Appendix C-2

PRELIMINARY FINAL
SECTION 106 HISTORIC RESOURCES EFFECTS DOCUMENT

Department of Transportation
Federal Aviation Administration

Preliminary Final
Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport

Washington Dulles International Airport
Dulles, Virginia

August 2005

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

For further information:

Mr. Joseph Delia
Department of Transportation
Federal Aviation Administration
Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166
703.661.1358

Dulles Airport New Runways Environmental Impact Statement

ABSTRACT

URS Group, Inc. (URS) of Gaithersburg, Maryland conducted a historic resource survey of above-ground resources within the Area of Potential Effects (APE) of the proposed runway expansion project at Dulles International Airport (Dulles) between February and March 2003 and between April and June 2004. These resources are located within the APE of the proposed runway and airport expansion alternatives at Dulles as detailed in URS correspondence sent to the Virginia Department of Historic Resources (VDHR), dated February 26, 2003. The APE includes both the area directly impacted by construction activities and the area indirectly impacted by an increase to the existing decibel levels. Dulles is located on the border of eastern Loudoun and western Fairfax Counties, Virginia and is bordered by State Route 267 to the northeast, State Route 28 to the east, U.S. Route 50 and a series of industrial and business parks to the south, and State Route 606 to the west.

Two additional runways and associated improvements are needed to enable Dulles to provide adequate airside capacity to accommodate future aviation activity levels with acceptable operational delay. The proposed development would involve construction of one runway parallel to existing Runway 1L/19R and one runway parallel to Runway 12R/30L. The project would also include the construction of taxiways, a new Tier 3 Concourse, and other associated support facilities such as lighting systems and navigational aids. Three alternatives, No Action, Build Alternative 3, and Build Alternative 4 are being considered.

Because the Federal Aviation Administration (FAA) proposes to fund this project, the airport expansion is subject to review pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 CFR Part 800, "Protection of Historic Properties." This survey report is also in support of an Environmental Impact Statement (EIS) as mandated under the National Environmental Policy Act (NEPA), which will provide the FAA with a comprehensive review of the environmental impacts associated with multiple design alternatives.

Ten architectural resources (buildings, structures, objects, and/or complexes) were identified within the APE for the proposed Dulles runway alternatives and surveyed at the reconnaissance-level. One resource, Dulles Airport Historic District (053-0008) has previously been determined eligible for listing in the National Register; and one resource, Sully Plantation (029-0037), is listed in the National Register. The FAA and MWAA have determined that the remaining eight historic resources are not eligible for listing in the NRHP and have received concurrence on seven of these resources from the SHPO in their July 1, 2005 letter to the FAA. The McCulloch Farm Ruins (VDHT # 053-5264 and 44LD543) was determined to be ineligible for listing in the National Register under Criteria A, B, or C by the SHPO in October 2004. Phase II evaluation of the site, which was completed in July 2005, determined that the site is not eligible for the National Register under Criterion D. Concurrence with FAA and MWAA's determination is pending. Table 1 provides a summary of each property's National Register status and the adverse effects, if applicable, to that resource from each of the three alternatives under consideration.

ABSTRACT

The APE has been altered from the September 2004 Draft Section 106 Report, leading to the removal of four historic properties from consultation, as NOAA/NWS is conducting their own environmental review for the relocation of their facilities, including NEPA and Section 106 consultation. The four properties which were removed from the report are:

- 053-5253
- 053-5254
- 053-5255
- 053-5256

A total of 53 archaeological sites were identified within the APE for the proposed Dulles runway alternatives. Phase I survey for the entire Dulles facility was completed in 2004. SHPO concurrence with the Phase I findings was received in November 2004. Phase II evaluations were recommended for 14 sites to determine if they are eligible for inclusion in the National Register and were completed in July 2005. One archaeological site (44FX2840) has been determined to be eligible for listing in the National Register and concurrence received from the SHPO. An additional three sites (44LD538; 44LD539; and 44LD1042) have been determined to be eligible for listing in the National Register by the FAA and MWAA and consultation for these sites is ongoing. A Memorandum of Agreement (MOA) is currently being developed between these parties to address the completion of the archaeological investigations. A copy of the draft MOA is included in Appendix A of this report.

The No Action alternative would have no effect on historic resources. No historic properties would be affected by this action as there would be no construction, demolition, or changes to the existing decibel levels.

Both Build Alternative 3 and Build Alternative 4 would have an impact on historic resources. Sully Plantation (VDHR #029-0037) would not experience an adverse effect due to either of these build alternatives. Noise modeling indicates that the aircraft-related noise level at this historic resource would either remain the same, or experience an estimated 1 dBA decrease.

Preliminary analysis suggests that there would be no adverse effect to the Dulles Airport Historic District (VDHR #053-0008) due to Build Alternative 3 and Build Alternative 4. The construction of two new runways would have no adverse effect on the Dulles Airport Historic District (VDHR #053-0008). However, FAA considers the proposed Tier 3 Concourse Improvements and associated utility improvements, as well as other associated actions within or proximate to the District, to be a connected action in support of the build alternatives. Formal Section 106 consultation for the Dulles Airport Historic District (VDHR #053-0008) regarding the level of effect, if any, will be postponed by FAA until more detailed information regarding the proposed Tier 3 Concourse Improvements, and associated construction, is developed. This approach is consistent with a phased identification and evaluation of historic resources, as described in 36 CFR 800(4)(b)(2).

FAA and MWAA have determined that four archaeological sites eligible for listing in the National Register will be adversely affected by Build Alternative 3 and Build Alternative 4. For each of these sites, Phase III Data Recovery or In-Situ Preservation will be undertaken in accordance with stipulations outlined in the MOA.

Table 1: Summary of Structures Survey Results

VDHR Inventory #	Name	Property Type	NR Eligible? (Criteria)	No Action Alternative	Build Alternative 3	Build Alternative 4
029-0037	Sully Plantation	Farmstead	Listed (B, C)	No effect	No adverse effect	No adverse effect
053-0008	Dulles Airport Historic District	Airport	Yes (A ,C)	No effect	No adverse effect; based on information currently available	No adverse effect; based on information currently available
029-5274	Manassas Gap Rail Bed	Landscape Feature	No	N/A	N/A	N/A
053-5252	Farmstead	Farmstead	No	N/A	N/A	N/A
053-5257	Building 14- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A
053-5258	Building 16- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A
053-5261	Interservice Radio Propagation Laboratory Complex	Laboratory Complex	No	N/A	N/A	N/A
053-5263	Moran House	House	No	N/A	N/A	N/A
053-5264	McCulloch Farm Ruins	Ruins	No (Criterion D Pending)	N/A	No adverse effect; based on information currently available	No adverse effect; based on information currently available
053-5266	House at 44210 Beaver Meadow Road Ruins	Ruins	No	N/A	N/A	N/A

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

Appendices

List of Figures

List of Tables

1.1 PROJECT LOCATION

URS Group, Inc. (URS) of Gaithersburg, Maryland conducted a historic resource survey of above-ground resources within the Area of Potential Effects (APE) of the proposed runway expansion project at Dulles International Airport (Dulles) between February and March 2003 and between April and June 2004. These resources are located within the APE of the proposed runway and airport expansion alternatives at Dulles as detailed in URS correspondence previously transmitted to the Virginia Department of Historic Resources (VDHR), dated February 26, 2003 (Appendix A). The APE includes both the area directly impacted by construction activities and the area indirectly impacted by an increase to the existing decibel levels. Dulles is located on the border of eastern Loudoun and western Fairfax Counties, Virginia and is bordered by State Route 267 to the northeast, State Route 28 to the east, U.S. Route 50 and a series of industrial and business parks to the south, and State Route 606 to the west.

Approximately 1,600 acres were surveyed in support of this survey effort. Between February and March 2003 and between April and June 2004, URS Architectural Historians Caleb Christopher and Amy Barnes conducted the historic resource surveys of properties potentially affected by the Dulles expansion project. Mark R. Edwards, URS National Capital Area Cultural Resources Practice Leader, served as the overall Project Manager.

Phase I and II archaeological investigations were undertaken separately by MWAA with the assistance of Greenhorne & O'Mara in 1999, EAC/Archaeology in 2000, and John Milner Associates, Inc. in 2004 and 2005. All Phase I and II reports for Dulles are on file with VDHR and the results of these assessments are summarized in Section 5 of this report.

1.2 DESCRIPTION OF UNDERTAKING

Two additional runways and associated improvements are needed to enable Dulles to provide adequate airside capacity to accommodate future aviation activity levels with acceptable operational delay. The proposed development would involve construction of one runway parallel to existing Runway 1L/19R and one runway parallel to Runway 12R/30L (Figure 1-1). The project would also include taxiways, a new Tier 3 Concourse, and other associated support facilities such as lighting systems and navigational aids. Such systems assist pilots during periods of reduced visibility by providing additional visual guidance to maneuver around the Airport Operations Area and to identify the landing threshold when on final approach to the airport. New lighting systems that would be incorporated into the proposed new runway design include runway centerline and edge lights, taxiway edge lights, and approach lighting systems similar to what currently exists for the three existing runways at the airport. In accordance with FAA airport design criteria, Runway Safety Areas (RSA) 1,000 feet long and 500 feet wide would be constructed at each runway end to serve as an overrun area for aircraft in the event of an aborted takeoff or an emergency landing.

Because the Federal Aviation Administration (FAA) proposes to fund this project, the airport expansion is subject to review pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 CFR Part 800, "Protection of

Historic Properties." Before the FAA may issue permits or grant financial assistance, the agency is required to comply with Section 106. This survey report is also in support of an Environmental Impact Statement (EIS) as mandated under the National Environmental Policy Act (NEPA), which will provide the FAA with a comprehensive review of the environmental impacts associated with multiple design alternatives.

Several reasonable alternatives are currently being studied. Based on the preliminary analysis for the parallel Runway 12R/30L, the new runway, taxiways, RSA, and approach lighting systems would be constructed on airport property, 4,300 feet southwest of and parallel to existing Runway 12R/30L. The proposed north-south runway is referred to as Runway 1W/19W in the EIS and this report. Based on the preliminary analysis for the parallel Runway 1W/19W, the new runway, taxiways, RSA, and approach lighting systems would be constructed west of existing Runway 1L/19R, at horizontal separations varying between 3,500 and 5,000 feet from the existing runway. Some of these alternatives would require acquisition of property adjacent to the airport in order to construct the new runway and taxiway.

1.2.1 Direct Actions:

Seven alternatives have received consideration during the EIS process and are as follows:

- No-Action Alternative- the existing three runway system.
- Build Alternative 1- a five-runway system with a new north-south runway (9,765 feet in length) separated from existing runway 1L/19R by 3,500 feet, and a new east-west runway (10,500 feet in length) separated from the existing Runway 12R/30L by 4,300 feet.
- Build Alternative 2- a five-runway system with a new north-south runway (9,580 feet in length) separated from existing runway 1L/19R by 4,000 feet, and a new east-west runway (10,500 feet in length) separated from the existing Runway 12R/30L by 4,300 feet.
- Build Alternative 3- a five-runway system with a new north-south runway (9,473 feet in length) separated from existing runway 1L/19R by 4,300 feet, and a new east-west runway (10,500 feet in length) separated from the existing Runway 12R/30L by 4,300 feet.
- Build Alternative 4- a five-runway system with a new north-south runway (9,218 feet in length) separated from existing runway 1L/19R by 5,000 feet, and a new east-west runway (10,500 feet in length) separated from the existing Runway 12R/30L by 4,300 feet.
- Build Alternative 5- a four-runway system with a new north-south runway (9,473 feet in length) separated from existing runway 1L/19R by 4,300 feet.
- Build Alternative 6- a four-runway system with a new east-west runway (10,500 feet in length) separated from the existing Runway 12R/30L by 4,300 feet.

Dulles Airport New Runways Environmental Impact Statement

LOCATION OF THE PROPOSED UNDERTAKING

FIGURE 1-1

H:\Dulles_EIS\120001757\Applications\apc\dulles_pdeis_section_106_ver2.apr\Layout: Figure 1-1, Location of the Proposed Undertaking\), mxd, 07/22/04

Of the seven alternatives initially evaluated, Build Alternative 3 (a five-runway system with a 4,300 foot north-south runway separation), Build Alternative 4 (a five-runway system with a 5,000 foot north-south runway separation), and the No-Action Alternative have been selected for further review, and will be carried through the full analysis under the EIS.

Specifically, the Purpose and Need for the runways at Dulles are 1) to provide a parallel north-south transport category runway immediately capable of dual simultaneous independent operations during Instrument Meteorological Conditions (IMC) while reserving the capability of triple simultaneous independent operations during IMC in the future; 2) to provide a parallel east-west transport category runway capable of dual simultaneous independent operations during IMC; and 3) to provide additional runways during times of adverse weather, runway maintenance or runway incidents. As noted previously, preliminary screening during initial phases of the EIS process is now complete. This process examined all Build Alternatives, and it has been determined that all Build Alternatives other than Build Alternative 3 and Build Alternative 4 fail to meet the project's Purpose and Need. Therefore, although this report describes above-ground historic resources associated with all of the Build Alternatives (as well as the No-Action Alternative), this report includes only an Assessment of Effects associated with Build Alternative 3 (MWAA's preferred alternative), Build Alternative 4, and the No-Action Alternative. In the event that other Build Alternative(s) are identified for inclusion within the full EIS analysis, an additional Assessment of Effects and further consultation may be necessary, per 36 CFR 800(4)(b)(2).

1.2.2 Connected Actions:

The following actions are connected to the proposed undertaking referenced above and will be described more fully in the EIS. Accordingly, this report also addresses these Connected Actions. As more specific information regarding these actions may be produced at a later date (including Tier 3 Concourse Improvements and the development of a comprehensive Mitigation Program in support of the EIS), an additional Assessment of Effects and further consultation may be necessary.

- Construction and operation of a new full-length parallel taxiway on the east side of new Runway 1W/19W;
- Construction and operation of taxiway connectors between new Runway 1W/19W and existing Runway 1R/19L;
- Construction and operation of a new full-length parallel taxiway on the north side of new Runway 12R/30L;
- Construction and operation of a taxiway connector between new Runway 12R/30L and existing runway 12R/30L;
- Installation and operation of lighting and navigational aids (NAVAIDS) for new runways 1W/19W and 12R/30L, and existing Runway 12R/30L;
- Tier 3 Concourse Improvements and associated utility improvements;

- Extension of the Automated People Mover to the Tier 3 concourse;
- Development of a Mitigation Program for impacts associated with both the Direct and Connected Actions listed above;
- Property Acquisition or Easement Acquisition for new Runway 1W/19W;
- Potential changes in Air Traffic Procedures between 3,000 and 10,000 feet ALG; and
- Support Facility improvements.

Many design details regarding support structures (including the NAVAIDS and supporting lighting systems) are not yet known and will be more completely designed at a later date. However, the general location and size of certain support structures are known. At the ends of Runway 1W/19W, there would be an ALSF-2 lighting system to support the ILS Cat II/III approaches to the runway. The top of the flashing (alignment) lights are generally within 5 feet of the runway. Considering sloping terrain anticipated at the runway end, these light towers could be between 10 and 20 feet in height. These lighting towers will consist of a combination of flashing and steady burning lights. Similar lighting systems, at a similar height, would be placed on Runway 12R/30L. Other navigational aids would be placed directly proximate to the runway.

1.2.3 Cumulative Actions:

Several potential cumulative actions, having independent utility from the direct and connected actions, are currently under consideration in the EIS. These cumulative actions will be referenced in the EIS for disclosure purposes only, and will be considered as part of the No-Action alternative, as well as each of the reasonable development alternatives. No detailed analysis of these actions in terms of the purpose and need, alternatives, or environmental consequences will be performed as part of this EIS. Accordingly, this report will not consider an Assessment of Effects, or undertake Section 106 consultation, for these Cumulative Actions, as these may be addressed in other environmental planning documents. The cumulative actions include the following:

- Tier 2 Concourse improvements;
- Virginia State Route 28 Improvements;
- Reconstruction of Existing Runway 12R/30L;
- On-Airport Roadway Improvements;
- A Dulles Metro Rail Line Link; and
- The Smithsonian Air and Space Museum, which opened in 2003.

For the purposes of the EIS, and this report, the preferred alternative is considered to represent all of the above direct and connected actions with an estimated opening year of 2010. The existing conditions base year for both the EIS study and this report, is the year 2002.

Efforts will be made during the EIS study to minimize or avoid any identified environmental impacts while also meeting the proposed Purpose and Need for the project. Substantial public involvement has been conducted in conjunction with the development of the EIS. Public outreach efforts include formal meetings, newsletters, and information posted on MWAA's website.

1.3 AREA OF POTENTIAL EFFECTS

This report evaluates properties and sites located within the Area of Potential Effects (APE). Pursuant to Section 106 of NHPA, the FAA must, prior to expenditure of its funds or the issuance of a license or permit for the undertaking, take into account the effect the project may have on any property listed or eligible for listing in the National Register of Historic Places (National Register). Taking into account the effect an undertaking may have on properties listed or eligible for listing in the National Register begins with the identification of the undertaking's Area of Potential Effects (APE).

1.3.1 Determination of the Area of Potential Effects

As defined in 36 CFR §800.16(d), the Area of Potential Effects, or APE:

> "…is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

APEs may vary widely depending upon the scale of the undertaking but also upon the type of cultural resource. For example, when considering effects on archaeological resources, the APE is often established according to the "footprint" of the proposed action because this is where disturbance of soil containing potential archaeological resources may occur. When defining the APE for historic buildings and structures, however, the boundary will often extend beyond the footprint so that indirect effects including visual, audible, and atmospheric effects may be considered. Such effects may cause a change in the character, use, appearance, or association of historic properties and their surroundings.

The FAA's procedures for Determination of the APE are defined in Section 10, subsection b in the FAA Order 1051.1D ("Policies and Procedures for Considering Environmental Impacts" [1999] Attachment 2, Page 37). While it is the FAA's responsibility to determine the APE, this determination must be made in consultation with Virginia Department of Historic Resources (VDHR).

Upon delineation of the APE for the undertaking by the FAA, the agency is then responsible for identifying and evaluating any historic properties that may be present within the APE. Historic properties may be buildings, structures, historic districts, objects, or archaeological resources. In

addition to being associated with themes important to history at the national, state, or local level, historic properties may also have religious or cultural significance and qualify for National Register-eligibility as Traditional Cultural Properties (TCPs).

1.3.2 Proposed APE

The APE associated with historic resources for the EIS development program includes lands at Dulles presently owned by MWAA and parcels that would be acquired by MWAA as part of the proposed action and other reasonable alternatives (Figure 1-2). In addition, the APE for historic resources includes those locations that would fall within the 65 Day-Night Average Sound Level (DNL) noise contour as a result of the proposed undertaking. While the FAA does not anticipate a substantial change, the APE may be refined as forthcoming environmental studies are completed in support of the EIS.

1.3.3 Assessment of Adverse Effects

Pursuant to 36 CFR §800.5.1, "Assessment of adverse effects:"

> "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

As described in 36 CFR §800.5(2), "Examples of adverse effects," adverse effects on historic properties include, but are not limited to:

> (i) Physical destruction of or damage to all or part of the property;
>
> (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR Part 68) and applicable guidelines;
>
> (iii) Removal of the property from its historic location;
>
> (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
>
> (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

> (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
>
> (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

When a Federal agency determines that its undertaking would result in an adverse effect, 36 CFR §800.6 requires that the agency consult with the State Historic Preservation Officer (SHPO), or in certain instances, the Tribal Historic Preservation Officer (THPO), the Federal agency's applicant, local governments, Indian Tribes and Native Hawaiians, the public, and other consulting parties to seek ways to avoid, minimize, or mitigate the undertaking's adverse effect. The ACHP must also be notified and a determination made about the ACHP's participation in resolution of adverse effect. If avoiding the adverse effect through re-design or other alternative means is not possible, the Federal agency, the SHPO, other consulting parties, and potentially the ACHP may enter into a Memorandum of Agreement (MOA) that outlines various measures that the Federal agency would employ to mitigate the adverse effect of the undertaking. In cases where the Federal agency and the other consulting parties fail to agree on what would be various mitigation measures, the Federal agency or the other consulting parties may terminate consultation, in which case the ACHP issues a final opinion and the project proceeds.

1.3.4 Direct Effects

A direct effect would include the demolition, destruction, or disturbance of one or more historic or archaeological resources for the construction of proposed runways or associated clearance areas. The direct effects within the APE will consist of areas related to the proposed runway and taxiway construction, as well as associated clearance areas, as illustrated in Figure 1-2.

1.3.5 Noise Effects

Noise resulting from the proposed undertaking could adversely affect the setting and character of historic resources if the undertaking results in a significant change from existing ambient noise levels, and if that change in noise level significantly affects those characteristics that qualify the resource for inclusion in the National Register.

The APE has been determined by FAA through using the Day-Night Average Sound Level (DNL) 65 decibel (dBA) noise contour. The decibel (dB) is a unit used to measure the intensity of sound. Most sounds in an everyday environment have sound levels that range from 30-100 dB, but any sound above 85 dB can cause hearing loss, especially during prolonged exposure. To accurately reflect the noise range heard by the human ear, filters (weighting scales) were developed to identify the relative loudness of sounds at different frequencies. A-weighted sound levels (dBA) are normally used to evaluate environmental noise with respect to humans. The DNL is the annualized 24-hour average (or cumulative) sound level, in A-weighted decibels, that adds a 10 decibel penalty to sound levels occurring between 10 PM and 7 AM.

Noise analyses are based on computer-generated DNL estimates that incorporate information, the types of aircraft utilizing the airport, the number of runway departures and arrivals, the location of aircraft flight tracks, and runway utilization. The DNL 65 dBA is a scientifically modeled level of average sound that has been shown to be directly linked to human beings and "annoyance level." Location outside the DNL 65 dBA contour is considered compatible with land uses including residential, schools, churches, hospitals and outdoor recreational areas. The use of the DNL 65 dBA contour to define the APE is based on accepted FAA land use compatibility guidelines (Federal Interagency Committee on Urban Noise, 1980), completed Final Environmental Impact Statements for comparable FAA undertakings, and recent court decisions (*City of Grapevine Texas et al. v. Department of Transportation, et al.*).

The estimated DNL 65 dBA associated with the above-described project undertaking is based upon studies of the project area as well as the estimated areas that would be included within the DNL 65 dBA noise contour associated with build alternatives. The Noise APE is based upon a predictive baseline analysis of noise contour studies developed by URS as a part of the EIS. These contours are shown in Figure 1-2

The historic resources survey fieldwork identified a single noise-sensitive historic resource which is located outside of the DNL 65 dBA contour. Pursuant to 36 CFR §800.4, FAA requests consultation with VDHR regarding this proposed adjustment to the Noise APE because preliminary noise data indicates that the site may experience a change in existing noise levels, which could in turn affect the qualities that make the property eligible for listing in the National Register. This resource, known as Sully Plantation (VDHR # 029-0037), was listed in the National Register in 1970, and is operated by Fairfax County as an interpreted historic site. Guidance provided by *City of Grapevine v. Department of Transportation* suggests that historic sites may be included in an APE if such sites were deliberately preserved and interpreted to an earlier historic era, even if they are outside of the standard 65 dBA noise contour. Additional information regarding this property is contained in Section Four.

1.3.6 Atmospheric and Visual Effects

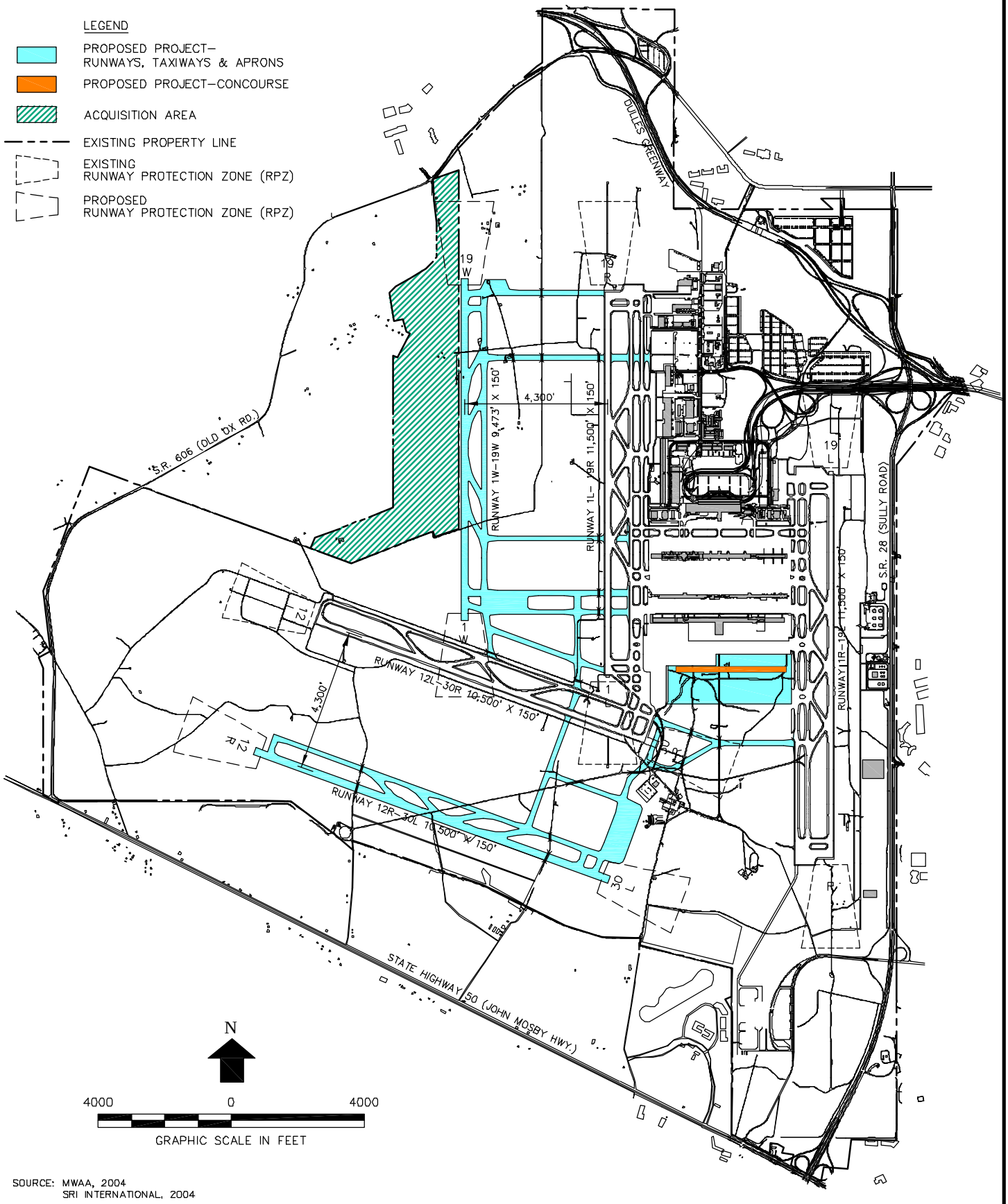
In addition, the APE will consider the potential effect of atmospheric elements or related actions that affect those characteristics (including setting) that make the resource eligible for listing in the National Register. The FAA expects that the areas within the APE subject to visual effects will be concurrent with those areas within the APE subject to direct effects. Further information regarding visual effects, including lighting and navigation systems, is discussed below.

Due to FAA regulations (which require clearance of features that are directly proximate to a runway), it is not anticipated that vibration effects will be considered an effect for purposes of the EIS. Generally, fixed-wing, subsonic aircraft do not generate vibration levels of the frequency or intensity to result in damage to structures. It has been found that exposure to normal weather conditions, such as thunder and wind; usually have more potential to result in significant structural vibration than aircraft (FAA, 1985). Two studies (Raba-Kistner Consultants, 1986; King, 1991) that involved the measurement of vibration levels resulting from aircraft operations upon sensitive historic structures concluded that aircraft operations did not result in significant structural vibration. Given the conclusions reached in the studies, significant vibration that has

the potential to cause structural damage to historic resources is not likely to result from the operation of Dulles, with or without the airport improvements.

Based upon preliminary data, the FAA does not currently anticipate that the proposed undertaking would produce any additional atmospheric or related effects that would directly or indirectly cause alterations in the character or use of historic properties. In the event that additional forthcoming environmental data in support of the EIS (including socioeconomic, air quality, and farmland) indicates the potential for atmospheric or related effects, the FAA may revise the APE.

The design of lighting systems and navigation aids indicates that these elements will be approximately 20 feet in height or lower, and placed in immediate proximity of the runway systems. Constant and/or blinking lights would operate during nighttime, and have the potential to diminish the integrity of setting for historic properties within the direct viewshed of the runway system. The APE will consider the potential for visual effects on historic properties located in the immediate proximity of the runway clearance area, and within the direct viewshed of the runway system. Given the relatively low height expected of the lighting and navigation systems, areas that could experience a potential indirect visual effect will be inclusive of the DNL 65 dBA boundary.



SOURCE: MWAA, 2004
SRI INTERNATIONAL, 2004

Dulles Airport New Runways
Environmental Impact Statement

BUILD ALTERNATIVE 3

FIGURE 1–2

J:\DULLES EIS\ALTERNATIVES\LIMITS OF DISTURBANCE\FIG 1-2 SEC 106.DWG 06/15/05 09:34

2.1 OBJECTIVES

The objectives of this architectural survey were to identify the presence or absence of historic resources within the Area of Potential Effects (APE) for the various proposed runway alternatives and to make a preliminary assessment of effects from the undertaking to any identified resources listed in or eligible for listing in the National Register.

2.2 METHODOLOGY

Archival research was conducted at the Thomas Balch Memorial Library in Leesburg and at VDHR archives in Richmond. County histories, historic maps and historic photographs were consulted to identify specific factual information regarding both the Dulles vicinity and the project area. VDHR records of surveyed properties proximate to Dulles, in addition to local survey records in Fairfax and Loudoun county planning departments were also consulted.

A comprehensive research design was developed to assist in the identification and evaluation of historic resources within the APE. Using baseline regional histories, as well as regional themes and contextual patterns identified in VDHR's published guidelines, known and expected property types and their common character-defining features were identified. The expected results were also informed by the review of several studies on architecture, agricultural, and historic trends in the project area, Northern Virginia, and the Mid-Atlantic region. These studies also provided a larger context and framework for the evaluation and analysis of historic resources identified during the survey.

The project area was visited by a team of URS architectural historians between February and March 2003, and again between April and June 2004. Following a search of local survey records and VDHR survey records to identify areas in the project vicinity which could contain a concentration of historic resources, a windshield survey was conducted of those areas within and proximate to the APE, with the goal of identifying properties for further reconnaissance-level survey.

Historic maps which included the lands within the current Dulles property boundaries were consulted prior to beginning fieldwork. These maps identified the location of several historic properties, the majority of which were the remains of the rural settlement of Willard. These resources are known to have been removed to new locations or demolished during the construction of Dulles in 1962. During the windshield survey, known property locations were visited to determine if any distinguishable above-ground historic resources, including ruins, landscape features, or outbuildings remained within the Dulles property boundaries.

Following the delineation of formal APE boundaries, VDHR Reconnaissance-Level Field Forms were then completed for all properties 50 years or older located within the APE. Previously surveyed properties were re-visited and any changes to the resource since it was last surveyed were documented. Field notes were taken recording construction methods, materials, architectural details, outbuildings and their relationship to the primary resource, landscape, and setting. All properties were documented with Kodak Tri-X Pan 400 film. Each surveyed property

was marked on a field copy of a USGS 7.5 minute series topographic map. Photographic film was archivally processed and printed on black and white paper.

All surveyed properties within the APE were evaluated for their eligibility for the National Register. The potential adverse effects of the proposed runway projects on properties listed in or determined to be eligible for listing in the National Register were also identified and evaluated.

2.3 PREVIOUSLY SURVEYED RESOURCES

A review of architectural site files at the VDHR and a recent unrelated Environmental Assessment (EA) for Tier 2 project at Dulles provided a comprehensive summary regarding previously surveyed historic and archaeological resources within Dulles Airport boundaries. During this review, three previously surveyed properties were found to be located within the APE. Field survey confirmed that the following properties are still extant:

- VDHR #029-0039 – Sully Plantation; and
- VDHR #053-0008—Dulles Airport Historic District;

One property, Sully Plantation (029-0039) is listed in the National Register while the Dulles Airport Historic District (053-0008) has been determined eligible for listing in the National Register.

2.4 EXPECTED RESULTS

An analysis of land-use history within and proximate to the APE, as well as an examination of the area's historic context, led to the assumption that there would be few historic resources located within the APE, and that most identified resources would be associated with either Dulles or the National Weather Service Sterling Research and Development Center. Based upon the literature review, the identified resources were expected to date from the World War I to World War II (1917-1945) and the New Dominion (1945–Present) periods. Identified resources were expected to reflect the following VDHR themes:

- Domestic;
- Education;
- Subsistence/ Agriculture; and
- Transportation/ Communication.

VDHR has identified eight historic periods and eighteen historic themes that form the basis for the development of historic contexts in Virginia. These periods and themes reveal the patterns of historic development both at the local and state levels and aid in the identification and evaluation of historic resources. This historic context is organized by VDHR's eight periods that address the project area's history.

A study of the narrative history of both the surrounding region of Virginia as well as the immediate project area reveals several important historic themes that are present in each of the chronological time periods. The immediate site of the proposed undertaking and the surrounding area contain resources related to the following themes as defined by VDHR:

- Domestic;
- Education;
- Subsistence/ Agriculture; and
- Transportation/ Communication

Identification of resources reflecting these four themes was expected prior to the commencement of survey work. No additional VDHR themes were identified during the course of the survey.

The chronological time periods represented in the project vicinity include the Colony to Nation (1750-1789), Early National Period (1789-1830), Antebellum Period (1830–1860); Civil War (1860-1865); Reconstruction and Growth (1865-1917), World War I to World War II (1917-1945), and The New Dominion (1945-Present) periods.

The historic context in this report is intended to serve as a tool that relates the project area's narrative history with broad historic and architectural trends, and subsequently defines evaluation criteria for a variety of historic property types likely to be located within the project's APE.

3.1 ENVIRONMENTAL OVERVIEW OF PROJECT AREA

The project area surrounding Dulles International Airport includes the western boundary of largely suburban Fairfax County and the eastern border of Loudoun County, which is more rural in character. The project area itself is located in a suburban area, with a combination of residential and light industrial uses surrounding Dulles in both Fairfax and Loudoun counties.

The project area is located within the Northern Virginia region as defined by VDHR. Culturally, this region includes lands in southern Loudoun County, including the project area, which were originally settled by immigrants from Tidewater Virginia. It is a transitional area, where the influences of the Valley of Virginia, Maryland, and Washington, D.C. have historically combined to influence the local rural culture. Since World War II, this region has become highly developed and its rural character has disappeared.

The Northern Virginia region has historically been rural in character, until the advent of suburbanization in the twentieth century. Despite its close proximity to Washington, D.C., the project area remained primarily agricultural until the introduction of suburban development in Fairfax County, beginning in the northern part of the county in the 1930s. Suburban growth occurred more slowly in the project area due to the area's relative distance from Washington D.C. and the poor quality of roads in the area until after World War II. The rural character of

western Fairfax County and eastern Loudoun County largely persisted until suburban development began to occur in earnest following the development of new roadways, such as the Dulles Toll Road, and the improvement of existing roadways, such as US Route 50, after World War II with the majority of the suburban growth in the project area occurring since 1980.

3.2 COLONY TO NATION (1750-1789)

The project area was once part of Stafford County, which originally included not only Loudoun and Fairfax, but also Prince William Counties. Fairfax County was formed in 1742, and originally encompassed Loudoun County, which was formed from the northern portion of Fairfax County in 1757. Many early property deeds are therefore recorded in Stafford, Prince William, Loudoun, or Fairfax Counties (Lewis 1). The border between Fairfax and Loudoun Counties originally served to delineate between areas dominated by Euro-American and Native American settlements. The formation of Loudoun County paralleled the earliest westward migration of colonial residential settlement. The border area between eastern Loudoun County and western Fairfax County began to attract wealthy landholders as land became increasingly scarce in the eastern portions of Virginia (Fleetwood Farm National Register Nomination 8).

The first colonial settlers in Northern Virginia were of English descent and followed a Tidewater settlement pattern creating rural communities of plantations, punctuated by "courthouse village" centers, rather than establishing distinctive towns (VDHR Survey Guidelines 36). The land that would eventually become Dulles was first settled in the late eighteenth century by immigrants of German and English Quaker descent who came to the area from Maryland and Pennsylvania. Early farming efforts were diversified with wheat farming predominant. Unlike the earliest English planters who had come from the Tidewater, the German and English Quaker settlers had smaller farms and raised minimal amounts of tobacco. Following the Revolutionary War, "[t]he two factions were at odds. The planter elite desiring more local control, attempted in 1782 to create a new county south of Goose Creek. Considerable opposition from the western [Loudoun County] communities, however, defeated their plans" (Fleetwood Farm National Register Significance).

Agriculture dominated the local economy, with the majority of the local population living on moderate-sized farms. Wheat, corn, rye, oats, and barley remained the dominant crops as tobacco continued its decline. Farm technology remained primitive and relied heavily on manual labor. Prior to the American Revolution, the major market for locally grown grains had been England. With the closure of foreign markets due to the war, area farmers began to focus more heavily on developing a domestic market for their products (Deck and Heaton 61-62; Head 110-123; Poland 25-28, 50-59.).

Industry was largely confined to milling operations. Mills ground the locally produced grains into flour and feed that were both consumed locally and sold to other markets. A side business for many milling operations were sawmills, which were constructed adjacent to the grain mill and used the same power source. The mills constructed in the area were water-powered, and the exporting of flour was a primary component of the local economy. Farmers paid for the milling either in coin or in a percentage of the product, which the miller would then sell for a profit (Harrison np; Poland 25-28).

Small towns and communities were often established at crossroads and along the primary transportation routes. Some communities also formed around milling operations. Several communities along the primary transportation routes had ordinaries, or taverns, which provided a central gathering point for the surrounding community in addition to facilities for travelers. The Anglican Church continued to be the primary religious body in the area and parishes were heavily involved in governing the area they served. After the formation of Loudoun County, the Anglican Church established a church along Goose Creek. The Quakers and German immigrants continued to develop their own religious institutions (Cooke 322-30; Dabney 91-99; Head 102-105, 110-123; Poland 34-39).

The roads during this period continued to be built and maintained by the local communities, with the vast majority of the roads in the project area in poor condition due to a low level of maintenance. The main roads through both Fairfax and Loudoun Counties were the Carolina Road and Braddock's Trail. Ferry crossings were established along the Potomac River between Loudoun County and Maryland, often serving as a faster and more direct means of transportation than the roadways, expanding the regional transportation system (Dabney 91-99; Harrison np; Head 69-71; Poland 29-35).

3.3 EARLY NATIONAL PERIOD (1789-1830)

The present-day boundaries of western Fairfax County and eastern Loudoun County were established in 1798, when the boundary was moved from Difficult Run to Sugarland Run, reducing the size of Loudoun County. Both counties entered a period of economic and demographic stability that was isolated from national events. The War of 1812 (1812-14) had little or no impact on the lives of many residents. Few local men participated in the conflict and trade was not severely disrupted. (Harrison np; Head 138-139; Loth 275; Poland 97).

The population of the project area continued to grow during this period, with the vast majority of area residents residing on farms. Large families were common, as most farmers in the area relied on family members as their primary labor source. Slave labor accounted for up to a quarter of Loudoun County's population, with slavery remaining a common labor practice in the eastern portions of the project area. Most slaveholders in the county had between one and five slaves, with only one person having more than fifty slaves at the time of the 1810 census (Deck and Heaton 61-62; Poland 64-71, 131-132).

Agriculture, especially grain production, was the principal money crop in the area during this period. Wheat and corn were the primary grains produced and were exported in either their raw state or milled to both foreign and domestic markets. The economic prosperity of the American farmer during this period was tied to Europe, to whom the country was in debt. The sale of crops to European nations provided the necessary funds for America to pay off its numerous debts. Farm technology during this period continued to be primitive for the most part, with a continued reliance on manual labor. The cast iron plow, mowers, rakes, reaper, header, binder, fanning mill, thresher, seeders, and drills, all of which utilized animal power, were all patented and used elsewhere in the country. Area farmers were reluctant to utilize many of these new inventions, due to their adherence to traditional farming practices (Danbom 73-74, 80-81, 85; Drache 77, 103-115; Head 138-139; Poland 64-71, 74-94).

Not all farmers in the area were averse to innovations in farming practices. New methods of increasing crop yields through the use of gypsum, deep plowing and other methods for combating soil exhaustion were developed in the project area, with the first practical treatise on the subject published by Asa Moore Janney and John Binns, Loudoun County farmers, and called the "Loudoun system." These innovations spread outside of the project area and impacted both American and international farming practices, though local use was not widespread. These methods also led to the formation of new industries developed to supply gypsum and plaster to farmers for their fields (Danbom 73-74, 80-81, 85; Drache 77, 103-115; Poland 64-71, 74-94).

Milling continued to dominate local industry. Mills were established along the area's numerous watercourses and used water power to mill grain and saw wood. Due to the development of new agricultural techniques, many mills began to grind gypsum for sale to local farmers for use in their fields. Lime kilns were also established during this period, which burned lime for agricultural use. These operations were small as gypsum appears to have been the preferred soil supplement (Poland 74-94).

Small communities continued to evolve and became the centers of the surrounding rural area and were situated a short distance apart along the main transportation routes. Most of these communities consisted of nothing more than a mercantile store which, in addition to selling necessary goods, also acted as the local post office, polling place, and meeting place. Some communities centered along transportation routes also had a church, mill, or ordinary located within their boundaries. The Anglican Church lost its role as a force in the local community after the American Revolution. The Baptist, Methodist, and Presbyterian churches supplanted the Anglican Church as the primary religious denominations and forces in the project area (Head 102-105, 110-123; Poland 66-71, 151-155).

The transportation network in the area experienced major changes at this time. Across Virginia, turnpike companies were formed to build and maintain toll roads through the area. The first and most successful company in Fairfax and Loudoun counties was the Little River Turnpike Company, organized in 1802 to create a road from Alexandria to the ford of the Little River, the location of the present-day town of Aldie. The Little River Turnpike, present-day US Route 50, was located just to the south of the project area and was the best maintained of the roadways. This road was so successful that other turnpike companies began to build their own routes which connected the Little River Turnpike to Warrenton and the Shenandoah Valley. Other major turnpikes constructed in Fairfax and Loudoun counties prior to the Civil War were the Fauquier and Alexandria Turnpike, the Columbia Turnpike, the Washington and Alexandria Turnpike, the Fairfax Turnpike, the Georgetown and Leesburg Turnpike, the Leesburg Turnpike, the Hillsborough and Harper's Ferry Turnpike, Leesburg and Snickers' Gap Turnpike, Snickers' Gap Turnpike, and the Ashby's Gap Turnpike. These roadways were generally better maintained than previous routes and often used existing roadbeds. Some routes, such as the Little River Turnpike, were covered with crushed gravel to make travel easier during poor weather. The turnpike system created better and more accessible roads to area markets, leading to an increase in the amount of both exports and imports in the area and increased communication with the region, nation, and the world (Crowl 94-122; Poland 114-122).

3.4 ANTEBELLUM PERIOD (1830-1861)

The Antebellum Period in the project area was, in many respects, a continuation of the previous period. In both counties, internal conflicts grew between residents over the issue of slavery and secession in the years leading up to the Civil War. The division lines were clearly drawn between the descendants of the English, Tidewater immigrants and the descendants of the early Quaker, German, and Scots-Irish settlers. (Head 145-148; Poland 167-181).

By the mid-nineteenth century, the project area became more densely populated, and small rural settlements, such as Arcola and Willard, were created. The population of the area as a whole, however, continued to remain largely rural with the majority of the population living on moderate-sized farms. The white and slave populations increased during this period, with the percentage of the slave population rising to approximately 50 percent of the total population. Conversely, the number of slaveholders decreased, and the majority of slaveholders continued to own between one and five slaves (Foster and Henderson 7; Deck and Heaton 64; Poland 64-71, 131-132).

Agriculture and industry did not have any major changes from the previous period. Wheat and corn continued to be the principal crops and farmers continued to rely on manual labor. Local industry continued to be focused on the milling of grains, gypsum, and lumber for both export and use by local farmers (Head 138-139; Poland 64-71, 74-94).

The area's small communities continued the growth pattern established during earlier periods. The Baptist, Methodist, and Presbyterian churches remained the primary denominations of the majority of the project area residents (Head 102-105, 110-123; Poland 66-71, 151-155).

The area's transportation network continued to evolve. The first change was the development of the canal system. The first company to develop canals in the area was the Patowmack Company which was established in 1803. This company constructed several canals in Virginia and Maryland in the area around Falls Church. After the completion of the Chesapeake & Ohio (C & O) Canal in 1830, two canals were constructed in Virginia to link with the C & O Canal in order to provide easier access for agricultural products to markets in Alexandria and Baltimore. In Fairfax County, the Alexandria Canal was completed by 1843. This canal linked the southern terminus of the C & O Canal in Georgetown to Alexandria via an aqueduct and then took goods via canal to the wharves seven miles away. In Loudoun County, the Goose Creek and Little River Navigation Company was established in 1831 to link Goose Creek to the C & O Canal across the river. Construction was delayed until 1849 and only a portion of the proposed route was completed. The company went bankrupt around the same time that canal technology was becoming obsolete nationally due to the development of the railroads (Head 69-71; Netherton, et al. 203-209; Poland 122-124).

