extended through the eastern portion of the site. The Service Shop building complex has been constructed inside the North Capitol Street entrance. Increased development is shown on the Washington Hospital Center complex south of the site.
- **1970** – No major changes are noted for the AFRH site or immediate surrounding area.
- **1980** – No major changes are noted for the AFRH site or immediate surrounding area
- **1988** – No major changes are noted for the AFRH site or immediate surrounding area

The series of aerial photographs documents that the AFRH main campus was largely developed by 1957. The Service Shop complex was constructed between 1957 and 1963. No obvious industrial or manufacturing facilities are identifiable on the site or in the immediate vicinity during the period covered by the photographs.

4.3 Review of City Directories and Historical Fire Insurance Maps

The availability of historical Sanborn fire insurance maps was researched through EDR. Sanborn fire insurance maps are not available for the vicinity of the site. Documentation of the Sanborn search is provided in Appendix D.

A City Directory search was performed by EDR for the site address. Business directories including city, cross reference, and telephone directories were reviewed at approximately five year intervals spanning 1922 through 2000. Sources include directories by R.L. Polk & Co. of Baltimore, The Chesapeake and Potomac Telephone Co. of Baltimore and the Stewart Directories. The target property address was not listed in the research source for any year. Documentation of the City Directory search is provided in Appendix D.

4.4 Review of Previous Reports

To evaluate environmental conditions at the AFRH, G&O reviewed available records from previous environmental investigations and surveys provided by AFRH. The significant findings of the previous surveys are summarized below:

Phase I ESA, Law Engineering (1988)

G&O reviewed a previous Phase I Environmental Site Assessment for the U.S. Soldier's and Airmen's Home (now the AFRH), prepared by Law Engineering and Environmental Services, Inc. (Law) in 1998. Law identified recognized environmental conditions relating to underground storage tanks (USTs) and waste management and recommended that limited subsurface investigation be performed. The conclusions and recommendations section and some other important subsections of the report appeared to be unfinished, and therefore the document may have been submitted as an unfinished draft.

The report indicates that a leaking underground storage tank (LUST) incident was discovered and bio-remediated in approximately 1991. The tank was reportedly located adjacent to Building 64. The Law report information concerning the LUST is based on interviews conducted with AFRH personnel in 1998; however, no documentary evidence was available.

In addition, the Law report states that a buried paint can repository was identified in approximately 1992-3 in the vicinity of Building 72.

According to the report, AFRH personnel reported that the DC Department of Consumer and Regulatory Affairs (now the DC Department of Health – Environmental Health Administration) has closed both incidents; however documentation was not provided to Law to verify the status of the cases. The persons interviewed in the previous report are no longer associated with the AFRH.

The Law study included a Hazardous Waste Handling Procedures review. According to information presented in this section, past hazardous waste generating operations on the site included a print shop and a laundry, which may have conducted dry cleaning operations. Based on the fact that hazardous waste was formerly generated at the laundry, the laundry is suspected (by Law) of having had dry cleaning operations. This section appears to have been unfinished when submitted.

4.5 Interviews

Due to recent staff turnover, privatization and program restructuring at the AFRH, environmental management procedures and responsibilities appear to be in a state of transition.

Interviews were conducted with various available AFRH personnel having knowledge of facilities and/or environmental conditions within various operational units of the AFRH, including: the Service Shop areas, the Heating Plant, the hospital and retirement facilities and the golf course. A summary of the interviews is presented below.

Mr. David Rouse, Chief of Campus Operations (7/6/04)

A telephone interview was conducted with Mr. David Rouse, Chief of Campus Operations. Mr. Rouse related that, as a result of recent staff restructuring at the AFRH, he is responsible for most of the environmental management functions. Mr. Rouse has only been in the position for a few weeks. Mr. Rouse indicated that the three (3) registered USTs associated with the former refueling station at Building 75 were last used in March of 2004 and are currently scheduled for removal and closure this year. A comprehensive inventory of remaining USTs is not available at this time.

Mr. Rouse is not aware of any current activities on-site that generate hazardous waste. He indicated that hazardous wastes have been picked up by the Defense Reutilization Materials Office (DRMO) in the past. Mr. Rouse was not aware of the presence of drums of suspect hazardous waste on the site.

Robert H. Edwards, Contractor (6/16/04)

Mr. Edwards described the operations associated with Building 72, which houses the Paint Shop and the Electric Shop. Spent fluorescent lamps from throughout the AFRH are collected in Building 72, where they are boxed and then taken off-site for recycling. PCB ballasts are removed from fluorescent lighting during lighting replacement and stored in a drum at the northeast corner of Building 72. The PCB ballasts are picked up by the DRMO.

Jerry Wessel, Contract Surveillance Specialist (6/16/04)

Mr. Wessel provided a brief walk through and description of operations for Building 73, which houses the HVAC shop, Metal Shop and Maintenance offices. Mr. Wessel indicated that the Service Shop buildings are believed to have been constructed in the early 1960s. A parts cleaning station in the metal shop is no longer used, but was formerly maintained by Safety Kleen under a service contract.

Theodore Bechtol, Contracting Officer Representative (6/16/04)

Mr. Bechtol provided a brief walk through of Buildings 74, 75, 76, 77 and the Heating Plant. Building 74 is a warehouse that is now used to store surplus equipment pending resale. Building 75, the former refueling station, is reportedly vacant, but could not be accessed. According to Mr. Bechtol, only a small amount of vehicle maintenance is still being performed in Building 76. The groundskeeping storage is housed within Building 77. Building 77 and the adjacent greenhouses are used by the Smithsonian Institute. Mr. Bechtol indicated that the four drums of waste outside of Building 75 remain from a hazardous waste pickup a few months ago. Parts washing stations and hydraulic lifts in Building 76 and 77 are not used anymore. Parts washing stations were formerly maintained by an outside contractor that recycled the solvent waste. Mr. Bechtol was not sure where floor drains in the buildings discharge. Mr. Bechtol indicated that the USTs associated with the former refueling station are out-of-service and he is unsure whether any product remains in the USTs. The pesticides in storage in Building 77 are reportedly unused and considered surplus, for the most part, since the AFRH now outsources pesticide applications to private contractors. Mr. Bechtol indicated that the northwest portion of Building 46 was once used as a laundry facility. He was not sure whether dry cleaning operations were ever performed on the site.

Thurnell D. Outlaw, Medical Center (6/15/04)

Mr. Outlaw indicated that there is a generator system with UST for the Pipes Building. The UST system reportedly is tightness tested on a regular schedule. Biomedical waste and sharps are picked up by a service contractor. The medical center is not a generator of hazardous waste.