Railroads first began to impact the project area in the 1830s following the construction of the Baltimore & Ohio (B & O) Railroad to Baltimore in 1832 and Harper's Ferry in 1834. Construction of the railway led to the emergence of Baltimore as a primary market for local goods. The construction of this rail line led to the decline of the turnpike system as wagonloads of goods were no longer traveling to Alexandria. The Alexandria, Loudoun, & Hampshire Railroad was constructed in order to regain this valuable trade for Alexandria merchants. Train service began between Leesburg and Alexandria in 1860. A second railroad company, the

Manassas Gap Railroad, planned to construct a branch line to Loudoun County through Aldie and Carter's Gap to Harper's Ferry. The rail bed was cut between southern Loudoun County and Purcellville, but the line was never constructed due to financial problems, construction priorities on the main line, and the start of the Civil War (Head 71; Poland 122-124).

3.5 CIVIL WAR (1861-1865)

During the Civil War, the region's close proximity to Washington, D.C. and the large federal army massing there made Northern Virginia a prime battleground (VDHR Survey Guidelines 36). Although many important military events related to the Civil War were set in Northern Virginia, an examination of existing historic records and established contexts did not locate any specific or known actions within or proximate to the project area.

Minor skirmishes are known to have occurred throughout Loudoun and Fairfax Counties from April 1861 until the surrender of the Army of Northern Virginia in 1865. Many of these were related to the troop movements of the Confederate and Union armies as they moved through the area, especially the cavalry, which occupied Loudoun County continuously during this period (Head 158-164; Poland 191-202).

As control of portions of both counties shifted back and forth between the two armies, residents faced arrest, conscription, seizure of property, and restricted rights. The residents were governed by whichever army was in control of the area, with decisions made based on support for or against the different political ideologies. Construction activities were severely limited during this period due to a scarcity of supplies, labor, and funding (Head 145-180; Poland 183-220).

By the end of the period, both the Confederate and Union armies had occupied the project area. During their marches, both sides confiscated foodstuffs, grain, horses and other livestock for residents. Both armies had also burned fields and forage to prevent them from falling into enemy hands. By the end of the period, the residents of rural Loudoun and Fairfax counties had little in the way of food or livestock and their economic future was uncertain (Head 145-180; Poland 183-220).

The area's population continued to remain rural with the majority of the people living on moderate-sized farms. Both the white and slave population experienced a decline during this period, as residents left due to the War. The white male population saw the greatest decline as many men either volunteered or were conscripted for service in either the Confederate or Union armies. The slave population does not appear to have experienced much change as many slaveholders continued to use slave labor until the Emancipation Proclamation took effect in January 1863. After this date, it appears that many former slaves remained on Loudoun County farms until the end of the war (Deck and Heaton 61-62; Head 149-151, 174-175, 177-179; Poland 64-71, 131-132).

Agricultural production was severely limited due to the destruction of crops by both armies. Loudoun County did continue to produce wheat and corn which was used to feed both armies. Some flour and grain did go to market, primarily in Maryland, early in the war, but military restrictions on travel and difficulty obtaining passes made transporting agricultural goods increasingly difficult, and then impossible, as the war progressed (Head 145-180; Poland 214-220).

Industry was severely impacted during the war. Business was limited by the travel restrictions and the lack of crops, a labor force, and the finances required to keep area industries solvent. Some business owners had their property confiscated by the Confederate and Union armies, destroying their livelihood. As part of the systematic destruction of resources by the Union army in 1864, many industries were decimated by the Civil War (Head 145-180; Poland 183-220).

The Civil War also affected the area's small towns. Stores experienced shortages and postal service was disrupted from the outset. The various congregations experienced difficulties in maintaining religious services through the war. Many area churches were used by the Confederate and Union armies as hospitals and barracks, especially after the Battle of Manassas (Head 145-180; Poland 183-220).

Virtually no improvements were made to the transportation network during this period. Construction had been halted on the Loudoun branch line of the Manassas Gap Railroad at the beginning of the war. Civilian travel was made difficult due to military restrictions. Ferry service to Maryland was restricted by the Union Army and both armies limited the number of passes issued for commercial traffic on area roadways (Head 145-180; Poland 214-220).

3.6 RECONSTRUCTION AND GROWTH (1865-1917)

During this period, area residents sought to reestablish themselves and their communities in a changing world. From 1865 to 1870, Virginia was governed by the Federal government, with troops occupying towns across the state, including Leesburg. Loudoun and Fairfax Counties both held elections in 1865 to reestablish the local government, but due to military regulations, the pre-war office holders were not eligible to run for reelection. After 1870, many of the pre-war office holders were reelected and continued to serve (Head 181-182; Poland 221-222; 255-278; Williams 222-225).

During Reconstruction, area residents were heavily taxed, further draining the area of funds. The local economy was slow to recover due to the loss of businesses and incomes. The residents who experienced the heaviest losses were the ones whose primary labor source, crops, and landholdings had vanished during the war. A few individuals were forced to sell off their land in order to remain solvent. Threats were made by the Federal government to confiscate the property of men who had supported the southern cause and had not signed an Oath of Allegiance to the United States. Thousands of acres were confiscated by the Freedman's Bureau to be given to former slaves, but the orders were never enforced, and the land was restored to its original owners by the end of 1865. After the removal of the Reconstruction government in 1870, both counties and the state entered into a period of relatively stable growth (Head 180-182; Poland 221-222; 227-230; Squires 347, 352; Williams 225.).

The population of the project area, both white and African-American, declined throughout this period as people left for cities and new lands in the west. The population that remained was predominantly rural and living in poverty until the 1880s. Few property owners could afford to improve their homes for the first part of the period, as their funds went into rebuilding their farms and businesses. The project area did experience a small period of immigration directly after the war when Northerners settled predominantly along the rail lines. These families came to the area due to the quality of the farmland, and were, for the most part, welcomed into the County. Tenant labor, often made up of former slaves, was used on some of the larger farms in

the County. The tenant labor force made up to a quarter of the area's population during this period (Deck and Heaton 64, 82-86; Foster and Henderson 4, 7; Head 180-183; Poland 256; Squires 348-350).

Much of the destruction that occurred during the Civil War took place on the area's farms. Outbuildings, crops, and livestock had all been ravaged, and local farmers had to replace their buildings and herds. Initially, farmers struggled as there was little money to invest in labor, stock, seed, tools, and fertilizer. The amount of cultivated land decreased as farmers allowed land to return to brush and scrub and grew fewer crops. By 1880, the project area had been reestablished as one of the primary agricultural regions in Virginia. Grains continued to dominate the agricultural landscape with corn surpassing wheat as the primary crop. Toward the end of the period fruit, especially apples became a cash crop. Livestock also became a growing part of the agricultural industry in the late nineteenth century. Horses, sheep, pigs, and cattle were all raised for profit (Deck and Heaton 82-95; Head 81-102; Poland 280-293).

During the late nineteenth and early twentieth centuries, the project area underwent a major transformation, when dairy farming became more popular. The railroad line from Loudoun County to Washington D.C., chartered in 1870, opened the large D.C. market for dairy products from Loudoun and Fairfax Counties. Most dairy farms were located along the rail lines to allow for easier transport of milk and related products to market. The first dairies appeared in the 1870s, and by the mid-1880s was an established part of the area's agricultural economy. The primary market for the area's milk, cream, and butter was Washington, D.C. and goods were transported to this market via the railroad. By the end of the period, the area's dairy industry included not only dairy farms, but also farmer's cooperatives, breeder's cooperatives, and creameries. Over time, the most predominant export from Loudoun and Fairfax Counties to the D.C. area was butter (Deck and Heaton 88-89; Donnely-Shay and Shay 73-74; Head 95-96; Poland 294).

Other industries in the area were also related to agriculture. Much of the industrial base, including grain and lumber mills, had been destroyed during the Civil War, and it was not until the 1880s that replacement operations began. The few mills that were left quickly reestablished themselves, grinding the wheat and corn that were produced and supplying lumber from their saw mill operations. More mills were later established, with many of them also dealing in fertilizers, seed, feed, and farm machinery. The use of gypsum on fields had fallen out of favor with local farmers and was replaced with lime. Two local lime companies were formed, the Leesburg Lime Company and the Goose Creek Lime Company. Both establishments quarried their own lime and pulverized it for use by area farmers (Deck and Heaton 46-50; Head 87-91; Poland 230-31, 279-80).

The area's rural communities also had to reestablish themselves after the war. Many businesses had closed early during the conflict, and with the end of the war had to rebuild in a poor economy, often relying on the barter system. The return of rail service and the increasing popularity of Northern Virginia as a summer retreat from Washington, D.C. led to the development of new communities along the rail lines. Many of the first residents of these communities were settlers from the North. Communities saw improvements in living conditions during this period. Communication lines were quickly reestablished after the war with the repair of telegraph lines and the postal service returning to near pre-war conditions by December 1865 (Deck and Heaton 48; Foster and Henderson 4-6; Head 110-123; Poland 236, 246-253, 285).

The area's transportation network returned to pre-war conditions. Service on the Alexandria, Loudoun, & Hampshire Railroad began after the completion of repairs to the route in the spring of 1865. The line continued to expand its service with extensions completed to Hamilton in 1871, Round Hill in 1874, and Bluemont in 1900. The increased rail service allowed for goods to again be transported to Alexandria, Washington, D.C., and Maryland. The lines also made passenger transportation to Loudoun County easier, leading to communities such as Hamilton, Purcellville, Round Hill, and Bluemont in Loudoun County becoming summer destinations for Washington, D.C. residents. Boats continued to be used to transport goods and people in the county and region. The turnpikes declined as the railroads made transportation cheaper and faster than wagons and stagecoaches. The major area roadways did see continual improvements, including macadamizing towards the end of the period (Foster and Henderson 3; Poland 236-38, 285, 294).

3.7 WORLD WAR I TO WORLD WAR II (1917-1945)

This was the last period in the area's history when agriculture dominated both the landscape and the economy of the project area. In addition to agriculture, the area was also heavily involved in the war efforts during both World War I (1917-1918) and World War II (1941-1945). During World War I, every man in Fairfax and Loudoun counties between the ages of eighteen and forty-five was registered for the draft. Local residents raised funds, purchased bonds, and bought greater amounts of local products that didn't need be transported as a ways of showing their patriotism. They repeated these actions during World War II, as large numbers of men volunteered for military service and local residents shared their support on the home front (Poland 307-316, 335-339; Williams 229-230).

The area's population, both white and African-American, declined throughout the period as residents, especially young men and women, migrated to urban areas, taking advantage of secondary education programs, vocational training, and job opportunities that would eventually keep them from returning to the area. The population that remained was predominantly rural and had low to moderate incomes due to the effects of the agricultural depression followed by the Great Depression. Few property owners could afford to build new homes as their profits went back into their farms and businesses, though they did seek to improve them. Most farmers continued to rely on their families as their primary labor source, especially as they were unable to pay for hired labor. Loudoun County did experience an influx of wealthy individuals from Washington, D.C. who purchased and developed estates in the eastern portion of the County. This new group of residents created a local aristocracy that used their land as a retreat instead of as an income source (Deck and Heaton 61-71, 104-30; Donnely-Shay and Shay 53-54; Head 180-182; Poland 323-25, 331-34; Williams 227).

The increasing mechanization of area farms helped to alleviate the decline of the rural population and the labor shortages of World War I and World War II. In 1918 and 1942, draft deferments were issued by the federal government for farmers and farm laborers of essential crops, including corn, wheat, and dairy. This development meant that the project area had fewer men drafted than other areas during the wars, but did not alleviate the continued labor shortage, and local farmers had to rely on new labor sources. Many farmers relied heavily on their family members and neighbors to help alleviate the labor shortages and the federal government assisted by providing

German Prisoners of War from a camp near Leesburg to help raise and harvest crops during World War II (Danbom 229-232; Drache 265-268; Poland 336).

Farms began to be consolidated into larger tracts and the small farmer was forced out. The more diversified farms were better able to survive the period, as they were inhabited by farmers who were able to be self-sufficient and survive the economic downturn. Corn continued to be the principle cash crop of the project area, closely followed by wheat. The fruit and dairy industries continued to expand and be profitable. Early on in the period, some farmers turned to specialization, raising beef cattle and poultry for sale to the Washington, D.C. market. Neither of these industries was highly profitable, though they continued to be found in the area though the entire period (Deck and Heaton 82-95; Donnely-Shay and Shay 53-54; Head 180-182; Poland 308, 317-25; Williams 228-29).

Beginning in the summer of 1920, commodity prices took a sharp downturn and farmers saw a dramatic effect on their income. The post-war recession was due to a return to the normal levels of supply and demand, changes in domestic consumption patterns, and the fact that America was now a creditor nation as opposed to a debtor nation needing to sell its goods to foreign markets. Prices for agricultural products stabilized in 1921 and remained static until the stock market crash in October 1929 and the beginning of the Great Depression. The Great Depression led to a continued reduction in domestic demand and exports for agricultural goods, this in turn led to a reduction in crop values (Danbom 185-88, 197-99; Poland 307-40; United States Agricultural Adjustment Administration np).

The hardest hit by the recession were those who had borrowed heavily to finance expansion, those farmers who had resisted mechanization, and those who grew basic commodities, such as wheat and corn, and could not compete with overseas price competition, especially from Britain and France. Area farmers were especially affected by the recession due to the fact that grains had long been the primary crop and local farmers had continued to rely on manual labor since the Settlement to Society Period (1607-1750). Farmers were unable to pay off their debts beginning in the mid 1920s and a large number of properties were foreclosed and sold at auction. Those that survived this economic downturn did so due to a combination of factors, including the diversification of their crops which allowed a farmer to maintain his family and weather the drop in crop prices, a willingness to try new methods and crops, and federal, state, and local efforts to improve the economic conditions for farmers (Danbom 185-88; Drache 264; Poland 327; Poland 327; United States Agricultural Adjustment Administration np).

Technological advances during the 1920s and 1930s added to the problems of the production of surplus agricultural products. Tractors were improved and became more efficient and affordable. Hybrid varieties of corn were developed that allowed for greater yields on less land. Fairfax and Loudoun county farms also received plumbing and electricity for the first time through federal government programs such as the Rural Electrification Administration, beginning in the spring of 1935. These changes to the domestic life allowed farm families to spend less time on domestic tasks and further increased their productivity (Danbom 186; Drache 265-67, 314-19, 328-35, 339-41; Poland 334).

As farmers began to obtain higher yields from their lands, less land was needed for crops, especially in light of over-production and the establishment of acreage limitation programs. This paradox of potential versus reality was encouraged by government programs that promoted a reduction in waste and increased productivity at the same time that prices remained low and the

government was telling farmers not to plant as much. In addition, the national surplus of every agricultural product grown in the project area throughout this period made the business environment increasingly challenging for local farmers.

During World War II, the acreage limitation programs implemented in the 1930s to stabilize agricultural prices were suspended by the federal government and the increased production provided a surplus for export to American allies. Production increased most dramatically on the larger farms that had mechanized during the prior periods. Agriculture across the United States experienced a period of prosperity as crops were in high demand both domestically and abroad. This in turn led to higher prices and higher land values. Most farmers remembered the lessons of the previous periods, and used their surplus income to pay off their mortgages, improve their properties, and invest in new farming technologies (Danbom 231-32; Drache 265-66; Poland 335-38).

Farm technology experienced a revolution in the area during World War II. The federal government encouraged the use of tractors and other equipment that would permit larger yields per acre and their programs benefited the mechanized farmer. Tractors, ride-on plows, combines, and threshing machines all became common sights on farms in the County. New milking machines were also made available, allowing for greater milk production with fewer laborers (Drache 265-67; Poland 335-38).

Industry in the project area continued to be limited during this period to agricultural-related industries such as grain, milling, and lime companies. There was a lack of new businesses during this period, though existing businesses did expand their operations (Deck and Heaton 46-50; Poland 323).

The area's transportation network continued to focus on the railroad and the automobile. The Alexandria, Loudoun, and Hampshire Railroad and the Washington and Old Dominion Railroad continued to be the primary method for transporting farm goods to the Alexandria, Washington, D.C., and Maryland markets. The various roadways in the project area continued to be improved as more area residents purchased automobiles. The use of trucks to transport products to markets also led to continued improvements of the local roadways, though only the major roads were macadamized. By the mid-1920s, federal dollars had helped provide Virginia with a network of primary, hard-surfaced two-lane highways, including present-day U.S. Route 50 which is located directly to the south of the project area (Liebs 18; Poland 285, 294, 308).

3.8 THE NEW DOMINION (1945-PRESENT)

Through World War II, agriculture remained an important mainstay of the local economy. Following the war, however, Fairfax County and eastern Loudoun County became the focus of increasing development pressure as suburban development extended westward from Washington, D.C. and Arlington. Both counties have moved away from their agricultural past and have experienced rapid growth in the last 30 years as a suburb of Washington, D.C. With the federal government's purchase of farmland in eastern Loudoun County and western Fairfax County for the development of Dulles International Airport in 1958, suburban and light industrial development in the area began to occur in and around the project area. Farms around the project area were purchased by developers and open spaces were transformed into suburban centers.

The population of the project area has grown continuously since 1945 with rapid growth beginning in the 1960s. The project area's rural population has significantly declined. The average resident of the area lives in a planned community with a higher than average income. They are better educated than earlier residents of the Fairfax and Loudoun counties and typically work outside of the area. African-Americans account for approximately seven percent of the local population. Today, less than three percent of the population farms for profit, though some older residents farm for personal use. Most residents work in the business, government, and industry sectors (Loudoun County Department of Economic Development np; Poland 362-80).

Corn, wheat, and fruit crops continued to be grown in Fairfax and Loudoun counties until the arrival of the suburban developments. Both the dairy and poultry industries began to decline in the 1950s as other areas in Virginia were able to produce these goods with a better profit than was possible in the project area. Farms during this period moved away from crop diversification as agribusiness and specialization rose. Farmers put all of their efforts into growing a single profitable or niche market crop and became increasingly reliant on agricultural products and goods produced outside of the area (Poland 354-65).

Industry became the primary economic force in the project area in the 1940s and 1950s. Men returning from World War II sought out opportunities in business and industry, looking to take advantage of the opportunities presented to them by the G.I. Bill and their military training. The industrialization of the area was actively promoted by local leaders of the period in response to the attitudes of the returning servicemen. While no factories were built in the project area, residents turned to light industrial occupations such as mechanics, businessmen, and construction workers. Today, technology and aircraft-related industries are the primary employers in the project area. These businesses are located primarily in the numerous small-scale industrial parks around Dulles (Donnely-Shay and Shay 73-122; Loudoun County Department of Economic Development np; Loudoun County Postwar Employment Committee 3-8).

Lying within the greater Washington, D.C. metropolitan area, the project area increasingly began to experience the effects of suburbanization. Early suburbanization in Northern Virginia was far more concentrated in eastern Fairfax County and did not fully develop in the project area until the 1960s. Loudoun County retained its agricultural focus in the early twentieth century, and did not fully develop suburbanized areas until the late 1960s. As farms declined in value, or were unable to compete with rising residential suburban land values, large tracts of farmland were divided up into smaller parcels and sold to developers and residents. Early suburbanization was marked by the construction of subdivisions, which are a collection of planned residential property types laid out in a deliberate pattern. Newer suburbs were built faster, and with less of a variety of housing styles. While later subdivisions featured more distinctive street patterns, earlier subdivisions featured a greater variety of housing property types. In Fairfax and Loudoun counties, subdivisions were originally modest in scale, containing less than 100 homes, and marketed to a middle-class consumer. Today, subdivisions in both counties range in size from small, less than 30 homes, to large, over 100 homes, and are designed for a broad range of consumers.

The area's rural communities continued their decline and disappearance, with many crossroads communities and rural stores completely disappearing from maps by the 1970s, especially in the eastern portion of Loudoun County. The functions of these communities were replaced by the development of suburban shopping centers and planned communities along the major county

roadways. Residents traveled away from home and outside of the community to shop, socialize, and worship (Donnely-Shay and Shay 73-122; Poland 341-54; Virginia Department of Education np).

The changes to the area's transportation network had the most impact on the Fairfax and Loudoun counties. With the rise of suburban development, an emphasis was placed by federal, state, and local leaders on developing the road systems. This led to the expansion of the existing major arteries such as US Route 15, US Route 50, and Virginia State Route 7, and the development of new routes, including the Dulles Toll Road and the Dulles Greenway. New roads were built and old roads were improved for residents of the new planned communities. The emphasis on the use of the automobile for transportation of both people and goods led to the decline and eventual termination of service on the Alexandria, Loudoun, and Hampshire Railroad and the Washington and Old Dominion Railroad during the 1950s (Poland 342-44).

In 1962, the Chantilly Airport, now known as the Washington Dulles International Airport, was opened in the project area and was located near the community of Arcola. This airport was built to provide a second airport for the Washington D.C. metropolitan area and was the first airport in the United States to be designed for use by commercial jet airplanes. The airport was built on farmland straddling the border of Fairfax and Loudoun counties. Dulles had the greatest impact on the landscape of Loudoun County as the majority of the airport is located within this county and the airport originally took over 5,000 acres of Loudoun dairy lands and led to the destruction of the community of Willard (Loudoun County Postwar Employment Committee 6; Metropolitan Washington Airports Authority, *History of Washington Dulles International Airport* Website; Poland 365).

The planning and construction of Dulles International Airport led to not only the relocation of residents and agricultural operations within the airport's large boundaries, but also resulted in considerable economic and industrial growth. The construction of Dulles led to a substantial shift in land use from traditional agricultural purposes to airport-related commercial development. The location of the latter operations near Dulles attracted additional suburban residential development in western Fairfax County and southern Loudoun County. Whereas previous transportation developments in Northern Virginia developed in response to economic development, the construction of Dulles brought increased development into a previously rural area (Poland 365-366).

3.9 COMMUNITY HISTORIES

3.9.1 Arcola

The rural settlement of Arcola, generally located to the west and northwest of Dulles, was originally known as Gum Spring and was named for a local water source. A plot of land (1,746 acres) in eastern Loudoun County near Gum Spring was granted in 1740 to the Rev. Doctor Charles Green for use as farmland. The area was known as a Cameron Parish "glebe," referring to an English tradition in which each colonial Anglican parish granted land and housing for its parson. Dr. Green served as the Cameron Parish parson from 1731 to 1761, and also served as George and Martha Washington's physician. In 1761, a portion of the Greens' farm was sold to local politician William Ellzey, and the eastern 600 acres remained for the next parson. In 1802,

the Virginia General Assembly divested the church of its lands, and transferred these to the county. The county sold the land in 1805 to Francis Peyton. In the early nineteenth century Gum Spring was home to a "Free Church," open to all Christian denominations. From 1801 to 1809, a Springfield post office was located near the town center. In 1835, geographer Yardley Taylor described the community, noting that "Arcola is Gum Spring, a small village containing eight dwelling houses, two mercantile stores, one tanyard, one blacksmith shop and a distillery. Population is 20. This section of country is thickly settled though the land is generally poor." (Scheel 6) The next post office was located closer to the Little River Turnpike (now U.S. 50), which was an emerging transportation route by the post office's dates of operation (as the Arcola Post Office from 1832 to 1868).

The Manassas Gap Railroad bed was also constructed through Arcola, and the bed is still visible, located about 1,000 feet north of the town center. "Tracks were actually laid to this point . . . but were dismantled by Confederate soldiers when they abandoned their perimeter around Washington in the fall of 1861" (Scheel 7).

Nearly forty percent of Arcola's population in the 1850s consisted of enslaved African Americans. In 1861, the voting population of the Gum Spring voting precinct voted 135 to 5 in favor of secession from the Union. In 1868, the post office moved into the center of Arcola, where several general merchandise and milling operations operated through the early twentieth century. Arcola's population in 1876 was recorded at 30, and a 1911 business directory cited a 90 person population. Arcola was also known for the Arcola Racefield, a three-quarter-mile oval horse racing facility located to the south of the town center, which was operated until 1910. In 1939, the only school in Loudoun County built with funds from the Public Works Administration was constructed here.

An additional twentieth century development in Arcola was the construction and operation of Glascock Field in 1941 through 1945. Glascock Field, and the Blue Ridge Airport near Willard, served as early aviation facilities in eastern Loudoun County. While the historic village of Arcola is not located within the project area, the outskirts of the community border the northwest area surrounding Dulles (Scheel 8-11).

3.9.2 Willard

The rural settlement of Willard is now contained almost entirely within the Dulles boundary. The crossroads center of Willard, consisting of nine dwellings, was situated at what is now the southern end of the present north-south Dulles runway 1L/19R. Willard was named for Joseph Willard, a local politician. A local post office for the crossroads village was established in 1900 and operated until 1907. A 700-acre farm, belonging to Phillip Coleman, surrounded the crossroads in the early twentieth century. Other large farms in the area around Willard included one belonging to Tom Underwood (who owned one of the area's two threshing machines), a dairy farm belonging to Eugene Beard, and eight large dairy farms (Scheel 100-102).

South of the crossroads were a number of smaller farms belonging to former African American slaves and their descendants. Loudoun County historian and cartographer Eugene Scheel writes: "On their few acres these men farmed at a subsistence level: a patch of corn, a large vegetable garden, some chickens and hogs, a cow, a heifer, perhaps a steer. They also worked as hands for the Colemans, Middletons and Creightons" (Scheel 102).

3.10 VDHR THEMES

3.10.1 Agriculture/ Subsistence

The economy of eastern Loudoun County and western Fairfax County during the late eighteenth and early nineteenth centuries was closely tied to both agriculture and the milling of grain products. Lord Fairfax platted "patent farms" throughout the area, which included a Patent House, the primary residential structure, and an orchard, often consisting of at least at least 100 apple trees and 50 peach trees, all enclosed within a fence. Early farms often contain a general purpose barn and possibly a few sheds for the storing of grain. Tobacco became the area's dominant agricultural crop by the early nineteenth century and led to the introduction of new building types, including the tobacco barn on local farms. As grains became the primary crops in the project area during the nineteenth century, farms in the project area began to include barns, granaries, seed houses, and corn cribs. With the advent of dairy farms in the project area in the twentieth century, local farmers constructed dairy barns, milk houses, and silos on their properties to accommodate their livestock and milk production.

Surveyed agriculture/ subsistence properties in this project were evaluated for eligibility of listing in the National Register using the National Register Criteria for Eligibility which includes seven aspects of integrity. In order for a farm to be eligible for the National Register under Criteria C only, it should retain its primary residential building, the majority of its agricultural outbuildings, and demonstrate a clearly defined relationship between the residential and agricultural areas. Intact landscape features, such as driveways, treelines, fencelines, and fields should also be present. The property should retain sufficient architectural information regarding its role in local and/or regional agricultural history and development and maintain its integrity of location, design, setting, materials, workmanship, feeling, and association.

3.10.2 Domestic

Domestic architecture within the project APE ranges in date from the Early National Period (1789-1830) to The New Dominion (1945- Present), with most domestic properties constructed during the twentieth century. Properties within the project area are generally vernacular in design, displaying the influence of national design trends, but are not pure examples of a style. Examples of a Bungalow-style house should be a one or one-and-a-half-stories with a wide front porch, low-pitched roof, and overhanging eaves featuring brackets or decorative rafter tips. Examples of a Minimal Traditional- style house should be one to two-stories with a large masonry chimney, a lack of architectural detailing, and a low-pitch gable roof.

Surveyed domestic properties in this project were evaluated for eligibility of listing in the National Register using the National Register Criteria for Eligibility which includes seven aspects of integrity. In order for a residence to be eligible for the National Register under Criteria C only, it should be intact and retain the key character-defining features specific to a house type or architectural style. Properties that have been moved are not ordinarily eligible for the National Register.

3.10.3 Education

Under the theme of education, VDHR includes all resources dedicated to the acquisition and conveyance of knowledge and/or skills through systematic instruction, training, or study. This includes not only schools, but research facilities, including laboratories. While it is not widely known, scientific research under the auspices of the Federal government has occurred at a dedicated facility located within the project area.

Research into short-wave radio technology and its limits began in the 1920s, following the first transatlantic radio transmission by Enrico Marconi. Short-wave radio functions by reflecting signals across determine frequencies, through the ionosphere. Short-wave radio was initially an unreliable medium as the ionosphere shifts frequently and is dependant upon a variety of environmental conditions, including geomagnetism and distance from the sun. Frequent, but unpredictable, storms in the earth's distant ionosphere often made short-wave communication impossible. Research, conducted through the Bureau of Standards in the 1930s, developed a broad, though theoretical, hypothesis as to the predicative behavior of the ionosphere. However, the Bureau of Standards lacked an effective location for conducting additional testing and research. While researchers tracked historical weather data regarding the ionosphere's behavior, and were able to develop broad seasonal assumptions, short-wave would only become a truly effective communication tool with the advent of World War II. Allied military forces quickly realized the necessity of ensuring that short-wave radio became a reliable communications tool (Wedge, personal communication).

The Interservice Radio Propagation Program gathered data by using an "ionosound" technique that broadcast vertical radio signals upwards into the ionosphere. Scientists and technicians then used the measured timing of the radio signal's contact to estimate the height of reflection, and to establish the parameters of ionospheric activities above the site. The testing program established a series of testing laboratories around the earth. This allowed data to be gathered from multiple research sites, and interpolated to form a far more accurate understanding of ionospheric behavior than had previously existed. Through the development of accurate ionosphere forecasts, short-wave radio became a far more reliable tool and allowed the military to establish and maintain a reliable communications tool around the world (Wedge, personal communication).

As part of this military research program, the Federal government selected a site for the construction of a dedicated Interservice Radio Propagation Laboratory near the community of Sterling in Loudoun County in 1943. Because of its relatively close proximity to Washington, D.C., the Sterling site was intended to be the primary laboratory facility for the program. Of multiple data sites established around the world, the Interservice Radio Propagation Laboratory was the only site where the program scientists, who were developing predictive ionospheric forecasts, interacted on-site with the data collection process (Wedge, personal communication).

After the conclusion of World War II, the global implications of the ionospheric radio testing program were more fully understood. The work of the National Bureau of Standards at the Interservice Radio Propagation Laboratory in manipulating ionospheric research data was directly used by the United States government in the late 1940s to shape an international effort to allocate short-wave radio frequencies, a process that favored American strategic military objectives and was important in establishing discreet networks for the transmission of coded information. After the Interservice Radio Propagation Laboratory was closed in 1954, the

property was transferred to the National Weather Service and is presently used as a weather research facility (Wedge, personal communication).

Surveyed education properties in this project were evaluated for eligibility of listing in the National Register using the National Register Criteria for Eligibility which includes seven aspects of integrity. When evaluating scientific facilities, special issues arise in assessing a facility's eligibility for listing in the National Register. The Advisory Council on Historic Preservation (ACHP) stated in its 1991 report entitled *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities* that the issue of integrity is a key factor in making a determination of National Register eligibility. A scientific resource should display a sufficient level of retention of historic material and equipment to convey the facility's significance, i.e. an observatory must have its historic telescope still installed or a wind tunnel should be unaltered from its period of significance. While alteration of equipment of accommodate new uses and technologies is expected, the removal of scientific equipment associated with the facility's contribution(s) to science should be seen as diminishing the facility's integrity.

3.10.4 Transportation

Transportation has had an important role throughout the history of the project area. Improvements to transportation systems such as roads, canals, and railroads during the early and mid nineteenth century brought about substantial geographic change, as increased traffic led to population and economic growth. Similarly, developments in transportation systems during the twentieth century including automobile highways and Dulles have likewise stimulated the growth of the area's economy and population.

Railroads

Railroads served as a significant development in Northern Virginia's agricultural and industrial growth. The development of railroad systems in Fairfax and Loudoun counties was a calculated undertaking established with the goal of economic development for Alexandria. With the decline of the railroads in the 1950s, the rail lines were abandoned and left to deteriorate. The track and ties were often removed and the rail bed may have been cut or demolished to accommodate road improvements. Rail beds are linear and feature an elevated earthen mound, often flanked by trees. Railroads may also feature other associated structures such as culverts and/or trestles.

Surveyed railroad properties in this project were evaluated for eligibility of listing in the National Register using the National Register Criteria for Eligibility which includes seven aspects of integrity. In order for an abandoned railroad track to be eligible for the National Register under Criteria C only, all the structural components of the rail line, consisting of a rail bed, track, and ties, must be intact. A long, continuous segment has a higher level of integrity than several small segments. Culverts and trestles should be considered contributing features of the rail line.

Airports

The emergence of air transportation during the early and mid-twentieth century has had a tremendous impact upon the project area. The search for a location for the construction of a second metropolitan-area airport for Washington, D.C. began with a 1938 press release issued by the Civil Aeronautics Authority (CAA), announcing the construction of Washington National Airport (National). The CAA announced that an additional airport would need to be located

away from the Potomac River basin due to frequent fog conditions. As air travel at National rapidly increased, Congress formally requested the construction of an additional airport in 1950.

Site considerations for the second airport included available space, topography and soil conditions, proximity to Washington, D.C., land cost, and impact on current residents. After initially considering a 1,000 acre site in Burke, Virginia, the present site near Chantilly was considered and selected by President Eisenhower in 1958, following the recommendations put forth by the consulting firm of Greiner-Mattern. The new airport was situated on 10,940 acres, a site that was larger than originally needed to allow for future expansion. It was also hoped that by creating a buffer zone airport activities and noise would have a reduced impact on nearby communities and commercial developments.

Civil Action 1638-M, which condemned civilian property on approximately 8,000 acres of land, was passed by Congress and letters of condemnation were mailed in 1958. The condemnation displaced farming in the area when five hundred residents on 5,000 acres in Loudoun County and 3,000 acres in Fairfax County were dislocated. Landowners initially formed a cooperative association to oppose the condemnation, but eventually pursued separate paths in fighting the letters of condemnation (Scheel 106; Poland 365-366).

Construction took place from 1958 to 1962. The Master Plan for the new airport, originally to be named Chantilly International Airport and renamed Dulles International Airport in 1962, led to the wholesale demolition or sale and removal of the community of Willard. Dulles has continued to grow and expand since 1962, with expansions occurring in 1977, 1982, 1996, 1998, and 1999.

The Dulles Airport Historic District (053-0008), the only airport located within the project APE, was determined eligible for listing in the National Register by VDHR in 1979. The property was found eligible for listing under Criterion C as an outstanding work of architecture by a master, Eero Saarinen. In 1989, MWAA determined that the district was also eligible under Criterion A for its association with the development of air transportation in the United States as the first airport in the United States to be designed specifically for commercial jet aircraft.

Ten historic resources are located within either the established Direct Area of Potential Effects or the Noise Area of Potential Effects. For each property, an architectural description and National Register eligibility discussion is provided in this section. A map showing the location of each historic resource within the project APE is located on page 4-2.

4.1 029-0037 (SULLY PLANTATION)

Address: 3601 Sully Road, Chantilly, Fairfax County

UTM: Beginning at starting UTM point 18 289243E 4309770N, moving southeast to UTM point 18 289319E 4309750N, then south to UTM point 18 289339E 4309629N, then southeast to UTM point 18 289557E 4309431N, then southeast to UTM point 18 289648E 4309202N, then west to UTM point 18 289303E 4309207N, then south to UTM point 18 289298E 4309004N, then west to UTM point 18 288927E 4309004N, and then northeast along State Route 28 back to the starting point.

Construction Date: 1794

Architectural Style: Early Republic

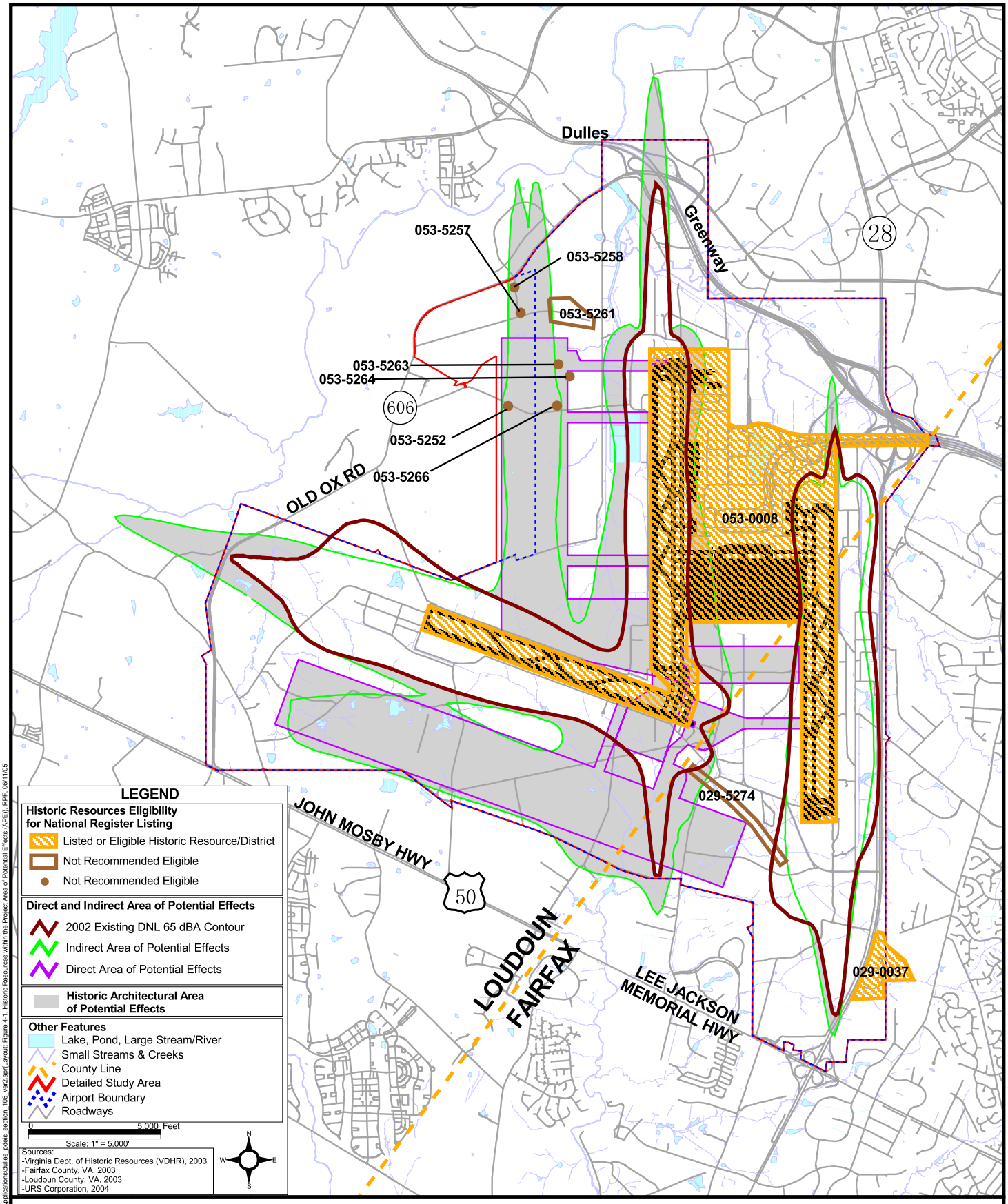
Plan Type: Side Passage, Double Pile

Area within Direct APE: 0 percent

Area within Noise APE: 0 percent

Setting:

Sully Plantation is located along State Route 28, to the north of the State Route 28 and US Route 50 interchange, and to the south of Smithsonian Drive. The resource is accessed via Sully Road. The surrounding area is a mixture of residential, commercial, and light industrial uses. The property contains 39 acres of cleared land surrounded by dense vegetation with an earth berm



H:\gis on mi370\ Dulles_EIS\12001757\Applications\dulles_jpdeis_section_106_ver2.apr\Layout: Figure 4-1, Historic Resources within the Project Area of Potential Effects (APE)\ RPF: 06/11/05

FEDERAL AVIATION ADMINISTRATION

Dulles Airport New Runways
Environmental Impact Statement

HISTORIC RESOURCES WITHIN THE PROJECT AREA OF POTENTIAL EFFECTS (APE)

FIGURE 4-1

Date: 06/11/05

located along State Route 28, which screens the resource from the roadway.

Description:

The Sully Plantation property contains a 1794 residence, a circa 1745 log kitchen, a 1794 smoke house, a circa 1801 dairy, a circa 1800 schoolhouse, a 1794 office, and a replica slave quarter. The property is maintained by the Fairfax County Park Authority which runs Sully Plantation as an interpretive site and museum.

The 1794 residence is a two story timber frame building with a one-and-a-half story east wing added in 1799 and a one-story west wing added in the 1840s. The mortise and tenon framing was infilled with brick in an eighteenth century construction method known as "nogging." The building rests on a continuous brown sandstone foundation. The exterior is clad with beaded clapboarding with a box cornice that is believed to be a replacement for an earlier and narrower cornice. The side gable roof is clad with wood shingles. The building has a one-story porch on the south side, which has decorative scrolled work beneath the eaves and six fluted square columns. The north entrance is sheltered by a small pedimented porch which is either a later addition or a replacement of an earlier porch. The 1794 portion of the building has two exterior gable end chimneys and the 1799 portion of the building has an interior gable end chimney. All of the chimneys were constructed of brick laid using a common bond

In the immediate vicinity of the house is a collection of outbuildings. The earliest building is a circa 1745 log cabin, believed to have been constructed by the Lee Family, which was converted into a kitchen and laundry building when the 1794 residence was constructed. The building is partially clad with beaded clapboard and is connected to the residence via a covered walkway.

Adjacent to the kitchen is a circa 1794 smokehouse also clad with beaded clapboard. The building has a pyramidal roof. A twin of this building is located on the opposite side of the house and is believed to have been used as an office (Gamble 1994).

The circa 1801 dairy building is located next to the smokehouse. This two-story building has been alternately identified as a patent house, overseer's house, loom house, or servant's quarters. The building is of stone masonry construction with "galletting," a masonry technique in which small pieces of stone are placed in the wet mortar joints for a decorative effect. This is the only known example of this technique in the vicinity (Gamble 1994).

The remaining buildings on the property are not original to Sully Plantation. The one-story log schoolhouse was moved to the site from the community of Gainesville in the 1960s by the Fairfax County Park Authority. There is no documentary evidence that a schoolhouse was located on this site (Gamble 1994).

The replica slave quarter located approximately 300 yards from the residence was constructed on the site in the 1990s. The location and dimensions of this log structure are based upon archaeological evidence.

Resource Boundaries:

The resource boundaries consist of the 39 acres owned by the Fairfax County Park Authority and known as the Sully Historic Park and contained within the boundaries of the UTM coordinates

provided above. Contained within this boundary are the resource's contributing buildings and the remaining portions of the original 1725 land grant of 3,311 acres, which are historically associated with the development and use of the resource.

National Register Status:

Sully Plantation was listed in the National Register in 1970 for its associations with the Lee family, specifically Richard Bland Lee, and as an important example of a modest late eighteenth century farm complex.

The property was an active Lee family tobacco farm beginning in 1725, though the land was not occupied by a member of the Lee family until 1794, when Richard Bland Lee built the residence known as Sully. Richard Bland Lee served as northern Virginia's first congressman, and was an uncle of Robert E. Lee. Richard Lee was a prominent figure in local and regional history, and national figures, including George Washington and James Madison, visited Lee at the property.

The property retains its integrity of location, design, setting, materials, workmanship, feeling, and association.

Potential Effects:

Sully Plantation is located outside of the boundaries of the 65 dBA Noise APE, but has been included in the APE because preliminary noise data indicates that the site may experience a change in existing noise levels, which could in turn affect the qualities that make the property eligible for listing in the National Register. Guidance provided by *City of Grapevine v. Department of Transportation* suggests that historic sites may be included in an APE if such sites were deliberately preserved and interpreted to an earlier historic era, even if they are outside of the standard 65 dBA noise contour. The court noted that:

> There might well be instances in which the 65 Ldn standard for residential properties would be inadequate to protect the particular values that led to the designation of a site as historic. Consider, for example, a village preserved specifically in order to convey the atmosphere of rural life in an earlier (and presumably quieter) century.

According to the National Register Nomination Form for Sully Plantation, the property is most significant as an example of an early Virginia farmhouse. Specifically, the nomination states that this resource is more important for its historical associations than for its architecture. Sully Plantation is actively interpreted as a rural farmstead dating to the late eighteenth century, and is operated as a historic house museum with guided tours by the Fairfax Park Authority. Therefore, Sully is preserved to help convey and interpret historic rural life in Fairfax County during the late eighteenth and early nineteenth centuries. Accordingly, Sully Plantation was included within the APE for this project.

The No Action alternative would have no effect on Sully Plantation.

Indirect impacts to the Sully Plantation were evaluated in terms of potential noise, vibration and visual impacts. Initial noise modeling for aircraft traffic and analysis of the proposed runway alternatives indicates that the average noise levels at the Sully Plantation would be less under the Build Alternatives (DNL 59.8 dBA) than they would under the No-Action Alternative (DNL

60.6 dBA). In addition, the number of events over L_{max} 70 dBA analysis that was updated for the FEIS indicates that there would be fewer noise events over L_{max} 70 dBA associated with the Build Alternatives (107 per day in 2010 and 231 per day in 2025) than there would be for the No Action Alternative (138 per day in 2010 and 303 per day in 2025). Therefore implementation of the Build Alternatives would not result in noise impacts to the Sully Plantation.

Specific vibration testing and analysis for the Sully Plantation was not conducted, but based on previous studies, FAA has found that generally, civilian airports, which primarily serve fixed-wing, subsonic aircraft, do not result in the generation of vibration levels which are of the frequency, or intensity, to result in damage to structures. It has been found that exposure to normal weather conditions, such as thunder and wind, usually have more potential to result in significant structural vibration than aircraft (FAA, 1985). Two studies that involved the measurement of vibration levels resulting from aircraft operations upon sensitive historic structures concluded that aircraft operations did not result in significant structural vibration.

For an EIS conducted at the Stinson Municipal Airport in San Antonio, Texas, vibration measurements were taken at several historic structures in the airport vicinity. At sites located between 1.1 and 2.5 miles from the airport, vibration upon historic structures due to aircraft operations were found to fall far below the most stringent structural damage criteria (Raba-Kistner Consultants, 1986).