5.0 Environmental Setting

5.1 Topography and Drainage

The topography of the site slopes gently to the southeast. Elevations on the site range from approximately 190 to 320 feet National Geodetic Vertical Datum of 1929 (USGS, Washington West Quadrangle, 1965; photorevised 1983).

According to the Flood Insurance Rate Map prepared by the Federal Emergency Management Agency, the site does not fall within a 100-year floodplain (FEMA, 1985). A perennial stream runs through the center of the site. Near the golf course in the southeastern portion of the site, there are two fishing ponds and two other freshwater ponds. A storm water management pond is located in the south central portion of the site. There is also a 15 million-gallon underground reservoir in the golf course area which is leased by the AFRH to the District public water system.

The majority of the main campus is developed and highly disturbed by grading, filling, and construction. Natural drainages on the main campus have been replaced by paved flumes of concrete, brick, or stone.

5.2 Geology and Soils

The site is located in the Coastal Plain Physiographic, which consists of sediments mainly deposited in the Cretaceous age. The Coastal Plain consists of an eastward thickening wedge of unconsolidated and/or semi-unconsolidated sediments deposited on top of the crystalline rock of the Piedmont. The USGS Geologic Map of Washington, DC and Vicinity indicates that the basal formation of the Potomac Group, known as the Patuxent Formation is characterized by large amounts of fine to medium tan, white, yellow, or pink sands commonly mixed with variable amounts of clays, kaolin, gravels composed of large and well-rounded polished pebbles, and lenses of varicolored massive clay. The natural surficial material at the site consists of Pleistocene age deposits of the Wicomico Formation. The Wicomico formation is characterized by gravel, sand and silt with local basal deposits of carbonaceous clay containing tree stumps and other woody debris. (USDI/Johnston, 1964).

The USDA Soil Survey of the District of Columbia notes the presence of Udorthents (Fills) on the eastern boundary of site; the southwest and southeast corners of the site; and toward the center of the site, just west of the perennial stream running through the center of the site. Immediately adjacent to the perennial stream flowing through the center of the site and surrounding the pond areas in the southeastern portion of the site, Woodstown clayey sandy loams are present. Gravelly sandy loams (Sassafras and Croom Series) and silty clayey loams with gravel (Chillum Series) cover most of the site (USDA, SCS 1975:General Soil Map).

The site-specific characteristics of the soils, such as texture, slope, cover and degree of disturbance, etc., will determine the actual infiltration, percolation and permeability properties of soils in the vicinity of the site. Surface runoff in the site vicinity is directed to a storm drain system. Generally, surface fluids (i.e., precipitation, runoff, spills, etc.) will infiltrate into the soils, percolating downward through the unsaturated soil zone to the water table at the top of the saturated zone, unless impeded or deflected by an impermeable or slowly permeable layer, such as a clay layer, competent bedrock, or

fragipan. At that time, the fluid may become perched at a shallow level above the water table, or will be directed laterally. In this manner, the shallow, unconfined aquifers (an aquifer with no overlying impermeable seal, and therefore, in communication with the atmosphere through the open pores in the overlying soil) are recharged by the surface water, or contaminated by other fluids (Heath, 1983; USDI, 1981).

6.0 Site Inspection

6.1 Site Observation and Inquiries

G&O performed a site inspection on June 15 and 16, 2004, to identify and characterize site conditions including current usage, topography, ground cover, structures and surface hydrology, and to identify any potential recognized environmental conditions associated with the property.

The site inspection focused on areas and facilities of the site anticipated to have the greatest potential for environmental concerns, based on a review of building inventory and limited site history information. G&O was accompanied by AFRH personnel or contractors during portions of the site inspection. Photographs of the site are included in Attachment C. The site inspection revealed the following:

Shops/Service Area (Buildings 72, 73, 74, 75, 76 and 77)

- The buildings within the Service Area complex appear to have been constructed at the same time (circa 1960s). Building 72 houses the HVAC shop and Paint Shop. The Electrical, Metal and Maintenance shops along with maintenance offices are housed in Building 73. Building 74 is an open warehouse. Building 75 is the former vehicle refueling station. Building 76 is the vehicle maintenance building. Groundskeeping maintenance facilities are housed in and adjacent to Building 77.
- Spent fluorescent lamps are collected and packaged for off-site recycling in Building 72. PCB-containing ballasts that are removed from fluorescent light fixtures during renovations or routine maintenance are accumulated in a 55-gallon drum at the northeast corner of Building 72.
- A paint booth with a localized exhaust ventilation system is present in the Paint Shop in Building 72. The paint booth is reportedly no longer used. A drum for collection of paint waste and a second drum storing mineral spirits were found within an exhaust hood enclosure.
- Two groundwater monitoring wells were noted in the asphalt pavement of the service road that extends parallel on the west side of Building 72. Prior reports indicate that a buried paint can repository was discovered in approximately 1992 in the vicinity of Building 72. The observed monitoring wells may be associated with a previous subsurface investigation related to this matter.
- Various flammable materials, including paints, solvents, cleaners, lubricants, etc. are stored, generally in small quantity containers, in various areas of Buildings 72 and 73. Compressed gas cylinders and refrigerants are stored in Building 73.
- A parts cleaning/degreasing station is present in the Metal Shop area of Building 73. According to contractor personnel, the station has been maintained by Safety Kleen with spent solvent removed for off-site recycling on a regular schedule. The current operational status of the parts cleaning station could not

be determined. The station was noted to contain solvent waste at the time of the inspection.

- Floor drains were noted in the Electric Shop and Paint Shop areas of Building 72 along with former vehicle maintenance areas of Building 76 and the greenhouse areas of Building 77. On-site personnel did not know where floor drains discharge (sanitary sewer, storm sewer, on-site) and/or if any water quality improvement devices are associated with the drain systems.
- Building 74 is an open warehouse building that is currently used to consolidate surplus property pending sale. A 500-gallon diesel above-ground storage tank (AST) with secondary containment is present along the east exterior wall of the building. The AST is associated with a back-up generator for the warehouse.
- Building 75 is the former refueling station. Access could not be gained to the building interior. Fuel dispenser pumps are located outside the southwest entrance to the building.
- Fill caps and vent piping for three USTs were noted immediately northwest of Building 75. According to interview information, the USTs included two gasoline and one diesel tank. The USTs are not in service.
- Four (4) 55-gallon drums of unidentified liquid waste are located along the north side of Building 75. According to interview information the unlabelled drums may contain waste that was generated by past vehicle maintenance shop operations.
- Building 76 has been used for vehicle maintenance and related activities. Some vehicle maintenance is still performed on-site; however, this activity is being curtailed with transition to private contracts and off-site maintenance.
- A suspect fill cap and vertical piping was noted along the exterior of Building 76, at the northeast corner. The suspect cap could not be opened and the function of the piping could not be definitively determined; however, these observations may suggest the presence of an UST system(s). In addition, a depression in the pavement between Building 75 and 76 could be indicative of an additional UST system(s).
- A parts washing station is present in Building 76. The equipment is reportedly no longer in use. Used solvent remains in the reservoir of the parts washing station.
- Hydraulic vehicle lifts are present in Building 76. The lifts appear to be out of service; however, the operational status of the lifts could not be determined.
- Several used lead-acid batteries are stored on a spill pallet in the center of Building 76. The batteries are reportedly collected for off-site recycling. Used antifreeze and used oil are also collected in drums inside of the building.
- Waste oil is also collected/stored in a 275-gallon AST and in a 55-gallon drum located outside Building 76, along the south wall. A dark stain was noted on the asphalt pavement leading away from the 55-gallon drum. At the time of the

inspection, the drum had a funnel in the top and was filled to capacity. Neither the AST nor the drum had secondary containment. A stormwater inlet was noted in the parking lot between Building 76 and 77.

- Building 77 is a warehouse and utility building used for groundskeeping maintenance operations, including the storage of miscellaneous supplies and agricultural chemicals, as well as light equipment maintenance. Greenhouses, horticultural and plant nursery facilities are located south of Building 77. According to interview information, most groundskeeping activities that were once performed using AFRH facilities have been outsourced and AFRH groundskeeping maintenance functions have been greatly scaled back.
- Significant quantities of pesticides are stored, generally in small quantity containers, within metal cabinets in the pesticide storage room in Building 77. Several unlabelled containers were noted during a cursory examination of some of the cabinets. According to interview information, a majority of the pesticides are no longer used, but are being retained for possible resale or transfer to other government facilities. Some of the containers, which include insecticides, fungicides, herbicides and rodenticides, may have been in storage for many years and likely include banned and/or out of date substances.
- Suspect asbestos insulation was noted on a hot water tank in Building 77. Asbestos insulation is assumed to be present associated with mud pipe fittings throughout the buildings in the Service Area buildings.
- A hydraulic lift is present in the small engine shop area, in the southern portion of the building. According to interview information, the lift is no longer used.

Heat Plant Complex (Buildings 46 and 69)

- Three (3) large boilers provide steam for heating throughout the AFRH. The boilers burn natural gas but are equipped to operate on fuel oil as a back up. Six (6) 20,000-gallon ASTs storing #2 heating oil are located within Building 46.
- Three (3) 30-gallon drums of unknown liquid waste were noted in the outdoor storage lot associated with Building 46. Workers indicated that the drums have been there for many months if not years. A white granular deposition or crystallization was noted on the exterior of the unlabelled drums, possibly indicating reactive or corrosive waste is contained in the drums.
- The western portion of Building 46 was formerly a laundry facility, which reportedly ceased operations in the 1990s. This portion of the building is vacant and has been partially gutted of equipment.
- Two (2) suspect dry cleaning machines were noted in the former laundry facility in Building 46. The machines appear to be dry-to-dry type machines and are not of recent manufacture. No evidence of perchloroethylene (PERC) solvent or waste was observed.

- Five (5) 55-gallon drums were observed on the first floor of Building 46. The drums were labeled as hazardous waste and to contain “sludge solvent” and dated 12/16/02. No additional information about the contents of the drums or the activities that resulted in the waste was available from on-site personnel.
- Floor drains were observed in the former laundry in Building 46. It is unknown where the drains discharge.
- Extensive peeling of suspect lead-based paint was observed throughout the former laundry area in Building 46. A 55-gallon drum with a hazardous waste decal was observed near the remaining laundry equipment. The drum is labeled to contain lead paint chips. No further information on the source of the waste was available.
- Asbestos-containing debris was noted in laundry hampers adjacent to the remaining laundry equipment in Building 46. Asbestos warning signs were also noted in the hampers.
- Extensive accumulations of bird excrement were noted on surfaces in the upper level of the laundry in Building 46.
- A two story addition is attached to the southwest corner of Building 46. Two (2) vent pipes were observed along the south façade of this addition. The piping and an adjacent suspect fill cap are possibly associated with abandoned UST system(s).
- In the lower level of the two-story addition to the southwest corner of the Heating Plant, historic preservation workers are restoring windows and woodwork in connection with the renovation of the Lincoln cottage. At the time of the inspection, workers were using heat guns and manual scraping to remove old (suspect lead-containing) paint from windows and woodwork. The paint debris was not being adequately contained by the workers and was falling onto the floor.
- In the upper level of the two story addition, several unlabeled bags of waste were found. The bags contained suspect asbestos 9”x9” floor tiles, which were apparently stripped from the concrete floor in this area.
- Building 69 is a vacant two level structure at the northern end of the Heating Plant. A sign on the front of Building 69 identifies the building as the (former) hazardous waste storage building. An obsolete incinerator is associated with Building 69. It could not be determined when the incinerator was in operation or what materials were burned. Ash was noted on the bottom of the internal chamber of the incinerator from three access doors at the lower level of the building and one door outside the building.

Health Center

The buildings in the Health Center were not accessed during the site inspection. A cursory reconnaissance of building exteriors was performed. During an interview with

Thurnell Outlaw, the Medical Supply Facility Manager for AFRH, activities and operations associated with the medical center building were discussed. No recognized environmental conditions were suspected for interior building areas based on this interview.

- Evidence of UST systems was noted at the exterior of Buildings 52, 56 and 64. According to interview information the USTs store diesel for emergency generators.

Golf Course

- No suspect recognized environmental conditions were associated with the golf course grounds and clubhouse.

6.2 Above-Ground Storage Tank / Underground Storage Tank Systems

Evidence of ASTs and USTs was observed on the property during the site inspection. A comprehensive AST and/or UST inventory was not available from the AFRH. The information in the following table is based on interview information, prior reports, site observations and regulatory database information. The table is not intended to represent a comprehensive listing and may not reflect recent tank additions or closures.