At the Pueblo Grande Museum Culture Park located in Phoenix, Arizona, a vibration measurement analysis was accomplished to identify the source of vibration which appeared to be resulting in structural damage to ancient Hohokam Indian ruins located in the park. These ruins, constructed of adobe, are listed on the National Register of Historic Places and are designated as a National Historic Landmark. Pueblo Grande is located near busy roadways, a railroad, and within one-half mile of the longest runway of the Phoenix Sky Harbor International Airport. The airport is one of the busiest in the U.S. and serves hundreds of large jet aircraft operations daily, including one of the largest aircraft in the world, the Boeing 747. The results of the vibration analysis indicated that activities at the Phoenix Sky Harbor International Airport create low, or no, risk of damage to the adobe ruins from vibration (King, et al, 1991).

The Sully Plantation is located in a highly urbanized area, with surrounding commercial, industrial, retail and residential land uses. Also, it is directly adjacent to a major north-south roadway, Sully Road (State Highway 28), which is one of the busiest roadways in Fairfax County. In fact, the main Sully Plantation structures are located only 450 feet away from the centerline of Sully Road. Vibration affects to the Sully Plantation, if they were to occur, would be more likely to occur as a result of traffic on the nearby roadway than it would as a result of aircraft operations at IAD. Additionally, neither Build Alternatives 3 nor 4 would result in the introduction of new larger jet aircraft to IAD such as the Airbus A380, and the forecast aircraft activity levels for the year 2010 would be the same for the No-Action and Build Alternatives.

Given the conclusions reached in the vibration studies referenced above, the proximity of Sully Road to Sully Plantation, and the fact that aircraft operations would be the same with and without the proposed project at Dulles, FAA has made a determination that the Build Alternatives are not likely to result in vibration impacts to the Sully Plantation.

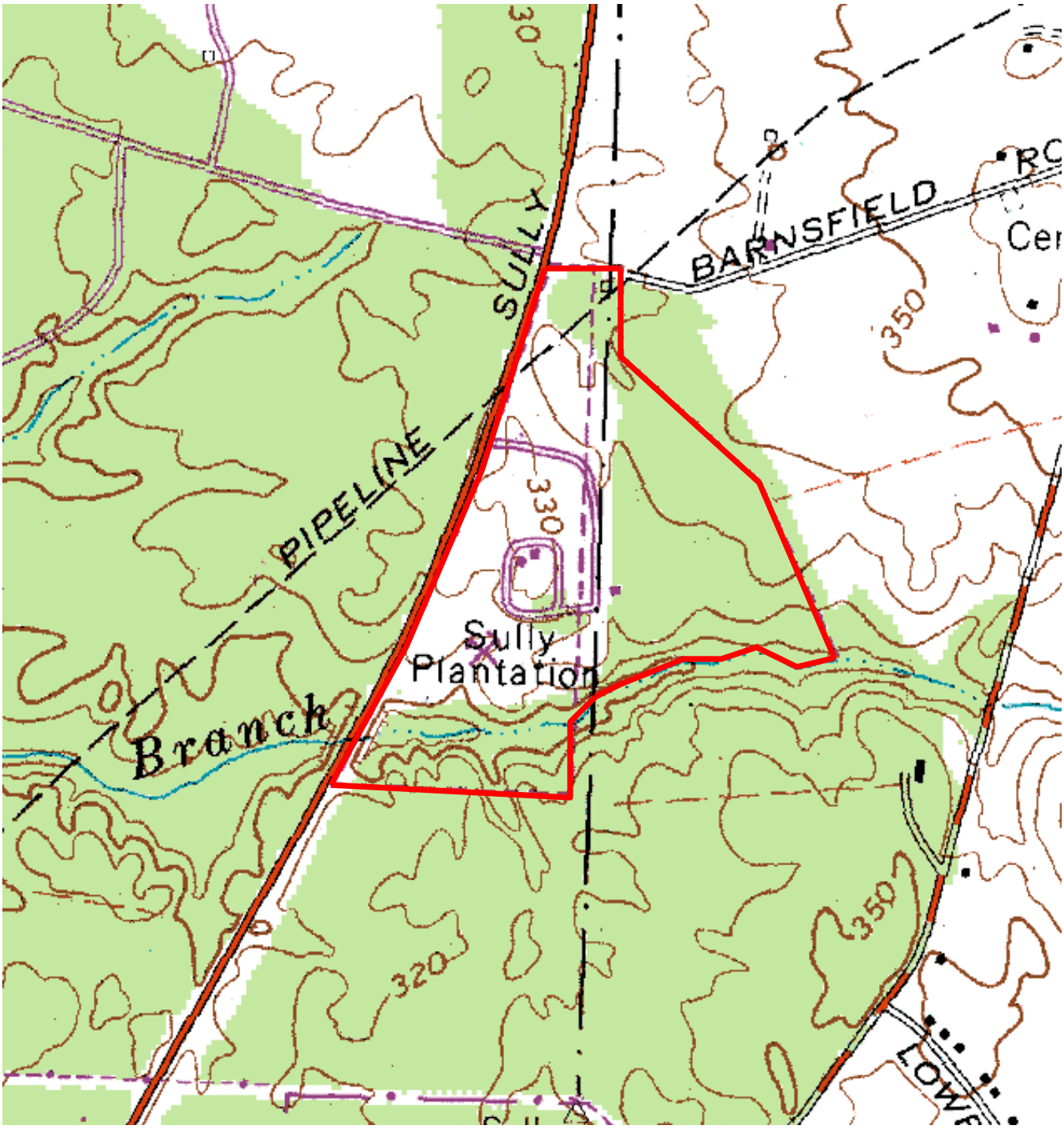
Initial flight path modeling for aircraft traffic and analysis of the proposed runway alternatives indicates that arrivals from the east to existing Runway 30 and proposed Runway 30L at IAD would only occur under Northwest Flow conditions, which occurs only one percent of the time

on a yearly basis. Based on the low frequency of this flow condition and the number of operations forecast for the year 2010, approximately 3.47 average daytime arrival operations are anticipated to occur on proposed Runway 30L in the year 2010. In the year 2025, the number of average daytime arrivals on proposed Runway 30L would increase to 6.1. Based on standard flight profiles, aircraft are anticipated to be at a height of between 570 and 660 feet above ground level (AGL) at the average point of closest approach to the Sully Plantation, with a lateral distance of approximately 1,485 feet.

A comparison of the location of the Sully Plantation and future arrival operations on existing Runway 1R indicate the following. At the average point of closest approach, aircraft arriving on Runway 1R would be at a height above ground level of approximately 350 to 380 feet and have a lateral distance of approximately 1,433 feet from the Sully Plantation. Additionally, the number of arrival operations on existing Runway 1R greatly exceeds those anticipated for proposed Runway 30L. Under the No-Action Alternative, there would be approximately 95.8 average daytime arrivals in 2010 and 103 average daytime arrivals in 2025. Under Build Alternatives 3 and 4, average daytime arrivals to Runway 1R would be approximately 110.7 in 2010 and 123.8 in 2025 (compared to 3.47 in 2010 and 6.1 in 2025 for the Build Alternatives on proposed Runway 30L).

The existing and future arrival operations on Runway 1R have not resulted in a claim of visual impact to the Sully Plantation. Since the runway centerline distance to the Sully Plantation and the height above ground level at the average point of closest approach for Runway 1R are both closer and lower than those that would occur on proposed Runway 30L, and given the fact that the number of operations on Runway 1R are significantly higher than those forecast for Runway 30L, FAA has made a determination that arrival operations on Runway 30L would not result in visual impacts to the Sully Plantation.

Sully Plantation will not experience an adverse effect due to either Build Alternative 3 or Build Alternative 4.



Dulles Airport New Runways
Environmental Impact Statement

Sully Plantation (VDHR #029-0037)
Property Boundaries

FIGURE
4-2

4.2 053-0008 (DULLES AIRPORT HISTORIC DISTRICT)

Image Taken from MWAA Website

Address: Washington-Dulles Access Road, Fairfax County and Loudoun County

UTM: Beginning at starting UTM point 18 286869E 4316436N, then east to UTM point 18 287753E 4316426N, then south to UTM point UTM 18 287743E 4315847N, then southeast to UTM point 18 290364E 4315430N, then south to UTM point 18 290344E 4315318N, then west to UTM point 18 288993E 4315369N, then south to UTM point 18 288823E 4311108N, then west to UTM point 18 288508E 4311149N, then north to UTM point 18 288528E 4313405N, to west to UTM point 18 287167E 4313446N, then south to UTM point 18 287208E 4312572N, then southwest to UTM point 18 287056E 4312196N, then northwest to UTM point 18 284059E 4313456N, then northeast to UTM point 18 284211E 4313751N, then southeast to UTM point 18 286924E 4312633N, then northeast to UTM point 18 286965E 4312765N, then northwest to UTM point 18 286721E 4312907N, then north back to the starting point

Construction Date: 1958-1962

Architectural Style: Other- Neo-Expressionism

Plan Type: Undivided Space (non-domestic)

Area within Direct APE: 50 percent

Area within Noise APE: 50 percent

Setting:

The Dulles Airport Historic District is located on the border of Fairfax and Loudoun Counties, to the south of State Route 267, to the east of State Route 28, and to the north of US Route 50. The primary public access route to the property from Washington D.C. is via the Washington-Dulles Access Road, which curves past the entrance to the main terminal. Additional access points for employees of the facility are located at gates along the property's perimeter. The surrounding area is a mixture of residential, commercial, and light industrial uses. The property contains

11,000 acres of land within its fenced boundary. This land is a mixture of cleared areas, paved runways and roads, and areas of dense vegetation.

Description:

The Main Terminal was designed by Finnish-born architect Eero Saarinen in 1958. The building is considered his finest work and epitomizes the Neo-Expressionism style, where the building is seen not as a structure, but rather as a sculpture and the building's use is expressed through the architecture. Saarinen's design not only allowed a complex transportation facility to function smoothly and efficiently but also enabled it to stand out as a work of art.

The 1964 Master Plan for Dulles provided for future expansion treatments within different areas and was noted for its comprehensively designed plan that coherently integrated buildings, structures, and site. The plan provided for the strictest design control for the Main Terminal area which included not only the terminal, but the roadways, mobile lounges, and service buildings.

The landscape design and approach road, known as the Dulles Access Road, are integral parts of the overall design, letting visitors view the building from a distance before sweeping up past the building to the drop-off area at the Main Terminal and returning to ground level. From the approach road, the visitor was to be mainly aware of the beauty of the seemingly isolated Main Terminal rising from a flat plain, while the other buildings receded into the background. Low-scale landscaping was planted to screen elements of the site from visitors that might otherwise detract from the Main Terminal, such as the main parking facility and service buildings while not interfering with the carefully designed sense of open space and movement.

The Main Terminal was designed as both the visual and functional centerpiece of Dulles. The massive steel reinforced concrete roof is supported by a row of angled columns spaced at an interval of forty feet. The columns are sixty-five feet high on the approach side and forty feet high on the field side between which are light suspension bridge cables which support concrete roof panels, giving the building its distinct swooping shape. Saarinen intentionally exaggerated this outward slope in order to give the colonnade a dynamic and soaring look in order to express the new age of jet airliners. The terminal was designed with two levels to separate the various airport activities of arriving and departing passengers. Ticking and boarding were located on the upper level, with baggage claim and airport offices on the ground level.

The Mobile Lounges were designed by Saarinen as extensions of the Main Terminal. Passengers would board the shuttles at the Main Terminal, and the lounges would then drive out to the plane and rise up to the level of the aircraft doorway, allowing passengers to embark and disembark with ease. The lounges were originally intended to replace the then-popular fingers system that sent travelers trekking down endless corridors to their gates. The system is still in partial use, though the majority of the Mobile Lounges now travel from terminal to terminal rather than directly to the planes.

Complementing the grand design of the Main Terminal, the original service buildings were designed as steel frame structures, primarily horizontal in massing and rectangular in plan. The service buildings were specifically designed to be low and unobtrusive, so that the Main Terminal would be the primary visual focus. These buildings include structures on the apron, groups of service buildings to the west and east of the Main Terminal, and a cargo building to the west of the terminal.

Resource Boundaries:

The Dulles Airport Historic District's boundaries and its contributing and non-contributing resources were defined in the attachment to a 1989 VDHR memo regarding Dulles (see Appendix B). The 1989 report notes that of the approximately 61 buildings and structures on site, thirteen meet National Register eligibility criteria as contributing resources, along with the eighteen remaining original Mobile Lounges, and several landscape elements located on the site, including runways, terminal area landscaping, and the Dulles Access Road. These contributing elements were constructed as part of the initial 1958-1962 building campaign and are all integral parts of Eero Saarinen's original design intent.

National Register Eligibility:

The Dulles Airport Historic District (053-0008) was determined eligible for listing in the National Register by VDHR in 1979. The property was not listed due to owner objection. The property was found eligible by the Acting Secretary of the Interior for listing under Criterion C as an outstanding work of architecture by a master, Eero Saarinen. In 1989, MWAA determined that the district was also eligible under Criterion A for its association with the development of air transportation in the United States as the first airport in the United States to be designed specifically for commercial jet aircraft, a technology then still in its infancy.

The property retains its integrity of location, design, setting, materials, workmanship, feeling, and association. Later additions to the site and airport terminals are sympathetic in design and clearly distinguishable.

Potential Effects:

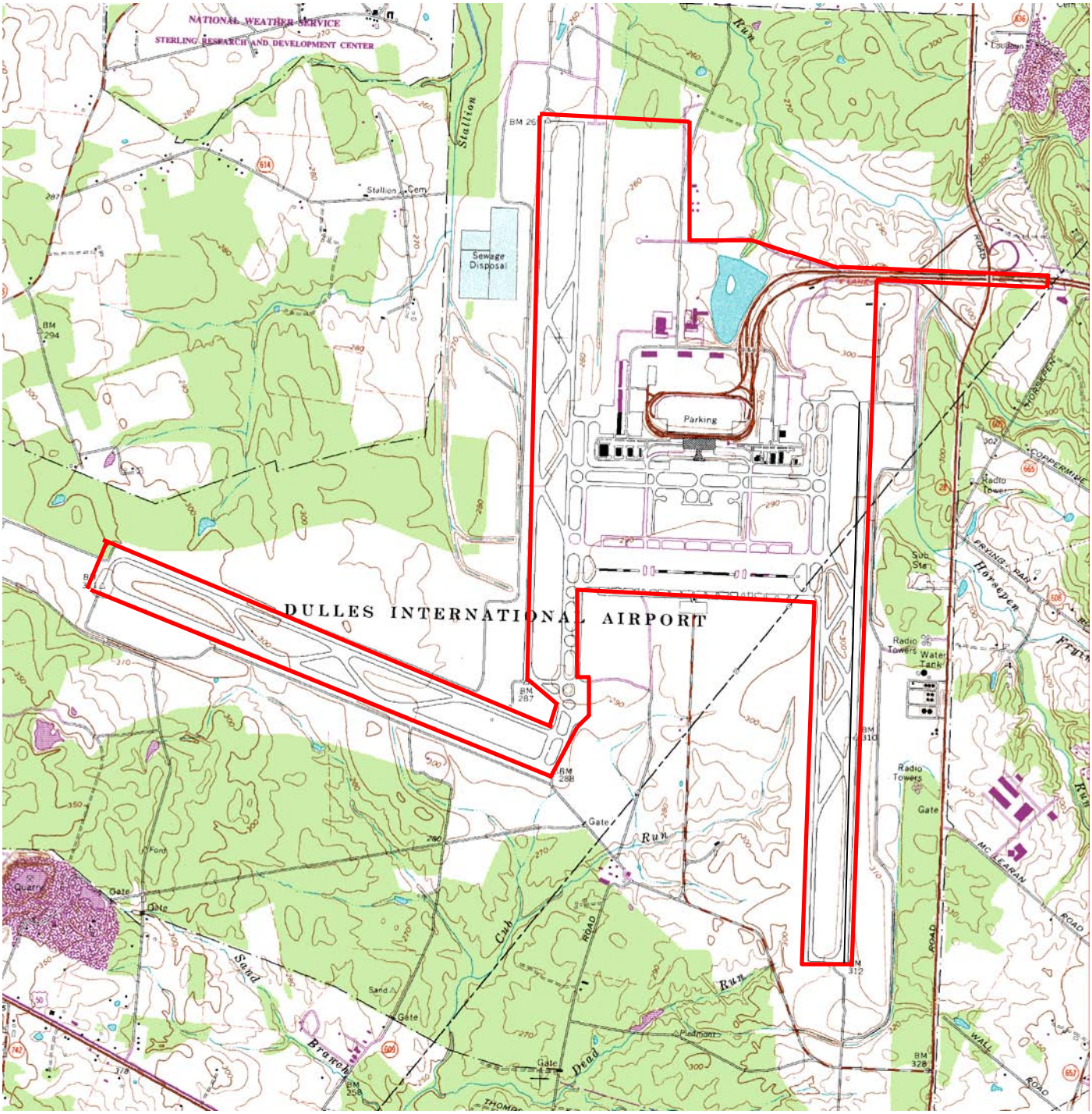
The No Action alternative would have no effect on the Dulles Airport Historic District.

The construction of two new runways proposed under Build Alternatives 3 and 4 would not have an adverse effect on the Dulles Airport Historic District. No demolition within the historic district would occur with the construction of these runways, the proposed increase in air traffic is consistent with both the historic and contemporary function of the airport as a modern air traffic facility, and both build alternatives are in keeping with the original general expansion plans developed by Saarinen.

The FAA considers the proposed Tier 3 Concourse Improvements and associated utility improvements to be a connected action in support of Build Alternatives 3 and 4. Detailed information regarding the design of the proposed Tier 3 Concourse Improvements has not been developed. It is likely that the proposed Tier 3 Concourse Improvements will be no more than three stories in height and will be similar in form to the newly-constructed Tier 2 concourse. However, no additional information regarding the placement, materials, massing, height, and scale of the building has been developed at this time. In addition, there is no specific information regarding any other improvements, such as the extension of the Automated People Mover, associated with the construction of the proposed Tier 3 concourse. At such time as additional design details are developed, further analysis will be undertaken of the visual relationship between the proposed Tier 3 Concourse Improvements and associated construction, the newly constructed Tier 2 concourse, and contributing elements of the Dulles Airport Historic District.

Preliminary visual analysis, consisting of photographs taken from the general location of the proposed Tier 3 Concourse Improvements towards the Dulles Airport Historic District, suggests that there would be no adverse effect to the Dulles Airport Historic District. Specifically, the current placement of the Tier 2 concourse, the considerable distance between the original tower and terminal area, and the approximate placement of the proposed Tier 3 terminal, does not appear to diminish the integrity of location, design, setting, materials, workmanship, feeling, and association of the Dulles Airport Historic District.

Further Section 106 consultation for the Dulles Airport Historic District regarding the level of effect, if any, will be conducted by FAA once more detailed information regarding the proposed Tier 3 Concourse Improvements, and associated construction, is developed according to stipulations provided in a project Memorandum of Agreement (MOA). The MOA will include design review procedures for the Tier 3 Concourse Improvements and analysis of visual effects to the Dulles Airport Historic District due to the proposed design. This approach is consistent with a phased identification and evaluation of historic resources, as described in 36 CFR 800(4)(b)(2).



Dulles Airport New Runways Environmental Impact Statement

Dulles Airport Historic District (VDHR #053-0008) Property Boundaries

FIGURE 4-3

4.3 029-5274 (MANASSAS GAP RAIL BED)

Address: South of Stonecroft Road, within the Dulles International Airport Fence Line, Fairfax County

UTM: Moving southeast from starting UTM point 18 287176E 4311740N through UTM points 18 287623E 4311354N, 18 287887E 4311070N, and 18 288009E 4310887N to the end UTM point 18 288202E 4310603N creating a 150' wide corridor, using the connected UTM points as the centerline.

Construction Date: 1853-1861

Architectural Style: No Style

Plan Type: None

Area within Direct APE: 0 percent

Area within Noise APE: 15 percent

Setting:

The Manassas Gap Rail Bed originally ran through the project area and portions of the resource are currently visible as a raised earthen feature. In 1975, the rail bed was documented within the Dulles boundary as follows:

> The roadbed now extends under Rt. 28 as a culvert and continues northwest across Dulles International Airport as a series of minor cuts and fills until it reaches Dead Run. Here another major fill occurs. All this is clearly indicated on the Herndon 7-1/2 1966 topographic map. On the northeast side of the roadbed at Dead Run, the Dulles shooting range is located and almost directly north can be seen the Dulles control tower. The roadbed continues along the south side of the

> "east west" Dulles runway, and near the west end of the runway, the roadbed is in a shallow cut. At the end of the runway the roadbed has been plowed under, but at the edge of the map it is still visible as a minor cut (Douglas 1975).

The route currently runs through wooded areas which are interspersed with cleared areas of development associated with the construction and operation of Dulles, including roadways, a firing range, parking areas, and maintenance buildings. At the time of the 2003 and 2004 site visits, portions of the rail bed were clearly visible, but not accessible, to the rear of a police firing range. The only accessible portion of the resource is located on the south side of Stonecroft Road at its intersection with Willard Road.

Description:

The Manassas Gap Railroad began work in 1853 on a rail line which would run through Fairfax County and connect the communities of Gainsworth and Alexandria. Work was slowed due to financial difficulties in 1858 and terminated in 1861 with the start of the Civil War. Construction was not continued after the conclusion of the war. From 1853 to 1861, the majority of the rail line was graded, and abutments and culverts were constructed over the many waterways which lay in the route of the rail line but no track was ever laid and the completed rail bed was the only remaining trace of the proposed route (Douglas "Pioneer America").

The approximately 150' wide accessible portion of the resource has been bisected by the construction of Stonecroft Road. The resource is a raised earthwork feature. Where the road and rail bed meet, the top of this rail bed is located at the same grade as the road. The eastern side of the rail bed has an approximately 15' high embankment and the western side has an approximately 5' high embankment. The differences in the height of the two sides of the rail bed may be due either to the topography of the area or may be the product of later Dulles-related construction in the resource vicinity. Additional segments of the Manassas Gap Rail Bed near Dead Run, which are visible on the USGS Topographic Map and were described in 1975, appear to have been destroyed by the construction of roadways and buildings.

National Register Eligibility:

The Manassas Gap Rail Bed is not eligible for the National Register under Criterion A, B, or C. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. The rail bed was constructed in association with the development of the Manassas Gap Railroad and the development of transportation routes in Northern Virginia in the mid-nineteenth century, but is neither the only nor best example of this resource type in the region. Other surveyed sections of the original Manassas Gap Rail Bed which have been surveyed in Loudoun County near the Goose Creek Historic District retain the integrity that this segment lacks.

A Phase I archaeological investigation of the resource (known in the VDHR archaeological files as site 44FX2836) was conducted in March 2004 and it was determined that the property does not have any archaeological significance. VDHR concurred with this opinion in November 2004.

Therefore this portion of the Manassas Gap Rail Road is not eligible for listing in the National Register under Criterion D.

The resource has had a complete loss of integrity due to extensive demolition and loss of the rail bed. In many places, the original path of the route can not be determined due to alteration of both the resource and its setting. Only small segments of the route can be identified on a topographic map or in the field. These alterations to the setting have led to the loss of the resource's integrity of location, design, setting, materials, workmanship, association, and feeling.

4.4 053-5252 (FARMSTEAD)

Address: 43995 Beaver Meadow Road, Sterling, Loudoun County

UTM: 18 285233E 4315980N

Construction Date: circa 1920

Architectural Style: No Style

Plan Type: Undivided Space (non-domestic)

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

This farmstead is located at 43995 Beaver Meadow Road, east of State Route 606, and directly west of the fenced Dulles boundary. The surrounding area is a mixture of residential and agricultural uses with a densely wooded area located directly to the east of the resource. A dirt and gravel access road leads from Beaver Meadow Road to the farmstead. The property contains approximately 2 acres of land.

Description:

The farmstead contains two buildings- a ca. 1920 barn and a milk house- and a set of ruins. There is no evidence of an associated residence and the property is currently abandoned.

The barn is a one story masonry structure constructed of concrete block. The building rests on a continuous concrete block foundation. The exterior is clad with vertical wood boards in the gable ends. The windows are two pane wood hopper sashes. The front gable roof is clad with standing

seam metal. The interior of the building is accessed through sliding doors on the west and east facades. The building is in ruinous condition.

The ca. 1920 milk house is a one story, double pen, masonry structure constructed of concrete block. The building rests on a continuous concrete block foundation. The exterior is clad with vertical wood boards in the gable ends. The windows are six pane wood hopper sashes. The side gable roof is clad with standing seam metal. The building is in ruinous condition.

The ruins are the remains of an agricultural outbuilding with an unknown use which was formerly attached to the milk house. The structure was constructed of concrete block with a gable roof.

National Register Eligibility:

This farmstead is not eligible for the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The property has no associated residential structure and does not appear on maps of the area until the 1970s due to the lack of an associated residence.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. All three buildings have some degree of structural failure of the roof and walls, with one structure in ruins. The wood building elements are decaying and the metal building elements are rusted. The deterioration of the three historic outbuildings has led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

4.5 053-5257 (BUILDING 14- NATIONAL WEATHER SERVICE STERLING FACILITY)

Address: Weather Service Road, Sterling, Loudoun County

UTM: 18 285419E 4317046N

Construction Date: 1949

Architectural Style: No Style

Plan Type: Other- Open Plan

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

Building 14 is located on Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

Description:

Building 14, a circa 1949 laboratory building, is a one-story wood frame structure with a rear addition. The building rests on a continuous poured concrete foundation with a continuous concrete block foundation used on the rear addition. The building is clad with aluminum siding. The windows are 1/1 wood sashes in the original portion of the building with no windows in the rear addition. The front gable roof is clad with asphalt shingles. The original entry porch has been enclosed with aluminum siding and has front gable roof clad with corrugated metal. The building is currently used for storage.

National Register Eligibility:

When evaluating scientific facilities, special issues arise in assessing a facility's eligibility for listing in the National Register. The Advisory Council on Historic Preservation (ACHP) stated in its 1991 report *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities* that the issue of integrity is a key factor in making a determination of National Register eligibility. A scientific resource should display a sufficient level of retention of historic material and equipment to convey the facility's significance, i.e. an observatory must have its historic telescope still installed or a wind tunnel should be unaltered from its period of significance. While alteration of equipment to accommodate new uses and technologies is expected, the removal of scientific equipment associated with the facility's contribution(s) to science should be seen as diminishing the facility's integrity.

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 *Defining Boundaries for National Register Properties*, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 14 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or

possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 14 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

4.6 053-5258 (BUILDING 16- NATIONAL WEATHER SERVICE STERLING FACILITY)

Address: Thunder Road, Sterling, Loudoun County

UTM: 18 285360E 4317343N

Construction Date: 1949

Architectural Style: No Style

Plan Type: Other- Loaded Corridor

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

Building 16 is located along Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

Description:

Building 16, a circa 1949 laboratory building, is a one-story concrete masonry building with several rear and side additions constructed in the same manner as the original core of the building. The building rests on a continuous poured concrete foundation. The poured concrete exterior of the building has been painted. The windows are a mixture of original six-pane metal casements and three-pane metal casements with 1/1 metal sashes used as replacement windows. The flat roof is clad with a built-up roofing membrane composed of gravel and tar. The original entry porch has been enclosed with T-111 siding and has four 1/1 metal sashes.

One equipment shed was also constructed circa 1949. It is a one-story concrete masonry building which rests on a continuous poured concrete foundation. The windows are three-pane metal casements. The flat roof is clad with a built up roofing membrane composed of gravel and tar.

The second equipment shed is a modern, one-story, pre-fabricated metal frame structure. This shed is clad with vertical standing seam metal panels and has a front gable roof clad with asphalt shingles.

National Register Eligibility:

As discussed in Section 4.5, the buildings in the IRPL lack integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D. Thus, this building was surveyed and evaluated as an individual resource.

Building 16 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 16 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

4.7 053-5261 (INTERSERVICE RADIO PROPAGATION LABORATORY COMPLEX)


Address: Weather Service Road, Sterling, Loudoun County

UTM: Beginning at starting UTM point 18 285754E 4317204N, moving east to UTM point 18 285993E 4317199N, then southeast to UTM point 18 286262E 4316950N, then south to UTM point 18 286252E 4316838N, then northwest to UTM point 18 285764E 4316940N, then north back to the starting point.

Construction Date: 1943 to present

Architectural Style: No Style

Plan Type: Other- Loaded Corridor

Area within Direct APE: 100 percent

Area within Noise APE: 40 percent

Setting:

The Interservice Radio Propagation Laboratory (IRPL) Complex is located along Weather Service Road, south of State Route 606. This complex is located within the current fenced boundary of Dulles. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The complex contains an isolated portion of the original Interservice Radio Propagation Laboratory. This portion of the facility has been separated both physically and visually from the remainder of the original campus by fences and overgrown testing fields.

Description:

The IRPL Complex contains twenty-one buildings, structures, and objects. They are: a circa 1942 administration building, a circa 1942 powerhouse, three circa 1942 Quonset huts, a circa 1942 laboratory building, a circa 1945 laboratory building, a circa 1947 garage, a circa 1965 methane gas house, four circa 1965 research buildings, a circa 1965 balloon testing building, two metal sheds, two free-standing antenna arrays, a hydrothermometer testing field, and two radar arrays. The property was historically used as a scientific laboratory by the US War Department,

the US Bureau of Standards, and the National Weather Service. The laboratory complex has been vacant for at least five years.

The central portion of the complex is laid out in a linear plan along Weather Service Road, which was the main entrance to the Interservice Radio Propagation Laboratory. This was the primary research area for the facility and contains the majority of the buildings. A small paved access road leads north from this area, past the hydrothermometer testing field, antennas, and radar array to the balloon testing building and its ancillary sheds. Further east along Weather Service Road are two isolated research facilities.

The circa 1942 administration building, also known as Building 2, is a one story brick masonry building. The building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are 1/1 and 2/2 wood sashes, which are grouped together in two's, three's, or four's. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line. The original entry porch has been enclosed with plywood and has four 1/1 metal sashes. The building has a central interior brick masonry chimney laid using a common bond. A metal antenna array is located on the roof of the building.

Building 2 forms the eastern edge of the U-shaped administration and research area. The remaining two buildings in this shape were constructed circa 1965. Both buildings, known as Building 1 and Building 3, are one-story wood frame buildings which were used as research facilities. The buildings rest on continuous poured concrete foundations. The buildings are clad with brick veneer. The windows are single pane picture windows with metal sashes. The overhanging flat roofs are clad with a built up roofing membrane composed of gravel and tar.

Building 4, the circa 1942 powerhouse, is located directly to the east of Building 2. This one-story brick masonry building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are single pane wood sashes. The flat roof is clad with a built-up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line.

Across Weather Service Road from these four buildings are the original laboratory facilities. The first three laboratories, known as Building 5, Building 6, and Building 7, were constructed circa 1942. These buildings are one story tall and were constructed from corrugated metal quonset huts placed on a raised continuous concrete block foundation. The buildings have single pane wood hopper sashes along the side walls. The entrances are sheltered by wood frame entry porches with a front gable roof. Metal vents are evenly spaced along the apex of the roof. Building 7 has had major alterations with the construction of a large shed roof addition clad with aluminum siding on its west façade. This addition has an asphalt shingle roof and 2/2 vinyl sash windows.

Between Building 5 and Building 6 is the circa 1947 garage. This one-story poured concrete building rests on a continuous poured concrete foundation. The front gable roof is clad with corrugated metal.

Between Building 6 and Building 7 is the circa 1965 methane gas house. This-one story metal frame building rests on a continuous poured concrete foundation. The building is clad with corrugated metal. The front gable roof is clad with corrugated metal.

Directly to the west of Building 7 is Building 8. Building 8 is an additional laboratory structure constructed circa 1945. This one-story wood frame building rests on a continuous poured concrete foundation. The walls are clad with horizontal wood siding. The windows are single pane wood hopper sashes. The front gable roof is clad with asphalt shingles. The building has an interior side wall brick masonry chimney laid using a common bond.

To the northeast of the U-shaped administration and research area is the balloon testing area. The primary building in this area is the circa 1965 balloon testing building. This four-story tall metal frame building rests on a continuous poured concrete foundation. The building is clad with corrugated metal. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A wooden observation platform with a wood railing is located on top of the building and is accessed by an exterior metal stair. The interior of the building is accessed through a large metal roll-up door.

Adjacent to this building are two one story metal frame sheds used as support structures for balloon testing activities. These buildings rest on continuous poured concrete foundations. The buildings are clad with corrugated metal. The front gable roofs are clad with corrugated metal.

Located in the area between the U-shaped administration and research area and the balloon testing area is a testing field which contains several objects. This area was known as the hydrothermometer testing field and contains vertical metal pipes which extend three feet above ground level, as well as several small metal vents. The field also contains two free-standing metal antenna arrays and the poured concrete base to a radar array.

Approximately 70 yards from the main research complex is the first isolated research facility which contains two circa 1965 laboratory research buildings and a radar array. The research buildings, known as Building 9 and Building 10, are one-story wood frame buildings. The buildings rest on continuous poured concrete foundations and are clad with brick veneer. The windows are single pane picture windows with metal sashes. The overhanging flat roofs are clad with a built-up roofing membrane composed of gravel and tar. Building 10 has a side addition clad with corrugated metal. The poured concrete base to a radar array is located directly to the south of Building 10.

An additional ¼ mile down Weather Service Road is the second isolated research facility. This laboratory building, also known as Building 13, is a one-story brick masonry building. The building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are 2/2 wood sashes. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line. The entrance is sheltered by a wood frame entry porch with a front gable roof. The building has a metal vent on the roof.

National Register Eligibility:

When evaluating scientific facilities, special issues arise in assessing a facility's eligibility for listing in the National Register. The Advisory Council on Historic Preservation (ACHP) stated in its 1991 report *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities* that the issue of integrity is a key factor in making a determination of National Register eligibility. A scientific resource should display a sufficient level of retention of historic material and equipment to convey the facility's significance, i.e. an observatory must have its historic telescope still installed or a wind tunnel should be unaltered from its period of significance. While alteration of equipment to accommodate new uses and technologies is expected, the removal of scientific equipment associated with the facility's contribution(s) to science should be seen as diminishing the facility's integrity.

The architectural resources comprising the IRPL Complex were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered.

The IRPL Complex is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The buildings were constructed as a part of the Interservice Radio Propagation Laboratory from 1943 through 1954 and as such were used as part of the Laboratory's work which advanced the knowledge and understanding of ionospheric weather patterns and shortwave radio operation during World War II and the immediate postwar era. However, this facility has been adapted to new uses since that time necessitating the construction of additions to both the buildings and complex and alterations of the interior configurations and materials to such an extent, that the complex as a whole is reflects the occupancy of the site by the National Weather Service from the mid-1950s to the mid 1990s. These alterations also led to the removal of any associated laboratory equipment and machinery such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. Traces of these resources, such as concrete pads, antenna arrays, and portions of testing equipment shelter are still located within the district though the equipment has all been removed. Any proposed district comprised of the IRPL Complex lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for the National Register under Criterion A, B, C or D.

The IRPL Complex has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of the IRPL Complex from the rest of the original IRPL buildings by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a research laboratory for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of workmanship, design, feeling, and association. The resource has maintained its integrity of location and materials.

4.8 053-5263 (MORAN HOUSE)

Address: Off of Beaver Meadow Road, Sterling, Loudoun County

UTM: 18 285832E 4316437N

Construction Date: circa 1930

Architectural Style: Minimal Traditional

Plan Type: Hall-Parlor

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

The Moran House is located approximately ½ mile north of the intersection of Beaver Meadow Road and a dirt access road, to the northwest of the Dulles Airport Sewage Disposal Facility within the fenced Dulles property. The surrounding area is a mixture of abandoned residential, cleared fields, wooded areas, and airport uses. The property contains approximately 2 acres of land and is located at the end of the dirt access road. The Moran House was moved to this site in the late 1950s by the Moran family. The family continued to live on the property, constructing two nearby houses circa 1970 (Holmes 1995).

Description:

This resource contains two buildings: a ca. 1930 house and a milk house. The buildings are currently used for storage.

The circa 1930 residence is a one-story concrete block masonry building. The building rests on a continuous concrete masonry unit foundation. The windows are 3/1 wood sashes. The cross gable roof is clad with asphalt shingles. The shed roof front porch has two square wood posts which are replacements for the original porch supports. A large side entrance addition has been demolished within the last few years. The building has an exterior end gable brick chimney laid using a common bond.

The milk house is a one story concrete block masonry building which rests on a continuous concrete masonry unit foundation. The building is clad with asphalt shingles in the gable ends. The windows are 6-pane wood hopper sashes. The side gable roof is clad with asphalt shingles. The door has been moved to the side wall and the original entry has been closed up.

National Register Eligibility:

This resource was identified as the Moran House in a 1995 MWAA report (Holmes 1995). This house is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential.

The resource has lost its integrity due to alterations to the resource and its setting. The house was moved to this location from elsewhere on the Dulles property in the 1950s. The house had originally been part of the community of Willard before being sold by MWAA. Though the exact original location of the house within Willard is unknown, the resource was most likely located on a small residential lot located alongside a roadway. Moving the resource to this location has led to the loss of the resource's integrity of location, design, setting, and feeling as the resource is now located in a rural area at the end of a long access road. The building is no longer associated with the community of Willard and has been removed from its rural community context. The conversion of the resource from a residence into a storage facility has also had an adverse effect on the property's integrity of association. This action has damaged the property's associations with the residential development of the project area. The building's conversion into a storage facility has led to the removal of interior elements, such as kitchen equipment, commonly associated with residential occupation. The property has maintained its integrity of workmanship and materials.

4.9 053-5264 (MCCULLOCH FARM RUINS)


Address: Off of Beaver Meadow Road, Sterling, Loudoun County

UTM: 18 285954E 4316295N

Construction Date: circa 1850

Architectural Style: No Style

Plan Type: Undivided Space (non-domestic)

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

The McCulloch Farm Ruins are located approximately ¼ mile north of the intersection of Beaver Meadow Road and a dirt access road, to the east of the dirt access road, and to the northwest of the Dulles Airport Sewage Disposal Facility within the fenced Dulles property. The surrounding area is a mixture of abandoned residential, wooded areas, and airport uses. The property contains approximately 2 acres of land and is located off of the access road. The resource itself is overgrown with trees, vines, and bushes.

Description:

The McCulloch Farm Ruins contain the remains of ten buildings: a house, a smokehouse, a pump house, three outbuildings, a drive-thru corncrib, two barns, and a hog house. The buildings are arranged in a linear plan along the access road. The property is in ruins with the buildings in various stages of decay.

The house was demolished in the 1950s as a part of the construction of Dulles Airport (Holmes 1995). The stone ashlar masonry foundation and cellar remain visible at the southern end of the

site. There is no evidence of the architectural style, plan type, construction techniques, or materials used in the construction of the house.

To the north of the house site are two outbuildings, the pump house and the smokehouse. The pump house is a one story timber frame structure with a front gable roof. The building rests on a continuous poured concrete foundation. The building was originally clad with vertical boards and has corrugated metal on the roof. The interior of the building contains a brick lined well with a wood cover. Later modifications to the well allowed for the installation of a pump which carried water from the well out though the building into a concrete trough in the farmyard.

The smokehouse is also a one story timber frame structure with a front gable roof. The building rests on a continuous poured concrete foundation which is a replacement for the original foundation. The building was originally clad with vertical boards and had standing seam metal on the roof. The interior of the building contains railroad ties which have been driven into the supporting members and the rafters for use as meat hooks.

The house, pump house, and smokehouse are separated from the rest of the farmyard by a wire mesh fence and a wood gate. Adjacent to the fence are the remains of two one story timber frame outbuildings whose original use is unknown. Both buildings rest on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a side gable roof clad with standing seam metal.

To the north of these outbuildings is the drive-thru corncrib. This timber frame building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a side gable roof clad with standing seam metal.

To the east of the drive-thru corncrib is a two story timber frame outbuilding whose original use is unknown. This building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a gable roof clad with standing seam metal. The building appears to have been constructed in two parts, with the southern section constructed first. The first floor has two rooms, a dirt floor, low ceiling, and a combination of doors and small sliding wood panels. The second floor is accessed via a wood stair. The second floor has two rooms, a built in closet and bench, and window openings. A doorway on the second level above the stair opens out into the farmyard, but there is no evidence of an exterior stair or balcony.

To the north of these four buildings were two barns. The first barn has been completely destroyed with only the stone ashlar masonry foundation and wood plank floor remaining visible. There is no evidence of the plan type, construction techniques, or materials used in the construction of this barn. The second barn is directly adjacent to the foundation of the first and is a one story timber frame structure. The building rests on a stone ashlar masonry foundation. The building is clad with a combination of corrugated metal and vertical boards and has a front gable roof clad with standing seam metal.

To the east of the barns is the one story wood frame hog house. This timber frame building rests on concrete masonry unit piers. The building is clad with vertical boards and has a shed roof clad with standing seam metal. A fenced in yard is located directly to the rear of the building.

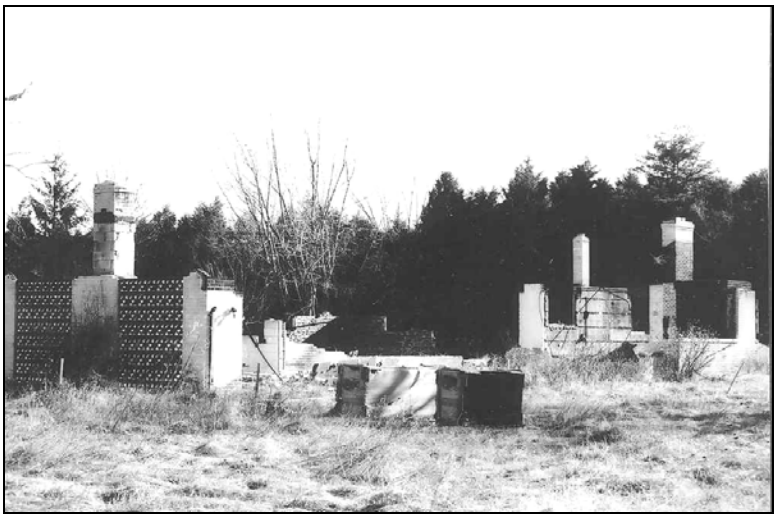
National Register Eligibility:

This site was identified as the location of the McCullough Farm in a 1995 MWAA report (Holmes 1995). This ruin is not eligible for listing in the National Register under Criterion A, B, or C. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. VDHR concurred with these finding for Criteria A, B, and C in October 2004.

A Phase I archaeological investigation of the resource (known in the VDHR archaeological files as site 44LD543) was conducted in February 2004 and it was determined that the property may have archaeological significance. Phase II evaluation of the site, which was completed in July 2005, determined that the site is not eligible for the National Register under Criterion D. Concurrence with FAA and MWAA's determination is pending.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. The house and one barn are completely in ruins with only the foundations remaining. All eight of the remaining buildings have some degree of structural failure of the roof and walls. The wood building elements are decaying and the metal building elements are rusted. The original specific building uses on this site are often unclear, due to the high level of deterioration. The deterioration of all ten buildings has led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

4.10 053-5266 (HOUSE AT 44210 BEAVER MEADOW ROAD RUINS)



Address: 44210 Beaver Meadow Road, Sterling, Loudoun County

UTM: 18 285796E 4315962N

Construction Date: circa 1960

Architectural Style: Unknown

Plan Type: Unknown

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

This ruin is located at 44210 Beaver Meadow Road, east of State Route 606, and within the fenced Dulles boundary. The surrounding area is a mixture of abandoned residential, cleared fields, wooded areas, and airport uses. The property contains approximately 2 acres of land.

Description:

The House Ruin at 44210 Beaver Meadow consists of the remains of four buildings: a house, a garage, and two sheds. The house is in ruins with the remaining three buildings abandoned.

The house was demolished at an unknown date. The concrete masonry unit foundation and cellar remain visible. The building was of frame construction and was clad with brick veneer. The

building had a central interior brick masonry chimney and an exterior end wall brick masonry chimney. There is no evidence of the architectural style, plan type, window types, roof form, or roof cladding materials used in the construction of the house.

The garage is a one story masonry structure constructed of concrete block. The building rests on a poured concrete slab. The exterior is clad with vertical wood boards in the gable ends. The windows are two pane horizontal metal sashes. The side gable roof is clad with asphalt shingles.

Shed #1 is a one story wood frame structure which rests on a poured concrete slab. The exterior is clad with vertical boards. The side gable roof is clad with asphalt shingles.

Shed #2 is a one story wood frame structure which rests on a poured concrete slab. The exterior is clad with vertical boards. The side gable roof is clad with asphalt shingles.

National Register Eligibility:

This ruin is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. The house, which is the primary resource, is completely in ruins with only the foundation and the chimneys remaining. The deterioration of the house has led to the resource's loss of integrity of design, materials and workmanship. The three outbuildings are in good condition, but without the primary resource remaining intact, the resource as a whole has no integrity of setting, feeling, or association. The property has maintained its integrity of location.

A total of 53 archaeological sites were identified within the APE during the Phase I investigations for the proposed Dulles runway alternatives. All recent archaeological investigations conducted for this project comply with the project-specific *Consultation Concurrence Statement Related to the Archaeological Investigations of New Runways and Related Facilities Washington Dulles International Airport* signed by MWAA and the SHPO in June 2004 and a revised version of this document signed in November 2004. Copies of both versions of this statement are included in Appendix A. This Statement of Concurrence outlines the review process and timeline for archaeological investigations related to the project EIS including, completion of a Phase I survey for Build Alternatives 3 and 4; Completion of Phase II evaluation for any sites determined to be potentially eligible for the National Register by FAA, MWAA and SHPO; submission of all reports to SHPO for review and concurrence; incorporation of all findings into the EIS document; and agreement that Phase III data recovery or in-situ preservation shall occur prior to the start of project-related construction activities.