Tank Location/Type	Contents	Capacity (gallons)	Age/Construction	Status/Comments
Building 17 (UST)	Unknown	Unknown	Unknown	Registered, Unknown
Building 52 (UST)	Diesel	500	1991/Steel	Registered, Assumed Active
Building 56 (UST)	Diesel	1,500	1991/Steel	Registered, Assumed Active
Building 64 (UST)	Diesel	1,000	1991/Steel	Registered, Active
Building 75 (UST)	Gasoline	Unknown	1991/Unk	Registered, Out-of-service
Building 75 (UST)	Gasoline	Unknown	1991/Unk	Registered, Out-of-service
Building 75 (UST)	Diesel	Unknown	1991/Unk	Registered, Out-of-service
Building 74 (AST)	Diesel	500	Late 1990s/Steel	Out-of-service, has secondary containment
Building 46 (6 ASTs)	#2 Fuel Oil	20,000 ea	Unknown/Steel	Active, back up for boilers. Located in lower level of Bldg 46.

In addition, several USTs are reported to have been closed in recent years. These former UST areas include: Building 26/27, Building 43 and Building 74A. These USTs were reportedly removed and permanently closed in accordance with applicable regulatory requirements; however, no documentation was available for review.

Based on visual evidence, abandoned USTs are suspected to be present in other areas including Building 46 and Building 76.

The database search identified one LUST listing for the AFRH. The case is listed as closed but no specific information or background is provided. According to prior report information, a LUST incident was associated with the emergency generator UST at Building 64. The case was reported to have been closed in the early 1990s but no closure documentation was available.

6.3 PCB-Containing Equipment and Mercury Lamps

According to interviews and prior report information, all known PCB-containing transformers have been replaced from substations on the AFRH including Buildings 44, 54 and 71. Remaining potential sources of PCBs include smaller transformers and capacitors in older equipment and machinery.

Fluorescent light fixtures typically have electrical ballasts which contain small quantities of insulating fluid. Light ballasts manufactured prior to 1978 are likely to contain PCB's. Older fluorescent lights are still found throughout the AFRH. Older ballasts and fluorescent lamps are changed from fluorescent lighting as necessary and are collected at Building 72 for proper off-site disposal and/or recycling.

Hydraulic fluid in abandoned vehicle lift system could also contain PCBs. Hydraulic lifts were noted in the shop buildings 76 and 77.

6.4 Regulated Substances Identification

Small containers of paints, lubricants, solvents, corrosives, adhesives and cleaners are kept in flammable storage cabinets in the Service Area buildings. These materials are generally in small (less than 5-gallon) containers, packaged for general consumer use.

Bulk quantities of paints, mineral spirits, varnishes, paint thinner, solvents, etc. are stored in the Building 72 paint shop. Regulated lighting waste (mercury containing-fluorescent lamps and PCB-containing ballasts) are also accumulated at Building 72.

Refrigerants were observed to be stored in a secured cage area in Building 73.

Bulk quantities of motor oil, antifreeze, lubricants and automotive fluids are stored in the vehicle maintenance areas of Building 76.

Pesticides and agricultural chemicals are stored in Building 77. Pesticides including insecticides, herbicides, fungicides and rodenticides are stored in steel cabinets in a designated pesticide storage room. Bulk fertilizer is stored on pallets in open areas of the Building 77. Pesticide safety procedures are in place for the golf course. However, the plan is not comprehensive enough to rule out water quality issues on site.

Oxygen and other compressed gas cylinders used in the medical center areas are supplied, maintained and serviced by outside contractors. According to interview information, management of any radioactive sources that may be associated with medical equipment or procedures would be handled by outside contractors.

Building 69 (now vacant) was reportedly used for the accumulation of hazardous wastes until recently. At the present time, it does not appear that there is a central hazardous/regulated waste collection area for the AFRH.

Evidence of asbestos waste and lead-based paint storage was observed in the former laundry area of Building 46. Drums of unidentified waste were identified outside of Buildings 46 and 75. These uncharacterized wastes are suspected to be potentially hazardous.

Biomedical waste and sharps are generated by medical center facilities. Reportedly, all bio-medical waste and sharps are collected and picked up by a service contractor for off-site disposal.

6.5 Asbestos-Containing Materials

Numerous asbestos identification surveys have been conducted for the AFRH. According to the most recent survey information and observations during the site inspection friable and non-friable asbestos containing materials are present throughout the buildings. Asbestos abatement is conducted prior to building renovations.

During the site inspection, suspect asbestos was noted in the buildings in the Service Area and Heat Plant Complex associated with pipe fitting and tank insulation.

Asbestos debris was noted in hampers in the former laundry facility in Building 46. In addition, stripped asbestos containing floor tiles were noted in bags on the second floor of the addition to Building 46.

Based on interview information, it does not appear that a formal asbestos Operations and Maintenance (O&M) Program is in place.

6.6 Area Reconnaissance

The vicinity of the site is characterized by a mixture of uses. Two cemeteries and church border the property to the north. Religious/institutional development borders the main campus to the west, including Catholic University and the National Shrine of the Immaculate Conception. A construction and landscape debris landfill, previously owned and operated by the AFRH, is located on a 49-acre outparcel located southeast of the main campus. The Washington Hospital Center complex borders the site to the south. Older residential neighborhoods mixed with light commercial development are located east of the AFRH main campus.

No industrial or manufacturing facilities are noted for abutting or adjacent properties. No obvious recognized environmental conditions were noted during area reconnaissance of adjacent properties.

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7.0 Regulatory Database Review

EDR provided information from the Federal and D.C. databases listed in Section 2.2. A copy of the EDR report is provided in Attachment A. Results of the review identified the following for the site and the adjacent properties within the requested search radii specified by ASTM Standards.

- **NPL** - No NPL facilities were identified within a 1-mile radius of the site.
- **CERCLIS** - No CERCLIS facilities were identified within a 1/2-mile radius of the site.
- **CERC-NFRAP** – No CERC-NFRAP facilities were identified within a 1/2-mile radius of the site.
- **RCRIS TSD, LG, and SG** – No RCRIS TSD facilities or RCRIS LG facilities were identified within a 1/2 -mile radius of the site. No RCRIS SQ facilities were identified within a 1/4 -mile radius of the site.
- **LUST** – The target property is identified as a LUST facility. The listing is for The U.S. Soldier's and Airmen's Home. The status of the case is listed as closed. No further specific information is provided. This listing likely refers to the LUST case reported in the previous Phase I ESA (Law) for Building 64. This case was reportedly closed in the early 1990s.