All Phase I reports for Dulles were approved by November 2004 and are on file with VDHR. Upon completion of the Phase I investigations, a total of 14 sites were determined to require Phase II evaluations. Phase II work was completed in July 2005, with four sites determined to be eligible for the National Register by FAA and MWAA. Concurrence has been received for one archaeological site (44FX2840) and is pending for the remaining three sites (44LD538; 44LD539; and 44LD1042). A Memorandum of Agreement (MOA) is currently being developed between these parties to address, in part, the completion of the archaeological investigations. As a requirement of the MOA, FAA and MWAA, in conjunction with the SHPO, will determine which sites require Phase III data recovery and/or in-situ preservation. The archaeological procedures section of the proposed MOA will include language on the archaeological evaluation and review processes from both the 1987 Programmatic Memorandum of Agreement executed by MWAA, SHPO, and the Advisory Council on Historic Preservation as well as the June 2004 and November 2004 Statements of Concurrence. A copy of the draft MOA is found in Appendix A.

Table 2 provides a brief summary of each archaeological site, when the Phase I work was completed, if Phase II work was required, and if the site was determined to be eligible for the National Register requiring Phase III and/or preservation in-place. The general locations of all Phase II sites is shown on Figure 5-1.

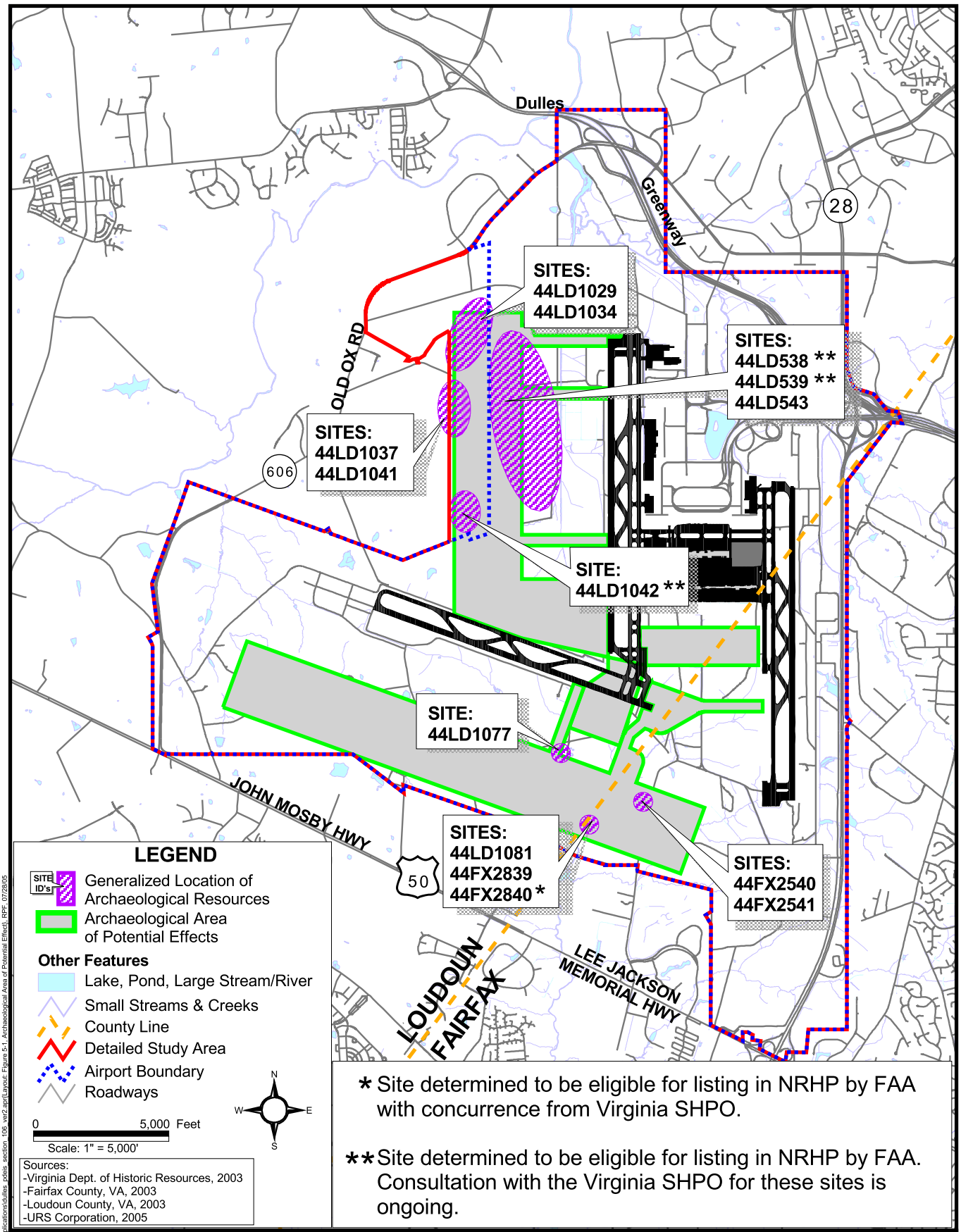
Table 2: Summary of Archaeological Investigations

Site	Components Present	Phase I Completed	Phase II Recommended?	Eligible? (Phase III Required)
44FX2535	Prehistoric Component Historic Component	2001	No	No
44FX2540	Historic Component	2001	**Yes**	No
44FX2541	Historic Component	2001	**Yes**	No

Site	Components Present	Phase I Completed	Phase II Recommended?	Eligible? (Phase III Required)
44FX2834	Prehistoric Component	March 2004	No	No
44FX2835	Prehistoric Component	March 2004	No	No
44FX2836	Historic Component	March 2004	No	No
44FX2837	Prehistoric Component Historic Component	March 2004	No	No
44FX2838	Prehistoric Component Historic Component	March 2004	No	No
44FX2839	Prehistoric Component	March 2004	**Yes**	No
44FX2840	Prehistoric Component	March 2004	**Yes**	**Yes**
44LD538	Prehistoric Component Historic Component	1999	**Yes**	**Yes (pending)**
44LD539	Prehistoric Component Historic Component	1999	**Yes**	**Yes (pending)**
44LD540	Prehistoric Component	1999	No	No
44LD541	Prehistoric Component	1999	No	No
44LD542	Prehistoric Component	1999	No	No
44LD543	Historic Component	1999	**Yes**	No
44LD611	Prehistoric Component Historic Component	1999	No	No
44LD1029	Prehistoric Component Historic Component	February 2004	**Yes**	No
44LD1030	Prehistoric Component Historic Component	February 2004	No	No
44LD1031	Prehistoric Component Historic Component	February 2004	No	No
44LD1032	Prehistoric Component Historic Component	February 2004	No	No

Site	Components Present	Phase I Completed	Phase II Recommended?	Eligible? (Phase III Required)
44LD1033	Prehistoric Component Historic Component	February 2004	No	No
44LD1034	Prehistoric Component Historic Component	February 2004	**Yes**	No
44LD1035	Prehistoric Component Historic Component	February 2004	No	No
44LD1036	Prehistoric Component Historic Component	February 2004	No	No
44LD1037	Prehistoric Component Historic Component	February 2004	**Yes**	No
44LD1038	Prehistoric Component	February 2004	No	No
44LD1039	Prehistoric Component	February 2004	No	No
44LD1040	Prehistoric Component Historic Component	February 2004	No	No
44LD1041	Prehistoric Component Historic Component	February 2004	**Yes**	No
44LD1042	Historic Component	February 2004	**Yes**	**Yes (pending)**
44LD1043	Prehistoric Component	February 2004	No	No
44LD1044	Prehistoric Component Historic Component	February 2004	No	No
44LD1045	Historic Component	February 2004	No	No
44LD1046	Prehistoric Component Historic Component	February 2004	No	No
44LD1076	Prehistoric Component	March 2004	No	No
44LD1077	Prehistoric Component	March 2004	**Yes**	No
44LD1078	Historic Component	March 2004	No	No
44LD1079	Prehistoric Component	March 2004	No	No

Site	Components Present	Phase I Completed	Phase II Recommended?	Eligible? (Phase III Required)
44LD1080	Historic Component	March 2004	No	No
44LD1081	Prehistoric Component	March 2004	**Yes**	No
44LD1082	Historic Component	March 2004	No	No
44LD1083	Prehistoric Component Historic Component	March 2004	No	No
44LD1084	Prehistoric Component Historic Component	March 2004	No	No
44LD1085	Historic Component	March 2004	No	No
44LD1086	Historic Component	March 2004	No	No
44LD1087	Prehistoric Component	March 2004	No	No
44LD1088	Prehistoric Component	March 2004	No	No
44LD1089	Prehistoric Component	March 2004	No	No
44LD1090	Prehistoric Component Historic Component	March 2004	No	No
44LD1091	Historic Component	March 2004	No	No
44LD1154	Prehistoric Component Historic Component	August 2004	No	No
44LD1155	Prehistoric Component	August 2004	No	No



* Site determined to be eligible for listing in NRHP by FAA with concurrence from Virginia SHPO.

** Site determined to be eligible for listing in NRHP by FAA. Consultation with the Virginia SHPO for these sites is ongoing.

Dulles Airport New Runways
Environmental Impact Statement

ARCHAEOLOGICAL AREA OF POTENTIAL EFFECTS

FIGURE
5-1

Date: 07/28/05

H:\gis on ml370\Dulles_EIS\2001757\Applications\dulles_pdeis_section 106_ver2.apr\Layout: Figure 5-1 Archaeological Area of Potential Effect), RPF, 07/28/05

6.1 SUMMARY

A total of ten architectural resources were identified within the APE for the proposed Dulles runway alternatives. One resource, Sully Plantation (VDHR #029-0037), is listed in the National Register; and one resource, the Dulles Airport Historic District (VDHR #053-0008) has previously been determined to be eligible for listing in the National Register. No additional National Register-listed or eligible properties were identified during the course of this survey.

Table 3 provides a summary of each architectural resource's National Register status, the potential for adverse effects, and potential treatment measures. Proposed measures that will minimize or mitigate adverse effects are also discussed below.

A total of 53 archaeological sites were identified within the APE for the proposed Dulles runway alternatives. Phase I survey for the entire Dulles facility was completed in 2004. SHPO concurrence with the Phase I findings was received in November 2004. Phase II evaluations were recommended for 14 sites to determine if they are eligible for inclusion in the National Register and were completed in July 2005. Table 3 shows the results of these evaluation studies. One archaeological site (44FX2840) has been determined to be eligible for listing in the National Register and concurrence has been received from the SHPO. An additional three sites (44LD538; 44LD539; and 44LD1042) have been determined to be eligible for listing in the National Register by the FAA and MWAA and consultation for these sites is ongoing. A Memorandum of Agreement (MOA) is currently being developed between these parties to address the completion of the archaeological investigations. A copy of the draft MOA is included in Appendix A of this report.

6.2 CONCLUSIONS

Consideration of effects to historic properties under Section 106 of the National Historic Preservation Act involves only properties that are listed in or are eligible for listing in the National Register. Therefore, a summary of the assessments of effects are only provided for Sully Plantation (VDHR #029-0037) and the Dulles Airport Historic District (VDHR #053-0008).

The No Action alternative would have no effect on historic resources. No properties would be affected by this action as there would be no demolition or changes to the existing decibel levels.

Both Build Alternative 3 and Build Alternative 4 would have no adverse effect on historic resources. Sully Plantation (VDHR #029-0037) will not experience an adverse effect due to either of these build alternatives. Initial noise modeling indicates that the construction of additional runways would divert traffic away from the existing runway located closest to Sully Plantation (VDHR #029-0037). This in turn would result in the aircraft-related noise level either remaining the same, or experiencing an estimated 1 dBA decrease.

Preliminary analysis suggests that Build Alternative 3 or Build Alternative 4 would not adversely affect the Dulles Airport Historic District (VDHR #053-0008). The construction of two new runways would not adversely affect the Dulles Airport Historic District (VDHR #053-0008). However, FAA considers the proposed Tier 3 Concourse Improvements and associated utility

improvements, as well as other associated actions within or proximate to the District, to be a connected action in support of the build alternatives. Further Section 106 consultation for the Dulles Airport Historic District regarding the level of effect, if any, will be conducted by FAA once more detailed information regarding the proposed Tier 3 Concourse Improvements, and associated construction, is developed. This approach is consistent with a phased identification and evaluation of historic resources, as described in 36 CFR 800(4)(b)(2).

The McCulloch Farm Ruins (VDHR # 053-5264 and 44LD543) was determined to be ineligible for listing in the National Register under Criteria A, B, or C by the SHPO in October 2004. Phase II evaluation of the site, which was completed in July 2005, determined that the site is not eligible for the National Register under Criterion D. Concurrence with FAA and MWAA's determination is pending. If this resource is determined to be eligible for the National Register, then adverse effects on the site will be mitigated according to stipulations provided in the project MOA.

Table 3: Summary of Structures Survey Findings

VDHR Inventory #	Name	Property Type	NR Eligibile? (Criteria)	No Action Alternative	Build Alternative 3	Build Alternative 4	Potential Treatment Measures
029-0037	Sully Plantation	Farmstead	Listed (B, C)	No effect	No adverse effect	No adverse effect	No action necessary
053-0008	Dulles Airport Historic District	Airport	Yes (A, C)	No effect	No adverse effect; based on information currently available	No adverse effect; based on information currently available	Defer formal effects assessment until more design data is produced
029-5274	Manassas Gap Rail Bed	Landscape Feature	No	N/A	N/A	N/A	No action necessary
053-5252	Farmstead	Farmstead	No	N/A	N/A	N/A	No action necessary
053-5257	Building 14-National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A	No action necessary
053-5258	Building 16-National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A	No action necessary
053-5261	Interservice Radio Propagation Laboratory Complex	Laboratory Complex	No	N/A	N/A	N/A	No action necessary

VDHR Inventory #	Name	Property Type	NR Eligibile? (Criteria)	No Action Alternative	Build Alternative 3	Build Alternative 4	Potential Treatment Measures
053-5263	Moran House	House	No	N/A	N/A	N/A	No action necessary
053-5264	McCulloch Farm Ruins	Ruins	No (Criterion D Pending)	N/A	No adverse effect; based on information currently available	No adverse effect; based on information currently available	Defer formal effects assessment until concurrence with Phase II Evaluation is received
053-5266	House at 44210 Beaver Meadow Road Ruins	Ruins	No	N/A	N/A	N/A	No action necessary

Both Build Alternative 3 and Build Alternative 4 would have an adverse effect on four archaeological sites. One site (44FX2840) has been determined to be eligible for listing in the National Register and concurrence received from the Virginia SHPO. The remaining three sites (44LD538; 44LD539; and 44LD1042) have been determined to be eligible for listing in the NRHP by the FAA and MWAA and consultation with the Virginia SHPO for these sites is ongoing. For each of these sites, Phase III Data Recovery will be undertaken in accordance with stipulations outlined in the project MOA.

6.3 RECOMMENDATIONS

A MOA is currently being drafted between the FAA, MWAA, and the SHPO to address the completion of the archaeological investigations as well as the design and construction of the proposed Tier 3 Concourse Improvements. The MOA includes a design review process for the proposed construction, assessment of effects on the Dulles Airport Historic District, and measures to mitigate adverse effects on National Register-eligible archaeological sites. Appropriate mitigation measures for affected archaeological sites may include in-situ preservation, Phase III data recovery, public interpretation, or any combination of these and other measures as deemed appropriate by FAA, MWAA, and SHPO.

The proposed MOA includes language and procedures for the design review process and effects assessment taken from the 1987 Programmatic Memorandum of Agreement (PMOA) executed by the Authority, SHPO, and the Advisory Council on Historic Preservation (ACHP) and two 1993 MOAs regarding the expansion of the Main Terminal and construction of Midfield Concourse Facilities, all of which were signed by the ACHP. The archaeological procedures section includes language on the archaeological evaluation and review processes from both the PMOA and the June 2004 Statement of Concurrence between the Authority and SHPO.

The Advisory Council on Historic Preservation (ACHP) was notified of the adverse effect to historic properties and planned execution of a MOA by the FAA on June 17, 2005. The FAA invited the ACHP to participate in the on-going Section 106 consultation process or as a

signatory to the proposed MOA. The ACHP declined to participate in their letter dated July 19, 2005. Copies of related correspondence is included in Appendix A.

Execution of the Runway Expansion MOA satisfies FAA's Section 106 responsibilities for all actions associated with the Preferred Alternative. A copy of the draft MOA is included in Appendix A of this report a copy of the executed MOA will be included in the Record of Decision for this project.

Andrews, Matthew Page. *Virginia the Old Dominion*. Garden City, N.Y.: Doubleday, Doran & Company, Inc., 1937.

Arthur, T.S. and W.H. Carpenter. *The History of Virginia, from its Earliest Settlement to the Present Time*. Philadelphia: Lippincott, Grambo & Co., 1852.

Ayers, Edward. *The Promise of the New South: Life after Reconstruction*. New York: Oxford University Press, 1992.

Bailey, Liberty Hyde. *Cyclopedia of American Agriculture: A Popular Survey of Agricultural Conditions, Practices and Ideals in the United States and Canada*, 4 vols. New York: The Macmillan Company, 1909.

Bailey, Worth. *Sully (VA-250)*, Historic American Building Survey, 1961. From the collections of the Library of Congress, Photography and Prints Division, Washington, D.C.

Beeman, Randal S. *A Green and Permanent Land: Ecology and Agriculture in the Twentieth Century*. Lawrence, Kan.: University Press of Kansas, 2001.

Binns, John A. *A Treatise on Practical Farming*. Frederick-town, Md.: John B. Colvin, 1803.

Brown, S. Howell. *Map of Loudoun County, Virginia, Approved by S. Howell Brown 1st Lt. Engr. Troop In Chg: Tope. Dept A.N.Va March 23rd 1864*. Manuscript. 1864. From the collections of the Library of Congress, Geography and Map Division, Washington, D.C.

Bruce, Philip Alexander. *Virginia, Rebirth of the Old Dominion*. New York: The Lewis Publishing Company, 1929.

Bruce, Philip Alexander, Lyon Gardiner Taylor, and Richard Lee Morton. *History of Virginia*. Chicago: The American Historical Society, 1924.

Civil War Centennial Commission. *Loudoun County and the Civil War, a History and Guide*. Leesburg, Va.: N.p., 1961.

Clark, William Horace. *Farms and Farmers: The Story of American Agriculture by William H. Clark. Illustrated from Photographs and Old Prints*, 2nd ed. Freeport, N.Y.: Books for Libraries Press, 1970.

Cochrane, Willard Wesley. *The Development of American Agriculture: A Historical Analysis*, 2nd ed. Minneapolis: University of Minnesota Press, 1993.

Conrat, Maisie. *The American Farm: A Photographic History*. San Francisco: California Historical Society, 1977.

Cooke, John Esten. *Virginia: A History of the People*, reprint of 1903 ed., with a supplementary chapter. William Garrott Brown, editor. New York: AMS Press, 1973.

Coulter, John Lee. "Agricultural Laborers in the United States," *Country Life* (American Academy of Political and Social Science) 40: 40-44 (March, 1912).

Crowl, Heather. *A History of Roads in Fairfax County, Virginia: 1608-1840*. Master's Thesis. Submitted to the College of Arts and Sciences of American University, Washington, D.C. N.p.: n.p., 2002.

Dabney, Virginius. *Virginia, the New Dominion*, 2nd ed. Charlottesville, Va.: University Press of Virginia, 1983.

Danbom, David B. *Born in the Country: A History of Rural America*. Baltimore, Md.: The Johns Hopkins University Press, 1995.

Daniel, James Randolph Vivian. *A Hornbook of Virginia History*. Richmond: Virginia Department of Conservation and Economic Development, Division of History, 1949.

Davenport, Eugene, Ph.D. "Scientific Farming," *Country Life* (American Academy of Political and Social Science) 40: 45-50 (March, 1912).

Deck, Patrick A. and Henry Heaton, editors. *An Economic and Social Survey of Loudoun County*. Charlottesville, Va.: University of Virginia Press, 1926.

Doane Agricultural Service, Inc. *The Farm Book: A Guide to Better Farming with Better Buildings*. Portland, Or.: West Coast Woods, 1947.

Donnely-Shay, Nan and Griffin Shay. *The County of Loudoun: An Illustrated History*. Norfolk, Va.: Donning Co., 1988.

Douglas, H. H. "The Unfinished Independent Line of the Manassas Gap Railroad," *Pioneer America, Journal of Historic American Material Culture*. Vol. 5 No. 4, November 1975.

Drache, Hiram M. *Legacy of the Land: Agriculture's Story to the Present*. Danville, Ill.: Interstate Publishers, Inc., 1996. Also published in hardcover under the title *History of U.S. Agriculture and Its Relevance to Today*.

Ekblaw, K.J.T. *Farm Structures*. New York: The Macmillan Company, 1917.

Fishback, Mary. *Loudoun County: 250 Years of Towns and Villages*. N.p., n.d.

Foote, William Henry. *Sketches of Virginia: Historical and Biographical*, 2nd ed., rev. Philadelphia: J.B. Lippencott, 1856.

Foster & Henderson, Loudoun County Land Agents. *Loudoun County, Virginia*. Leesburg, Va.: N.p., [1870?].

Gamble, Robert S. *Sully*, 2nd Ed. Arlington, Va.: Kirby Lithographic Company, Inc., 1994.

Gillespie, Richard T. *A Perfect Sneering Nest of Rebels: Leesburg in the Civil War*. Leesburg, Va.: The Loudoun Museum, 1998.

Hall, Granville Davisson. *The Rending of Virginia, a History*. Chicago: Mayer & Miller, 1902.

Halsted, Byron David. *Barn Plans and Outbuildings*. New York: Orange Judd Co., 1918.

Harrison, Fairfax. *Landmarks of Old Prince William*, reprint of 1924 ed. Baltimore: Gateway Press, Inc., 1987

Head, James W. *History and Comprehensive Description of Loudoun County, Virginia*. Washington, D.C.: Park View Press, 1908.

Hergesheimer, E. *Loudon Count, Virginia Compiled under the direction of Lieut Col. J.N. Macomb A.D.C. Chf. Top Engr for the use of Maj. Gen. Geo. C. McClellan Commanding Army of Potomac*. Manuscript. 1861. From the collections of the Library of Congress, Geography and Map Division, Washington, D.C.

Hibbard, Benjamin Horace. "Farm Tenancy in the United States," *Country Life* (American Academy of Political and Social Science) 40: 29-39 (March, 1912).

Holland, Barbara. *Bingo Night at the Fire Hall: The Case for Cows, Orchards, Bake Sales, & Fairs*. New York: Harcourt Brace, 1997.

Holmes, Katherine. *Armel Farm (53-5246)*, Virginia Department of Historic Resources Intensive Survey Field Form N.p., 1996.

_____. *Historic Resources on the Dulles Airport Property*. N.p., 1995.

_____. *Stallion Cemetery*, Virginia Department of Historic Resources Intensive Survey Field Form N.p., 1996.

Hopkins, Alfred. *Modern Farm Buildings*. New York: Robt. M. McBride & Company, 1916.

Hunt-Helm-Ferris and Co., Inc. *The "How" Book for Contractors: A Common Sense Reference Work for the Practical Man*. Harvard, Ill.: Hunt-Helm-Ferris and Co., Inc, 1914.

Hurt, R. Douglas. *Problems of Plenty: the American Farmer in the Twentieth Century*. Chicago: Ivan R. Dee, 2002.

James Manufacturing Co. *The James Way: A Book Showing How to Build and Equip a Practical up to Date Dairy Barn*. Fort Atkinson: James Manufacturing Co., 1919.

Janney, Asa Moore. "A Short History of the Society of Friends in Loudoun County," *The Bulletin of the Loudoun County Historical Society* 8 (1965).

_____. *Ye Meeting Hous Smal: A Short Account of Friends in Loudoun County, Virginia, 1732-1980*. Lincoln,Va: N.p., 1980.

John Milner Associates, Inc. *Phase I Archeological Investigations for Runway 4; Washington Dulles International Airport; Fairfax and Loudoun Counties, Virginia*. N.p., February 2004.

_____. *Phase I Archeological Investigations for the Crosswind Runway; Washington Dulles International Airport; Fairfax and Loudoun Counties, Virginia*. N.p., March 2004.

_____. *Phase II Archeological Investigations for the Crosswind Runway; Washington Dulles International Airport; Fairfax and Loudoun Counties, Virginia*. N.p., June 2005.

Kercheval, Samuel. *A History of the Valley of Virginia*. Harrisonburg, Va.: C. J. Carrier Co., 1925.

Lanier, Gabrielle M. and Bernard L. Herman. *Everyday Architecture of the Mid-Atlantic*. Baltimore, Md.: Johns Hopkins University Press, 1997.

Larson, Chiles T.A. *Virginia's Past Today*. Charlottesville, Va.: Howell Press, 1998.

Liebs, Chester H. *Main Street to Miracle Mile: American Roadside Architecture*. Baltimore: The Johns Hopkins University Press, 1995.

Loudoun County, Virginia, Postwar Employment Committee. *A Report by the Postwar Employment Committee of Loudoun County*. Richmond, Va.: Division of Purchase and Printing, 1945.

Loudoun County, Virginia, Department of Economic Development. *2001 Annual Growth Summary*. Leesburg, Va.: Department of Economic Development, 2002.

Martin, Joseph. *New and Comprehensive Gazetteer of Virginia*. Charlottesville, Va.: N.p., 1835.

Metro Virginia News. *Loudoun Harvest: Faces and Places, Past and Present, in Loudoun County, Virginia: A Collection of Stories and Photographs from the First Volume of the Metro Virginia News*. Leesburg, Va.: Carr Printing and Publishing Co., 1973.

Metropolitan Washington Airports Authority. *History of Washington Dulles International Airport*. Available on the Internet at <http://www.metwashairports.com/dulles/history.htm>. Accessed April, 18, 2003.

National Plan Service, Inc. *Successful Farm Buildings*. N.p.: National Plan Service, Inc., n.d.

Netherton, Nan, Donald Sweig, Janice Artemel, Patricia Hickin, and Patrick Reed. *Fairfax County, Virginia: A History*, 250th Anniversary comm. ed. Fairfax, Va.: Fairfax County Board of Supervisors, 1992.

Nichols, Joseph V. *Loudoun Valley Legends*. Purcellville, Va.: N.p., 1955.

Nobel, Allen G. and Richard K. Cleek. *The Old Barn Book: A Field Guide to North American Barns & Other Farm Structures*. New Brunswick, N.J.: Rutgers University Press, 1997.

Opportunity: Leesburg and You. Leesburg, Va.: Colonial Leesburg, Inc., 1949.

Parsons Management Consultants. *Washington Dulles International Airport, Loudoun and Fairfax Counties Virginia, Historic and Archaeological Survey Report.* N.p., 1989.

Peterson, Ervin L. "Farmers in the Middle," *Annual Report* (Maryland Agricultural Society) 43: 24-27 (1958).

Phillips, John T. *The Historians Guide to Loudoun County, Virginia*. Leesburg, Va.: Goose Creek Productions, 1997.

Poland, Charles Preston Jr. *From Frontier to Suburbia*. Marceline, Mo.: Walsworth Publishing, 1976.

Radford, William A. *Practical Country Buildings*. Warsau, Wis.: Northern Hemlock and Hardwood Manufacturers' Assoc., 1912.

Raflo, Frank. "A Walk Through the Historic Town of Leesburg, Virginia," *The Lamplighter.* Leesburg, Va.: N.p., 1976.

_____. *Within the Iron Gates: A Collection of Stories About Loudoun as Remembered After Rereading the Loudoun Times-Mirror for the Years 1925-1975*. Leesburg, Va.: Loudoun Times-Mirror, 1988.

Rawson, Richard. *Old Barn Plans*. New York: Bonanza Books, 1979.

Roberts, H. Armstrong. *The Farmer: His Own Builder*. Philadelphia: David McKay, 1918.

Rosie the Riveter Trust. *Rosie the Riveter Trust*. Available on the Internet at: < http://www.rosietheriveter.org/ >. Accessed April 4, 2003

Rubin, Louis Decimus, Jr. *Virginia: A History*. Nashville, Tenn.: American Association for State and Local History, 1984.

Samuels, Harriet Brockman, editor. *Loudoun County, Virginia, Past and Present*. Princeton, N.J.: Graphic Arts Press, 1940.

Schafer, Joseph. *The Social History of American Agriculture*, 2nd ed. New York: DeCapo Press, 1970.

Scheel, Eugene. *The Guide to Loudoun—A Survey of the Architecture and History of a Virginia County*. Leesburg, Va.: Potomac Press, 1975.

_____. *Loudoun Discovered: Communities, Corners & Crossroads*, vol. 1-5, Eastern Loudoun. Leesburg, Va.: Friends of the Thomas Balch Library, 2002.

Schlebecker, John T. *Whereby We Thrive: A History of American Farming, 1607-1972*. Ames, Iowa: Iowa State University Press, 1975.

Shannon, Fred A. *American Farmers' Movements*. Princeton, N.J.: Van Nostrand, 1957.

Simkins, Francis, Butler. *Virginia: History, Government, Geography*. New York: Scribner, 1957.

Squires, William Henry Tappey. *Unleashed at Long Last: Reconstruction in Virginia, April 9, 1865- January 26, 1870, by W.H.T. Squires*. Portsmouth, Va.: Printcraft Press, 1939.

Taylor, Carl C. *The Farmers' Movement, 1620-1920*. New York: American Book Co., 1953.

Taylor, Yardley. *Map of Loudoun County, Virginia from Actual Surveys by Yardley Taylor*. Philadelphia: Thomas Reynolds & Robert Pearsall Smith, 1854. From the collections of the Library of Congress, Geography and Map Division, Washington, D.C.

_____. *Memoir of Loudon County, Virginia*. Leesburg, Va.: T. Reynolds, 1853.

United States Agricultural Adjustment Administration. *So They Meet*. Washington, D.C.: U.S. Government Printing Office, [1934]. Series of 12 leaflets detailing the ways in which the problems of farmers and urban dwellers are related and how the Agricultural Adjustment Act affects them both.

_____. *Construction Handbook for County AAA Committees*. Washington, D.C.: U.S. Government Printing Office, [1943?].

United States Department of Agriculture. *Our American Land*. Washington, D.C.: U.S. Government Printing Office, 1987.

United States Department of Agriculture. Soil Conservation Service. *Soil Survey: Loudoun County, Virginia*. Washington, D.C.: U.S. Government Printing Office, 1960.

United States Department of the Interior, National Park Service. *How to Apply the National Register Criteria for Evaluation,* National Register Bulletin 15, rev. Washington DC: Government Printing Office, 2002.

United States Post Office Service. Division of Topography. *Rural Delivery Routes: Loudoun County,* Virginia. Washington, D.C.: United States Post Office Service, Division of Topography, 1925. From the collections of the Library of Congress, Geography and Map Division, Washington, D.C.

_____. *Rural Delivery Routes: Loudoun County,* Virginia. Washington, D.C.: United States Post Office Service, Division of Topography, 1941. From the collections of the Library of Congress, Geography and Map Division, Washington, D.C.

Virginia Department of Historic Resources. *Guidelines for Conducting Cultural Resource Survey in Virginia*. Richmond, VA, 1999, Rev. 2003.

_____. *How to Use Historic Contexts in Virginia: A Guide for Survey, Registration, Protection and Treatment Projects*. Richmond, VA, 1991.

Virginia State Department of Education. "Quality Education for Virginia: A Constitutional Priority," *The Standards of Quality*. Available on the Internet at <http://dls.state.va.us/pubs/lgpe/lgpe3.pdf>. Accessed March 31, 2003.

Wedge, John. Personal Communication. Notes in possession of URS Corporation. April 2003.

Weyerhauser 4-Square Farm Building Service. *Good Buildings Increase Farm Income*. Saint Paul, Mn.: Weyerhauser Sales Company, n.d.

Whitaker, James H. *Agricultural Buildings and Structures.* Reston, VA: Reston Publishing Co., 1979.

Williams, Ames W. *The Washington and Old Dominion Railroad*. Arlington, Va.: N.p., 1989.

Williams, Harrison. *Legends of Loudoun: An Account of the History and Homes of a Border County of Virginia's Northern Neck*. Richmond, Va.: Garrett & Massie, 1938.

Williams, Robert C. *Fordson, Farmall, and Poppin' Johnny: A History of the Farm Tractor and Its Impact on America*. Urbana, Ill.: University of Illinois Press, 1987.

Works Progress Administration, Writer's Program. *Virginia: A Guide to the Old Dominion*. New York: Oxford University Press, 1941.

Worrilow, George M. "Agriculture- At the Crossroads," *Annual Report* (Maryland Agricultural Society) 43: 28-31 (1958).

Wust, Klaus. *The Virginia Germans*. Charlottesville, Va.: The University of Virginia Press, 1989.

Yeoman, R.C. *The Rural Efficiency Guide*, 2 vols. Cleveland: R.C. Barnum Company, 1917.

Zelinsky, Wilbur. *The Cultural Geography of the United States*, rev. ed. Englewood Cliffs, N.J.: Prentice Hall, 1992.

Appendix A
Agency Correspondence
and
Draft Memorandum of Agreement (MOA)

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL AVIATION ADMINISTRATION,
METROPOLITAN WASHINGTON AIRPORTS AUTHORITY, AND
THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES,
REGARDING THE
NEW RUNWAYS, TERMINAL FACILITIES AND RELATED FACILITIES AT WASHINGTON DULLES INTERNATIONAL AIRPORT PROJECT

WHEREAS, the Federal Aviation Administration (FAA), in cooperation with the Metropolitan Washington Airports Authority (Authority), is proposing to construct a new parallel north-south runway to the west of the airport, approximately 9,473 feet long by 150 feet wide, and a new parallel east-west runway to the south of the airport, approximately 10,500 feet long by 150 feet wide. The proposed project also includes associated taxiways, navigational aids, and construction of a Tier 3 Concourse in accordance with the FAA's 1985 Master Plan Study for Washington Dulles International Airport and the Authority's 2004 updated Airport Layout Plan, also known as the "Project;" and

WHEREAS, the *Draft Environmental Impact Statement for New Runways, Terminal Facilities, and Related Facilities at Washington Dulles International Airport* (issued January 2005) (DEIS) and supporting technical reports provide background information for this Memorandum of Agreement (MOA); and

WHEREAS, the Authority, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (Council) are parties to a 1987 Programmatic Memorandum of Agreement (PMOA) executed in connection with the FAA's lease of Washington National and Washington Dulles International Airports to the Authority; and

WHEREAS, the PMOA governs the handling of undertakings at the airports that may have an effect on properties eligible for inclusion in the National Register of Historic Places (National Register) and provides that such projects will be handled in accordance with 36 CFR Part 800 with respect to review by the SHPO and the Council; and

WHEREAS, the proposed Project constitutes a Federal undertaking by FAA, as defined in 36 CFR 800.16(y) *Protection of Historic Properties*; and

WHEREAS, the FAA and the Authority have completed Phase I investigations of archeological resources, Phase II National Register evaluation studies of archaeological resources, as well as identification surveys and National Register evaluations of above-ground historic resources, to meet their responsibilities under 36 CFR Part 800 associated with the development of the DEIS; and

WHEREAS, the Project may have an effect on the National Register of Historic Places (National Register) listed Dulles Airport Historic District; and

WHEREAS, the Project will have an adverse effect on one or more archeological resources, including site 44FX2840, that are eligible for inclusion in the National Register, as a result of activities related to implementation of the Project, including, but not limited to, construction staging, ground disturbance, and construction; and

WHEREAS, the FAA and the Authority have consulted with the Virginia Department of Historic Resources (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act, as amended, (16 USC 470f); and

WHEREAS, the Council has been provided an opportunity to comment on this MOA, and in a July 19, 2005 letter, has declined to participate in ongoing Section 106 consultation or as a signatory of this MOA; and

WHEREAS, the Loudoun County, Virginia, Planning Department (Loudoun County) has requested to serve as a consulting party to this MOA pursuant to 36 CFR 800.2(c)(3). Because Loudoun County does not have legal authority or jurisdiction over the Authority's activities at the airport, the FAA and the Authority have determined that the county will instead be provided with the opportunity to sign this MOA as a concurring party; and

WHEREAS, it is understood that this MOA is based upon review of conceptual designs as shown in the DEIS; and

WHEREAS, the FAA and the Authority, in carrying out the stipulations of this MOA, will coordinate with the SHPO and Loudoun County as necessary; and

WHEREAS, any rights and responsibilities assigned to a specific party herein shall be voided if that party does not sign the MOA;

NOW, THEREFORE the FAA, the Authority, SHPO, and Loudoun County agree that the Project will be implemented in accordance with the following stipulations in order to take into account the effect of the Project on historic properties.

Stipulations

The FAA and the Authority will ensure that the following measures are carried out:

I. Design Review

A. All design elements related to the Tier 3 Concourse Improvements at Dulles will conform to the existing Dulles Airport Architectural Design Guidelines, which are included in this MOA as Appendix 1, and the current airport Master Plan, which includes general planning guidelines taken from the original 1964 Saarinen Master Plan.

B. The design of the Tier 3 Concourse Improvements will take into account the historic and architectural qualities of the original Dulles International Airport Historic District and incorporate the recommended approaches to new construction set forth in the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.

C. FAA and the Authority will submit to the SHPO the preliminary design plans for the Tier 3 Concourse Improvements to demonstrate that the design of the proposed building is sensitive to the historic architectural character of the Dulles Airport Historic District. Concurrently, the FAA and the Authority will provide notification to Loudoun County of this transmittal to the SHPO.

D. FAA and the Authority shall further ensure that the Project Architect will submit to the SHPO for its review and comment complete project plans and specifications for the Tier 3 Concourse Improvements including its exterior elements and all site improvements surrounding the building. The Architect will submit such plans to the SHPO at the completion of the 30%, 60%, and 90% design development levels. For each submission, the FAA and the Authority will provide notification to Loudoun County regarding each transmittal to the SHPO.

E. When design and project plans are submitted to the SHPO, the SHPO shall be afforded an opportunity to comment, not to exceed 30 calendar days. If no response if received within 30 calendar days of confirmed receipt, concurrence may be assumed.

II. Dulles Airport Historic District

A. During the final design phase, FAA and the Authority will consult with the SHPO to assess the Tier 3 Concourse Improvements design's effects on the Dulles Airport Historic District. Consultation shall include the completion of a viewshed analysis in order to study the potential visual impacts of the Tier 3 Concourse Improvements on the main concourse of the Main Terminal and the South Finger.

B. If FAA and the Authority, in consultation with the above parties, agree that the Tier 3 Concourse Improvements design will have an adverse visual effect on the historic district, FAA and the Authority shall develop and implement a treatment plan to avoid, minimize, or mitigate visual impacts. The treatment plan shall be prepared and implemented in accordance with the appropriate standards and guidelines listed in Section V.B. of this MOA.

C. FAA and the Authority shall ensure that the SHPO is afforded an opportunity to comment, not to exceed 30 calendar days, to review and approve a treatment plan for this property. If no response if received within 30 calendar days of confirmed receipt, concurrence may be assumed.

III. Archaeology

A. Phase II Site Evaluation

1. FAA and the Authority have completed Phase II Site Evaluation Studies for the following sites, all of which were jointly recommended for further evaluation by FAA, the Authority, and SHPO in 2004:

    a) North-South Runway: 44LD538, 44LD539, 44LD543, 44LD1029, 44LD1034, 44LD1037, 44LD1041, and 44LD1042.

    b) Crosswind Runway: 44LD1077, 44LD1081, 44FX2540, 44FX2541, and 44FX2839.

2. Following the completion of the Phase II investigations, each site listed in Stipulation III.A.1. of this MOA was evaluated for National Register eligibility using the criteria outlined in National Register Bulletin 15, *Guidelines for Applying the National Register Criteria for Evaluation*, published by the National Park Service. Evaluation efforts were conducted in a manner consistent with the standards and guidelines listed in Stipulation VI.B. of this MOA.

3. FAA and the Authority provided the SHPO with an opportunity to comment, not to exceed 30 calendar days, to review and approve the Phase II reports. The SHPO concurred that site 44FX2840, as well as

sites [to be determined – 44LD538 (Historic Component), 44LD539 (Prehistoric and Historic Components), and 44LD1042 (Eligible)] are eligible for listing in the National Register.

4. Upon determining if a site is eligible for the National Register, FAA, the Authority, and the SHPO, after considering the views of Loudoun County, shall jointly determine if an eligible site adversely affected by the Project will be preserved in place or will require Phase III Data Recovery.

B. Phase III Data Recovery

1. FAA and the Authority shall ensure that an Archeological Data Recovery Plan (DRP) is developed in consultation with the SHPO for any site recommended for data recovery through the steps outlined in Stipulation III.A. of this MOA.

2. The DRP shall be consistent with the performance standards outlined in Stipulation VI. below and shall specify, at a minimum:

    a) The sites where data recovery is to be carried out;

    b) The research questions to be addressed through data recovery, with an explanation of their relevance and importance;

    c) The research and field methods to be used, with an explanation of their relevance to the research questions;

    d) The methods to be used in analysis, data management, and data dissemination;

    e) The disposition of recovered materials and records; and

    f) Proposed methods for involving the interested public in the data recovery process, as well as methods for disseminating the results of the work to the interested public.

3. FAA and the Authority shall ensure that the SHPO is afforded an opportunity to review and comment on the DRP, not to exceed 30 calendar days. If no response if received within 30 calendar days of confirmed receipt, concurrence may be assumed.

4. FAA and the Authority shall ensure that the DRP is implemented and that all Data Recovery activities are concluded, and concurrence received from the SHPO, before the site is disturbed by construction activities.

C. In-Situ Preservation

1. FAA and the Authority shall ensure that any site recommended for In-Situ Preservation through the steps outlined in Stipulation III.A. of this MOA shall remain undisturbed during construction activities. Temporary fencing (e.g., orange construction fencing) shall be placed around the perimeter of sites during construction activities to help ensure that the area remains undisturbed.

2. The site shall be monitored during adjacent construction activities and shall be included in progress reports as outlined in Stipulation VII.B.

IV. Discovery

A. During the course of this undertaking, FAA and the Authority shall ensure that the SHPO is informed of unanticipated finds within the project's Area of Potential Effects (APE) during construction activities. Potential historic properties are herein considered any building, structure, object, or archaeological site to which the National Register Criteria of Eligibility (36 CFR 60.4) has not already been applied. FAA and the Authority shall not take any actions that would adversely affect such properties until such time as it has taken the following actions and resolved or mitigated all Section 106 responsibilities regarding such unanticipated finds:

1. Upon notification of an unanticipated find within the undertaking's APE, FAA and the Authority will undertake the following steps outlined in 36 CFR 800.13(b through d) in order to ensure compliance with Section 106 of the National Historic Preservation Act:

   a) In the event that unanticipated finds are discovered within the APE, FAA and the Authority will immediately halt all construction work involving subsurface disturbance in the immediate area of the resource and in the surrounding area where further subsurface resources can reasonably be expected to occur and immediately notify the SHPO of the discovery.

   b) FAA, the Authority, SHPO or an archaeologist approved by them, will immediately inspect the work site and determine the area and nature of the affected archaeological resource. Construction work may then continue in the area outside the archaeological resource as defined by FAA, the Authority, and the SHPO, or their designated representative.

   c) Within five (5) working days of the original notification of discovery, FAA and the Authority, in consultation with the SHPO, will determine the National Register eligibility of the resource.

d) If the unanticipated find is determined eligible for listing in the National Register, the applicant shall prepare a plan for its avoidance, protection, or recovery of information. FAA, the Authority, and the SHPO, shall approve such plan, prior to implementation.

e) Work in the affected area shall not proceed until either:

(1) the development and implementation of appropriate data recovery or other recommended mitigation procedures, or

(2) the determination is made that the unanticipated find is not eligible for inclusion in the National Register. Any disputes over the evaluation or treatment of previously unanticipated finds will be resolved as provided in the Stipulation VIII of this Memorandum.

2. In accordance with 36 CFR 800.13(b), the identification of unanticipated finds during the implementation of the undertaking does not require FAA and the Authority to stop work on the overall undertaking, but to make reasonable efforts to avoid or minimize harm to the resource until the requirements of 36 CFR 800.13 are met.

3. Any disputes over the evaluation or treatment of unanticipated finds will be resolved as provided in Stipulation VIII of this MOA.

V. Human Remains

FAA and the Authority shall ensure that human skeletal remains and associated funerary objects encountered during the course of actions taken as a result of this agreement shall be treated in accordance with the Regulations Governing Permits for the Archaeological Removal of Human Remains (Virginia Register 390-01-02) found in the Code of Virginia (10.1-2305, et seq., Virginia Antiquities Act). If necessary, the applicant will obtain a permit from the SHPO for the removal of human remains in accordance with the regulations stated above.

VI. Administration

A. Professional Qualifications

FAA and the Authority shall ensure that in completing the necessary provisions of this Agreement that it will employ or contract with appropriate qualified professionals who meet *The Secretary of Interior's Professional Qualification Standards* (48 FR 44716, Sept. 1983).

B. Standards and Guidelines

FAA and the Authority shall ensure that all cultural resource work carried our pursuant to this Agreement shall be carried out in accordance with the following standards and guidelines, as applicable:

1. *Archeological Resources Protection Act of 1979*, as amended (16 USC 470aa-470ll);

2. *Curation of Federally-Owned and Administered Archeological Collections* (36 CFR Part 79);

3. *National Historic Preservation Act of 1966*, as amended (16 USC 470 et seq.);

4. *Native American Graves Protection and Repatriation Act of 1990* (25 USC 3001 et. seq);

5. *Protection of Historic Properties* (36 CFR Part 800);

6. Advisory Council on Historic Preservation: *Treatment of Archeological Properties: A Handbook* (1980);

7. National Park Service: National Register Bulletin 15- *Guidelines for Applying the National Register Criteria for Evaluation*;

8. National Park Service: National Park Service Guideline No. 28- *Cultural Resource Management Guideline*;

9. The Secretary of the Interior: *Standards and Guidelines for Archeology and Historic Preservation* (1983) (48 FR 44716-44742);

10. The Secretary of the Interior: *Standards and Guidelines for Curation* (36 CFR Part 79);

11. The Secretary of the Interior: *Standards for the Treatment of Historic Properties* (36 CFR Part 68);

12. The Secretary of the Interior: *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR Part 68);

13. Virginia Department of Historic Resources: *Guidelines for Conducting Cultural Resource Survey in Virginia*, revised (2003); and

14. Virginia Department of Historic Resources: *State Curation Standards*.

C. Curation

The FAA and the Authority shall ensure that all archeological materials resulting from actions carried out under this Agreement, including appropriate field and research notes, maps, drawing and photographic records and excepting human skeletal remains, are curated in accordance with 36 CFR Part 79 and the SHPO's *State Curation Standards*. All materials will be cared for in a repository approved by the SHPO and will be made available to educational institutions and individual scholars for appropriate exhibit and/or research under the operating policies of the selected repository.

D. Distribution of Reports

The FAA and the Authority shall prepare sufficient copies of all reports completed pursuant to this Agreement for dissemination to the SHPO, Loudoun County, appropriate public libraries, educational institutions, and other repositories.

VII. Monitoring and Reporting

A. Upon request, the SHPO, Loudoun County and the Council may review any activities carried out pursuant to this Agreement. The FAA and the Authority will cooperate with the SHPO, Loudoun County, and the Council should they request to review project files or visit the project site to view activities at specific project locations.

B. FAA and the Authority shall provide the SHPO and Loudoun County with a progress report that summarizes activities carried out under the terms of this Agreement every six (6) months beginning from the date of the Agreement's execution. Progress reports shall include information regarding preservation activities, information on any public objections and their status, any other activities undertaken pursuant to this Agreement, and information on construction activities.

VIII. Dispute Resolution

A. Should the SHPO or Loudoun County object in writing within 30 days to any plans and documents required pursuant to the terms of this Agreement, FAA and the Authority shall consult with the SHPO and Loudoun County to resolve the objection. If FAA and the Authority determine that the objection cannot be resolved through consultation, FAA and the Authority shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of pertinent documentation, the Council will either:

1. Provide FAA and the Authority with recommendations, which FAA and the Authority shall take into account in reaching a final decision regarding the dispute; or

2. Notify FAA and the Authority that it will comment pursuant to 36 CFR Part 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FAA and the Authority in accordance with 36 CFR Part 800.6(b)(2) with reference to the subject of the dispute.

3. Should the Council not exercise one of the above options within thirty (30) days after receipt of all pertinent documentation, the FAA and the Authority may assume the Council's concurrence in its proposed response to the objection.

4. Any recommendations or comment provided by the Council will be understood to pertain only to the subject of the dispute; FAA and the Authority responsibility to carry out all actions under this Agreement that are not the subject of the dispute will remain unchanged.

IX. Review of Public Objections

A. At any time during implementation of the measures stipulated in this Agreement, should any objection to any such measure or its manner of implementation be raised by a member of the public, FAA and the Authority shall take the objection into account, notify the SHPO and Loudoun County of the objection, and consult as needed with the objecting party, Loudoun County, and the SHPO, to resolve the objection. If the objection cannot be resolved, FAA and the Authority shall follow the steps outlined in Stipulation VII.A. above to obtain Council comment.

X. Record Keeping

A. FAA and the Authority shall maintain records of all activities undertaken pursuant to this Agreement which shall become part of the Environmental Review Record for the project including:

1. All records related to the selection of Professionals who perform the work stipulated in the provisions of this agreement, which clearly documents adherence to the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44716, Sept. 1983);

2. All records of correspondence and finding letters provided by the SHPO to FAA and the Authority;

3. All records indicating all mitigation measures taken in accordance with the provisions of this Agreement;

4. All records related to consultations FAA and the Authority has with Loudoun County, the SHPO, and/or the Council following the ratification of this Agreement;

5. All records of public comments received during public hearings and written or telephonic comments received from the public at all other times;

6. All of the above records shall be maintained for a minimum of three (3) years after completion of the project and shall be made available to the general public and additional parties with a demonstrated interest in the undertaking upon request during this time frame.

XI. Amendments

A. Any party to this Agreement may request that it be amended or modified, whereupon FAA, the Authority, the SHPO, and Loudoun County shall consult in accordance with 36 CFR Part 800.13 to consider such revisions.

B. Any resulting amendments or addenda shall be developed and executed among FAA, the Authority, and the SHPO in the same manner as the original Agreement.

XII. Termination

A. Any party to this Agreement may terminate the Agreement by providing thirty (30) days notice to the other parties and in accordance with the procedures described in 36 CFR 800.6(c)(8), provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.

B. Termination shall include the submission of a technical report by FAA and the Authority on any work done up to and including the date of termination.

XIII. Failure to Comply

A. In the event that FAA and the Authority do not carry out the terms of this Agreement, FAA and the Authority will comply with 36 CFR Parts 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

XIV. Sunset

A. The provisions of this Agreement will be carried out from the date of execution of this Agreement through completion of construction of the Dulles Runway Expansion Project, or December 31, 2015, whichever occurs first

B. At any time in the six-month period prior to such date, FAA and the Authority may request the signatory parties to consider an extension or modification of this agreement. No extension or modification will be effective unless all parties to the agreement have agreed with it in writing.

Execution of this Agreement by FAA, the Authority, and the SHPO, with concurrence of Loudoun County, and implementation of its terms by FAA and the Authority, is evidence that FAA and the Authority have afforded the Council an opportunity to comment on the proposed New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport Project in Chantilly, Virginia, and that FAA and the Authority has taken into account the effects of the proposed project on historic properties.

SIGNATORY:

FEDERAL AVIATION ADMINISTRATION

_____ _____

Terry Page Date

Manager, Washington Airports District Office_____

Execution of this Agreement by FAA, the Authority, and the SHPO, with concurrence of Loudoun County, and implementation of its terms by FAA and the Authority, is evidence that FAA and the Authority have afforded the Council an opportunity to comment on the proposed New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport Project in Chantilly, Virginia, and that FAA and the Authority has taken into account the effects of the proposed project on historic properties.

SIGNATORY:

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

_____ _____

James E. Bennett Date

President and Chief Executive Officer

Execution of this Agreement by FAA, the Authority, and the SHPO, with concurrence of Loudoun County, and implementation of its terms by FAA and the Authority, is evidence that FAA and the Authority have afforded the Council an opportunity to comment on the proposed New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport Project in Chantilly, Virginia, and that FAA and the Authority has taken into account the effects of the proposed project on historic properties.

SIGNATORY:

VIRGINIA STATE HISTORIC PRESERVATION OFFICER

_____ _____

Kathleen S. Kilpatrick Date

State Historic Preservation Officer and Director,
Virginia Department of Historic Resources

Execution of this Agreement by FAA, the Authority, and the SHPO, with concurrence of Loudoun County, and implementation of its terms by FAA and the Authority, is evidence that FAA and the Authority have afforded the Council an opportunity to comment on the proposed New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport Project in Chantilly, Virginia, and that FAA and the Authority has taken into account the effects of the proposed project on historic properties.

CONCURRING PARTY:

LOUDOUN COUNTY, VIRGINIA PLANNING DEPARTMENT

_____ _____

Julie Pastor Date

Director_____

Appendix 1

Dulles Airport Architectural Design Guidelines

Because of the size of this document, please see http://www.mwaa.com/authority/dm/index.htm for most recent copy of this set of MWAA guidelines

PHASE II ARCHEOLOGICAL INVESTIGATIONS FOR THE PROPOSED FOURTH RUNWAY WASHINGTON DULLES INTERNATIONAL AIRPORT LOUDOUN COUNTY, VIRGINIA

MANAGEMENT SUMMARY

July 2005

PHASE II ARCHEOLOGICAL INVESTIGATIONS FOR THE PROPOSED FOURTH RUNWAY WASHINGTON DULLES INTERNATIONAL AIRPORT LOUDOUN COUNTY, VIRGINIA

MANAGEMENT SUMMARY

MWAA Contract No. 1-02-C027, Tasks 6 and 7
VDHR Project Review File Number 1990-0460

Prepared for
Parsons Management Consultants
45045 Aviation Circle, Suite 300
Washington Dulles International Airport
Washington, DC 20166
703.572.1117

and

Metropolitan Washington Airports Authority
1 Aviation Circle, Suite 154
Washington, DC 20001-6000
703.417.8662

Prepared by

Charles E. Goode
Lynn D. Jones
Joseph Balicki
Donna J. Seifert, Ph.D.

JOHN MILNER ASSOCIATES, INC.
5250 Cherokee Avenue
Alexandria, VA 22312
703.354.9737

25 July 2005

TABLE OF CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

The Metropolitan Washington Airports Authority (MWAA) is completing the environmental impact study for the development of the proposed fourth runway at Dulles International Airport (IAD). The area of potential effect (APE) for the new runway includes airport property west of the existing north-south runway as well as the newly acquired Western Land Acquisition (see Figure 1).

Under the terms of the MWAA Programmatic Memorandum of Agreement, all airport projects must include an evaluation of potential impacts to historical and archeological resources. Phase I identification surveys identified 25 archeological sites (6 identified in the 1995-1996 survey by Greenhorne & O'Mara [Fischler 1999] and 19 in the 2003 John Milner Associates survey [Goode et al. 2004]). Eight of the sites were recommended for Phase II investigation to evaluate their potential to contribute important information on the prehistory or history of Loudoun County: 44LD538, 44LD539, 44LD543, 44LD1029, 44LD1034, 44LD1037, 44LD1041, and 44LD1042. Concurrence on these determinations of eligibility and the methods of the proposed Phase II evaluation investigations was received from the staff of the Virginia Department of Historic Resources on November 30, 2004.

The Phase II investigations were designed to collect the information necessary to evaluate the significance of the eight sites and address the eligibility of each site for the National Register of Historic Places (NRHP). This document summarizes the methods and results of the Phase II investigations of these eight sites. This assignment is Tasks 6 and 7 of MWAA's contract for archeological services with John Milner Associates, Inc. (JMA). The JMA project team designed the research strategy and directed all fieldwork and laboratory analyses. A field team from URS Corporation of Gaithersburg, Maryland, assisted in the fieldwork under the direction of the JMA project team.

2.0 HISTORY OF LAND OWNERSHIP

All the land in the project area was once part of a grant of 3,184 acres to Col. Thomas Lee in 1724 (Tavener 1975). The Lee family developed the land as a plantation between 1724 and 1757. Francis Lightfoot Lee inherited the tract after his father's death in 1750 and he lived in Loudoun County from 1757 to 1769 (G&O 1996:7). Francis Lightfoot Lee moved to Richmond County after his marriage in 1769 and leased his Loudoun County land to tenants. Research shows that he entered a number of leases covering almost all of the plantation acreage (G&O 1996).

Ludwell Lee inherited the Loudoun County land, as well as the enslaved African Americans and cattle, from his uncle Francis Lightfoot Lee in 1797 (Nagel 1990). He sold the tract of land near Horsepen Branch and Stallion Branch in smaller parcels over the subsequent years. A parcel of 151 acres was sold to Basil Stonestreet in 1809. In 1810 Lee sold three parcels of land totaling 382 acres, located east of Stallion Branch, to Richard Henry Cockerille (LCDB 2N:33). Cockerille's land was on the east side of the large tract of 3,184 acres known as "Horsepen Tract."

Ludwell Lee sold 2,068 aces of the Horsepen Tract to Bernard Hooe, Sr., of Prince William County in 1812 (LCDB 2P:487; Duncan 2004:76). Bernard Hooe was the father of Lucy Buckner who inherited this tract between 1812 and 1845. Lucy Buckner died in 1855, and her will stated that her granddaughter Bettie Blair was to receive "all the personal and perishable stock and property on the farm called "Horsepen Farm" (LCWB 2K:20). This bequest included farm gear, 1 cow, 1 bay horse, 1 mare, 1 sow and 4 shoats, 9 ewes and 9 lambs, and 133 sheep. When Lucy Buckner died, there was a chancery cause filed in 1856 in which the Horsepen Tract was split into separate parcels for four of her grandchildren. In subsequent years the parcels inherited by Buckner's grandchildren were divided into smaller parcels and sold.

3.0 RESEARCH DESIGN

The Phase II investigations were designed to gather information necessary to evaluate the significance of each of the eight sites and address eligibility of each for the National Register. Investigations included site-specific research on history of ownership and occupation of the historic sites. Research will also address a review of the archeological literature on similar historic and prehistoric sites in the region. Results of this research will be included in the draft technical report. At this stage of the project, the team has prepared the ownership and occupation history, completed the field investigations, and begun the laboratory processing and preparation of the artifact cataloguing.

3.1 BACKGROUND RESEARCH METHODS

The JMA project team reviewed information on the results of previous archeological investigations on airport property and in the vicinity, including information on the three sites which were identified by Greenhorne & O'Mara, Inc., during the Phase I archeological survey of the proposed runway construction zone in 1995 and 1996 (Fischler 1999). The project historian conducted research in primary and secondary sources on the ownership and occupation history of the project area. This research took place at the Loudoun County Circuit Court and at the Thomas Balch Library, both in Leesburg, Virginia. In addition, some research was done at the Fairfax City Regional Library, Fairfax, Virginia.

3.2 FIELD METHODS

The field methods included short-interval shovel testing, metal detecting, test unit excavation, intensive surface collection, and mechanical excavation. The field team excavated shovel tests at 20-foot intervals across Sites 44LD543 and 44LD1042 and in unplowed portions of Sites 44LD538 and 44LD539 to gain better control over artifact distributions within those sites. Metal detector surveys were also conducted on the historic components of Sites 44LD538, 44LD543, 44LD1029, 44LD1041, and 44LD1042. Using data developed from these shovel tests and the metal detecting, the team excavated 3-by-3-foot test units in carefully selected locations at Sites 44LD538, 44LD543, and 44LD1042. The field team recovered artifacts; recorded stratigraphic and provenience information; and mapped the locations of the shovel tests, metal detector hits, and test units on project maps.

Intensive surface collections were conducted at Sites 44LD538, 44LD539, 44LD1029, 44LD1034, 44LD1037, and 44LD1041. Areas within these sites were plowed and disked and then surface collected twice in varying directions and field conditions. Crews following marked lines walked parallel 15-ft. transects, flagging each artifact found within the 15-ft. wide transect. The location of each individual artifact was mapped using a total station and data collector. Distribution maps were prepared including the results of the metal detector surveys, and areas exhibiting high artifact densities, clusters of temporally related diagnostics, or both were identified. These identified areas were then stripped using heavy machinery to expose subsurface features. Features discovered were fully exposed, mapped, recorded, and excavated. A five-liter flotation sample was collected from each feature.

4.0 SURVEY FINDINGS

The project team conducted field investigations to evaluate the integrity and significance of three single-component sites and five multi-component sites. Two sites, 44LD538 and 44LD543, consist of historic farmsteads with standing structures that operated well into the twentieth century. These sites also contain prehistoric components. Sites 44LD539, 44LD1029, and 44LD1041 are situated in agricultural fields and contain both a prehistoric component as well as a historic component. Prehistoric sites 44LD1034 and 44LD1037 are also situated within agricultural fields. Historic Site 44LD1042 was situated within a wooded area that has been recently deforested.

The Phase II fieldwork for all sites included the excavation of 802 shovel tests and 30 3-by-3-foot test units, metal detector surveys, and intensive surface collections of the sites within agricultural fields (including a large portion of Site 44LD538 and the majority of Site 44LD539). Mechanical excavation was used at sites 44LD538, 44LD1029, 44LD1034, 44LD1037, and 44LD041 to look for intact features penetrating the subsoil below the plowzone.

4.1 SITE 44LD538

Site 44LD538 is a 18.3-acre multi-component site located south of Stallion Branch on a broad upland ridge. The prehistoric component consists of lithic artifacts present across the landform at various frequencies, though the majority of prehistoric artifacts are clustered at the northern end of the site where it borders Stallion Branch. The historic component of Site 44LD538 consists of the remains of a farm that dates from ca. 1830 to 1980.

Phase II fieldwork included the excavation of 294 shovel tests across the farmyard at 20-ft. intervals, the excavation of 13 judgmental shovel tests to record soil profiles within the surrounding agricultural fields and to explore areas with potentially buried features, the excavation of 10 3-by-3-ft. test units, mechanical stripping, and an intensive surface collection of approximately 13.73 acres of the surrounding agricultural fields. A metal detector survey was also performed but was not useful because of the large amount of modern metal items present within the farmyard. The metal detector did not identify outlying concentrations of metallic architectural items beyond the limits of the farmyard.

The Phase II excavations within the farmyard resulted in the recovery of prehistoric artifacts from 147 shovel tests and the 10 test units. Soil profiles consisted of an A horizon resting above an Ab horizon that was over subsoil (B horizon). The A and Ab horizon appear to be separate yard surfaces within the farmyard. Soil profiles indicated that the farmyard had either not been plowed or plowed so long ago that a plow zone was not discernable.

Prehistoric artifacts including three projectile points were recovered from shovel tests and test units across the farmyard. Two diagnostic projectile points were recovered, including a Middle Archaic Halifax point and a Late Archaic Lamoka point. Prehistoric artifacts tended to be more concentrated in the eastern and northern portions close to Stallion Branch and other minor drainages, particularly the northern end of the ridge overlooking the stream.

Testing in this area revealed an abandoned roadbed that ran up the center of the landform. The Phase II intensive surface collections within the agricultural fields surrounding the farmyard resulted in the recovery of 1760 prehistoric artifacts and 331 historic artifacts. Table 1 presents the total number of projectile points and debitage recovered. In addition, 56 bifaces, 37 tools, and 114 cores were recovered. Projectile points span approximately 8400 years from the Early Archaic to the Middle Woodland period.

Table 1. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD538

Material	Projectile Points	Debitage
Quartz	21	1319
Quartzite	5	41
Hornfels	3	23
Rhyolite	5	38
Chert	5	91
Jasper		1
Unidentified		1
Totals	39	1514

The results of the intensive surface collection at Site 44LD538 show a medium-density distribution of prehistoric artifacts in the northern portion of the site within the agricultural fields situated northeast and northwest of the farmyard close to Stallion Branch. Projectile points within the northeast field are clustered at the north end and date primarily to the Middle Archaic period. Several projectile points in the northwest field are also clustered along the north end of the field, and ten projectile points are situated on a small rise in the northwest corner of the field overlooking Stallion Branch.

Except for an Early Archaic point and two Middle Woodland points, the remaining points in the northwest field date to the Late Archaic and Early Woodland periods. A low-density distribution of artifacts was present south of the farmyard and is mainly situated along the top of the broad ridge. The distribution of projectile points in the field south of the farmyard shows two small areas of clustering, but points within those areas are from various time periods and, for the most part, exhibit no temporal association.

The prehistoric component at Site 44LD538 represent the remains of small microband base camps, exploitive foray campsites (transient camps), or resource extraction sites. Many small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were microbands composed of men, women, and children, camping as a group during a seasonally determined period of dispersed settlement. The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed.

The majority of the site contains a low-density distribution of artifacts. Horizontal distributions of diagnostic projectile points within the medium-density artifact concentrations at the north end of the site indicate that some mixing of components has taken place. In addition, the disturbance caused by the abandoned roadbed that runs up the center of the end of the ridge has compromised the integrity of the prehistoric component in this focal area of the site. This limits the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, the prehistoric component of Site 44LD538 is recommended not eligible to the NHRP, and no further work is warranted on this component.

The historic component consists of fourteen structures surrounded to the east, south, and west by farmland. The buildings are situated on a small rise at the end of the ridge where it narrows and extends to the north towards Stallion Branch. Trees are interspersed amongst the buildings and a farm road that crosses the stream at a small bridge divides the farm, with buildings located to the east and west side. The road ends at the southern end of the farmyard at the northern edge of a large agricultural field. The fourteen structures still standing when the project began date from 1830 to 1940 and appear to have been constructed in three phases (Holmes 1995a). An evaluation of the farm complex in terms of its potential eligibility for the National Register of Historic Places was conducted during the previous prior investigations in 1995-1996. It was concluded that none of the farm structures represented eligible historic properties, and the VDHR concluded with this determination.

The first building phase appears to have taken place between 1830 and 1880 with the earliest structure that consists of a square, one-and-a-half story, hewn-log cabin. A two-story addition that was constructed ca. 1900 adjoins the log cabin on the west side. The early section of this structure may represent the cabin of a tenant or an enslaved African American that was occupied during Bernard Hooe's ownership of the property. Two wooden structures are located immediately to the southeast of the log cabin. The larger one is a log structure with square-notched construction that appears to have been a smokehouse and may also date to the first phase of construction between 1830 and 1880. The smaller structure is a possible shed of simple frame construction and appears to have been built during the second phase of construction at the farm dating to ca. 1900.

The smokehouse and cabin along with the addition were demolished while the project team was working on another site. In addition to the shed and the two-story addition to the log cabin, other structures that date to the second phase of construction include a summer kitchen, chicken coop, pigpen, shed and outhouse, dairy barn, and a garage shed. The third phase of construction dates to between 1930 and 1940 when the farm was being transformed into a large dairy operation. Structures that date to the third phase include two machine sheds, a second dairy barn, a cinder-block dairy building, and a two-story, brick residence. The two-story, brick residence was also demolished during the project.

This property was part of the Buckner Horsepen Farm Tract Lot 5 that was inherited by Susan Tompkins, a granddaughter of Lucy Buckner, who sold it to John Allen. It passed by inheritance to Allen's nephew John Gulick.

In 1900, the Gulick family lived in the Mercer District of Loudoun County, not on the property along Arcola/Sterling Road that was in the Broad Run District (USBC 1900). Mr. Gulick's

occupation was listed as merchant, so the Gulicks may have rented the farm to a tenant instead of farming the land themselves. In 1902, the Gulicks sold the property to P. B. Buell who kept the property for only 9 months before he sold it to William F. Keys.

William Keys, his wife, Margaret, and two children are listed in the 1910 and the 1920 census (USBC 1910, 1920). His occupation is listed as a farmer who owns his farm. In 1927, William Keys, a widower, sold his farm to Lawrence S. Armel (LCDB 9Z:4).

Armel and his family lived and worked on the farm until he sold the larger part of it to an investment and development company, Skyway to Highway, Inc., in 1969. Armel had previously transferred a 1-acre parcel to his son and had reserved a 3-acre parcel for himself and his wife to serve as their residence.

Historic artifacts recovered from shovel tests and test units in the farmyard tended to be concentrated in the area around the ca. 1830 log cabin, including the front, side and rear yard areas. Historic artifacts recovered during the surface collection were more densely concentrated within the portion of the agricultural field located directly east of the ca. 1830 log cabin and in the northeast field. The artifacts recovered included creamware ceramic sherds and hand-wrought rosehead nails that date from the third quarter of the eighteenth century, suggesting that the site had been occupied since that time. The diagnostic ceramics are shown in Table 2.

Table 2. Diagnostic Historic Ceramics from 44LD538

Ceramic	Number	Date Range
Domestic Stoneware	71	1670-1915
Coarse Redware	145	1670-1850
Refined Red Stoneware	7	1725-1750
Creamware	26	1770-1820
Pearlware	93	1779-1830
Chinese Export Porcelain	1	1790-1830
Whiteware	289	1810-2005
Ironstone	59	1813-1900
Yellowware	12	1830-1930

Pearlware, dating from 1779 to 1830s, as well as about 75 cut nails, used primarily during the first half of the nineteenth century, were recovered. Over 240 sherds of whiteware were recovered; whiteware was manufactured from around 1810 into the twentieth century. In addition, a small number of refined red stoneware fragments with a clear or black glaze were recovered. These refined stonewares, usually with an engine-turned design, were popular tea wares from about 1725 to 1750 (Mullins 1988:39).

The artifacts reflect an occupation from the third quarter of the eighteenth century to the early-twentieth century by tenants, or possibly by enslaved African Americans of the Lee family. Ariss Buckner acquired the land around 1830 to 1840 and may have leased it to tenants or may have had slaves and overseers farming the property for him. The property was leased for a time after the Buckner ownership until the early-twentieth century when William Keys bought it.

The twentieth-century artifacts, whiteware and machine-made bottle glass, are associated with the Keys and Armel occupations. The earlier artifacts are related to the tenant farmers or enslaved African Americans who occupied the property in the eighteenth and nineteenth centuries.

Four buried features were identified. An architectural feature was identified in a test unit against the western side of the two-story addition to the log cabin consisting of an exterior entrance-well to the basement that had been closed off and filled in ca. 1950. Several probable features were investigated immediately west of an existing outhouse and consisted of small, rectangular depressions. Shovel tests were placed in each depression to ascertain if they were former outhouse/privy locations. Artifacts were recovered from three of these locations and flotation samples were taken. This area was then stripped with heavy machinery to gain more conclusive evidence and the three outhouse/privy locations were exposed. Only a minor amount of artifacts were recovered from the area around the two dairy barns in the southwestern corner of the farmyard.

The historic component of this site exhibits stratigraphic integrity, with few intrusive artifacts in the buried Ap horizon, features, and datable artifacts in the buried Ab horizon. A tenant farmer or enslaved African American probably occupied the site in the eighteenth and early nineteenth centuries. This site can contribute information on the early occupation of Loudoun County and the change from large plantations farmed by tenants or enslaved African Americans to the later, owner-occupied farming. The historic component of the site is recommended eligible for the NRHP. Further work is warranted to realize the information potential of the site.

4.2 SITE 44LD539

Site 44LD539 is a 20-acre multi-component site located north of Stallion Branch on a broad upland ridge. A sunken farm road that connects Site 44LD538 with Beaver Meadow Road runs down the center of the landform through the site. The site is situated mainly within two agricultural fields present on either side of the farm road. A modern residence and three associated outbuildings, owned by Lawrence S. Armel and Bertha P. Armel, dating to the 1980s, are present in the northwest corner of the site.

The prehistoric component consists of lithic artifacts present across the landform at high frequencies with the majority of prehistoric artifacts clustering along the ridge top. The historic component of Site 44LD539 consists of a clustering of historic artifacts in the northeastern portion of the site directly west and upslope from a springhead that flows into Stallion Branch.

Phase II fieldwork included an intensive surface collection of approximately 17.06 acres within the agricultural fields, the excavation of 183 shovel tests at 20-ft. intervals in the area around the modern residence and outbuildings, and the excavation of 13 judgmental shovel tests to record soil profiles within the agricultural field.

Phase II shovel tests at the site resulted in the recovery of prehistoric and historic artifacts from 71 of the shovel tests excavated around the modern residence and outbuildings and 7 of the judgmental shovel tests excavated within the agricultural fields. Soil profiles consisted of a plow zone (Ap horizon) over subsoil (B horizon). The plow zone was present across the site and was typically 0.5-1.0 ft. thick. The Phase II intensive surface collections within the agricultural fields resulted in the recovery of more than 17,192 prehistoric artifacts.

Table 3 presents the total number of projectile points and debitage recovered. In addition, 309 bifaces, 321 tools, 461 cores, and 44 fragments of fire-cracked rock were also recovered. Diagnostic projectile points span approximately 10,000 years from the Early Archaic to the Late Woodland period.

Table 3. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD539

Material	Projectile Points	Debitage
Quartz	62	13,151
Chert	21	1151
Quartzite	24	682
Hornfels	26	619
Rhyolite	22	236
Chalcedony	0	26
Jasper	2	17
Unidentified		18
Totals	157	15,900

The results of the intensive surface collection at Site 44LD539 show a high-density distribution of prehistoric artifacts east of the farm road across the top of the ridge and along its eastern slope. Prehistoric artifacts densities drop off west of the farm road, but high-density distributions are present along the northern end of the western field. Projectile points are distributed across the site but the majority was recovered east of the farm road. Diagnostic projectile point distributions show a cluster of Early Archaic and bifurcate points (Early-Middle Archaic periods) dominating the northern portion of the site and a cluster of Late Archaic point dominating the central site.

Middle Archaic and Early, Middle, and Late Woodland points are present across the site. Several from the same time period are clustered in small areas, but these clusters do not occupy large portions of the site. One small concentration identified consists of a jasper Palmer projectile point dating to the Early Archaic and a scatter of jasper flakes located in the central portion of the site. The presence of several Middle Woodland points including two Selby Bay projectile points is noteworthy, due to the paucity of Middle Woodland sites previously identified in the piedmont.

The prehistoric component at Site 44LD539 would appear to represent the remains of many microband base camps, exploitive foray campsites (transient camps), or resource extraction sites. Many small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were microbands composed of men, women, and children, camping as a group during a seasonally determined period of dispersed settlement. The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed.

The site's southern aspect and the manner in which Stallion Branch wraps around the landform affording easy access to a source of freshwater and other resources makes it an ideal location for a temporary base camp. The dense artifact distribution and the recovery of a large amount of diverse stone tools indicate that the site was occupied frequently with some of the occupations perhaps conforming to an entire season, such as winter. These same factors make this site quite extraordinary, and it is unlike any other upland prehistoric site the author has encountered in his experience working in Loudoun County (Gardner, Goode, and Hurst 2001; Gardner, Snyder, and Hurst 2001a, 2001b, 2001c, 2002; Goode et al. 2003).

The prehistoric component at Site 44LD539 has the potential to address research questions relevant to the prehistoric utilization of the landform over time. The information contained within the site can be used to address research questions pertaining to prehistoric seasonal settlement-subsistence rounds, natural resource procurement, site function, lithic tool manufacture, and site formation processes. Therefore, the prehistoric component of Site 44LD539 has the potential to contribute important information about prehistory and is recommended eligible for inclusion in the NRHP. Further work is warranted.

A total of 676 historic artifacts were recovered during the surface collection and were mainly located east of the farm road in the north central portion of the site directly west of a springhead draining into Stallion Branch. During previous investigations, two concentrations of historic-period artifacts were found on this site (G&O 1996). The northern concentration consisted primarily of machine-made bottle glass of the mid- to late twentieth century; local residents told G&O archeologists the modern glass was related to teen-aged drinking parties along Rt. 614.

The southern concentration interpreted in the Phase I investigation as a late eighteenth-to nineteenth-century occupation represented by 12 creamware sherds, 22 pearlware sherds and 8 whiteware sherds (G&O 1996:32). In addition, the remaining ceramics, mainly stoneware and porcelain sherds, in the southern concentration were of undetermined nineteenth/twentieth-century manufacture (G&O 1996:32). Neither of the artifact concentrations seemed to be related to the Armel occupation of the 3-acre property from 1969 to 1989, but the southern concentration may be related to an early house of tenants or potentially enslaved African Americans.

Although no evidence of a house foundation was found at this site, the historic artifacts suggest the presence of an eighteenth-century domestic site. The house may have been a post-in-ground structure or may have been constructed on brick piers. Both of these types of houses leave very little evidence of their presence on the landscape. There were some historic artifacts in most of the collection area; however, there was a definite concentration between collection grid coordinates 2,800 to 3,700, where almost no prehistoric artifacts were found. From number 3,700 to 6,000 there was a mix of historic and prehistoric; in other parts of the collection area, prehistoric artifacts predominated. This tight clustering of historic artifacts indicated the probable location of the house.

The presence of white salt-glazed stoneware, creamware, and pearlware reflect an occupation dating from the middle of the eighteenth to the early nineteenth century. Table 4 shows the number of these ceramics and the date ranges of manufacture. In addition to the wares above, refined red stoneware fragments with a clear or black glaze were recovered.

These refined stonewares, usually with an engine-turned design, were popular tea wares from about 1725 to 1750 (Mullins 1988:39). Only 15 pieces of whiteware and one of ironstone were recovered during the Phase II survey of this site, indicating probable abandonment of the site around 1820.

Table 4. Diagnostic Historic Ceramics from 44LD539

Ceramic	Number	Date Range
White Salt-glazed Stoneware	2	1740-1775
Refined Red Stoneware	15	1725-1750
Domestic Stoneware	59	1670-1915
Coarse Redware	62	1670-1850
Creamware	133	1770-1820
Pearlware	119	1779-1830
Whiteware	15	1810-2005
Ironstone	1	1813-1900

Thomas Lee and his descendants owned the property from 1724 until 1797 when Ludwell Lee began selling off parcels of land. In 1812, the Horsepen Tract was sold to Bernard Hooe, whose daughter Lucy Buckner inherited it (Duncan 2004:76).

According to research done for an earlier report, the eighteenth-century residence of the Lees was located approximately one mile east of the runway construction zone on which Site 44LD539 is located (G&O 1996:7). During their ownership, the Lee family leased parcels of land to tenants to farm the land. If Site 44LD539 is not the Lee residence, it may be the dwelling of one of their tenants, or the dwelling of a tenant of Bernard Hooe, of Prince William County, who owned the property from 1812 to about the 1830s. The artifacts do not reflect a mid- to late-nineteenth century occupation of the property.

This site had datable artifacts that indicated the period of occupation and the approximate date of abandonment. There was a concentration of artifacts that indicated where the house stood. There may be features that were not visible during surface collecting.

Site 44LD539 can contribute information on the eighteenth-century tenant farmer or enslaved African American occupation, a type of site not well understood for northern Virginia. This site is recommended eligible for the NRHP. In addition to further investigation of the site's prehistoric component, additional work is warranted for the historic component of the site.

4.3 SITE 44LD543

Site 44LD543 is a 8.4-acre multi-component site located north of Beaver Meadow Road and south of Mudlick Run, an intermittent stream that is a tributary of Stallion Branch. The site is situated on a broad upland ridge. The prehistoric component consists of lithic artifacts present across the landform at various frequencies, though the majority of prehistoric artifacts are clustered at the northern end of the site close to the intermittent stream. The historic component of Site 44LD543 consists of the remains of a farm that dates from ca. 1850 to 1950.

Phase II fieldwork included the excavation of 298 shovel tests at 20-ft. intervals, the excavation of one judgmental shovel test to explore an outhouse location, and the excavation of eight 3-by-3-ft. test units. A metal detector survey was also performed but was not useful because of the large amount of modern metal items present within the farmyard. The metal detector did not identify outlying concentrations of metallic architectural items beyond the limits of the farmyard. Metallic items recovered include electrical wiring, bronze, copper, and brass plumbing fixtures and cut and wire nails.

The Phase II excavations at the site resulted in the recovery of both prehistoric and historic artifacts from 137 shovel tests and the eight test units. Soil profiles in the central portions of the farmyard consisted of an A horizon resting above an Ab horizon that was over subsoil (B horizon). The A and Ab horizon appear to be separate yard surfaces. Soil profiles surrounding the central farmyard consisted of an A horizon over subsoil. Soil profiles indicated that the farmyard had either not been plowed or plowed so long ago that a plow zone was not discernable. Soil profiles to the north, east, west, and south outside of the farmyard, consisted of a plow zone (Ap horizon) over subsoil (B horizon).

A total of 214 prehistoric artifacts were recovered from shovel tests and test units across the site but tended to be concentrated in the northern portion where the landform begins to descend towards the intermittent stream. During the previous Phase I investigation, G&O had only recovered one quartz flake from within the farmyard (G&O 1996). Three diagnostic projectile points were recovered during the current Phase II investigations, including a Middle Archaic Halifax point, a Late Archaic Holmes point, and a Late Woodland Madison triangular point. Phase II testing demonstrated that prehistoric lithic artifacts were present across the top of the landform on which the farm is situated and cluster along the northern end close to the intermittent stream.

The prehistoric component at Site 44LD543 represent the remains of a small microband base camps, exploitive foray campsites (transient camps), or resource extraction sites. Many small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were microbands composed of men, women, and children, camping as a group during a seasonally determined period of dispersed settlement. The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed.

Based on the shovel testing, the focus of the prehistoric occupation was on the ridge top, especially at the northern end. The ridge top has also been the focus of the historic occupation. Disturbance from the farm, as well as both roads and the more recent structures to the northwest at the end of the ridge, has compromised the integrity of the prehistoric component. This limits the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, the prehistoric component of Site 44LD543 is recommended not eligible to the NRHP, and no further work is warranted.

The historic component consists of twelve structures in various stages of decay surrounded to the north, east, and south by woods and to the west, by an open field. The site is overgrown with poison ivy, multi-floral rose, and greenbrier, and the wooded areas to the north, east, and south that were once open fields are now covered in dense 40-to-60-year-old cedar and Virginia pine. Two parallel roads run through the center of the site.

The road to the east consists of an earlier abandoned road trace that probably ran between present-day Beaver Meadow Road and Old Ox Road (Route 606) and forded Mudlick Run to the north of the site. The road to the west consists of the modern airport gravel road that was created after 1958. This road parallels the older road trace and provides access from Beaver Meadow Road to other structures northwest of Site 44LD543. A historic resources survey was recently conducted that included the McCulloch farm (URS 2004). That survey concluded that the site's structures did not possess sufficient architectural significance or integrity to be consider eligible for the NRHP. The staff of the VDHR concurred with this determination on July 1, 2005.

The farm consisted of a house, ca. 1850, a pump house, a smokehouse, four outbuildings, a corncrib, two barns, a hog house, and an outhouse arranged in a linear pattern along the access road from Rt. 614 (URS 2004:4-36). The house was probably built after David McCulloch bought the property; there must have been an earlier house occupied by the Stonestreets, but its location is unknown. Indications of the earlier occupation can be inferred by the presence of refined stoneware tea wares that date to the eighteenth century.

The family cemetery (Moran-McCulloch Cemetery, Stallion Cemetery) was located at the south end of the property at the junction of the access road and Rt. 614. The cemetery contained 26 marked graves dating from 1871 to 1985 (Holmes 1995b). Twelve McCulloch family members were buried in the cemetery, as well as members of the Moran, Kidwell, and Martyn families (Holmes 1995b). Archival research, conducted by MWAA, concluded that the cemetery did not meet the criteria of eligibility for the NRHP, and the staff of the VDHR concurred with this determination on July 23, 1996. On the completion of the required legal documentation and an attempt to locate possible living relatives, the human burials remains were subsequently moved. In, 1995 the MWAA petitioned the Circuit Court of Loudoun County for ownership of the land (LCDB 1399:1206).

Site 44LD543 is located on a tract of land north of Rt. 614 that was owned in the eighteenth century by Ludwell Lee. Lee leased 151 acres to Basil Stonestreet from 1798 to 1809 for $50 a year rent, stipulating that Stonestreet could keep all the profits and commodities the farm produced (LCDB Z:86). In December 1809, Basil Stonestreet bought the property from Ludwell and Eliza Lee for $1,000 (LCDB 2L:453). Stonestreet and his family may have lived on and farmed the property; in subsequent deeds the property is referred to as "150 acres known as the Stonestreet Farm."

Stonestreet died intestate and during the Chancery Cause of Dorset vs. Elizabeth Stonestreet in 1839, the 151 acres of land was sold to Augustus Stonestreet for $671 (LCDB 4S:135). Augustus Stonestreet may have lived on the property and farmed the land. He is listed in the 1840 census near Hutchison and Presgraves, other landowners in the area (USBC 1840). His household consisted of Augustus and his wife and two children; in the census they are listed as a male 40 to 50 years old, a male 10 to 15 years old, a female 40 to 50 years old, and a female 10 to 15 years. He also owned two male and two female slaves (USBC 1840). He owned the property from 1839 until 1853 when he sold it to David McCulloch (LCDB 5P:400).

David McCulloch emigrated from Scotland before 1848. He married his wife Susan in New York, and their first three children, Mary, Sarah, and James, were born there (USBC 1870). In the 1870 census, the McCulloch family consisted of David and his wife Susan, James, aged 19; Flora V., aged 13; and William, aged 4. Their daughter Mary had married Samuel Crosen and

was living next door with her husband and three children. Daughter Sarah, aged 17, was living with the Benjamin Beard family (USBC 1870).

The McCulloch family lived on the "Stonestreet Farm" from 1853 until David McCulloch's death in 1895. In his will, half of his land was given to his sons, James and William, and half to his daughters, Flora Moran, Susan Beavers, and Mary Crosen. By 1900, Susan McCulloch, widow of David McCulloch, aged 77 years, was living with the John Daymude family (USBC 1900).

In 1909, Susan Beavers and the heirs of Mary Crosen sold their interest in David McCulloch's land to Flora McCulloch Moran. Flora McCulloch had married Milton J. Moran and the couple and their family lived on the McCulloch homestead (Holmes 1995b). Flora Moran also acquired 40.87 acres of her brother James McCulloch's estate from Claude Clinton Moran in 1927 (LCDB 9Z:477). After her death, Flora's 105 acres were transferred to her son W. D. P. Moran, who left it to his sister Jessie Moran in his will (LCWB 84:235).

Historic artifacts were clustered around the farmyard and standing structures. A small surface scatter containing artifacts dating mainly to the mid-twentieth century was identified in the southeastern portion of the site. In addition, the base of an existing outhouse was shovel tested. The outhouse had fallen over and the base was exposed. Night soil was present to 1 ft. below the ground surface where it rested on sterile subsoil (B horizon). Artifacts recovered included plastic items, a 1964 nickel, and many glass marbles.

The artifacts from this site are consistent with an occupation from the nineteenth century to the early twentieth century. Table 5 shows the diagnostic ceramics and their date ranges.

Table 5. Diagnostic Historic Ceramics from 44LD543

Ceramic	Number	Date Range
Domestic Stoneware	27	1670-1915
Coarse Redware	22	1670-1850
Refined Red Stoneware	5	1725-1750
Pearlware	8	1779-1830
Whiteware	67	1810-2005
Ironstone	6	1813-1900

The pearlware and refined red stoneware recovered from this site suggests a short eighteenth century occupation. Five refined red stoneware fragments with a clear or black glaze were recovered. These refined stonewares, usually with an engine-turned design, were popular tea wares from about 1725 to 1750 (Mullins 1988:39). Very few early, refined ceramic types were found on this site.

The predominant ceramic recovered was whiteware that dates from the nineteenth century. Several pieces of ironstone were also recovered, one with a maker's mark dating from 1893 to 1926 (Godden 1964).

A large number of cut nails were found on this site; cut nails were used primarily from about 1805 until the introduction of wire nails in 1850. Much of the construction of the early house and farm buildings must have been done in the first half of the nineteenth century, during the period

when Basil Stonestreet and then his son Augustus Stonestreet occupied the property. The test units showed more disturbance and less stratigraphic integrity than at other sites in the vicinity. The historic component of the site is not expected contribute significant information on the past and is not recommended eligible for the NRHP. No additional work is warranted for the historic component.

4.4 44LD1029

Site 44LD1029 is a 16-acre multi-component site located north of Beaver Meadow Road and south of Mudlick Run. The site is situated on a broad upland ridge within two agricultural fields on either side of a tree line that runs north-south down the center of the ridge. The tree line may be an abandoned roadbed. The prehistoric component consists of lithic artifacts present across the landform. The historic component of Site 44LD1029 consists of a clustering of historic artifacts in the southern portion of the site around a small gap in the tree line.

This property, located on the north side of Rt. 614, was part of Lot 2 of the Buckner Horsepen Tract. Lot 2 consisted of 650 acres given to Bettie Wilson, granddaughter of Lucy Buckner, when Buckner's estate was divided in 1856 (LCWB 2K:20). Wilson sold the property to her uncle Spencer Ariss Buckner in 1866 and Spencer A. Buckner sold the entire tract to John McBeth in 1868 (LCDB 5W:146, 5Z:219). McBeth, who lived in New York, probably leased the property to tenants between 1868 and 1901, when he sold 103 acres of the tract to brothers John T. and Clinton L. Moran in 1901 (LCDB 7U:416).

John T. Moran lived on and farmed the land. In the 1910 census he, his wife Virginia, and son Claude C. are listed between William Martyn and James McCullock (USBC 1910). When John T. Moran died, his son Claude C. Moran inherited his father's ½ interest in the property. Claude C. Moran acquired the other ½ interest from the heirs of his uncle Clinton L. Moran in 1939 (11E:275, 12Q:123).

Claude C. Moran sold 11.10 acres to two different parties in 1947, leaving 92.11 acres of land from the 103-acre parcel. Moran had previously acquired 133 acres of land that had been James McCulloch's farm (9Z:475) and immediately sold 40.87 acres of the McCulloch land to his aunt Flora McCulloch Moran, leaving him 92.13 acres in that parcel. He owned a total of 184 acres. Because Claude C. Moran died intestate in 1956, a chancery cause was heard in which his property was sold at public auction (LCDB 354:497). George and Mary Hummer bought the 184 acres in the estate of Claude C. Moran.

George Hummer sold a 123-acre parcel, which included the 103-acre property, to Bernard Cohen and Solomon Pear, Trustees who soon transferred it to GO-AM Associates, Inc., a land investment company. They, in turn, sold it to trustees Arnston and Church who sold to a land holding company, Eugenia Investment, Inc., and its associated company, Emmanuel Holdings, Inc. These land companies held the property until the Metropolitan Washington Airports Authority (MWAA) purchased the property in March 2005.

Phase II fieldwork included an intensive surface collection of approximately 14.98 acres within the agricultural fields, a metal detector survey, the excavation of three 3-by-3-foot test units within the central tree line, and mechanical excavation.

The excavation of Phase II test units at the site resulted in the recovery of a small amount of prehistoric artifacts from the central tree line. Soil profiles consisted of a plow zone (Ap horizon) over subsoil (B horizon). The plow zone was present across the site and was typically 0.3-0.7 ft. thick. In one test unit within the central tree line an Ap and Apb horizon were present. The Ap horizon contained large amounts of rock and may be from the dumping of rock and other material by the sod farmers or it may be a road surface. This horizon was above the plow zone.