In addition, four other LUST cases were identified within a 1/2 mile radius of the AFRH. These include two listings for the Washington Hospital Center, including one case that is listed as open. The Washington Hospital Center is located south and downgradient of the AFRH. Subsurface releases from the LUST are not anticipated to migrate to the AFRH.

One LUST listing is for the Catholic University, located east of the AFRH. The case status is listed as closed. No further specific information is provided.

One LUST listing is for the Washington Retreat House. Although the status of the case is listed as open, the LUST facility is not located upgradient of the AFRH and is not anticipated to adversely impact the AFRH.

- **UST** – Seven (7) registered UST facilities were listed for the target property. One additional UST facility is listed <1/8 mile from the site but actually refers to the AFRH. No specific information about UST systems such as size, content, and active status is provided in the database report. The eight (8) target property USTs listed in the database as follows:
 - Auto Craft Shop
 - King Health Center – Pipes Building
 - Fuel Services Building
 - LaGarde Building
 - Safety Officer (Supply Management BCH)
 - Sheridan Building
 - Barnes Building

- Cold Storage Warehouse

According to interviews and site observations, the USTs at the Auto Craft Shop and Cold Storage Warehouse have been permanently closed. USTs at the Fuel Service Building are out-of-service pending permanent closure. USTs associated with the Pipes Building, the LaGarde Building, the Barnes Building and the Sheridan Building are reportedly diesel USTs for emergency generator systems. The status of the Sheridan Building UST could not be ascertained and it may have been removed. The USTs referenced to Safety Officer (Supply Management BCH) could not be accounted for. See Section 6.2 for further information.

8.0 Conclusions

The conclusions and recommendations presented in this report are based upon data obtained and evaluated for the Phase I ESA. This report has been prepared in accordance with generally accepted scientific practices; no other warranty, expressed or implied, is made.

The scope of work for the Phase I ESA investigation included historical research; site reconnaissance; and a review of physical setting data, regulatory database information, and relevant environmental records. The purpose of the investigation was to identify previous and existing activities on or near the site that could potentially constitute a recognized environmental condition.

USTs

- Three (3) USTs were recently taken out of service at the former vehicle refueling station (Building 75). According to interview information, the USTs included two (2) gasoline and one diesel UST. Out of service USTs that have not been properly closed represent a recognized environmental condition.
- Possible evidence of abandoned USTs was noted along the exterior of Building 76, at the northeast corner and in the pavement between Building 75 and 76. In addition, possible abandoned UST evidence was noted along the south façade of the addition to Building 46.
- USTs previously associated with Buildings 26/27, 43 and 74A have been permanently closed in recent years, reportedly following federal and DC regulations. Active USTs reportedly remain for emergency generator systems associated with Buildings 52, 56 and 64 and Building 17 (contents unknown).
- One LUST case was identified for the AFRH by the regulatory database search. The case is listed as closed. No specific information was provided. According to prior report information, the LUST case may have been associated with the UST at Building 64.

Suspected former Dry Cleaning Operations

- The western portion of Building 46 was formerly a laundry facility, which reportedly ceased operations in the 1990s. Two suspect dry cleaning machines were noted in the partially gutted former laundry facility. The prior ESA report indicates that historical dry cleaning operations were suspected for the laundry facility based on an assessment of waste generation information. The presence of a dry cleaning operation and potential for release of solvent wastes represents a recognized environmental condition.

Unidentified Waste Drums

Unidentified waste was noted to be stored in drums in several areas of the AFRH. These wastes include suspect hazardous wastes from various on-site activities. District of Columbia and federal regulations require generators to characterize,

manage and properly dispose of wastes, including hazardous wastes. Regulations prescribe limits (90 days for small quantity generators) for the on-site accumulation of hazardous waste. The presence of unlabeled and/or uncharacterized potentially hazardous waste, represents a material threat of release to the environment and is in violation of regulatory requirements.

- Four (4) 55-gallon drums of unidentified liquid waste are located along the north side of Building 75. According to interview information the unlabelled drums may contain waste that was generated by past vehicle maintenance shop operations.
- Three (3) approximately 30-gallon drums of unknown liquid waste were noted in the outdoor storage lot associated Building 46. Workers indicated that the drums have been there for many months if not years. A white mineral deposit or crystallization was noted on the exterior of the unlabelled drums, possibly indicating reactive or corrosive waste is contained in the drums.
- Five (5) 55-gallon drums were observed on the first floor of the former laundry facility in the western portion of Building 46. The drums were labeled as hazardous waste and to contain "sludge solvent" and were dated 12/16/02. No information about the contents of the drums or the activities that resulted in the waste was available from on-site personnel or records. The drums may contain waste associated with a former dry cleaning operation.
- A 55-gallon drum with a hazardous waste decal was observed near the remaining laundry equipment. The drum is labeled to contain lead paint chips. No further information on the source of the waste was available.

Hazardous Waste Management

- Parts cleaning/degreasing stations are present in the Metal Shop area of Building 73 and in Building 76. Used solvent remains in the reservoirs of both machines. The parts washing machines are reportedly no longer used or maintained.

A paint booth with localized exhaust ventilation system is present in the Paint Shop in Building 72. The paint booth is reportedly no longer used. A drum for collection of paint waste and a second drum storing mineral spirits were found within an exhaust hood enclosure.

Used petroleum solvent and paint waste are hazardous wastes and must be properly managed or disposed/recycled. Improper management of hazardous waste represents a recognized environmental condition.

- PCB-containing ballasts that are removed from fluorescent light fixtures during renovations or routine maintenance are accumulated in an unlabeled 55-gallon drum outside the northeast corner of Building 72. Several ballasts were stored loosely, adjacent to the drum. The ballast storage area is not secured or protected from the weather. This condition could permit the release of PCB fluids from damaged or leaking ballasts and is considered a recognized environmental condition.

Waste Oil Collection Facilities

- Waste oil is stored in a 275-gallon AST and in a 55-gallon drum located outside the Building 76 along the south wall. A dark stain was noted on the asphalt pavement leading away from the 55-gallon drum. At the time of the inspection the drum was filled to capacity. Neither the AST nor the drum had secondary containment. A stormwater inlet was noted in the parking lot between Building 76 and 77. Unsecured, overflowing waste oil receptacles, which do not have secondary containment, pose a material threat of release to the environment and nearby receptors (i.e. storm sewer inlets) and represent a recognized environmental condition.