The Phase II intensive surface collections resulted in the recovery of 873 prehistoric artifacts. Table 6 presents the total number of projectile points and debitage recovered. In addition, 37 bifaces, 15 tools, and 23 cores were recovered. Diagnostic projectile points date to the Early, Middle, and Late Archaic period. Except for a single Late Woodland triangular point, projectile points recovered during the Phase I also conform to these time periods.

Table 6. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD1029

Material	Projectile Points	Debitage
Quartz	14	692
Chert		39
Quartzite	5	14
Hornfels		8
Rhyolite	2	21
Chalcedony		1
Jasper		2
Totals	21	777

The results of the intensive surface collection at Site 44LD1029 show a low- to medium-density distribution of prehistoric artifacts across the top of the ridge on either side of the central tree line. A medium-density distribution of artifacts is present at the far north end of the site and decreases to a low-density distribution of artifacts towards the south at the central portion of the site. Prehistoric artifacts densities also drop off to the east and west along the side slopes of the ridge where a low-density distribution of artifacts is present.

Projectile points are distributed across the site, but two concentrations are present at the north end of the site. One cluster of points is present west of the tree line within a cluster of prehistoric artifacts identified in the Phase I investigation. Projectile points recovered in this area consist of two Early Archaic points and a bifurcate point (Early-Middle Archaic period). Two other points are present dating to the Middle and Late Archaic period. The second cluster is east of the tree line and consists of two bifurcate points and a Late Archaic point. A number of bifaces and tools were also present within these clusters.

The prehistoric component at Site 44LD1029 represent the remains of small microband base camps, exploitive foray campsites (transient camps), or resource extraction sites. Many small

groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were microbands composed of men, women, and children, camping as a group during a seasonally determined period of dispersed settlement. The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed.

The majority of the site contains a low-density distribution of artifacts. Horizontal distributions of diagnostic projectile points within the medium-density artifact concentrations at the north end of the site indicate that components have been mixed. The absence of vertically and horizontally separated components does not allow for the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, prehistoric component of Site 44LD1029 is recommended not eligible to the NHRP and no further work is warranted.

During the current survey, a high-density cluster of historic artifacts was present at the southern end of the site around a gap in the tree line. Artifacts were mainly present within the gap and to the east and 413 historic artifacts were collected. The ceramics included 36 sherds of creamware (dates 1769 to circa 1820), 26 pearlware (1779 to 1820s), 61 whiteware (1820s to 1900), 37 stonewares (1775 to 1920), and 75 redware (sixteenth century to early-nineteenth century). These artifacts suggest an occupation from the third quarter of the eighteenth century to the early twentieth.

Diagnostic artifacts from the current Phase II investigation are consistent with those recovered during the Phase I and are shown in Table 7. The site may have been occupied as early as the second quarter of the eighteenth century. Five sherds of refined red stoneware with a clear or black glaze were recovered. These refined stonewares, usually with an engine-turned design, were popular tea wares from about 1725 to 1750 (Mullins 1988:39). The most numerous ceramic type was whiteware, indicating more intense occupation in the mid- to late nineteenth century.

Table 7. Diagnostic Historic Ceramics from 44LD1029

Ceramic	Number	Date Range
Domestic Stoneware	39	1670-1915
Coarse Redware	99	1670-1850
Coarse Earthenware: Buckley	4	1720-1775
Refined Red Stoneware	5	1725-1750
Creamware	20	1770-1820
Pearlware	28	1779-1830
Chinese Export Porcelain	3	1790-1830
Whiteware	112	1810-2005
Ironstone	15	1813-1900
Yellowware	2	1830-1880

Nails formed a very small part of the artifact collection for this site, and included 12 handwrought nails or nail fragments, 15 cut nails or fragments, and 2 wire nail fragments. The bottle glass included 4 free-blown olive green bottle fragments and 48 pieces of miscellaneous olive-green bottle glass that could be either free-blown or blown-in-mold.

Site 44LD1029 is likely the remains of a house occupied by tenants or enslaved African Americans, and may have been occupied by tenants of the Lee family in the mid-eighteenth century. The Lees owned a large tract of land including this parcel, and they leased most of the tract to tenants during the eighteenth century.

During the first half of the nineteenth century, Bernard Hooe, then his daughter and son-in-law Lucy and Ariss Buckner, owned the Horsepen Farm Tract. The Horsepen Farm Tract included the 103-acre property where Site 44LD1029 is located. Hooe or the Buckners may have leased parts of the Horsepen Tract to tenants, or family members may have occupied this tract. The Buckners' main plantation was further south, but they may have had a house on Horsepen Farm that they used.

In the division of the real estate, Lot 2 of the Horsepen Tract was allotted to Bettie Wilson who kept the property for ten years. Then she sold the entire Lot 2 to her uncle Spencer Ariss Buckner in 1866 (LCDB 5W:147). It is unclear whether Wilson or Spencer Buckner ever lived on the property or the property was always leased to tenants.

From 1868 to 1901 John McBeth owned the land and probably leased it to tenants since he lived in New York (LCDB 5X:219). The late nineteenth- and early twentieth-century artifacts may be related to the occupation of John T. Moran and his son, Claude C. Moran.

Artifact distributions strongly suggest that the site contained the location of a domestic structure . However, the site had suffered disturbance from clearing, plowing and sod harvest. Mechanical stripping of the site surface revealed no features. The historic component of this site is not expected to contribute important information on the past and is not recommended eligible for the NRHP. No further work is warranted.

4.5 44LD1034

Prehistoric Site 44LD1034 located north of Beaver Meadow Road, south of Mudlick Run, and southwest of Site 44LD1029. The 9.1-acre site is situated on the western edge of a broad upland ridge to the east of an intermittent drainage. The site is situated within the east half of an agricultural field, and a tree line running east-west through the northern portion of the site.

Phase II fieldwork included an intensive surface collection of approximately 8.52 acres within the agricultural fields, a metal detector survey, the excavation of two 3-by-3-foot test units within the northern tree line, and mechanical excavation.

The excavation of Phase II test units at the site resulted in the recovery of a single piece of glass from the northern tree line. Soil profiles consisted of a plow zone (Ap horizon) over subsoil (B horizon). The plow zone was present across the site and was typically 0.2-0.3 ft. thick.

The Phase II intensive surface collections resulted in the recovery of 166 prehistoric artifacts and 41 historic artifacts. Table 8 presents the total number of projectile points and debitage recovered. In addition, one biface and seven cores were also recovered.

Diagnostic projectile points date from the Early Archaic through to the Early Woodland period as well as the Late Woodland period. Projectile points recovered during the Phase I also conform to these time periods.

Table 8. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD1034

Material	Projectile Points	Debitage
Quartz	2	132
Chert	2	8
Quartzite	4	4
Hornfels		2
Rhyolite	2	2
Totals	10	148

The results of the intensive surface collection at Site 44LD1034 show a low-density distribution of prehistoric artifacts across the site. Diagnostic projectile points are widely dispersed across the site and very little clustering is evident. Four projectile points were present on the ridge top along the eastern boundary of the site but are not clustered and are from various time periods. The only temporal clustering evident was a group of Middle Archaic points (four Halifax points and one Brewerton point) collected both in the Phase I and II investigations from a large area in the southeastern portion of the site. The mechanical stripping within targeted areas of the site did not result in the identification of any subsurface features.

A total of 41 historic artifacts were also recovered as a result of the intensive surface collection. The historic artifacts consisted of glass, ceramic, and metal items that were widely dispersed and for the most part represent field scatter. Several of the historic artifacts in the northeast corner of the site appear to be associated with the historic component of Site 44LD1029, which borders Site 44LD1034 to the north. These historic artifacts are similar to what was found during the Phase I investigation and do not change the initial decision that the historic component of 44LD1034 is not recommended potentially eligible for the NHRP.

Prehistoric Site 44LD1034 represents the remains of exploitive foray campsites (transient camps) or resource extraction sites. Small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were camping for only a brief time. The site may have also served as a location in which game or floral resources was killed and/or processed.

The site contains a low-density distribution of artifacts. Diagnostic projectile points are widely dispersed and their horizontal distributions indicate that components have been mixed. The absence of vertically and horizontally separated components does not allow for the development of research questions that could further address such themes as settlement, subsistence,

technology, and environmental adaptation. Therefore, Site 44LD1034 is recommended not eligible to the NHRP, and no further work is warranted.

4.6 44LD1037

Prehistoric Site 44LD1037 is located directly south of Beaver Meadow Road along the western boundary of the APE. The 2.58-acre site is situated on a broad upland flat. The site is situated within an agricultural field.

Phase II fieldwork included an intensive surface collection of approximately 2.58 acres within the agricultural field and mechanical excavation. Soil profiles consisted of a plow zone (Ap horizon) over subsoil (B horizon).

The Phase II intensive surface collections resulted in the recovery of 82 prehistoric artifacts and one historic ceramic. Table 9 presents the total number of projectile points and debitage recovered. In addition, seven bifaces and two cores were recovered. One quartz corner-notched projectile point base was recovered that may date to the Early or Middle Archaic. A single quartz Holmes projectile point dating to the Late Archaic period was recovered during the Phase I investigation.

Table 9. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD1037

Material	Projectile Points	Debitage
Quartz	1	69
Quartzite		1
Rhyolite		2
Totals	1	72

The results of the intensive surface collection at Site 44LD1037 show a medium-density concentration of prehistoric artifacts in the southwestern portion of the site and a low-density distribution to the north and east of this concentration. As well as debitage, this medium-density cluster contains seven bifaces and two cores. The quartz, corner-notched point was found outside and to the east of this cluster, although it appears the Holmes projectile point recovered during the Phase I investigation was associated with this cluster. The mechanical stripping within targeted areas of the site did not result in the identification of any subsurface features.

The prehistoric component at Site 44LD1037 represents the remains of exploitive foray campsites (transient camps) or resource extraction sites. Small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were camping for only a brief time.

The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed. The site consists mainly of a small medium-density concentration of artifacts that may represent one or more episodes of lithic reduction. One

Holmes projectile point dating to the Late Archaic period recovered during the Phase I investigation was associated with this chipping cluster, but Phase II efforts failed to recover any further diagnostics from this area.

The recovery of a corner-notched point that dates to an earlier period indicates the site represents more than one occupation and separate components may be horizontally mixed. These factors do not allow for the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, Site 44LD1037 is recommended not eligible to the NHRP, and no further work is warranted.

4.7 44LD1041

Site 44LD1041 is a 8.5-acre multi-component site located south of Beaver Meadow Road and north of Stallion Branch along the western boundary of the APE. The site is situated on an end of an upland ridge between two intermittent drainages, one to the north and the other to the south. The site is situated within two agricultural fields present on either side of a tree line that runs northeast-southwest through the central portion of the site. The prehistoric component consists of lithic artifacts present across the landform. The historic component of Site 44LD1041 consists of a clustering of historic artifacts in the southeastern portion of the site.

This parcel, consisting of approximately 60 acres, is on the south side of Rt. 614. It was part of Lot 2 of the Buckner Horsepen Farm Tract. Buckner's granddaughter Bettie Wilson inherited Lot 2 and sold it in 1866 to her uncle Spencer Ariss Buckner who sold it to John McBeth. In 1897, James McCulloch bought 60 acres of Lot 2 from McBeth to enlarge the acreage that he farmed. James had previously acquired the western half of his father's land in 1895, a 75-acre parcel located on the north side of Rt. 614.

In 1910, the census listed James McCulloch between John T. Moran and Robert Skinner (USBC 1910). Skinner owned the farm between William Keys farm (Armel Farm) and James McCulloch's 60-acre parcel. James McCulloch's household included his sister Sarah Beavers and her son Harry E. Beavers, who was 13 years old.

James McCulloch apparently lived on the 60-acre parcel until his death in 1922. A deposition given by John T. Moran, whose wife was a niece of McCulloch's, in the 1922 chancery cause of McCulloch vs. Moran stated that McCulloch's 60-acre tract had all the buildings on it, consisting of a nine-room frame house, a frame barn, and outbuildings (J. T. Moran deposition, LCCP M-5543). The 75-acre parcel, the west half of his father's property that James McCulloch had inherited, did not have any buildings on it in 1922 (E. S. Adrian deposition, LCCP M-5543).

The farm was said to be worth $10,000 or worth $350 rent per year. Bentley Beavers, a nephew of James McCulloch, was in possession of the farm, but his term of rental had expired on the first of January 1922 (J. T. Moran deposition, LCCP M-5543).

In the division of James McCulloch's estate, his niece and nephew Margaret Beavers Lauder and David Beavers, children of his sister Sarah McCulloch Beavers, bought both tracts of land, a total of 133 acres (LCDB 9O:380). David Beavers must have died intestate because his land was sold by special commissioner to Claude Clinton Moran in 1927 (LCDB 9Z:475).

Because Claude C. Moran died intestate in 1956, a chancery cause was heard in which his property was sold at public auction (LCDB 354:497). George and Mary Hummer bought the 184 acres in the estate of Claude C. Moran.

George Hummer sold a 182-acre parcel, which included the 60-acre property James McCulloch bought from John McBeth, to Bernard Cohen and Solomon Pear, Trustees (LCDB 391:492). They, in turn, sold the 60-acre parcel to Lakehurst Inc., a development company (LCDB 400:68). Lakehurst, Inc. sold it to another land holding company, Eugenia Investment, Inc., and its associated company, Emmanuel Holdings, Inc. (LCDB 808:229). These land companies held the property until the Metropolitan Washington Airports Authority (MWAA) purchased the property in March 2005.

Phase II fieldwork included an intensive surface collection of approximately 7.95 acres within the agricultural fields, a metal detector survey, the excavation of three 3-by-3-foot test units within the northern tree line, and mechanical excavation.

The excavation of Phase II test units at the site resulted in the recovery of prehistoric and historic artifacts from the central tree line. Soil profiles consisted of a plow zone (Ap horizon) over subsoil (B horizon). The plow zone present across the site was typically 0.25-0.8 ft. thick.

The Phase II intensive surface collections resulted in the recovery of more than 912 prehistoric artifacts. Table 10 presents the total number of projectile points and debitage recovered. In addition, 30 bifaces, eight tools, 14 cores, and one fragment of fire-cracked rock were also recovered. Diagnostic projectile points span approximately 7500 years from the Early Archaic to the Early Woodland period. Projectile points recovered during the Phase I also conform to these time periods.

Table 10. Projectile Point and Debitage Recovered from the Surface Collection of Site 44LD1041

Material	Projectile Points	Debitage
Quartz	17	787
Chert		7
Quartzite	2	10
Hornfels	1	19
Rhyolite	2	8
Chalcedony		2
Jasper		1
Unidentified		3
Totals	22	837

The results of the intensive surface collection at Site 44LD1041 show a medium-density concentration of prehistoric artifacts at the far end of the ridge in the eastern portion of the site. A low-density distribution of prehistoric artifacts were present along the northeastern and southwestern side slopes and further back to the northwest on the ridge top. Diagnostic projectile point distributions show a cluster of points within the medium-density concentration. These projectile points date to the Early, Middle and Late Archaic periods.

Many other diagnostic projectile points and projectile point fragments were recovered in the eastern portion of the site along the base of the ridge. Four projectile points were recovered in the northwestern portion of the site, further back on the ridge top, along with the three recovered during the Phase I investigation. These points date to the Early, Middle, and Late Archaic periods and are fairly widely dispersed.

The prehistoric component at Site 44LD1041 represent the remains of small microband base camps, exploitive foray campsites (transient camps), or resource extraction sites. Many small groups have occupied the site during prehistory for short periods of time. These groups might have been special-task groups making brief forays to procure a resource in the vicinity or were microbands composed of men, women, and children, camping as a group during a seasonally determined period of dispersed settlement.

The site may have also served as a location in which game was killed and/or processed or floral resources were gathered and/or processed. The majority of the site contains a medium-density distribution of artifacts. Horizontal distributions of diagnostic projectile points indicate that components have been mixed. The absence of vertically and horizontally separated components does not allow for the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, prehistoric component of Site 44LD1041 is recommended not eligible to the NHRP, and no further work is warranted.

A high-density concentration of historic artifacts was also present at the far end of the ridge in the eastern portion of the site. Like the prehistoric artifacts, historic artifact densities drop off on the side slopes and further back on the ridge top to the northwest. This historic component represents an occupation from the early eighteenth century to the late nineteenth century. During the Phase I survey, 283 historic artifacts were recovered that included 2 sherds of tin-glazed earthenware, 4 white salt-glazed stoneware, 42 creamware, and 38 pearlware (Goode et al. 2004). Only 7 sherds of whiteware and 2 of ironstone were recovered.

The artifacts collected during the current Phase II investigation are consistent with those collected earlier. Table 11 shows the diagnostic ceramics recovered during the current project. The artifacts represent an occupation from early eighteenth century to the middle of the nineteenth century. A total of 11 sherds of whiteware and 12 of ironstone were recovered, indicating that the site may not have been occupied after about the middle of the nineteenth century or occupation of the site during the mid- to late nineteenth century may have been short.

Table 11. Diagnostic Historic Ceramics from 44LD1041

Ceramic	Number	Date Range
Tin-glazed earthenware	1	1640-1800
Domestic Stoneware	28	1670-1915
Coarse Redware	63	1670-1850
Coarse earthenware: Buckley	4	1720-1775
White Salt-glazed Stoneware	3	1720-1780
Refined Red Stoneware	1	1725-1750
Creamware	104	1770-1820
Pearlware	131	1779-1830
Chinese Export Porcelain	1	1790-1830
Whiteware	4	1810-2005
Ironstone	10	1813-1900

In addition to the ceramic assemblage, the recovered nails were in a relatively good state of preservation and were predominately handwrought. Seventy-six of the nails were handwrought, 8 were cut nails, and 18 were wire. The bottle glass included 12 free-blown bottle fragments, olive green, and 45 miscellaneous olive-green bottle fragments, free-blown or blown-in-mold.

Site 44LD1041 appears to represents a domestic occupation of a tenant farmer or an enslaved African American from the mid-eighteenth century to the early-nineteenth century. The historic artifacts are not associated with the ownership and occupation of James McCulloch; his house and farm buildings were located north of the site along Rt. 614.

Site 44LD1041 is similar to 44LD539 in the kinds of artifacts recovered, the early date of occupation, and the date of abandonment. Stripping of part of the site revealed truncated features: a post hole and the remains of a trash pit.

Despite the similarities with 44LD539, given the lack of evident historic features, the historic component of Site 44LD1041 is not likely to contribute important information about the past and is not recommended eligible for the NRHP. No further work is recommended.

4.8 SITE 44LD1042

This site lies on a wooded rise approximately 200 ft. east of a small tributary stream to Stallion Branch (Figure 1). Phase I investigations identified the site through surface survey and subsurface testing (Goode et al. 2004:57-58). The site was determined to be cover approximately 200 sq. ft. and contained structural remains including foundation stones and a stone pile interpreted as the remains of a chimney. This surface debris is concentrated in an approximately 10-by-15-ft. area. Laying on the surface near the foundation were three barrel hoops and a metal bucket. Two of the 18 shovel tests excavated contained olive-green bottle-glass sherds. These sherds were interpreted as dating to the nineteenth century. No information on the site's occupants was found, and the site is not depicted on historic maps of this area. The site was interpreted as a small nineteenth-century subsistence or tenant farm. Site 44LD1042 was recommended for Phase II evaluative testing because information from the site has the potential to address its relationship to the documented historic occupation of the vicinity.

Between the time the Phase I survey was conducted and the fieldwork for the Phase II evaluation, the forest that had covered the site was logged. Clear cutting activities resulted in some moderate ground disturbance and subsequent surface erosion. The concentration of surface debris was not extensively disturbed by activities associated with this logging.

Site 44LD1042 is located within the area of the original 1724 grant of 3,184 acres to Col. Thomas Lee. The Lee family developed the land as a plantation. By 1797, Ludwell Lee inherited plantation, as well as the slaves and cattle, from his uncle Francis Lightfoot Lee. Ludwell Lee began selling off the portions of his plantation near Horsepen Branch and Stallion Branch in the late eighteenth century. In 1812, Lee sold a tract of land, called Horsepen Tract (later known as Horsepen Farm), to Bernard Hooe, Sr., of Prince William County (LCDB 2P:487).

Horsepen Farm was inherited by his daughter Lucy Buckner, although the date this occurred is not clear. Lucy and her husband, Ariss Buckner, administered the farm until 1856 when Lucy died. Ariss Buckner had a principle plantation near Manassas, and the Horsepen Farm was not one his main holdings. In 1856, Horsepen Farm was divided into four smaller lots and sold.

This site is located on property that was part of Lot 3 of the Buckner's Horsepen Farm Tract. The 395-acre Lot 3 was devised to Mary B. Kercheval, a granddaughter of Buckner, in the division of Lucy Buckner's property in 1856 (LCWB 2K:20; CC M2183). Kercheval held the property for 24 years (1880); it is unclear whether she lived on and farmed the property or leased it to tenants during her ownership.

In 1880, Peter E. Adrian bought Lot 3 from Kerchevial's heirs (LCDB 6O:427), and within a few months sold 100 acres along the north boundary of the parcel to Julia Hutchison (LCDB 6P:198). In the 1880 census, Julia Hutchison's name appears with the family of James W. Orrison, who owned land in the vicinity (USBC 1880). She is listed as Orrison's mother-in-law. When Julia Hutchison died intestate, her heirs inherited shares of the 100-acre property.

The property was sold by trustee to several of Hutchison's heirs, but there was an argument among the heirs that resulted in a Chancery Cause being filed by Robert L. Orrison, her grandson, against heirs Benjamin B. and Effa Hutchison, Phillip J. and Mary L. Coleman, and C. A. and Mary V. Whaley (CC 205). The case, sent to the jury for decision, was decided in favor of Robert L. Orrison (LCDB 11O:480).

Orrison sold the property in 1946 to E. T. and Marjorie Marshall and Carl and Bernice Marshall (LCDB 12E:302). The Marshalls sold the land a few months later to Lawrence and Leila Michael (LCDB 12L:175). Michael kept the land for about 20 years, and probably lived on and farmed it, before selling 65 acres to the Y.M.C.A. of Washington, D.C. (LCDB 482:469). The Y.M.C.A. sold to a trustee of the airport in 1982 (LCDB 805:383).

Phase II evaluative testing included close-interval shovel-test survey, metal detection and test unit excavation. The shovel test strategy involved the excavation of shovel tests at 20 ft. along six transects spaced 20 ft. apart. In addition to the 18 Phase I shovel tests, 32 shovel tests were excavated. All but one (3.4) of the Phase II shovel tests was negative. Shovel test 3.4 recovered one hand-wrought nail. Metal detection was undertaken. In general, the stratigraphic sequence recorded during shovel testing included a 0.15-ft. dark brown silt loam over an approximately 0.3-ft. brown silt loam plow zone. This plow zone overlay a reddish-brown silty clay subsoil.

The metal detector transects followed the shovel test transects, but additional coverage was given to the structure location. Only 10 positive metal detector signals were encountered; all were east of the possible structure.

Four test units (3-by-3 sq. ft) were excavated. Placement of the test units was based on the results of the Phase II shovel testing and metal detection. Test unit 1 was placed within the approximately 10-by-15-ft. structure location. The stratigraphic sequence includes three strata above subsoil. The first two strata (stratum 1.1 and 1.2) contain artifacts, the third stratum (1.3) over subsoil was sterile. It is possible that stratum 1.3 is a natural A horizon that became covered when the structure was built. Stratum 1.2 is a dark brown silt loam, and it may represent a living surface.

Over this stratum is 1.1, a stratum consisting of abandonment and destruction debris. No ash or charcoal was encountered, suggesting that the site was abandoned but not burned down. Artifacts from strata 1.1 and 1.2 include hand-wrought nails, pearlware, and whiteware. Additionally, a small quartz crystal was recovered from stratum 1.1. The pearlware and whiteware ceramic sherds indicate that the site was occupied as early as the first decades of the nineteenth century. The quartz crystal suggests the possibility that the site may have been occupied by enslaved African Americans, as similar artifacts have been recovered from other documented slave sites (Jones 1999; Galke 1992).

During the Phase I, a possible stone footer was identified. To investigate the possibility that a building on piers and footers was present at the site Test Unit 2 was positioned to expose this possible feature. Upon excavation of Test Unit 2, it was determined that the rocks exposed on the surface were part of a natural bedrock outcrop. The stratigraphic sequence encountered in this test unit was similar to that identified during shovel testing; a thin O horizon rested over a probable plow zone, which rested on natural subsoil. No artifacts were recovered from Test Unit 2.

Test Unit 3 was placed approximately 5 ft. east of the northeast corner of the structure location. This location was selected because the metal detection survey had found a number of positive signals in this area. The stratigraphic sequence exposed in this test unit is similar to that identified during shovel testing and in Test Unit 2. The O horizon rests on an approximately 0.3-ft. thick A horizon that may have been plowed. The A horizon rests on sterile natural subsoil. Artifacts were recovered from both the O and A horizons. These artifacts included hand-wrought nails, pearlware, and whiteware. Brick fragments were also recovered. It is likely that this part of the site contains a sheet midden associated with the occupation of the adjacent structure.

Test Unit 4 was excavated to evaluate the southeast portion of the site. The stratigraphic sequence identified is similar to that identified by the shovel testing. Seventeen historic and 5 prehistoric artifacts were recovered from the top stratum. It is likely the historic artifacts represent an extension of the sheet midden identified on the east side of the structure. This area of the site is the only location were prehistoric artifacts were recovered. The five prehistoric artifacts include three pieces of chert debitage and two pieces of quartz debitage.

Site 44LD1042 is interpreted as a short-term residential habitation which may have been by enslaved African Americans. The location of the site, away from a main road, the low density of artifacts, and the recovery of a quartz crystal are potential indications that this may be a slave site.

Artifacts indicate that the site was occupied in the first decades of the nineteenth century (Table 12). All of the fasteners recovered are handwrought nails. Handwrought nails were common up until about 1820 when nail technology change and cut nails became popular. Ceramic wares include creamware (1770-1830), pearlware (1779-1830), whiteware (1810-present), and redware (not dated).

Although whiteware was first made in England about 1810, it was not common in the United States until about a decade later, after the end of President Jefferson's economic embargo of England. Thus, it is likely that period of occupation for the site is in the 1820s. It is not clear whether Bernard Hooe or the Buckners owned the property when the site was occupied. It is known that each owner had slaves, but specific information on the property is lacking.

Bernard Hooe purchased the property in 1812 and it pasted to his daughter Lucy (Lucy Hooe Buckner), but the year this occurred is not known. Lucy and her husband, Ariss Buckner, held the property until 1856. Site 44LD1042 was most likely occupied within the 44-year period between 1812 and 1856.

Table 12. Diagnostic Historic Ceramics from 44LD1042

Ceramic	Number	Date Range
Coarse Redware	14	1670-1850
Creamware	7	1770-1820
Pearlware	7	1779-1830
Whiteware	6	1810-2005

In summary, Site 44LD1042 may be a short-term small enslaved African American residential site dating to the early nineteenth century. Given the existing archival information and preliminary archaeological interpretation, it appears that the site could represent an occupation of field hands that was located nearer to agricultural fields than to a plantation manor house. The settlement pattern appears to be similar to that of Monticello, Virginia. At Monticello it has been found that small, difficult-to-identify enslaved African American sites geared toward specific activities are scattered about the property (Neiman 2004). Furthermore, the senior author has identified similar enslaved African American sites in Loudoun County (Walker et al. 2003).

Archeological resources at the site 44LD1042 include an approximately 10-by-15-ft. area of structural debris indicating the location of former structure, and a scatter of artifacts, probably a sheet midden extending a short distance of the east side of the structure. Although recent clear cutting has caused moderate disturbance to the ground surface in the site vicinity, the former structure location does not appear to have been impacted and it has retained integrity. The site has the potential to contain important information on early nineteenth-century enslaved African Americans within a rural agrarian context. Therefore, the historic component of site 44LD1042 is recommended eligible to the NRHP, and further investigations are warranted.

Phase II evaluative testing identified a small prehistoric component at 44LD1042. No diagnostic artifacts were recovered. The prehistoric component does not have potential to yield significant information on the past and is not recommended eligible to the NRHP. No additional investigation of the prehistoric component at 44LD1042 is warranted.

Data recovery investigations should be designed to address research questions pertaining to how this occupation fits within the broader activities of the local network of early nineteenth-century plantations, of which it was part. The artifacts recovered through data recovery excavations may provide significant information on the lifeways of enslaved African Americans. Additional excavations may determine the architectural style of the building and shed additional light on intra-site layout.

5.0 SUMMARY OF RECOMMENDATIONS

Eight sites were evaluated for significance in the APE for the proposed Fourth Runway. Both the historic and prehistoric components of Site 44LD539 are recommended eligible for the National Register and data recovery excavations are warranted for each component. The historic component of Site 44LD538 is recommended eligible, as is the single-component historic Site 44LD1042. None of the other sites or components is recommended eligible.

The prehistoric component of Site 44LD539 has revealed a high density of prehistoric artifacts reflecting repeated occupation and use of a landform from the Early Archaic through the Late Woodland period. The site's size, the density of artifacts and the wide range of stone tools and lithic raw materials recovered are unique for an upland site in the Middle Atlantic region and these qualities are more typical of prehistoric sites on the floodplains of rivers and large creeks and the terraces immediately overlooking them. Clusters of artifacts from specific time periods may allow investigation of limited occupations or uses. Questions of seasonal rounds, resource procurement, function, and tool manufacture may also be addressed through further investigation of the site.

Historic occupations at Sites 44LD538, 44LD539, and 44LD1042 appear to date to the late eighteenth and early nineteenth century. Each of these sites was probably occupied by a tenant or enslaved African American household, not the documented property owner. Additional research, field investigation, and analyses are likely to provide the opportunity to compare the archeological record of three examples of this poorly understood site type.

Table 13. Management Recommendations for Archeological Sites in the APE of the Proposed Fourth Runway.

Site	Component	Recommendation
44LD538	Prehistoric	not eligible
	historic	eligible
44LD539	prehistoric	eligible
	historic	eligible
44LD543	prehistoric	not eligible
	historic	not eligible
44LD1029	prehistoric	not eligible
	historic	not eligible
44LD1034	prehistoric	not eligible
44LD1037	prehistoric	not eligible
44LD1041	prehistoric	not eligible
	historic	not eligible
44LD1042	historic	eligible

These recommendations are based on the limited analyses and interpretation completed by 22 July 2005. As the analyses proceed, it may be necessary and appropriate to revise interpretations and even recommendations concerning eligibility.

6.0 REFERENCES

Duncan, Patricia B.
2004 *Index to Loudoun County, Virginia Land Deed Books, 2N-2U, 1811-1817.* Willow Bend Books, Westminster, MD.

Fischler, Benjamin R.
1999 Phase I Archeological Investigation of the Proposed Runway Construction Zone, Dulles International Airport, Loudoun County, Virginia. Report to Metropolitan Washington Airports Authority, Washington, DC, from Greenhorne and O'Mara, Inc.

Gardner, William M., Charles Goode, and Gwen J. Hurst
2001 Phase I Archeological Investigation of a Circa 96 Acre Property on Poland Road, Loudoun County, Virginia. Report prepared for Wetland Studies and Solutions, Inc., Chantilly, VA, by Thunderbird Archeological Associates, Inc., Woodstock VA.

Gardner, William M., Kimberly A. Snyder, and Gwen J. Hurst
2001a A Phase I Archeological Study of Circa 1300 Acres Proposed for Development as Part of the Brambleton Planned Community, Loudoun County, Virginia. Report prepared for Brambleton Group, L.L.C., Dulles, VA, by Thunderbird Archeological Associates, Inc., Woodstock, VA.

2001b Phase I Archeological Investigations of the Circa 450 Acre Loudoun County Reserve Property, Loudoun County, Virginia. Report prepared for Toll Brothers, Dulles, VA, by Thunderbird Archeological Associates, Inc., Woodstock, VA.

2001c Phase I Archeological Investigations of Impact Areas Associated with the Rokeby Farm, Loudoun County, Virginia. Report prepared for Centex Homes, Chantilly, VA, by Thunderbird Archeological Associates, Inc., Woodstock, VA.

2002 Phase I Archeological Investigation of the Circa 255 Acre Riding Property, Loudoun County, Virginia. Report prepared for Pulte Home Corporation, Fairfax, VA, by Thunderbird Archeological Associates, Inc., Woodstock, VA.

Gaulke, Laura J.
1992 "You are Where You Live: A Comparison of Africanisms at two Sites at Manassas National Battlefield Park. Paper presented at the 1992 Society for Historical and Underwater Archaeology Conference, Kingston, Jamaica.

Godden, Geoffrey A.
1964 Encyclopaedia of British Pottery and Porcelain Marks. Schiffler Publishing, Exton, PA.

Goode, Charles E., James W. Embrey, Katherine L. Farnham, Lynn D. Jones, Donna J. Seifert.
2004 Phase I Archeological Investigation for Runway 4, Dulles International Airport, Fairfax and Loudoun Counties, Virginia. Draft report to Parsons Management Consultants, Washington, D.C., and Metropolitan Washington Airports Authority, Washington, D.C., from John Milner Associates, Inc., Alexandria, VA.

Goode, Charles, Kimberly A. Snyder, and Gwen J. Hurst (Goode et al.)
2003 Phase I Archeological Investigations of the Circa 346 Acre Dulles Trade Center III. Loudoun County, Virginia. Report prepared for Buchanan Partners, Gaithersburg, MD, by Thunderbird Archeological Associates, Inc., Woodstock, VA.

Greenhorne and O'Mara (G&O)
1996 Management Summary: Phase I Archeological Investigation of the Proposed Runway Construction Zone, Dulles International Airport, Loudoun County, Virginia. Report to Metropolitan Washington Airports Authority, Washington, D.C., from Greenhorne and O'Mara, Greenbelt, MD.

Holmes, Katherine H.
1995a Armel Farm. Draft Virginia Department of Historic Resources Intensive Survey Form, Virginia Department of Historic Resources, Richmond.

1995b Moran Cemetery/McCullock (McCulloch) Cemetery. National Register of Historic Places Registration Form. U. S. Dept. of the Interior, National Park Service, Washington, D.C.

Jones, Lynn
1999 Crystals and Conjuring in an Annapolis Household. *Maryland Archeology*, Volume 35(2):1-8.

Loudoun County Chancery Papers (LCCP)
1856 M2183, Buckner vs. Buckner. Archives, Loudoun County Court House, Leesburg.
1922 M5543, McCulloch vs. Moran. Archives, Loudoun County Court House, Leesburg.

Loudoun County Deed Books (LCDB)
1798-present Deed Books, various. Loudoun County Court House, Leesburg.

Loudoun County Will Books (LCWB)
Will Books, various. Loudoun County Court House, Leesburg.

Mullins, Paul R.
1988 James Madison University Archeological Research Center Ceramic Typology. Manuscript, John Milner Associates, Inc. library, Alexandria.

Nagel, Paul C.
1990 *The Lees of Virginia: Seven Generations of an American Family.* Oxford University Press, NY.

Neiman, Fraser D.
2004 Changing Landscapes: Slave Housing at Monticello. <*http://www.pbs.org/saf/1301/features/archeology.htm*>.

Tavenner, Charles Blair, ed.
1975 Some Northern Neck Land Grants, Plats and Sketches. Charles Blair Tavenner Collection, Thomas Balch Library, Leesburg.

United States Bureau of the Census (USBC)
1840-1930 Population Schedules. United States Bureau of the Census, Washington, D.C.

URS Corporation
2004 Draft Historic Resources Survey and Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport. Report to Metropolitan Washington Airports Authority, Washington, D.C., from URS Corporation, Gaithersburg, MD.

United States Geological Survey (USGS)
1951 *Herndon, Virginia, Quadrangle Map*, 7.5 minute series. United States Geological Survey, Washington, D.C.

1966 *Herndon, Virginia, Quadrangle Map*, 7.5 minute series. Photorevised 1983. United States Geological Survey, Washington, DC.

1981 *Arcola, VA.* 7.5 minute quadrangle. U.S. Geological Survey, Washington, DC.

1983 *Herndon, VA.* 7.5 minute quadrangle. U.S. Geological Survey, Washington ,DC.

Walker, Joan M., Kimberly A. Snyder, Christine Jirikowic, and Gwen Hurst
2003 Phase II Data Recovery Excavations at Site 44LD834, Loudoun County, Virginia. Report to Pulte Home Corporation, Fairfax, Virginia, from Thunderbird Archeological Associates, Inc., Woodstock, VA.

STATEMENT OF CONCURRENCE
PHASE II INVESTIGATIONS RELATED TO THE PROPOSED FOURTH RUNWAY
WASHINGTON DULLES INTERNATIONAL AIRPORT

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the Phase II – Management Summaries provided by the Metropolitan Washington Airports Authority (the Authority) for the proposed Fourth Runway (also referred to as North-South Runway) at Washington Dulles International Airport, and concur with conclusions outlined below.

A) The Authority has submitted Phase II Survey Management Summaries to the Virginia Department of Historic Resources (VDHR), presenting the results of the completed evaluation investigations within the runway construction area of proposed Fourth Runway;

B) Although the formal Determination of Eligibility for these Phase II Sites will require submission and review of comprehensive Phase II Survey Report, the completed field investigations and site analysis are adequate to draw preliminary conclusions related to potential eligibility of these sites for the National Register of Historic Places;

D) Based on the completed Phase II investigations and site analysis, the following sites appear to lack the archaeological significance and depositional integrity to meet the eligibility criteria for the National Register of Historic Places: 44LD611, 44LD1029, 44LD1030 44LD1031 44LD1032, 44LD1033, 44LD1034, 44LD1035, 44LD1036, 44LD1037, 44LD1039, 44LD1038, 44LD1040, 44LD1041, 44LD1043, 44LD1044 and 44LD1046;

E) Based on the completed Phase II investigations and site analysis, the following sites and site components appear to meet the criterion for eligibility for the National Register of Historic Places. These sites have the potential to yield additional valuable information on the prehistoric and historic period occupation of the area;

- 44LD538 (Historic Component)
- 44LD539 (Prehistoric and Historic Component
- 44LD1042 (Historic Component)

F) As these potentially eligible sites are located in areas that may be disturbed by the construction of the proposed Fourth Runway, the Fourth Runway project has the potential to adversely impact these resources;

G) As a result, a Memorandum of Agreement for the proposed New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport Project has been drafted and will be executed, including provisions for the development of an Archaeological Site Treatment Plan for these sites – including a consideration for Phase III Data Recovery and/or Preservation in Place;

H) This Memorandum of Agreement will also include provisions for continued consultation on any other impacts to archaeological sites or historic architectural properties, including the Dulles Airport Historic District, resulting from the proposed Project. One of these

provisions will include a mechanism for the review of effects associated with the Tier 3 Concourse Improvements on the Dulles Airport Historic District;

I) The Authority will continue consultation with VDHR, to assure that archaeological treatment plan complies with Guidelines For Conducting Cultural Resource Survey in Virginia (1999).

J) Should Phase III Data Recovery be deemed appropriate, the Authority will complete these investigations and the submission of the required technical report prior to any project related ground disturbance within the identified site limits.

K) Should these Phase III Data Recovery excavations yield evidence of site features or other cultural attributes that may warrant preservation in place, additional consultation with the VDHR on the appropriate treatment of this site will be initiated.

_____ _____
Project Review Staff *Date*

_____
VASHPO / DHR File No.

FAA
Airports Division

Eastern Region

Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, Virginia 20166
(703) 661-1354

July 20, 2005

Mr. Marc Holma
Architectural Historian, Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Section 106 Consultation Regarding Historic Resources
Proposed Construction of New Runways, Terminal Area Improvements, and Related Facilities, Washington Dulles International Airport, Dulles, Virginia
DHR File # 1990-0460

Dear Mr. Holma:

The Federal Aviation Administration (FAA) and Metropolitan Washington Airports Authority (Authority) have previously contacted your agency as part of the Section 106 consultation process pertaining to a series of proposed improvements at Washington Dulles International Airport in Dulles, Virginia. The FAA has retained URS Corporation to assist in the preparation of an Environmental Impact Statement (EIS) for the proposed New Runways, Terminal Facilities, and Related Facilities Project. As part of this process, the FAA is coordinating review of this project under Section 106 of the National Historic Preservation Act (16 USC 470, NHPA) and its implementing regulations 36 CFR Part 800.

We have received your July 1, 2005 letter regarding the *Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport*. Mr. Henry Ward, a Cultural Resource Management consultant to the Authority, spoke with you via telephone on July 14th, regarding this letter, and provided an update on the status of a variety of the issues you raised in your letter. We thank you for your comments and your timely reply.

The following responses are keyed to major information categories included in your letter, and are provided to more fully explain project progress on key actions:

Determinations of National Register Eligibility and Ineligibility of Above-Ground Resources

The Virginia Department of Historic Resources (DHR) has now concurred with all FAA determinations of National Register eligibility, as well as the project Area of Potential Effects (APE), included in June 2005 *Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport*, with the exception of the McCulloch Farm Ruins (DHR Survey # 053-5264). We understand that DHR cannot comment on activities at the McCulloch Farm Ruins until Phase II archaeological evaluations at the site are concluded. Upon the completion of these investigations and review of the archaeological survey findings by your staff, the existing report shall be revised

to reflect theses findings and the *Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport* will be issued by FAA and the Authority.

Comments from Fairfax County, Virginia Regarding Potential Noise Impacts to Sully Plantation

In regard to the concerns raised by the Fairfax County Park Authority (County) that focus on potential noise impacts to Sully Plantation (DHR Survey # 029-0037), the County has been provided with ample opportunity to comment on the proposed undertaking through the numerous public workshops that have been held for the proposed project beginning in 2003. The *Draft Environmental Impact Statement* (EIS) for the project contains an in-depth discussion of noise analysis for the entire project, including Sully Plantation. Sully Plantation was included by the FAA and the Authority as a historic property potentially affected by the project – even though the boundaries of Sully Plantation fall outside both the Direct and Indirect APEs for the project - to ensure that potential effects associated with an increase in noise levels at this interpreted public site were thoroughly evaluated. These additional site-specific analyses regarding noise levels at Sully Plantation were outlined in Section 5.8.3, Noise, Vibration, and Visual Analysis at Sully Plantation, of the EIS document (Attachment 1). This information was also incorporated into both the *Draft* and the *Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport* reports.

Comments on the EIS have been solicited from the County and members of the public as part of the National Environmental Policy Act consultation process. The County was provided with copies of the report and their comments solicited by FAA and the Authority. Additionally, the County was provided with copies of relevant sections of the *Draft Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport* report, including the introduction, fieldwork results for all properties located in Fairfax County, and the summary chapter, by URS in April 2005 at the County's request.

The County provided a comprehensive set of comments to FAA and the Authority for the entire EIS on March 7, 2005. A copy of this document is attached (Attachment 2). Included on pages 5 and 6 of this document (hand labeled 11-7, 11-8, and 3-90 by FAA and the Authority) are the County's comments on the effects to historic resources, all of which specifically refer to Sully Plantation. These comments have been entered into the Comment Database for the project and are addressed in the Final EIS (FEIS), which will be released later this year (Attachment 3). The revised information has also been incorporated into the *Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport* submitted to your office for review in June 2005.

Section 5.8.3, Year 2010 Impact Potential, of the EIS is being expanded to include additional information, which addresses the County's concerns. As discussed in Section 4.1 of the *Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport* and the EIS, noise, vibration, and visual impacts to Sully Plantation were assessed with additional detail

provided in both of these documents. The proposed Build Alternatives will have no effect on Sully Plantation.

Eligibility of Archeological Sites and Most Appropriate Type of Agreement Document – MOA versus PA

FAA and the Authority understand that DHR believes that a Programmatic Agreement (PA) rather than and Memorandum of Agreement (MOA) may be more appropriate regarding the design review process for the Tier 3 Concourse Improvements, assessment of effects on the Dulles Airport Historic District due to the proposed Tier 3 Concourse Improvements, and the completion of Phase III archaeological investigations. Mr. Ward was able to provide clarifying information regarding the current status of Phase II archaeological investigations both on and off airport property, and highlighted the fact that at least one archaeological site (44FX2840) is both eligible for listing in the National Register of Historic Places, and would be subject to adverse effects associated with the project, thus necessitating the development of a MOA.

As Mr. Ward also reviewed with you, the issue of which type of agreement document should be used - a PA or a MOA - was discussed by both FAA and the Authority prior to the June 16, 2005 letter. Our agencies also considered your views, and concluded that a MOA would be more appropriate, given the fact that a PA was already in place for Dulles. Furthermore, as the MOA pertains solely to a project-specific improvement related to the project EIS, the FAA and the Authority determined that a MOA was the more appropriate choice. FAA and the Authority notified the Advisory Council on Historic Preservation (ACHP) of the proposed MOA on June 17, 2005 and invited them to participate in consultation. To date, no comment has been received from the ACHP on the proposed approach, signifying their approval of the development of a MOA for this project. More importantly, as you will see in the draft MOA (Attachment 4), procedures and protocols to review the project's potential effects on the historic district, as well as any adverse effects on National Register-eligible archaeological sites, fully cover how the FAA and the Authority will mitigate these adverse effects.

If you believe a meeting with FAA, the Authority, its Cultural Resource Management consultant, and URS historic preservation specialists, would be helpful to review this MOA, we would be happy to come to Richmond to hold such a meeting, or convene a meeting at Washington Dulles International Airport. Our goal would be to schedule such a meeting during the week of July 25, 2005, if at all possible, to help us keep this project on its extremely tight NEPA schedule. Please let us know if you would like to meet with us, and we will make plans to do so.

Thank you for your assistance in this matter. Please feel free to contact me at (703) 661-1358 should you have any questions.