Floor Drains

- Floor drains were noted in the electric and paint shop areas of Building 72, the former vehicle maintenance areas of Building 76, the greenhouse areas of Building 77 and in the former laundry facility of Building 46. On-site personnel could not state with certainty where the floor drains discharge (sanitary sewer, storm sewer, on-site) and/or if any water quality improvement devices are associated with the drain systems. Wash water from hazardous materials use/storage areas that enters floor drains could be a source of contamination if discharged to on-site septic or storm sewer, and thus could represent a recognized environmental condition.

Incinerator Ash

- Building 69 is a vacant two level structure at the northern end of the Heating Plant. A sign on the front of Building 69 identifies the building as the (former) hazardous waste storage building. An obsolete incinerator is associated with Building 69. It could not be determined when the incinerator was in operation or what materials were burned in it. Ash was noted on the bottom of the internal chamber of the incinerator from three access doors at the lower level of the building and one door outside the building. Incinerator ash could contain toxic levels of metals and other contaminants and could represent a recognized environmental condition.

Pesticides

- Significant quantities of unused pesticides are stored within metal cabinets in the pesticide storage room in Building 77. Pesticide applications are now handled by an outside contractor. However, the pesticide safety procedures are not comprehensive enough to rule out water quality issues on site. In addition, surplus pesticides and unusable/banned pesticide products pose a threat of material release to the environment and represent a recognized environmental condition.

Abandoned Hydraulic Lifts

- Hydraulic vehicle lifts are present in Buildings 76 and 77. The lifts are reportedly out of service. Abandoned hydraulic lifts pose a threat of release of oil to the subsurface and represent a recognized environmental condition.

Avian Excrement

- Extensive accumulations of bird excrement were noted on surfaces in the upper level of the former laundry facility in the western portion of Building 46. Although not considered a recognized environmental condition, this condition may pose a risk of infectious disease to building occupants and workers.

Asbestos

- Both friable and non-friable asbestos materials are present throughout many of the buildings of the AFRH. Asbestos abatement is ongoing and considerable asbestos removal has taken place throughout older building at the AFRH which have been renovated, particularly in the last two decades.
- The Phase I ESA inspection did not include an asbestos survey. However, suspect asbestos material was noted in several areas, including on a hot water tank in Building 77, on mud pipe fittings throughout the buildings in the Service Area buildings and associated with the ceiling of Building 69. Asbestos debris was noted in laundry hampers in Building 46 along with bags containing suspect asbestos 9"x9" floor tiles, which were apparently stripped from the concrete floor in this area.

9.0 Recommendations

The following recommendations are provided to address recognized environmental conditions and potential recognized conditions identified at the AFRH. Also, included are recommendations pertaining to non scope considerations as defined in ASTM E 1527-00.

Underground Storage Tanks -

Further investigation should be performed to determine whether abandoned USTs are present at the AFRH. Possible evidence of abandoned USTs was observed in at least three (3) areas, including: the northeast corner of Building 76; between building 75 and 76; and along the south wall of the addition to Building 46. In the event that AFRH facilities personnel can not determine (through interviews and records) whether USTs have actually been abandoned in these areas, a geophysical survey is recommended. All abandoned USTs should be identified and properly closed. Remaining product in USTs should be removed prior to closure. An assessment should be performed at the time of closure to determine if releases have impacted the environment.

Three (3) out-of-service UST systems associated with the former refueling station (Building 75) should be permanently closed in accordance with applicable regulatory requirements. An assessment should be performed at the time of closure to determine if there is evidence of a release of petroleum product to the environment.

Active USTs associated with emergency generators (Buildings 52, 56 and 64) should be tightness tested. The presence and status of the UST associated with Building 17 should be verified. If an active UST remains it should also be tightness tested.

Several USTs have been permanently closed in recent years. These reportedly include UST systems at Buildings 26/27, 43 and 74. According to interviews and prior report information the USTs were closed in accordance with District of Columbia regulations. Closure documentation should be verified, if necessary by reviewing case files of the District of Columbia Environmental Health Administration.

Former Dry Cleaning Operations–

Further assessment should be performed to determine if the site has been impacted by dry cleaning solvents. A limited assessment of subsurface soil and groundwater should be performed as well as research to determine discharge points for floor drains.

Floor drains were also noted in other former hazardous material/petroleum use areas including Buildings 72, 76 and 77. The discharge points for these drain systems should also be evaluated.

Unidentified Waste in Drums -

Unidentified wastes stored in drums in several areas (Buildings 46 and 75) of the AFRH should be inventoried and characterized for proper off-site disposal.

Hazardous Waste Management -

Petroleum based solvents remaining in parts washing stations in Buildings 73 and 76, along with unused paint thinner and paint waste in Building 72 are considered to be hazardous wastes that must be properly managed and require proper disposal or recycling. It is recommended that the AFRH arrange for the recycling or off-site disposal of these materials.

Pesticides stored in Building 77 that have been declared to be waste should be removed and properly disposed. Unlabeled containers may require characterization to determine proper disposal. In addition, pesticide safety procedures are in place for the golf course. However, this plan is not comprehensive enough to rule out water quality issues on site. Subsurface testing is recommended in the vicinity of Building 77, the greenhouses, and the golf course to assess whether soil and groundwater has been impacted by pesticides.

Perform proper inventory and characterization of unknown wastes in drums as necessary. Uncharacterized/unlabeled waste drums are present associated with Building 46 (laundry and heating plant) and Building 75. Hazardous wastes should be disposed of in accordance with federal and District of Columbia regulatory requirements.

The PCB ballast accumulation area (outside Building 72) should be improved with secondary containment, labeled drums and protection from weather.

Ash accumulations at the bottom of the former incinerator in Building 69 (former Hazardous Waste Storage building) should be tested to determine if the material is a hazardous waste. Further investigation should be conducted into past ash-handling/disposal practices.

Waste Oil Facilities -

Provide waste oil collection facilities that are labeled and have secondary containment to contain spills and overfilling. Access to the container(s) should be controlled so that unauthorized personnel do not use (and overfill) the waste oil container. Recycling pick up of waste oil should be scheduled more frequently if necessary to prevent capacity of receptacles from being exceeded.

Hydraulic Lifts –

Abandoned hydraulic lifts (Buildings 76 and 77) should be properly closed by excavating hydraulic lines and cylinder. An assessment of potential subsurface contamination should be conducted in connection with the excavation.

Avian Excrement –

Restrict access to the upper level of the former laundry facility in Building 46. Seal external openings and potential bird entry points to eliminate nesting and roosting in the building. Clean and disinfect surfaces impacted by bird excrement.