Sincerely,

Original Signed By
Joseph B. Delia

Terry J. Page
Manager, Washington Airports District Office

TP/MRE: me

Enclosures

cc: Mr. Frank Smigleski, FAA
Mr. Charlie Baummer, PMC/MWAA
Mr. Henry Ward, PMC/MWAA
Mr. Allan Nagy, URS
Mr. Ben Siwinski, URS
Mr. Mark Edwards, URS ✓
Ms. Amy Barnes, URS
Ms. Varna Boyd, URS

List of Attachments

1. Preliminary Draft EIS, Section 5.8.3, Noise, Vibration, and Visual Analysis at Sully Plantation

2. March 7, 2005 comments from Fairfax County, Virginia on Dulles New Runways Draft Environmental Impact Statement

3. Response to Fairfax County, Virginia cultural resource comments, to be included in Final EIS Comment Database.

4. Draft Memorandum of Agreement

Preserving America's Heritage

July 19, 2005

Mr. Brad Mehaffy
Environmental Specialist
Federal Aviation Administration
Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166

REF: Proposed Construction of New Runways at Washington Dulles International Airport
Chantilly, Virginia

Dear Mr. Mehaffy:

The ACHP recently received your notification and supporting documentation regarding the adverse effects of the referenced project on the Dulles Airport Historic District, a property eligible for listing on the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change and you determine that our participation is required, please notify us. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the final Memorandum of Agreement and related documentation at the conclusion of the consultation process. The filing of the Agreement with us is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require further assistance, feel free to contact Martha Catlin at 202-606-8503.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

STATEMENT OF CONCURRENCE:

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached Phase II Survey Report for Crosswind Runway development area at Washington Dulles International Airport and concur with conclusions outlined below. The Metropolitan Washington Airports Authority is authorized to proceed with the Phase III Data Recovery investigations of Site 44FX2840, in accordance with these stipulations.

A) The Authority has submitted a Phase II Survey Reports to the Virginia Department of Historic Resources (VDHR) that adequately presents the results of the completed Phase II investigations of the runway construction area of proposed Crosswind Runway;

B) The criteria used to evaluate the Phase II site's potential eligibility for the National Register of Historic Places are appropriate and follow the Virginia Department of Historic Resources guidelines;

C) Based on the Phase II investigations, Sites 44FX2540, 44FX2541, 44FX2839, 44LD1077 and 44LD1081, have been determined as not eligible for the National Register of Historic Places;

D) Given the high level of subsurface integrity, Site 44FX2840 has the potential to yield valuable information on local prehistory, and has been determined as eligible for the National Register of Historic Places;

E) Although the site has the potential to yield significant archaeological data, it does not appear to possess the archaeological attributes or additional cultural characteristics sufficient to warrant preservation in place;

F) As a result, a Phase II - Data Recovery investigation of this site is recommended, in accordance with proposed methodology and the Guidelines For Conducting Cultural Resource Survey In Virginia (1999), prior to construction related ground disturbance.

G) Should these Phase III – Data Recovery excavations yield evidence of site features or other cultural attributes which may warrant preservation in place, additional consultation with the VDHR on the appropriate treatment of this site will be initiated.

Project Review Staff

14 July 2005
Date

1990-0460
VASHPO / DHR File No.

07-20-05P12:27 RCVD

COMMONWEALTH of VIRGINIA

Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

July 1, 2005

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 3

To Allen Neuy	From Brad Mehaffy
Dept./Agency URS	Phone # 703 661 1367
Fax # 813 636 2400	Fax # 703 661 1370

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Mr. Brad Mehaffy
FAA, Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, Virginia 2016

Re: Historic Resources Survey & Effect Assessment for
Proposed Construction of New Runways, Terminal Facilities, and Related Facilities
Washington Dulles International Airport
DHR File # 1990-0460

Dear Mr. Mehaffy:

We have received for your review and comment the "Preliminary Final Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport" prepared by URS Corporation on behalf of the Federal Aviation Administration (FAA) and the Metropolitan Washington Airport Authority (MWAA). It is our understanding that the FAA proposes to construct two additional runways and associated improvements at Dulles to accommodate future aviation activities. The scope of the undertaking consists of constructing a new runway parallel to existing Runway 1L/19R and another new runway parallel to existing Runway 12R/30L. The project also involves the construction of taxiways, a new Tier 3 Concourse, and other associated support facilities such as lighting systems and navigation aids.

A survey of architectural resources identified ten properties located within the project Area of Potential Effect (APE). Of these properties, three have already been evaluated for listing in the National Register of Historic Places. These three are Sully Plantation (DHR Survey No. 029-0037; listed in the National Register), Dulles Airport Historic District (DHR Survey No. 053-0008; eligible for listing in the National Register), and Manassas Gap Rail Bed (DHR Survey No. 029-5274; not eligible for listing in the National Register). The remaining seven properties are being evaluated for the first time and consist of the following: Farmstead (DHR Survey No. 053-5252), Building 14—National Weather Service, Sterling Facility (DHR Survey No. 053-5257), Building 16—National Weather Service, Sterling Facility (DHR Survey No. 053-5258), Interservice Radio

Propagation Laborato y Complex (DHR Survey No. 053-5261), Moran House (DHR Survey No. 053-5263), McCullo h Farm Ruins (DHR Survey No. 053-5264), and House at 44210 Beaver Meadow Road Ruins DHR Survey No. 053-5266).

Upon review of the s rvey material provided, we concur that, with the exception of the McCulloch Farm Ruins, none of he properties are eligible for listing in the National Register. This is due to their lack of archite ural merit or known association with a significant event and/or important individual. Additiona ly, in most cases the current condition of the properties is such that they have sustained substantial osses of historic integrity. With regard to the McCulloch Farm Ruins, it is our understanding t at there is a Phase II archaeological survey pending for this property. Therefore, we will w hhold comment regarding its potential National Register eligibility until we have the opportunity t review the resulting report from that investigation.

Regarding archaeolo ical resources, we concur with the statements made in Section Six. Of the 53 archaeological sit s identified through Phase I investigation of the project area, all or part of 14 sites were recomm ended for Phase II evaluation. We understand that the results of these evaluations will be f rwarded to DHR upon completion. We will provide our comments regarding these activ ies and the National Register eligibility of each site upon receipt of the completed report.

The Fairfax County P rk Authority has contacted our office with concerns about the potential of the new runways to inc ease the noise at Sully Plantation, a property that it owns. As a local government, Fairfax County is entitled to participate as a consulting party pursuant to 36 CFR 800.2(c)(3). What ef orts has FAA made to solicit comments from the County regarding the effect that this undertaking will have on Sully Plantation? If FAA has received comments from the County about this pr ject please make them available to the Department of Historic Resources (DHR) for our consid ration. We will continue our evaluation of the potential for this undertaking to affect known archi ectural resources listed in or eligible for the National Register once FAA has provided us with the r equested information on its consultation with Fairfax County.

In his June 16, 200 letter, Mr. Mark Edwards of URS Corporation suggested the need for a Memorandum of Agr ement (MOA) between FAA and DHR "regarding the design review process for the Tier 3 Conc urse Improvements, assessment of effects on the Dulles Airport Historic District due to the pr posed Tier 3 Concourse Improvements, and the completion of Phase II and Phase III archaeologi al investigations." We believe that such an approach may not be the most appropriate under the present circumstances. The expressed purpose of the proposed agreement is, in part, to establish a process for future consultation on issues whose outcomes are not yet known. Such a situation dicta es a Programmatic Agreement (PA) rather than an MOA. As the effects of the undertaking are n t yet established as being adverse, it is possible that mitigation measures will

not be necessary ther by making an MOA unwarranted. Before committing our agencies to a course of action at thi time in regards to an agreement document, we recommend completing the Phase II evaluation o archaeological resources and continue consulting with DHR regarding the effects of the undertal ing on historic properties. If it is determined that the project will adversely affect historic proper es, then FAA and DHR can develop an MOA in order to mitigate such adverse effects. Othe vise, a process PA may be more appropriate.

If you have any questi ons about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 14.

Sincerely,

Marc Holma, Archite tural Historian
Office of Review and Compliance

Cc: Mr. Michael . Rierson, Fairfax County Park Authority

FAA
Airports Division

Eastern Region

Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, Virginia 20166
(703) 661-1354

June 17, 2005

Ms. Martha Catlin
Program Analyst
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, N.W., Suite 803
Washington, DC 20004

RE: Washington Dulles International Airport New Runways, Terminal Area Improvements, and Related Facilities Project Proposed Memorandum of Agreement.

Dear Ms. Catlin:

The Federal Aviation Administration (FAA), in cooperation with the Metropolitan Washington Airport Authority (Authority), is proposing to construct two new runways at Washington Dulles International Airport. A new parallel north-south runway will be constructed to the west of the airport, approximately 9,473 feet long by 150 feet wide, and a new parallel east-west runway will be constructed to the south of the airport, approximately 10,500 feet long by 150 feet wide. The proposed project also includes associated taxiways, navigational aids, and construction of a Tier 3 Concourse in accordance with the FAA's 1985 Master Plan Study for Washington Dulles International Airport and the Authority's 2004 updated Airport Layout Plan. The 1985 Master Plan Study incorporated elements of Eero Saarinen's original 1964 Master Plan for the facility, which provided for future expansion treatments within different areas and was noted for its comprehensively designed plan that coherently integrated buildings, structures, and site.

The Dulles Airport Historic District, located in Chantilly, Virginia, was determined eligible for listing in the National Register of Historic Places by the Virginia Department of Historic Resources (VDHR) in 1979. The property was not formally listed due to owner objection. The property was found eligible by the Acting Secretary of the Interior for listing under Criterion C as an outstanding work of architecture by a master, Eero Saarinen. In 1989, the Authority determined that the district was also eligible for listing in the National Register under Criterion A for its association with the development of air transportation in the United States as the first airport in the United States to be designed specifically for commercial jet aircraft, a technology then still in its infancy.

In 2004, FAA and the Authority began consultation with VDHR regarding the effects of the proposed project on cultural resources as part of the environmental review process

leading to the completion of a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for the proposed project which constitutes a Federal undertaking by FAA, as defined in 36 CFR 800.16(y) *Protection of Historic Properties*. A copy of correspondence pertaining to this consultation, a copy of the Section 106 report, and a copy of VDHR's response, are enclosed as Appendix #1.

In June 2004, the Authority and VDHR signed a Statement of Concurrence on the procedures to be used during archaeological investigations for the proposed project. The concurrence statement stipulated the following:

- The Metropolitan Washington Airports Authority (the Authority) is currently assisting the Federal Aviation Administration in Planning and Preliminary Engineering Studies related to the development of New Runways and Related Facilities at Washington Dulles International Airport;
- As part of the development of an Environmental Impact Statement for this project (pursuant to Section 102(c) of the National Environmental Policy Act of 1969), the Authority has conducted Phase I – Identification Surveys for archaeological resources within the Area of Potential Effect for two runway construction zones: North-South Runway and Crosswinds Runway;
- These archaeological surveys were conducted by the Authority's Cultural Resources consultant utilizing staff meeting the Secretary of the Interior's Professional Qualification Standards (pursuant to 36 CFR 61), and appear to comply with all relevant archaeological requirements and guidelines of the Virginia Department of Historic Resources (VDHR);
- The scope, methodology and results of these surveys were the subject of periodic consultation between the staff of the VDHR and the Authority (including project presentations on 3/5/03, 12/16/03 and 6/1/04;
- During these meetings, representatives of the Authority outlined the following consultation process to coordinate compliance with the applicable regulatory requirements of Section 106 and NEPA:

  A) Completion of the Phase I Survey for both runway alternatives during the development of the Draft Environmental Impact Statement (DEIS);
  B) Inclusion of the results of the Phase I – Identification Survey in the DEIS;
  C) Submission of the Completed Phase I – Identification Survey technical reports (including recommendations for additional Phase II investigations) for VDHR review and comment;
  D) Completion of the required Phase II – Evaluation surveys during the development of the Final Environmental Impact Statement (FEIS);

E) Submission of the Draft Phase II – Evaluation Survey technical reports (including any recommendations for Phase III – Data Recovery on In-Situ Preservation) for VDHR review and comments;
F) Inclusion of the results of these Phase II – Evaluation Surveys in the FEIS; and
G) If Phase III – Data Recovery Investigation or In-Situ Preservation are required, these investigations and or appropriate provisions for site preservation would be completed prior to any project-related soil disturbance.

Project Review and Compliance Architectural Historian Marc Holma concurred with this statement, on behalf of VDHR, on June 28, 2004. A copy of this concurrence statement is found in Appendix #2.

Since that time, the Section 106 process has continued, with FAA and the Authority consulting with VDHR pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act, as amended, (16 USC 470f). A second Statement of Concurrence was presented to VDHR on November 2, 2004. Specifically, this concurrence statement stipulated to the following:

- The Authority has submitted Phase I Survey Reports to VDHR that adequately present the results of the completed Phase I investigations;
- The criteria used to select the identified Phase II evaluations are appropriate and follow VDHR guidelines;
- The Phase II field investigation methods proposed in these reports are appropriate given field conditions, character of the archaeological resources and the project research design;
- The Authority will complete the recommended Phase II evaluation investigations in accordance with the proposed methodology;
- At the completion of these investigations, the Authority will provide the VDHR with the appropriate Phase II Survey Reports for review and comment, prior to any project related soil disturbance with the Phase II sites areas; and
- Should any of the Phase II sites be determined to meet the criterion for the National Register of Historic Places, the necessary Phase III Data Recovery investigations will be completed and the appropriate Phase III Report submitted to the VDHR prior to any project related soil disturbance with the Phase III site areas.

Project Review Archaeologist Joanna Wilson approved this statement, on behalf of VDHR, on November 30, 2004. A copy of this concurrence statement is found as Appendix #2.

FAA and the Authority intend to complete the FEIS and ROD late 2005, completing the environmental review process for this project. At this time, the Tier 3 Concourse Improvements have not been designed and archaeological investigations are ongoing. The FAA and Authority propose to enter into a Memorandum of Agreement (MOA) with VDHR regarding the design review process for the Tier 3 Concourse Improvements, assessment of effects to the Dulles Airport Historic District due to the proposed Tier 3 Concourse Improvements, and the completion of Phase II and Phase III archaeological investigations. Execution of an MOA shall satisfy FAA's Section 106 responsibilities for all actions associated with the proposed project. A copy of the draft MOA may be found in Appendix #3.

In accordance with the 1987 Programmatic Memorandum of Agreement (PMOA) executed by the Authority, VDHR, and the Advisory Council on Historic Preservation (Council) in connection with the lease of Washington National and Washington Dulles International Airports from the FAA to the Authority which governs the handling of undertakings at the airports which may have an effect on properties eligible for inclusion in the National Register of Historic Places (National Register) and provides that such projects will be handled in accordance with 36 CFR Part 800 with respect to review by VDHR and the Council, FAA is notifying the ACHP of the proposed project. FAA is also including the Loudoun County, Virginia Planning Department (Loudoun County) as a concurring party in the ongoing discussions on effects to cultural resources at the request of Loudoun County.

The proposed MOA, developed by FAA and the Authority in consultation with VDHR and Loudoun County (see attached), includes language and procedures for the design review process and effects assessment from the PMOA and two 1993 MOAs regarding the expansion of the Main Terminal and construction of Midfield Concourse Facilities, all of which were signed by the Council. The archaeological procedures includes language from both the PMOA and the June and November 2004 Statements of Concurrence.

The FAA and the Authority believe that the project does not meet any of the criteria included in 36 CFR Part 800 Appendix A "Criteria for Council Involvement in Reviewing Individual Section 106 Cases." The information currently available indicate that the project will more than likely not have substantial impacts on historic properties, does not present important questions of policy or interpretation, will not have the potential for presenting procedural problems, and will not present issues of concern to Indian tribes or Native Hawaiian organizations. It is our understanding that the Authority, VDHR, and Loudoun County are comfortable with proceeding with consultation under the terms of the proposed MOA, which is written with FAA, the Authority, VDHR, and Loudoun County as signatories.

We would appreciate it if the Council would review and provide its written comments on this undertaking, and specifically respond to whether the Council will officially participate in the consultation process from this point forward. We understand that the Council has fifteen (15) calendar days from date of receipt to render its comments. Assuming your receipt of these materials on June 20, 2005, comments would be due back to us on or before July 5, 2005 [15 calendar days from receipt].

Should you desire to meet in person within the 15 day comment period to discuss this undertaking in more detail, we would be happy to do so. If you need any additional information about this project, please contact me, at (703)-661-1364. Thank you for your assistance in this matter.

Sincerely,

Brad Mehaffy, R.E.M.
Environmental Specialist
FAA- Washington Airports District Office

cc: Mr. Frank Smigelski, FAA (w/out attachments)
Dr. Charles Baummer, MWAA (w/out attachments)
Mr. Henry Ward, MWAA (w/out attachments)
Ms. Kathleen Kilpatrick, VDHR (w/out attachments)
Mr. Marc Holma, VDHR (w/out attachments)
Ms. Joanna Wilson, VDHR (w/out attachments)
Mr. Allan Nagy, URS (w/out attachments)
Mr. Ben Siwinski, URS (w/out attachments) ✓
Mr. Mark Edwards, URS (w/out attachments)

Appendices

1. September 2004 Correspondence to VDHR Regarding "Historic Resources Survey & Effects Assessment, Dulles International Airport;" Copy of Report; VDHR Response Correspondence

2. June 2004 Section 106/NEPA Consultation Concurrence Statement Regarding New Runways and Related Facilities, Washington Dulles International Airport; November 2004 Statement of Concurrence Update

3. Draft Memorandum of Agreement

Ms. Joanna Wilson
State Historic Preservation Office
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

RE: Crosswind Runway: Phase II Archaeological Survey
Washington Dulles International Airport
Fairfax and Loudoun Counties

Dear Ms. Wilson:

The Metropolitan Washington Airports Authority (Authority) is currently working with the Federal Aviation Administration (FAA) on the completion of an Environmental Impact Statement (EIS) for the New Runways and Related Facilities at Washington Dulles International Airport. In support of this environmental documentation effort, the Authority is undertaking the archaeological investigation of two large-scale runway development areas (North-South Runway and Crosswind Runway). This letter is intended to transmit the Phase II Technical Report for the Crosswind Runway (Figure 1.)

In addition to fulfilling environmental documentation requirements (pursuant to Section 102 (c) of the National Environmental Policy Act 1969), these investigations are consistent with the stipulations of our 1987 Programmatic Memorandum of Agreement regarding Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138).

1.0 CONSULTATION BACKGROUND

The Phase I technical reports for both runways, including recommendations for additional Phase II – Evaluation testing, were submitted for VDHR review in October 2004 and staff concurrence with the findings of the surveys was received on November 11, 2004. On receipt of VDHR concurrence on the Phase II recommendations, the Authority proceeded with the evaluation of the Phase II sites. The completed Phase II technical report for the Crosswind Runway is now being submitted for VDHR review.

2.0 CROSSWIND RUNWAY – PHASE I SURVEY RESULTS

The Phase I archeological survey of the Crosswind Runway Area of Potential Effect (APE) identified 23 archeological sites. Four of the 23 sites are recommended for Phase II investigation to evaluate their potential to contribute important information on the prehistory of Fairfax and Loudoun Counties. The recommended sites include Sites 44FX2839, 44FX2840, 44LD1077, and 44LD1081. Sites not recommended for Phase II evaluation, because they lack integrity and/or information potential include, Sites 44FX2535, 44FX2834, 44FX2835, 44FX2836, 44FX2837, 44FX2838, 44LD1076, 44LD1078, 44LD1079, 44LD1080, 44LD1082, 44LD1083, 44LD1084, 44LD1085, 44LD1086, 44LD1087, 44LD1088, 44LD1089, 44LD1090, and 44LD1091.

Two sites identified during a 2000 survey by EAC/Archaeology for the proposed batch plant have been recommended for Phase II evaluation. Site 44FX2540, the Delay farmstead, includes structural remains and an associated 19th century historic artifact scatter, and Site 44FX2541, represented a potential associated large surface trash midden. Both of these sites yielded domestic artifacts from the last quarter of the nineteenth and to the third quarter of the twentieth centuries and were believed to represent historic archaeological sites associated with the Afro-American community of Willard (which was demolished during the construction of the airport in the 1960s). It was hoped that these two sites might contribute to the understanding of the history and material culture of that settlement

3.0 CROSSWIND RUNWAY - PHASE II RESULTS

Phase II investigations at Sites 44FX2540, 44FX2541, 44FX2839, 44FX2840, 44LD1077, and 44LD1081 were designed to determine whether these cultural resources meet the criteria necessary for inclusion in the National Register of Historic Places (NRHP). The completed Phase II evaluation concludes that 44FX2540, 44FX2541, 44FX2839, 44LD1077, and 44LD1081 represent archaeological sites that lack the information potential and depositional integrity to address significant research questions on the prehistoric or historic occupation of the region. As a result, these sites are recommended not eligible for inclusion in the National Register of Historic Places (NRHP) and no further work is warranted.

However, Site 44FX2840 was found to have the archaeologically significant artifactual materials and site integrity, to contribute important information about local prehistory. As a result, this site is recommended as eligible for the NRHP under Criterion D. Summary information on the Phase II Survey of all these sites is included below, and specific recommendations for the treatment of Site 44FX2840 are included in the final sections of the letter.

3.1 Site 44FX2540

Site 44FX2540 is a historic period site that archival information suggests that it may have had a structure constructed as early as 1896 (although few of the recovered artifacts date to this early period). The artifacts collected during the Phase II investigation reflect an early to mid twentieth-century occupation. There are no deep deposits on the site; and the majority of the artifacts collected came from undifferentiated surface midden deposits. Late nineteenth-century artifacts may be connected to the early owner/occupant John Albert Hutchison. However, it is not clear who occupied the site after about the mid-1920s when the property was sold and may have been rented. Thus, it is difficult to provide a strong association with sites documented owner/occupant.

The eastern end of the site has been partially disturbed by adjacent construction activities and the southwestern part of the site also has been impacted. Because of the lack of integrity and limited information on occupancy, this site has little potential to yield important information on the site residents or the community of Willard. As a result, this site has been determined not eligible for the NRHP, and no further archaeological investigations are warranted.

3.2 Site 44FX2541

This site consisted of a surface trash midden that was probably associated with a nearby residence, believed to have been built on the property around 1897. Visible evidence of the house is no longer extant, and the Phase I archeological investigation did not find physical remains of the structure. The undifferentiated trash midden had no deep deposits and the vast majority of artifacts were recovered from the surface of the site.

The artifacts recovered have a very wide date range and could have been associated with either the owner/occupants or subsequent renters. Given the lack of discrete artifact assemblages and the lack of direct association with specific site residents, this site is unlikely to yield important information related to the site's early inhabitants or the history of the Willard community. As a result, the site does not appear to meet the criterion of eligibility for the NRHP and no further work is warranted.

3.3 Site 44FX2839

Site 44FX2839 consists of a small microband base camp, exploitive foray campsite (transient camp), or a small resource extraction site. Local archaeological settle models suggest that these kinds of sites, were periodically occupied by small special-task groups making brief forays to procure raw material resources located in the vicinity of the site. In addition, these microbands of related men, women, and children, may have camped on these sites during seasonally determined period of dispersed settlement. The site also may have served as a location in which game was killed and/or processed or floral resources were gathered and/or processed.

Projectile points dating to the Early Archaic/Middle Archaic transition and the Late Archaic periods were recovered. The site may be related to Sites 44FX2840 and 44LD1081 because of their proximity and similar bifurcate variant points were recovered from these sites. This suggests that related groups may have seasonally occupied these sites during the Early Archaic/ Middle Archaic transition as part of a seasonal settlement cycle.

Evidence suggests that an unplowed A-horizon or A/B transition present in the northern portion of the site may contain the buried and preserved remnants of a prehistoric campsite. Despite the presence of a partially intact soil horizon in a small portion of the site, the low-density of artifacts and the large amount of disturbance created by prior historic period activities through the center of the site does not allow for the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, Site 44FX2839 is recommended not eligible to the NRHP and no further work is warranted.

3.4 Site 44FX2840

Site 44FX2840 consists of a small microband base camp, exploitive foray campsite (transient camp), or a small resource extraction site. Projectile points dating from the later portions of the Early Archaic through to the end of the Late Archaic, spanning approximately 6800 years of intermittent occupation were recovered. Similar bifurcate variant points were recovered from nearby Sites 44FX2839 and 44LD1081.

Lithic reduction activities included the finishing and resharpening of projectile points and other bifacial tools as well as the removal of large flakes from cores that would then be used as expedient tools or further reduced into more refined tool forms. Evidence suggests that an unplowed A-horizon or A/B transition is present at the site and contains the buried and preserved remnants of this prehistoric campsite. Artifacts, including a number of diagnostics Archaic period projectile points, are present in low to medium-densities distribution clusters that suggest that discrete activity areas may be able to be defined within the site deposits. Although not identified during the Phase II testing, there is the potential for preserved subsurface features.

As a result of this evident subsurface integrity, Site 44FX2840 has the potential to address research questions relevant to an understanding of the prehistoric utilization of the site and the procurement of natural resources from the surrounding region. The information contained within the site can be used to address research questions pertaining to prehistoric seasonal settlement-subsistence rounds, natural resource procurement, site function, lithic tool manufacture and site formation processes. Therefore, Site 44FX2840 has the potential to contribute important information about prehistory and is recommended as eligible for the NRHP under Criterion D.

3.5 Site 44LD1077

Site 44LD1077 consists of a small periodically occupied microband base camp, exploitive foray campsite (transient camp), or a small resource extraction site. Whatever the activity, the site appears to have been repeatedly occupied because this specific location had attributes; a continuous water supply, high elevation, southern exposure coupled with proximity to floral, faunal, and lithic resources that made it especially attractive for occupation.

Projectile points dating from the Early Archaic through to the Early Woodland, spanning approximately 7500 years of intermittent occupation, were recovered. In addition to culturally diagnostic projectile points other items recovered include bifaces, cores, a chipped-stone axe, utilized flakes, and two possible end scrapers.

The site has been plowed and the majority of artifacts were recovered in mixed contexts within the plow zone. Horizontal distributions of artifacts also indicate that components from different time periods have been mixed. The absence of vertically or horizontally separated components and the loss of integrity because of plowing does not allow for the development of research questions that could further address such themes as settlement, subsistence, technology, and environmental adaptation. Therefore, Site 44LD1077 is recommended not eligible for the NRHP and no further work is warranted.

3.5 Site 44LD1081

Site 44LD1081 consists of a small microband base camp, exploitive foray campsite (transient camp), or a small resource extraction site; which underwent short-duration periodic occupation by small groups through time. A projectile point that dates to the Early Archaic/Middle Archaic transition was recovered. The site may be related in some way to Sites 44FX2839 and 44FX2840 because it is located directly opposite of Cub Run from those two sites. Similar bifurcate variant points were recovered from this site, as well as Sites 44FX2839 and 44FX2840. This suggests that temporally related groups may have occupied these sites during the Early Archaic/Middle Archaic transition as part of their regular settlement round. This site is very similar to Site 44FX2839 in its size and composition.

A biface and a lithic core were recovered along with a small amount of debitage. Lithic reduction activities included the finishing and resharpening of projectile points and other bifacial tools as well as the removal of large flakes from cores that would then be used or reduced further into various tools. Neither of these reduction activities was performed intensely at the site.

A small portion of the site is unplowed. This area is in the southeastern portion of the site at the end of the landform that extends toward Cub Run. Soils consisted of a shallow, unplowed A-horizon directly over a C-horizon comprised mainly of tabular fragments of siltstone. The remaining portions of the site were plowed. Despite the presence of unplowed soils in a small portion of the site, there is little potential for subsurface features given the extremely shallow soil cover characterizing the majority of the site area.

These depositional limitations combined with the low-density of artifacts present at the site does not allow for the development of research questions that could further address research themes related to settlement, subsistence, technology and environmental adaptation. Therefore, Site 44LD1081 is recommended not eligible for the NRHP and no further work is warranted.

4.0 RECOMMENDATIONS

The Phase II investigations were designed to evaluate the significance of each of the six archeological sites in terms of its eligibility for the NRHP under Criterion D. These investigations consider whether or not each site is likely to contribute important information on the prehistory or history. Sites considered not eligible for the National Register of Historic Places include 44FX2540, 44FX2541, 44FX2839, 44LD1077 and 44LD1081. These sites lack integrity or information potential and no additional archeological work is recommended.

Site 44FX2840 is recommended as being eligible for the National Register of Historic Places because it exhibits only limited disturbance of a buried stratum that yielded artifacts dated to the Middle and Late Archaic Period. The integrity of the site is unusual, as most sites in this area have been repeatedly plowed. Construction of the proposed Crosswind Runway and associated facilities has the potential to disturb Site 44FX2840. As this site appears to possess sufficient significance and integrity to recommend that it be considered eligible for the National Register of Historic Places, potential site treatment including either Preservation in Place or a Phase III Data Recover investigation will need to be considered.

4.1 CONSIDERATIONS FOR PRESERVATION IN PLACE

The Virginia Department of Historic Resources – Guidelines For Conducting Cultural Resource Survey In Virginia (1999), states: "That all due consideration should be given to practical methods of preserving significant archaeological sites in place. However, when appropriate consultation has taken place and it is agreed that preservation in place is not practical, data recovery may be appropriate".

The location of Site 44FX2840 within the midfield of a major international airport, places it in a highly dynamic development environment that presents significant challenges for long-term *instu* preservation. The site is located in the direct grading zone for the future development of the Crosswind Runway and in a topographic setting that would preclude site preservation by direct burial. Given the massive scale of the runway construction area and the relatively small size of the site, alteration of the construction grades to allow for preservation in place is neither feasible nor prudent. Furthermore, as the dimensions, location and layout of the new runway are the result of complex and rigorous flight operation and safety specification, redesign of the runway to avoid the site is not practical.

The VDHR guidelines reference the Advisory Council on Historic Preservation's Guidelines for Consulting About Archeology Under Section 106 (1990). These guidelines identify a number of elements that should be taken into account when considering preservation in place, the prime consideration being that: "The archeological site should be significant and of value chiefly for the information on prehistory or history it is likely to yield through archeological, historical and scientific methods of information recovery, including archeological excavation".

As noted in the description of Site 44FX2840, this archaeological resources represents a small, short duration site, with diagnostic artifacts indicating a period of periodic utilization during the Archaic period. Although the subsurface distribution of artifacts is only of low to medium density, the significance of the site relates to the fact that it appears not to have been plowed and therefore, may retain an unusual level of depositional integrity.

The completed Phase I and Phase II testing did not yield any direct evidence of intact subsurface features, but the evident integrity of the subsurface deposits suggests that such features might still be present. As a result, although this resource represents a relatively common site type, a small multi-component Archaic site in a Piedmont upland setting, its relatively intact condition is unusual and increases the potential that it might yield significant information on this period of prehistory. However, the site does not seem to possess the elevated significance that would make it a logical candidate for *insitu* preservation. There is no evidence that the site contains such extraordinary archaeological attributes or associative cultural characteristics, that the benefit of preserving the site in place would exceed the value of the archaeological data that could be obtained through its excavation.

Given the small size and short-term periodic occupation, it is unlikely that the site would contain cultural features or primary deposits of sufficient volume and artifact concentration (trash pits, burials, large hearths or other specialized functional features) as to represent significant stores of cultural data. Although the site did yield a number of diagnostic tool forms, the artifacts types were still limited to a total of seven bifacial tools and associated tool production debitage from local materials or relatively common non-local lithic sources.

This limited artifact diversity further suggests that the site is unlikely to yield evidence of complex or specialized cultural activities. In summary, although there is evidence that the site may retain a level of subsurface integrity that is unusual for this portion of the Virginia Piedmont, it seems unlikely that it will contain archaeological features or deposits of such significance to warrant preservation in place.

The ACHP guidelines also note the following site preservation considerations that would not appear to be applicable to Site 44FX2840:

1) There is no indication that the site contains human remains or associated funerary objects, sacred objects, or items of cultural patrimony as those terms are defined by the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001);

2) The site would not appear to have long-term preservation value, such as traditional cultural and religious importance to an Indian tribe or a Native Hawaiian organization.

3) The site location within the high security environment of an airport midfield precludes its use as publicly accessible in-situ display or interpretive exhibit.

In summary, although the site's usual subsurface integrity suggests that additional investigation may yield valuable information on local prehistory, the site does not appear to possess the additional characteristics that would warrant preservation in place. As a result, a Phase III - Data Recovery excavation is recommended.

4.2 PHASE III DATA RECOVERY EXCAVATION

Phase III data recovery investigations at the site would involve the block excavation of test units in the two separate artifact concentrations, in an attempt to identify and record intact subsurface features or discrete artifact distribution patterns. During the Phase II investigations a relatively undisturbed medium-density tool manufacturing "chipping feature" was uncovered within the artifact concentration on the end of the landform. It is believed that additional discrete site activity area may be present. Although intrusive storage pit features are unlikely at a small upland site of this nature, features such as small hearths and post molds may be present.

Block excavations will also likely yield a larger sample of diagnostic lithic artifacts from the unplowed A-horizon and will assist in identifying any temporally discrete activity areas. These block excavations will also yield larger samples of lithic debitage that after analysis can provide information on lithic reduction and procurement strategies. These excavations will also assist in gaining an understanding of site formation processes at an upland site.

5.0 CONCLUSION

The Authority believes that the submitted Phase II archaeological reports are adequate to present the results of the completed Phase II survey and the technical recommendation for the proposed Phase III data recovery investigations. If the enclosed project documentation meets with the approval of the VDHR review staff, please indicate your concurrence and return a copy of the last page of the letter to the Authority.

We would be pleased to provide you with any additional information or documentation. Please feel free to contact, Henry Ward, our archaeological and historic preservation coordinator if you need any assistance. His phone number is (703) 572-1117, and his e-mail address is henry.ward@mwaa.com.

Thank you for your help in assisting the Authority with it's continuing efforts to preserve the historical and archaeological resources of the Metropolitan Washington Airports.

Sincerely,

Frank D. Holly, Jr.
Vice President for Engineering

CC: Marc Holma, Virginia Division of Historic Resources (w/out enclosures)
Martha Catlin, Advisory Council on Historic Preservation (w/out enclosures)
Brad Mehaffy, Federal Aviation Administration (w/out enclosures)

Enclosure

FDH:dlm

MA-34BRGTurner:dlm:20285:5/23/2005 (pc:g/design/34B/letters/IAD crosswind phase ll final12)
Cc: MA-34B, 34, 31, 30, PMC(Ward), ½(blue), 30(pink),file(grid)
Doc.control:

STATEMENT OF CONCURRENCE:

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached Phase II Survey Report for Crosswind Runway development area at Washington Dulles International Airport and concur with conclusions outlined below. The Metropolitan Washington Airports Authority is authorized to proceed with the Phase III Data Recovery investigations of Site 44FX2840, in accordance with these stipulations.

A) The Authority has submitted a Phase II Survey Reports to the Virginia Department of Historic Resources (VDHR) that adequately presents the results of the completed Phase II investigations of the runway construction area of proposed Crosswind Runway;

B) The criteria used to evaluate the Phase II site's potential eligibility for the National Register of Historic Places are appropriate and follow the Virginia Department of Historic Resources guidelines;

C) Based on the Phase II investigations, Sites 44FX2540, 44FX2541, 44FX2839, 44LD1077 and 44LD1081, have been determined as not eligible for the National Register of Historic Places;

D) Given the high level of subsurface integrity, Site 44FX2840 has the potential to yield valuable information on local prehistory, and has been determined as eligible for the National Register of Historic Places;

E) Although the site has the potential to yield significant archaeological data, it does not appear to possess the archaeological attributes or additional cultural characteristics sufficient to warrant preservation in place;

F) As a result, a Phase II - Data Recovery investigation of this site is recommended, in accordance with proposed methodology and the Guidelines For Conducting Cultural Resource Survey In Virginia (1999), prior to construction related ground disturbance.

G) Should these Phase III – Data Recovery excavations yield evidence of site features or other cultural attributes which may warrant preservation in place, additional consultation with the VDHR on the appropriate treatment of this site will be initiated.

_____ _____

Project Review Staff *Date*

_____

VASHPO / DHR File No.

NOV - 2 2004

Ms. Joanna Wilson
State Historic Preservation Office
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

RE: New Runway Phase I Archaeological Surveys
Washington Dulles International Airport
Fairfax and Loudoun Counties

Dear Ms. Wilson:

The Metropolitan Washington Airports Authority (Authority) is currently working with the Federal Aviation Administration (FAA) on the completion of an Environmental Impact Statement (EIS) for the New Runways and Related Facilities at Washington Dulles International Airport. In support of this environmental documentation effort, the Authority is undertaking the archaeological investigation of two large-scale runway development areas (North-South Runway and Cross-wind Runway).

In addition to fulfilling environmental documentation requirements (pursuant to Section 102 (c) of the National Environmental Policy Act 1969), these investigations are consistent with the stipulations of our 1987 Programmatic Memorandum of Agreement regarding Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138).

1.0 CONSULTATION BACKGROUND

Representatives of the Authority made an informal presentation on the methodology and preliminary results of these surveys to Dr. Eaton at a meeting in your office on December 16, 2003. Both surveys have been completed, and the draft technical reports were hand-delivered to you during a subsequent meeting in your office earlier this summer. During our discussions on these projects, the Authority outlined a proposed consultation procedure to coordinate the development of the Cultural Resources technical reports with the schedule for the EIS.

Given the extraordinary scale of the runway survey areas (approximately 2000 acres) and the significant number of anticipated archaeological resources, it was suggested that the Phase I – Identification Survey of both new runways be completed during the development of the Draft Environmental Impact Statement (DEIS).

This would allow for the results of this initial Phase I – Identification Survey effort to be incorporated into the environmental document prior to circulation for agency and public review.

The Phase I technical reports, including recommendations for additional Phase II – Evaluation Surveys, would be submitted for Virginia Department of Historic Resources (VDHR) review. On receipt of VDHR concurrence on the recommended Phase II surveys, the Authority would proceed with the second phase of archaeological investigation during the development of the Final Environmental Impact Statement (FEIS). Once completed, the Phase II technical reports would be submitted for VDHR review, and the results would be incorporated into the FEIS.

Although additional investigations beyond the Phase II evaluation are not anticipated, the Phase II technical reports would include recommendations, if necessary, for Phase III – Data Recovery investigations or In-Situ Site Preservation. If these additional stages of treatment were required, the appropriate investigations or provisions for site preservation would be conducted during project design and completed prior to any project related soil disturbance.

2.0 NORTH-SOUTH RUNWAY

The Area of Potential effects (APE) for the potential North – South Runway (Figure 1) includes three sections): 1) An on-airport area (outlined in red) which was included in a prior Phase I survey related to a 1995-1996 land acquisition; 2) A narrow section of on-airport property between this earlier survey area and the current airport boundary (shown in orange); and 3) An off-airport area which is being evaluated for potential acquisition related to the new runway development (shown in green). The current Phase I North-South Runway report includes the results of the current survey, as well as a re-evaluation of the results of the prior survey effort.

2.1 NORTH-SOUTH RUNWAY: SURVEY RESULTS

The Phase I archeological survey of the Runway 4 APE identified 25 archeological sites (6 identified in the 1995-1996 survey and 19 in the 2003 survey). Eight of the 25 sites are recommended for Phase II investigation to evaluate their potential to contribute information on the prehistory or history of Loudoun County. Three of the sites recommended for Phase II investigation are on airport property (44LD538, 44LD 539, and 44LD543); five sites are off the airport's property (44LD1029, 44LD1034, 44LD1037, 44LD1041, 44LD1042). Two of the recommended sites are prehistoric (44LD1034, 44LD1037); 2 are historic (44LD543, 44LD1042), and 4 include both prehistoric and historic components (44LD538, 44LD539, 33LD1029, 44LD1041).

2.2 PROPOSED PHASE II METHODOLOGY

Phase II field methodology for the prehistoric components at Sites 44LD1029, 44LD1034, 44LD1037, 44LD1041, and 44LD539 will include intensive surface collections, excavation of 3-by-3-ft. test units within the sites that contain tree lines, and the use of heavy machinery to expose subsurface features.

To conduct the intensive surface collections, the sites will first be plowed and disked. Crews guided by flagging along opposite edges of the sites will walk parallel 15-ft. transects north to south, flagging each artifact found within the 15-ft. wide transect. Conditions of terrain, light, weather, etc. will be noted. The second walk of the site will be done in the same fashion as the first, but transects will run east to west and the sweep will be conducted at a different time of day to take advantage of different aspects of lighting. The location of individual artifacts will then be mapped using a total station and the artifacts will be collected.

Distribution maps combining Phase I and II results will be prepared, and areas exhibiting high artifact densities, clusters of temporally related diagnostics, or both will be identified. Next, 3-by-3-ft. test units will be excavated within the tree lines in Sites 44LD1029, 44LD1034, and 44LD1041. The placement of these test units will be determined by the location of positive Phase I shovel tests and the targeted areas identified on the Phase II distribution maps. These test units will investigate the soils and sample artifact distributions within the tree lines. All test units will be excavated by natural soil horizon to sterile subsoil and soil will be screened through ¼-inch hardware cloth.

Excavation will continue 0.2 ft. into sterile subsoil. Artifacts will be bagged by provenience unit, and appropriate plan, profile and photographic records will be made for each excavation unit. The results of the distribution maps will also determine the location of areas to be stripped by heavy machinery to expose subsurface features. Features will be fully exposed, mapped, recorded and excavated. A five-liter flotation sample will be collected from each feature and faunal material recovered from a feature will be submitted to a specialist for analysis.

Phase II field methodology for the historic components at Sites 44LD1029, 44LD1041, and 44LD539 and for Sites 44LD1042 and 44LD543 will depend on whether they are located within a cultivated field or in a wooded area. Sites 44LD1029, 44LD1041, and 44LD539 are located within cultivated fields. For these sites, Phase II field methods will include intensive surface collections, excavation of 3-by-3-ft. test units within the sites that contain tree lines, metal detecting and the use of heavy machinery to expose subsurface features. These surface collections will be performed concurrently with the Phase II investigations of the prehistoric components of these sites, employing identical field methodologies.

Distribution maps will be produced combining Phase I and II results. Because Phase I artifact distributions suggest the remains of house sites, Phase II investigations will focus primarily on locating the dwellings through on the distribution of architectural artifacts (such as bricks, nails, and window glass). A metal detector will also be used to assist in discovering the house location. An attempt will also be made to interpret the distribution of artifacts within the house lot that suggest locations of activity areas and outbuildings.

These surface-collection results will also be used to select locations of areas to be stripped by heavy machinery to expose subsurface features. If features are located they will be fully exposed, mapped, recorded and excavated.

A five-liter flotation sample will be collected from each feature, and faunal material recovered from a feature will be submitted to a specialist for analysis. Sites 44LD543, and 44LD1042 are located in wooded areas where the ground surface cannot be exposed by plowing.

Phase II investigations of these sites will include short-interval shovel testing, excavation of 3-by-3-ft. test units, metal detecting and exposure of subsurface features. Short-interval shovel tests will be excavated across the site at 25-ft. intervals and followed by metal detecting, to gain better information on artifact distributions, to attempt to identify subsurface features, and to guide the placement of the test units.

Based on the results of the short-interval shovel testing and metal detecting, 3-by-3-ft. test units will be excavated to investigate areas of high artifact concentrations and probable subsurface features. Test units will be excavated by natural soil horizon to sterile subsoil and soil will be screened through ¼-inch hardware cloth. Excavation will continue 0.2 ft. into sterile subsoil. Artifacts will be bagged by provenience unit, and appropriate plan, profile and photographic records will be made for each excavation unit. Soil anomalies that are likely to represent cultural features will be exposed, mapped, recorded and excavated. A five-liter flotation sample will be collected from each feature, and faunal material recovered from a feature will be submitted to a specialist for analysis.

3.0 CROSS-WIND RUNWAY

The APE for the Cross-wind Runway (the Task 3 project area) is approximately 1,162.5 acres (Figure 2). The testable area is 1,036.25 acres. The 126.25 acres of untested land include 13.75 acres of wetlands, 21 acres of roads, buildings, and significantly disturbed land, and 91.5 acres of previously archeologically surveyed land. Unlike the North-South Runway survey area that had significant areas of exposed ground surfaces (which allowed for pedestrian survey methods), the vast majority of the Cross-wind Runway was wooded and required the use of Shovel Testing Pit testing.

3.1 CROSS-WIND RUNWAY: PHASE I SURVEY RESULTS

The Phase I archeological survey of the Cross-wind Runway APE identified 23 archeological sites. Four of the 23 sites are recommended for Phase II investigation to evaluate their potential to contribute information on the prehistory of Fairfax and Loudoun Counties.

The recommended sites include Sites 44FX2839, 44FX2840, 44LD1077, and 44LD1081. Sites not recommended for Phase II evaluation because they lack integrity and/or information potential include Sites 44FX2535, 44FX2834, 44FX2835, 44FX2836, 44FX2837, 44FX2838, 44LD1076, 44LD1078, 44LD1079, 44LD1080, 44LD1082, 44LD1083, 44LD1084, 44LD1085, 44LD1086, 44LD1087, 44LD1088, 44LD1089, 44LD1090, and 44LD1091.

Two sites identified during a 2000 survey for the proposed Batch Plant have been recommended for Phase II evaluation. These sites, 44FX2540 and 44FX2541, are documented in the survey report. Site 44FX2540, the Delay farmstead, includes structural remains and an associated surface trash scatter. Site 44FX2541 is a large surface trash scatter. Both sites are located just west of historic Willard Road (now Stonecroft Road) (Figure 96).

These sites, which may be related, both yielded domestic artifacts from the last quarter of the nineteenth and to the third quarter of the twentieth centuries.