Asbestos –

An “Operations and Maintenance” program should be implemented to safely manage remaining asbestos-containing materials until removal. All thermal system insulation should be maintained in an intact, non-friable condition. Labels should be affixed to asbestos materials in routine maintenance areas. Asbestos debris should be removed from the former laundry area of Building 46 and the affected areas should be decontaminated.

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10.0References

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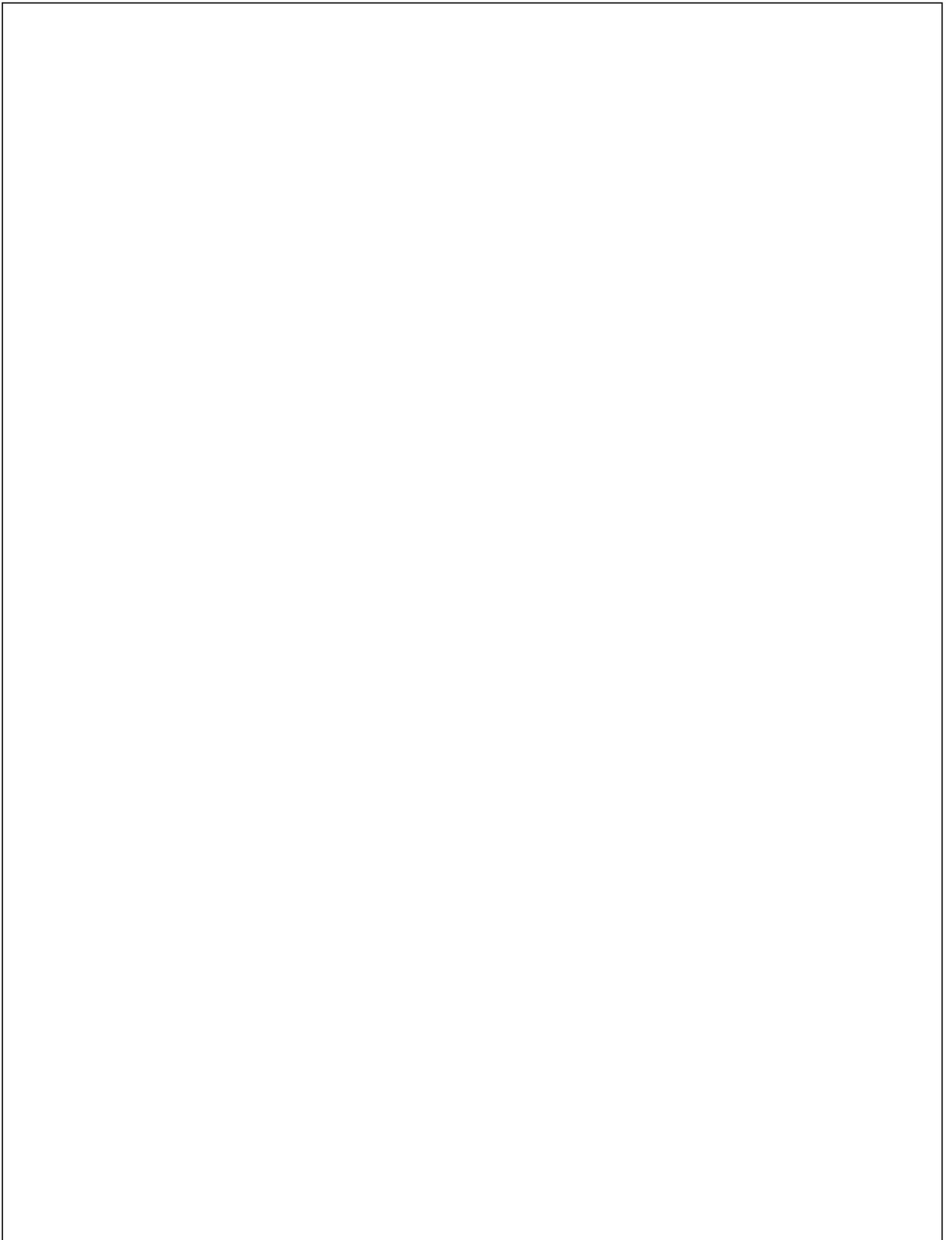
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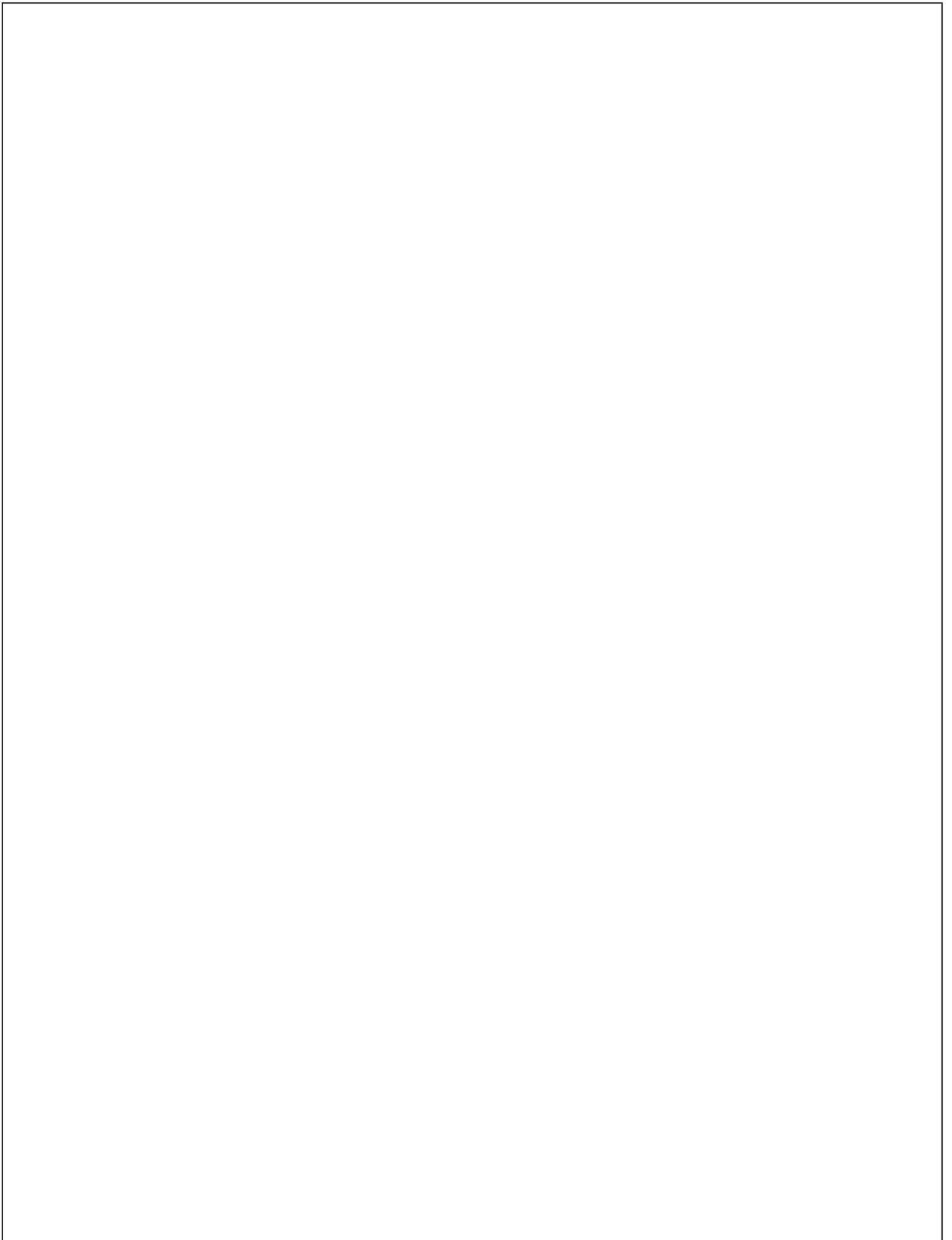
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Attachment A
Regulatory Database Report



Attachment B

Historical Aerial Photographs



Attachment C

Photographs

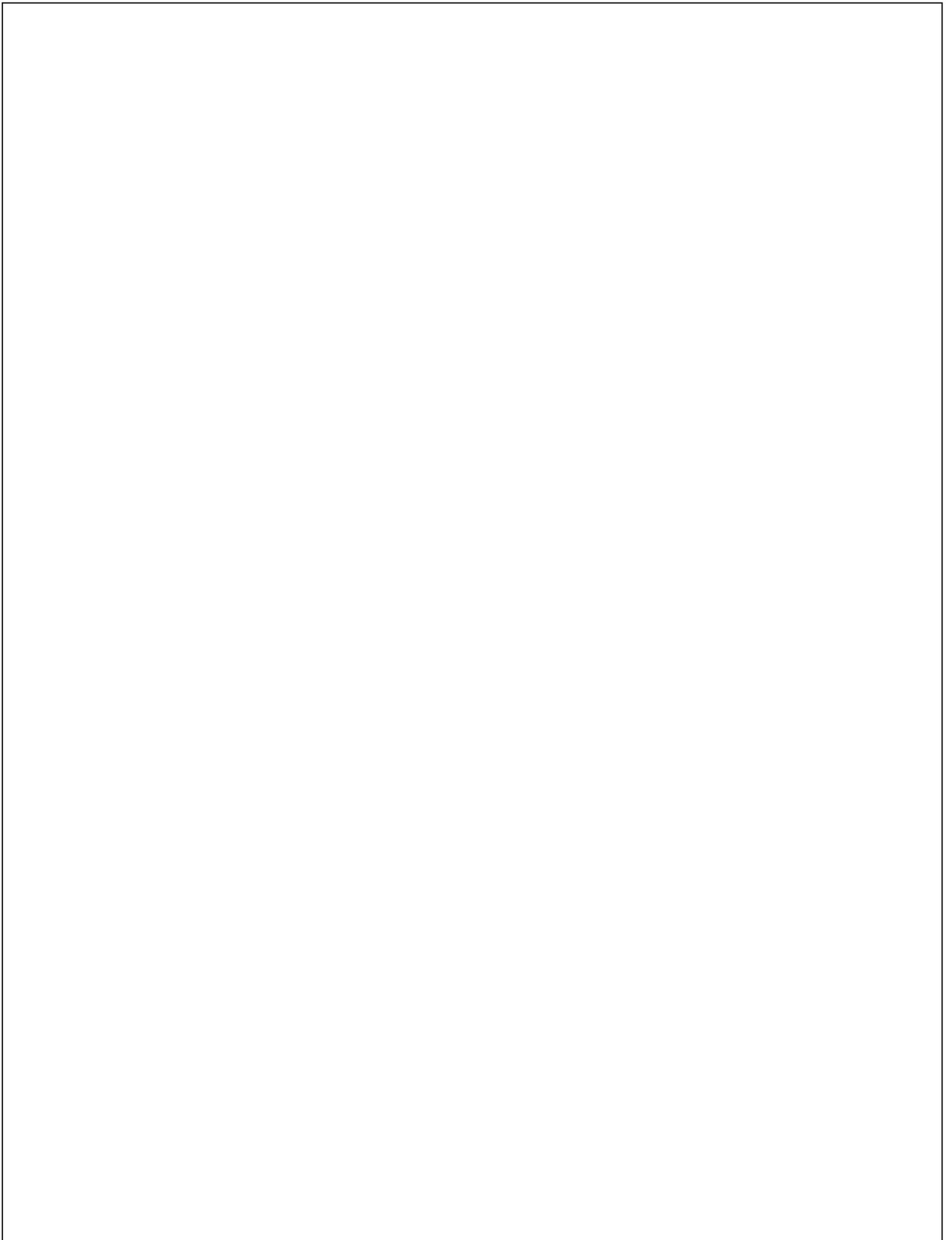




Photo 1: PCB ballast accumulation area outside of Building 72.



Photo 2: Abandoned parts cleaning station containing spent solvent waste in Building 73.



Photo 3: Drums containing paint waste and mineral spirits in paint shop area of Building 73.



Photo 4: Paints, solvents, and adhesives stored in flammable materials cabinets in Building 73.



Photo 5: Above ground diesel storage tank for Building 74 emergency generator.



Photo 6: Former refueling facility at Building 75.



Photo 7: Drums containing unidentified liquid waste outside of Building 75.



Photo 8: Waste oil collection area at exterior of Building 76.



Photo 9: Abandoned hydraulic lifts in Building 76.



Photo 10: Asbestos insulation on piping and hot water tank in Building 77.



Photo 11: Asbestos debris in hamper in former laundry facility of Building 46.



Photo 12: Suspect dry cleaning machine in former laundry area of Building 46.



Photo 13: Suspect abandoned UST location at south side of Building 46.



Photo 14: Corroded drums containing unidentified liquid waste at Building 46.



Photo 15: Incinerator near Building 69.

Attachment D

Historical Research Documentation