Primary document research, to trace ownership and occupation history of the Delay farmstead, and testing of the trash scatters is recommended to address archeological integrity and the potential to yield important information on post-Civil War recovery, turn-of-the-century property, and the Great Depression in rural Fairfax County. Few historic sites in the APE associated with Willard, that was destroyed when the airport was built, survive archeologically. These sites may contribute to understanding of the history and material culture of that settlement.

3.2 PROPOSED PHASE II METHODOLOGY

Phase II field methodology for the prehistoric components at Sites 44FX2839, 44FX2840, 44LD1077, and 44LD1081 will include excavation of 3-by-3-ft. test units and the exposure and excavation of subsurface features. The placement of the test units will be determined by the location of positive Phase I shovel tests and areas of high artifact density will be targeted. All test units will be excavated by natural soil horizon to sterile subsoil, and soil will be screened through ¼-inch hardware cloth. Excavation will continue 0.2 ft. into sterile subsoil. Artifacts will be bagged by provenience unit, and appropriate plan, profile, and photographic records will be made for each excavation unit. Any features encountered will be fully exposed, mapped, recorded and excavated. A five-liter flotation sample will be collected from each feature, and faunal material recovered from a feature will be submitted to a specialist for analysis.

4.0 CONCLUSION

The Authority believes that the submitted Phase I archaeological reports are adequate to present the results of the completed Phase I survey and the technical recommendation for the proposed Phase II evaluation investigations. If the enclosed project documentation meets with the approval of the VDHR review staff, please indicate your concurrence and return a copy of the last page of the letter to the Authority.

J. Wilson, VASHPO/DHR
New Runway Phase I Archaeological Surveys
Washington Dulles International Airport
Page 7

Post-it® Fax Note 7671	Date 12/23/04	# of pages ▶ 1
To HENRY WARD	From JOANNA WILSON	
Co./Dept. PARSONS	Co. VDHR	
Phone #	Phone #	
Fax # 703-572-1198	Fax #	

STATEMENT OF CONCURRENCE:

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached Phase I Survey Reports for the North/South and Cross-winds Runway development areas, at Washington Dulles International Airport, and concur with conclusions outlined below. By my signature, the Metropolitan Washington Airports Authority is authorized to proceed with the development of the required environmental documentation, project planning and preliminary engineering in accordance:

A) The Authority has submitted a Phase I Survey Reports to the Virginia Department of Historic Resources (VDHR) that adequately presents the results of the completed Phase I investigations;

B) The criteria used to select the identified requiring Phase II evaluation investigation are appropriate and follow the Virginia Department of Historic Resources guidelines;

C) The Phase II field investigation methods proposed in these reports are appropriate given field conditions, character of the archaeological resources and the project research design;

D) The Authority will complete the recommended Phase II evaluation investigations in accordance with the proposed methodology;

E) At the completion of these investigations the Authority will provide and provide the VDHR with the appropriate Phase II Survey Reports for review and comment, prior to any project related soil disturbance with the Phase II sites areas;

F) Should any of the Phase II sites be determined to be meet the criterion for the National Register of Historic Places, the necessary Phase III Data Recovery excavations will be completed and the appropriate Phase III Report submitted to the VDHR prior to any project related soil disturbance with the Phase III sites areas;

Project Review Staff — 11-30-04 *Date*

1990-0460
VASHPO / DHR File No.

12-23-04P12:16 RCVD
RECEIVED / SCANNED
DEC 23 2004
DOCUMENT CONTROL
PMC EAST BUILDING

COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

...loe Murphy, Jr.
...ry of Natural Resources

October 13, 2004

Mr. Mark R. Edwards
URS Corporation
200 Orchard Ridge Drive, Suite 101
Gaithersburg, Maryland 20878-1978

Re: Environmental Impact Statement (EIS)
Proposed Construction of New Runways, Terminal Area Improvements, and Related Facilities
Washington Dulles International Airport
DHR File # 1990-0460

Dear Mr. Edwards:

We have received for our review and comment the draft "Historic Resources Survey & Effects Assessment for New Runways, Terminal Facilities and Related Facilities at Washington Dulles International Airport" prepared by URS Corporation on behalf of the Federal Aviation Administration (FAA) and the Metropolitan Washington Airport Authority (MWAA). The current draft report only addresses the identification, evaluation, and effects determination for aboveground resources. It is our understanding that MWAA will coordinate archaeological issues with the Department of Historic Resources (DHR) under a separate cover.

A survey of the project area identified fourteen architectural resources. Of those, the consultants determined that two are historically significant. These are the Dulles Airport Historic District (DHR Survey No. 053-0008), which has been evaluated as eligible for listing in the National Register of Historic Places; and Sully Plantation (DHR Survey No. 029-0037), which is listed in the National Register. The consultants determined that the remaining twelve properties are not eligible for listing in the National Register due to a lack of historic or architectural significance and/or a loss of historic integrity. We concur that eleven of the identified properties do not warrant listing in the National Register. The single exception is the Manassas Gap Rail Bed (DHR Survey No. 029-5274). We are unable to comment on the eligibility of the unfinished rail bed at this time. Due to the nature of the resource, we request that it be addressed in the upcoming archaeology report.

Similarly, although the ruinous state of the McCulloch Farm (DHR Survey No. 053-5264) prohibits from being considered as National Register eligible under Criteria A, B or C, there may be intact archaeological deposits associated with this circa 1850 farmhouse. Therefore, if the property is located in the archaeological APE it should be discussed in the pending archaeology report.

Under Section 106, an undertaking only has a single effect to historic properties listed in or eligible for the National Register. For example, it is not possible for a project to have a no adverse effect for architectural resources while having an adverse effect to archaeological sites. In such an instance, the overall effect would be adverse. Therefore, it is not appropriate to consider effects to architectural properties without knowing to what extent, if any, archaeological resources are impacted. Additionally, we understand that since FAA and MWAA consider the new runways and Tier 3 Concourse improvements to be a single undertaking, those agencies are not prepared to offer an effects recommendation until the latter portion of the project is further developed. We then look forward to future consultation on this undertaking.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

URS

September 23, 2004

Ms. Kathleen S. Kilpatrick
State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Section 106 Consultation Regarding Historic Resources
Proposed Construction of New Runways, Terminal Area Improvements, and Related Facilities
Washington Dulles International Airport
Dulles, Virginia

Dear Ms. Kilpatrick:

The Federal Aviation Administration (FAA) and Metropolitan Washington Airports Authority (MWAA) have previously contacted your agency as part of an initial scoping process involving a series of proposed improvements at Washington Dulles International Airport in Dulles, Virginia. The FAA has retained URS Corporation to assist in the preparation of an Environmental Impact Statement (EIS) for the proposed New Runways, Terminal Facilities, and Related Facilities Project. As part of this process, the FAA will coordinate review of this project under Section 106 of the National Historic Preservation Act (16USC470) and its implementing regulations 36 CFR Part 800.

URS has also coordinated with your agency regarding the definition of preliminary Areas of Potential Effects for this proposed undertaking, in a letter dated February 26, 2003. Office of Review and Compliance Architectural Historian Mark Holma responded to our preliminary findings in a letter dated June 9, 2003.

URS has now completed its identification of historic properties, assessment of National Register eligibility, and assessment of project effects on above-ground historic properties as part of this effort. Two copies of a report entitled "Historic Resources Survey & Effects Assessment, Dulles International Airport" are enclosed for your review.

Please note that Section 106 consultation regarding archaeological resources potentially affected by this project is being handled separately by MWAA. Our understanding is that your agency, through review by Mr. Holma, has concurred with provisions pertaining to ongoing review included in the document entitled "Consultation Concurrence Statement Related to The Archaeological Investigations of New Runways and Related Facilities, Washington Dulles International Airport." The date of concurrence was June 28, 2004.

On behalf of the FAA, and in compliance with Section 106 of the National Historic Preservation Act (NHPA) and the National Environmental Policy Act of 1969, as amended, we are requesting that your agency review the enclosed report. We would appreciate receiving written comments from you within thirty (30) days of receipt of this letter and enclosed materials. Assuming your receipt of these materials on September 24, 2004, the date for receipt of comments would be October 22, 2004. Please direct comments and information directly to me at the letterhead address.

Copies of pertinent correspondence and the Section 106 coordination report will be incorporated into the Draft Environmental Impact Statement for this project.

URS Corporation
200 Orchard Ridge Drive, Suite 101
Gaithersburg, MD 20878-1978
Tel: 301.258.9780
Fax: 301.869.8728

Thank you for your assistance in this matter. Please feel free to contact me at (301) 258-5877 should you have any questions.

Sincerely,

Mark R. Edwards

Mark R. Edwards
National Capital Area Cultural Resources Practice Leader
URS Corporation

MRE:me
enclosure
cc: Mr. Brad Mehaffy, FAA
Mr. Charles Baummer, MWAA
Mr. Allan Nagy, URS
Mr. Ben Siwinski, URS
Mr. Geoffrey Henry, URS
Ms. Amy Barnes, URS
Ms. Varna Boyd, URS

Dr. Ethel Eaton
State Historic Preservation Office
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

RE: Archaeological Consultation on New Runways and Related Projects
Washington Dulles International Airport
Fairfax and Loudoun Counties

Dear Dr. Eaton:

The Metropolitan Washington Airports Authority (Authority) is currently working with the Federal Aviation Administration (FAA) on the completion of an Environmental Impact Statement (EIS) for the New Runways and Related Facilities at Washington Dulles International Airport. In support of this environmental documentation effort, the Authority is undertaking the archaeological investigation of two large-scale runway development areas (North-South Runway and Cross-wind Runway). In addition to fulfilling environmental documentation requirements (pursuant to Section 102 (c) of the National Environmental Policy Act 1969), these investigations are consistent with the stipulations of our 1987 Programmatic Memorandum of Agreement regarding Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138).

As you may remember, representatives of the Authority made an informal presentation on the methodology and preliminary results of these surveys at a meeting in your office on December 16, 2003. Both surveys have since been completed, and the draft technical reports where provided to Joanna Wilson of your office during a recent meeting in your offices earlier this month. During our discussions on these projects, the Authority outlined a proposed consultation procedure to coordinate the development of the Cultural Resources technical reports with the schedule for the EIS.

Given the extraordinary scale of the runway survey areas (approximately 2000 acres) and the significant number of anticipated archaeological resources, it was suggested that the Phase I – Identification Survey of both new runways be completed during the development of the Draft Environmental Impact Statement (DEIS). This would allow for the results of this initial Phase I – Identification Survey effort to be incorporated into the environmental document prior to circulation for agency and public review.

The Phase I technical reports, including recommendations for additional Phase II – Evaluation surveys, would be submitted for VDHR review. On receipt of VDHR concurrence on the recommended Phase II surveys, the Authority would then proceed with the second phase of archaeological investigation during the development of the Final Environmental Impact Statement (FEIS). Once completed, the Phase II technical reports would be submitted for VDHR review, and the results would be incorporated into the FEIS.

Although additional investigations beyond the Phase II evaluation are not anticipated, the Phase II technical reports would include recommendations for necessary Phase III – Data Recovery investigations or In-Situ Site Preservation. If these additional stages of treatment were required, the appropriate investigations or provisions for site preservation would be conducted during Project Design and completed prior to any project related soil disturbance.

During previous project presentations and recent conversations with your staff, consensus was reached that this staged integration of the archaeological survey efforts with the environmental documentation was appropriate for New Runway project. Furthermore there was agreement that this approach was consistent with current Cultural Resources and Environmental Planning best practices. As part of their approval of the DEIS, the FAA has requested documentation of the Authority's ongoing consultation with your office in accordance with this procedure. In order to fulfill this request, the Authority has drafted the attached consultation concurrence statement. If you and your staff concur with consultation procedure outline in this statement, please have the appropriate staff member sign the statement and return the last two last page of the letter to the Authority.

My staff and I would be pleased to provide you with any additional information or documentation. Please feel free to contact Mr. Richard Turner, Project Manager, if you need any assistance. His phone number is (703) 417-8185, and his e-mail address is richard.turner@mwaa.com .

Thank you for your help in assisting the Authority with our continuing efforts to preserve the historical and archaeological resources of the Metropolitan Washington Airports.

Sincerely,

Frank D. Holly, Jr.
Vice President for Engineering

cc: Martha Catlin, Advisory Council on Historic Preservation (w/enclosure)

Enclosure

FDH:dlm

CONSULTATION CONCURRANCE STATEMENT RELATED TO THE ARCHAEOLOGICAL INVESTIGATIONS OF NEW RUNWAYS AND RELATED FACILITIES WASHINGTON DULLES INTERNATIONAL AIRPORT

STATEMENT OF CONCURRENCE

As a certified representative of the Virginia State Historic Preservation Officer (VASHPO), I have reviewed the attached record of consultation related to the Archaeological Investigations of New Runways and Related Facilities at Washington Dulles International Airport.

By my signature, I concur that the consultation procedures outlined below can be taken as a demonstration of Metropolitan Washington Airports Authority's ongoing compliance with the terms of the 1987 Programmatic Memorandum of Agreement (as regards Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138).

1) The Metropolitan Washington Airports Authority (the Authority) is currently assisting the Federal Aviation Administration in Planning and Preliminary Engineering Studies related to the development of New Runways and Related Faculties at Washington Dulles International Airport;

2) As part of the development of an Environmental Impact Statement for this project (pursuant to Section 102 (c) of the National Environmental Policy Act of 1969), the Authority has conducted Phase I - Identification Surveys for archaeological resources within the Area of Potential Effect for two runway construction zones: North-South Runway and Cross-Winds Runway;

3) These archaeological surveys were conducted by the Authority's Cultural Resources consultant utilizing staff meeting the Secretary of the Interior's Professional Qualification Standards (Pursuant to 36 CFR 61), and appear to comply with all relevant archaeological requirements and guidelines of the Virginia Department of Historic Resources (VDHR);

4) The scope, methodology and results of these surveys were the subject of periodic consultation between the staff of the VDHR and the Authority (including project presentations on (3/5/03, 12/16/03 and 6/1/04).

5) During these meetings, representatives of the Authority outlined the following consultation process to coordinate compliance with the applicable regulatory requirements of Section 106 and NEPA:

   A) Completion of the Phase I Survey for both runway alternatives during the development of the Draft Environmental Impact Statement (DEIS);

B) Inclusion of the results of the Phase I - Identification Survey in the DEIS;
C) Submission of the Completed Phase I – Identification Survey technical reports (including recommendations for additional Phase II investigations) for VDHR review and comment;
D) Completion of the required Phase II – Evaluation surveys during the development of the Final Environmental Impact Statement (FEIS).
E) Submission of the Draft Phase II – Evaluation Survey technical reports (including any recommendations for Phase III - Data Recovery or In-situ Preservation) for VDHR review and comments;
F) Inclusion of the results of these Phase II – Evaluation Surveys in the FEIS;
G) If Phase III - Data Recovery Investigation or In-Situ Preservation are required, these investigations and or appropriate provisions for site preservation would be completed prior to any project-related soil disturbance.

Project Review Staff

28 June 04
Date

1990-0460
VASHPO / VDHR Project No.

COMMONWEALTH of VIRGINIA

Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

June 9, 2003

Mr. Mark R. Edwards
URS Corporation
200 Orchard Ridge Drive, Suite 101
Gaithersburg, Maryland 20878-1978

Re: Environmental Impact Statement (EIS)
Proposed Construction of New Runways, Terminal Area Improvements, and Related Facilities
Washington Dulles International Airport
DHR File # 1990-0460

Dear Mr. Edwards:

We have received information for our review and comment regarding the above referenced project. It is our understanding that the Federal Aviation Administration (FAA) and Metropolitan Washington Airports Authority (MWAA) propose construction of new runways, terminal area improvements, and related facilities at Washington Dulles International Airport in Loudoun County, Virginia.

The material submitted by URS Corporation for this undertaking requests our concurrence with its recommendation of the project Area of Potential Effect (APE). The consultants examine four different APEs consisting of a Noise APE, Direct APE, Archaeological APE, and Atmospheric APE. We agree with URS Corporation's assessment for the Noise and Atmospheric APEs. However, the consultant concludes that "the visual APE will be concurrent with the direct APE." URS predicates this by stating, "It is likely that any historic resources which could experience a significant visual effect (altering setting and/or scale) from the proposed undertaking would be located in the proposed clearance area, and therefore would be removed." This assertion is not necessarily correct. Depending on the height of new related facilities such as lighting systems and navigational aids, there could be an indirect visual effect on historic resources. Please re-evaluate whether the establishment of an "indirect APE" is appropriate.

It is our understanding that for the current study URS excluded the Dulles Airport Historic District from the APE. However, the consultant concludes that "further careful study, analysis and discussion of this significant resource will be included in the Section 106 consultation process." We agree that consideration of the potential effect that the planned undertaking may have on the Dulles Airport Historic District is necessary. We look forward to continued consultation regarding this project.

Regarding the recommended Archaeological APE, it is incorrect to define the APE for archaeology as an area "that contains or have the potential to contain archaeological sites" as is done in the report. The Archaeological APE is all locations that would result in the alteration and disturbance of surface and subsurface soils that could affect archaeological sites if any were present. Please incorporate this revised definition of Archaeological APE into your future investigative methodology.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

URS

February 26, 2003

Ms. Kathleen S. Kilpatrick
State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Environmental Impact Statement
Proposed Construction of New Runways, Terminal Area Improvements, and Related Facilities
Washington Dulles International Airport
Dulles, Virginia

Dear Ms. Kilpatrick:

The Federal Aviation Administration (FAA) and Metropolitan Washington Airports Authority (MWAA) have previously contacted your agency as part of an initial scoping process involving a series of proposed improvements at Washington Dulles International Airport in Dulles, Virginia. The FAA has retained URS Corporation to assist in the preparation of an Environmental Impact Statement (EIS) for the proposed New Runways, Terminal Facilities, and Related Facilities Project. As part of this process, the FAA will coordinate review of this project under Section 106 of the National Historic Preservation Act (16USC470) and its implementing regulations 36 CFR Part 800.

Please find enclosed a description of the proposed undertaking, as well as detailed information regarding the preliminary Area of Potential Effects.

On behalf of the FAA, and in compliance with the National Environmental Policy Act of 1969, as amended, URS requests that your agency review the enclosed information and provide comment. Please direct comments and information directly to me at the letterhead address.

Please feel free to contact me at (301) 652-2215 should you have any questions.

Sincerely,

Mark R. Edwards

Mark R. Edwards
National Capital Area Cultural Resources Group Manager
URS Corporation

MRE:fh
enclosures
cc: Mr. Charles Baummer, MWAA
Mr. Frank Smigleski, FAA
Mr. Allan Nagy, URS
Mr. Fred Holycross, URS
Ms. Varna Boyd, URS

URS Corporation
200 Orchard Ridge Drive, Suite 101
Gaithersburg, MD 20878-1978
Tel: 301.258.9780
Fax: 301.869.8728

DETERMINATION OF THE AREA OF POTENTIAL EFFECTS

In support of the referenced Environmental Impact Statement (EIS) for the Federal Aviation Administration (FAA), URS Corporation (URS) is conducting an inventory of existing environmental resources to assess potential impacts resulting from the proposed construction and operation of two new runways, terminal area improvements, and related facilities at Washington Dulles International Airport (IAD) in Dulles, Virginia. The Airport is bordered by State Route 267 to the northeast, State Route 28 to the east, U.S. Route 50 and a series of Industrial/Business Parks to the south, and State Route 606 to the west. Figure 1 shows a Detailed Study Area in support of the EIS. These new runways and associated improvements are needed to enable IAD to provide adequate airside capacity to accommodate future aviation activity levels with minimum operational delay.

On behalf of the FAA, URS intends to coordinate compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA), with the above-referenced EIS undertaken to meet the requirements of the National Environmental Policy Act (NEPA), according to procedures outlined in 36 CFR 800.8(c).

PROPOSED UNDERTAKING

36 CFR 800.3 (a) requires the FAA "to determine whether the Federal action is an undertaking, as defined in 36 CFR 800.16(y), and, if so, whether it is a type of activity that has the potential to cause effects on historic properties."

The proposed development would involve construction of parallel runways to existing Runway 01L/19R and Runway 12/30 and associated taxiways, as well as a new Tier 3 Concourse and other support facilities. Lighting systems and navigational aids would also be important components of this project. Such systems assist pilots during periods of reduced visibility by providing additional visual guidance to maneuver around the Airport Operations Area and to identify the landing threshold when on final approach to the Airport. New lighting systems that would be incorporated into the proposed new runway design include runway centerline and edge lights, taxiway edge lights, and approach lighting systems similar to what currently exists for the three existing runways at the Airport. In accordance with FAA airport design criteria, runway safety areas (RSA) 1,000 feet long and 500 feet wide would be constructed at each runway end to serve as an overrun area for aircraft in the event of an aborted takeoff or an emergency landing.

The EIS Study Team from URS is in the process of identifying a range of reasonable alternatives for detailed analysis in the EIS. Based on the preliminary analysis for the parallel Runway 12R/30L, the new runway, taxiways, RSA, and approach lighting systems would be constructed on Airport property, 4,300 feet southwest of and parallel to existing Runway 12/30. Based on the preliminary analysis for the parallel Runway 01W/19W, the new runway, taxiways, RSA, and approach lighting systems would be constructed west of the existing Runway 01L/19R, at horizontal separations varying between 3,500 and 5,000 feet from that runway. Most of these alternatives would require acquisition of property adjacent to the Airport in order to construct the new runway and taxiway. Preliminary design alternatives, in addition to a No-

Action alternative, are detailed in Figures 2 through 6. Efforts will be made during the EIS study to minimize or avoid any identified environmental impacts while also meeting the proposed purpose and need for the project.

On behalf of the FAA, URS has determined that the Federal action qualifies as an undertaking, as defined in 36 CFR 800.16(y) and has the potential to cause effects on historic properties. An Effect is defined in 36 CFR 800.16(i) as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register."

DETERMINATION OF THE AREA OF POTENTIAL EFFECT

Pursuant to Section 106 of the NHPA, the FAA is required, prior to expenditure of funds or issuance of a license or permit for the undertaking, to take into account the effect the project may have on any property listed or eligible for listing on the National Register of Historic Places. Taking into account the effect an undertaking may have on properties listed or eligible for listing in the National Register of Historic Places begins with the identification of the undertaking's Area of Potential Effect (APE).

According to 26 CFR 800.16(d) the APE "means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

An APE for historic resources is further defined as the area within which there is a potential for a change in the character and use of National-Register-listed or -eligible resources as a result of an undertaking. Such changes are further described in 36 CFR 800.5(1) and may include (but are not necessarily limited to):

- the destruction of all or part of a resource;
- the isolation of the resource or changes in its setting;
- the introduction of visual, audible, and atmospheric elements that affect those characteristics that make the resource eligible for or listed in the National Register; or
- the transfer, lease, or sale of the historic resource.

The FAA's procedures for Determination of the APE are defined in the Section 10, subsection b in the FAA Order 1051.1D ("Policies and Procedures for Considering Environmental Impacts" (1999) Attachment 2, Page 37). While it is the FAA's responsibility to determine the APE, this determination may be made in consultation with VDHR, as the ACHP and VDHR may provide technical advice.

PROPOSED PRELIMINARY APE

Based on these factors, the APE associated with historic resources for the EIS development program includes lands at IAD presently owned by MWAA and parcels that would be acquired by MWAA as part of the proposed development program described above (as shown in Figure 1). In addition, the APE for historic resources includes those locations that would newly fall within the 65 DNL noise contour as a

result of the proposed undertaking. While URS does not anticipate a substantial change, the APE may be refined as forthcoming environmental studies are completed in support of the EIS.

NOISE APE

Noise resulting from the proposed undertaking could adversely affect setting and character of historic resources if the undertaking results in a significant change from existing ambient noise levels, and if that change in noise level significantly affects those characteristics which make the resource eligible for or listed in the National Register.

The preliminary Noise APE is determined by FAA using the Day-Night Average Sound Level (DNL) 65 decibel (dBA) noise contour. The decibel (dB) is a unit used to measure the intensity of sound. Most sounds in an everyday environment have sound levels that range from 30-100 dB, but any sound above 85 dB can cause hearing loss, especially during prolonged exposure. To accurately reflect the noise range heard by the human ear, filters (weighting scales) were developed to identify the relative loudness of sounds at different frequencies. A-weighted sound levels (dBA) are normally used to evaluate environmental noise. The DNL is the annualized 24-hour average (or cumulative) sound level, in A-weighted decibels, which adds a 10 decibel penalty to sound levels occurring between 10 PM and 7 AM. Noise analyses are based on computer-generated DNL estimates which incorporate information from noise monitoring locations in the surrounding community, the types of aircraft utilizing the airport, the number of runway departures and arrivals, the location of aircraft flight tracks, and runway utilization (Appendix B EA Engineering 2002). The DNL 65 dBA is a scientifically modeled level of average sound which has been shown to be directly linked to human beings and "annoyance level." Location outside the DNL 65 dBA contour is considered compatible with land uses including residential, schools, churches, hospitals and outdoor recreational areas. The use of the DNL 65 dBA contour to define the Noise APE is based on accepted FAA land use compatibility guidelines (Federal Interagency Committee on Urban Noise, 1980), completed Final Environmental Impact Statements for comparable FAA undertakings, and recent court decisions (City of Grapevine Texas et al. v. Department of Transportation, et al.).

The estimated existing DNL 65 dBA contour (associated with the No-Action Alternative), based upon preliminary studies, is shown in Figure 7. The estimated DNL 65 dBA associated with the above-described project undertaking, and based upon preliminary studies, is shown in Figure 8.

Estimated areas which would be newly included within the DNL 65 dBA noise contour associated with improvement alternatives, and which compose the Noise APE, are shown in Figure 9.

The preliminary Noise APE is based upon a predictive baseline analysis of noise contour studies included in the Appendix B of the recent Tier 2 EA for IAD (Appendix B EA Engineering 2002), and are subject to further refinement and revision as additional noise studies are undertaken in support of the EIS. In addition, the Noise APE is subject to the findings of the analysis in the Land Use Impacts section of the EIS. In the event that survey fieldwork (and additional Noise studies undertaken in support of the EIS) identifies noise-sensitive historic resources (particularly resources which are not in daily use as residences) the Noise APE may be adjusted at the discretion of URS, on behalf of FAA

DIRECT APE

A direct effect would be considered the demolition or disturbance of historic resources for the construction of proposed runways or associated clearance areas. In addition, it is likely that any historic resources which could experience a significant visual effect (altering setting and/or scale) from the proposed undertaking would be located in the proposed clearance area, and therefore would be removed.

It is anticipated that the direct APE may also include parcels currently occupied by NOAA (National Oceanic and Atmospheric Agency) in support of a weather station (constructed in 1962). URS anticipates the Section 106 process will include consultation with NOAA and others regarding the identification and/or eligibility of this potential resource. Under a separate action, MWAA has conducted cultural resource studies at NOAA's new location.

URS expects that the visual APE will be concurrent with the direct APE. The direct APE will consist of areas related to the above-proposed runway and taxiway construction, as well as associated clearance areas, as demonstrated in Figure 10.

ARCHAEOLOGICAL APE

The preliminary APE for archaeological resources consists of all lands currently owned by MWAA, and any parcels that would have to be acquired and that would be affected by the proposed undertaking. Therefore, the APE for archeological resources is defined as all locations that would result in the alteration and disturbance of surface and subsurface soils that contain or have the potential to contain archaeological sites. The archaeological component of this project is being managed under a separate MWAA contract by John Milner Associates.

ATMOSPHERIC APE

In addition, the APE will consider the potential effect of atmospheric elements or related actions which affect those characteristics (including setting) that make the resource eligible for or listed in the National Register.

Due to FAA regulations (which require clearance of features that are directly proximate to a high-capacity runway), is not anticipated that vibration impacts will be considered an effect for purposes of the EIS. Generally, fixed-wing, subsonic aircraft do not generate vibration levels of the frequency or intensity to result in damage to structures. It has been found that exposure to normal weather conditions, such as thunder and wind, usually have more potential to result in significant structural vibration than aircraft (FAA, 1985). Two recent studies (Raba-Kistner Consultants, 1986; King, 1991) that involved the measurement of vibration levels resulting from aircraft operations upon sensitive historic structures concluded that aircraft operations did not result in significant structural vibration. Given the conclusions reached in the studies, significant vibration that has the potential to cause structural damage to historic resources is not likely to result from the operation of IAD, with or without the airport improvements.

Based upon preliminary data, URS does not currently anticipate the proposed undertaking will produce any additional atmospheric or related effects which would directly or indirectly cause alterations in the character or use of historic properties. In the event that additional forthcoming environmental data in support of the EIS (including socioeconomics, air quality, and farmlands) indicates the potential for atmospheric or related effects, URS may revise the atmospheric APE on behalf of FAA.

DULLES AIRPORT HISTORIC DISTRICT

The Dulles Airport Historic District (1962), which includes buildings designed by the engineering firm of Amman & Whitney and noted architect Eero Saarinen, was formally determined eligible for listing in the National Register of Historic Places in 1978. The District's boundaries include all original structures, runways and associated outbuildings. Contributing resources to the District are discussed in detail in the recent Tier 2 EA (EA Engineering 2002).

Dulles Airport was designed (and has functioned) as a high-capacity modern airport, and the proposed undertaking reflects a continuation of that historic use. For the immediate purposes of this study, the Dulles Airport Historic District is excluded from the APE. However, URS anticipates that further careful study, analysis and discussion of this significant resource will be included in the Section 106 consultation process. In particular, URS anticipates analyzing the visual relationship between the proposed Tier 3 concourse (and associated construction), the newly constructed Tier 2 concourse, and contributing elements of the Dulles Airport Historic District. Detailed information regarding the design of the Tier 3 concourse has not yet been developed. On behalf of the FAA, URS may further refine the APE as further information regarding the proposed Tier 3 concourse develops in support of the EIS.

The spatial relationship between the proposed Tier 3 concourse and existing construction is detailed in Figures 3 through 6.

References

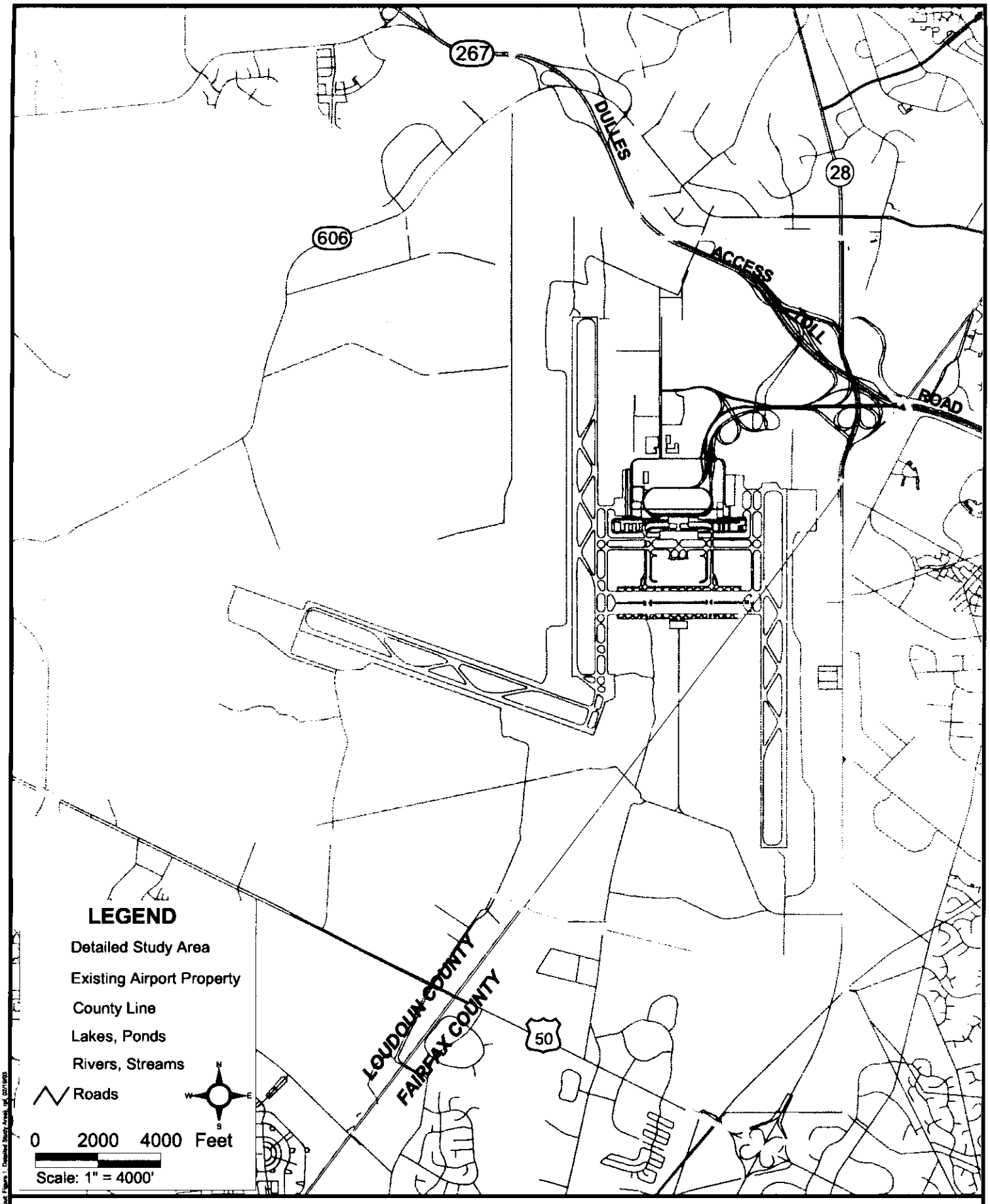
FAA. Order 5050.4A, Airport Environmental Handbook. 1985.

FAA. Order 1051.1D, Policies and Procedures for Considering Environmental Impacts. Attachment 2 "Historical, Architectural, Archeological and Cultural Resources" pages 34-41. 1999

King, K., D. Carver, D. Worley, and T. Bostwick. Induced Ground-Vibration Study at Pueblo Grande, Phoenix, Arizona. U.S. Geological Survey. 1991.

Raba-Kistner Consultants, Inc. Report on Vibration Monitoring. Transplan, Inc. New York, New York. 1986.

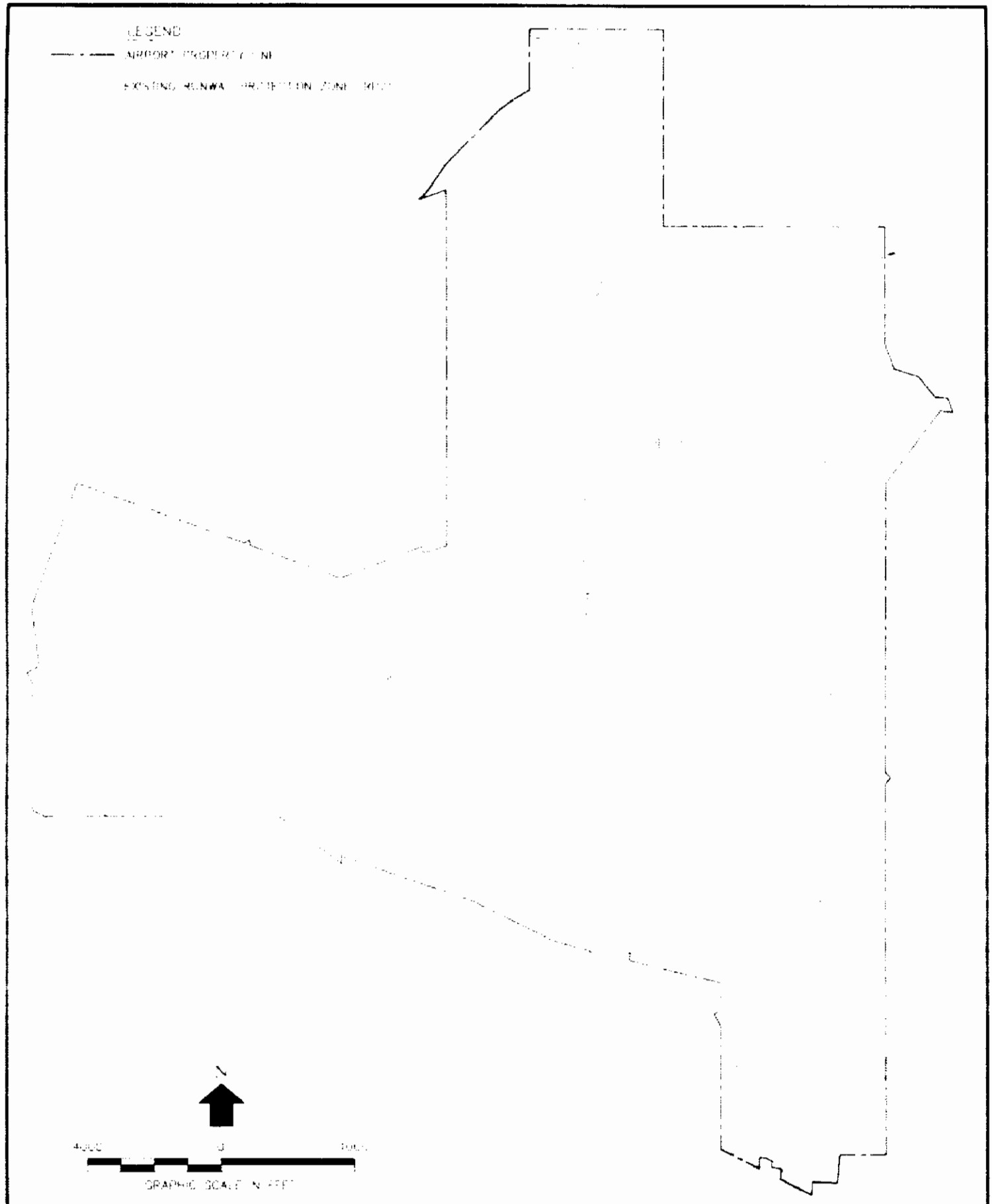
Washington Dulles International Airport; Final Environmental Assessment Tier 2 and related projects. EA Engineering, Maryland. 2002



Dulles Airport New Runways
Environmental Impact Statement

DETAILED STUDY AREA

FIGURE 1

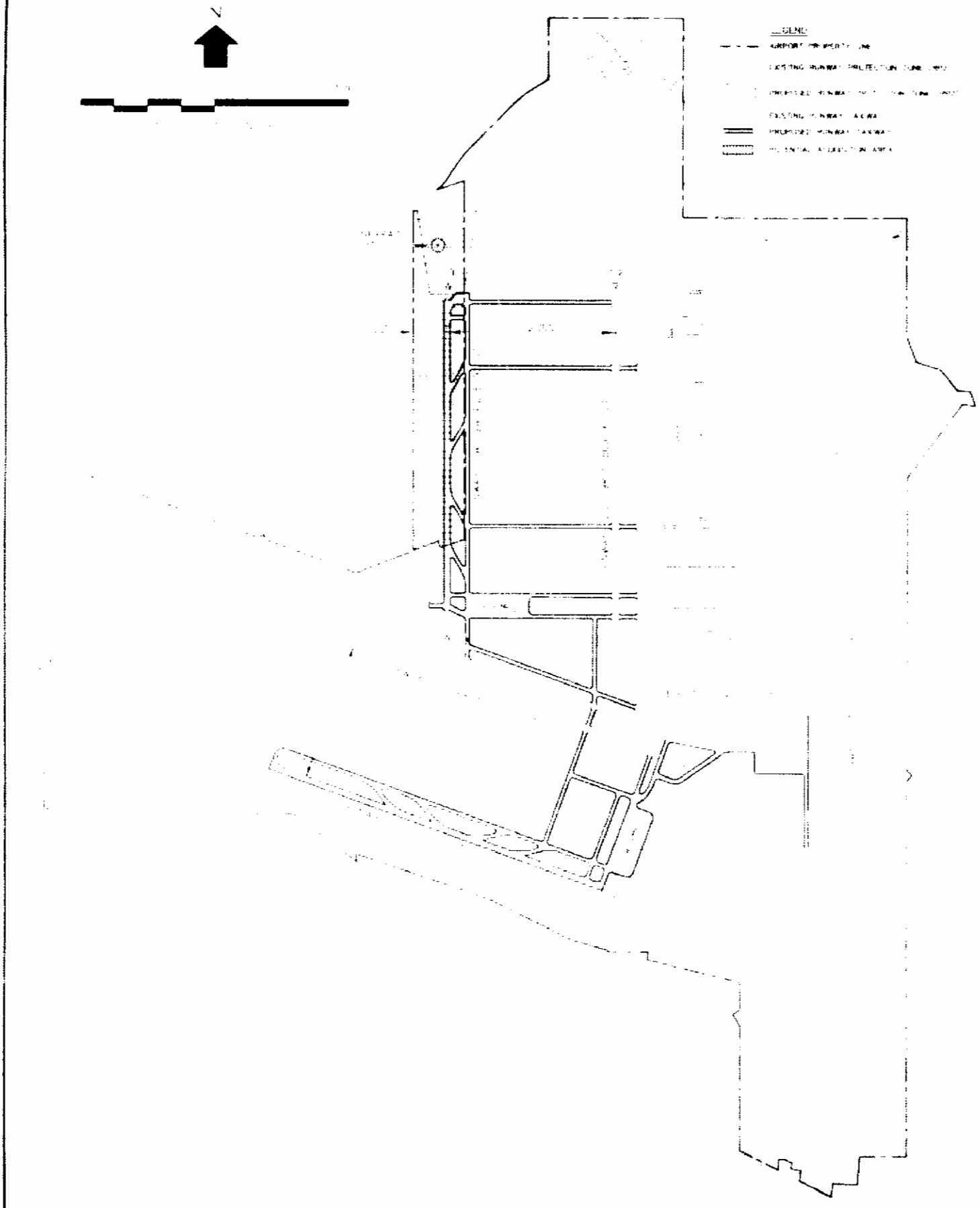


Dulles Airport New Runways
Environmental Impact Statement

URS

NO-ACTION ALTERNATIVE

FIGURE
2

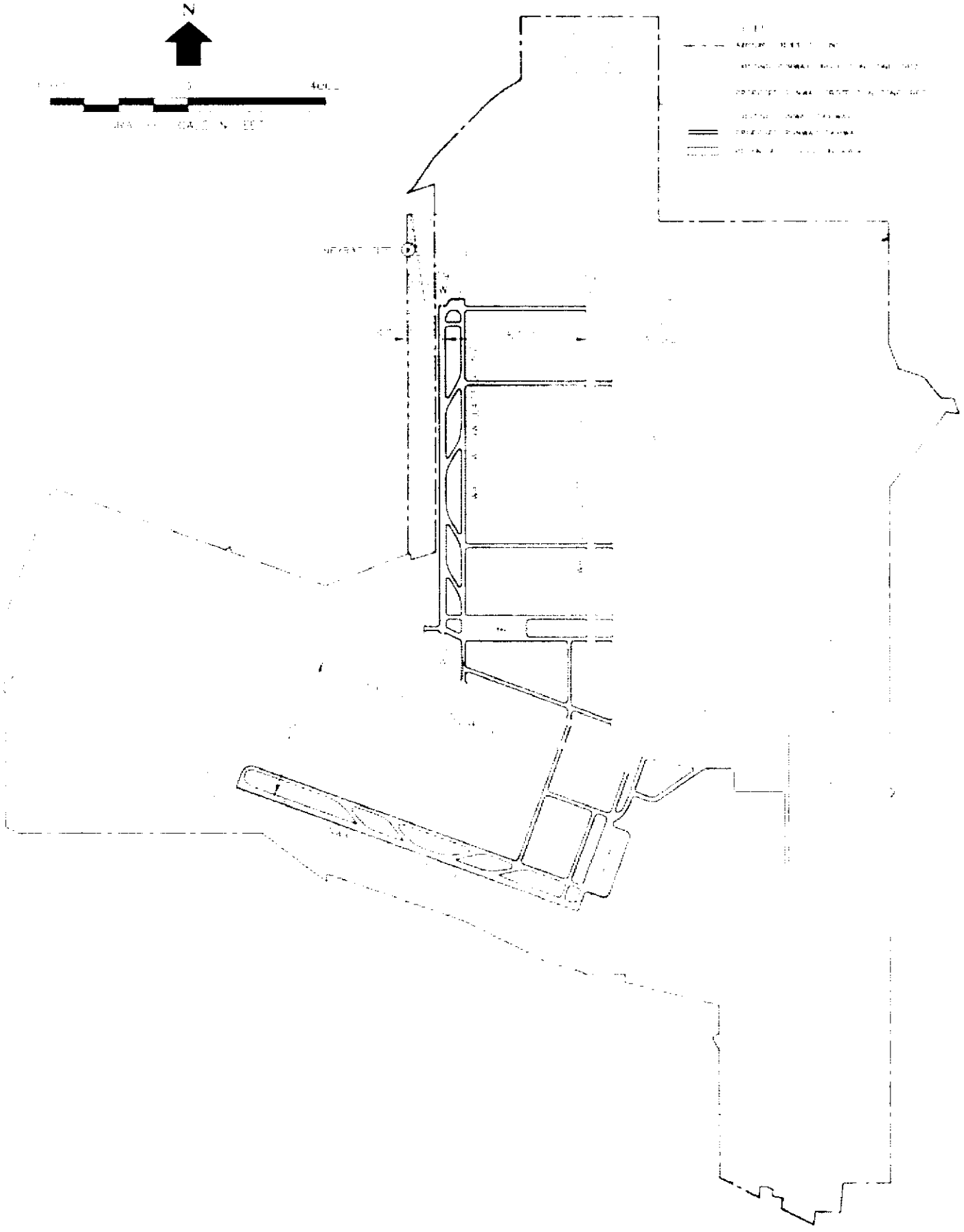


Dulles Airport New Runways
Environmental Impact Statement

URS

BUILD ALTERNATIVE 4
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-5,000'
SEPARATION WITH NEW EAST/WEST RUNWAY)

FIGURE
3

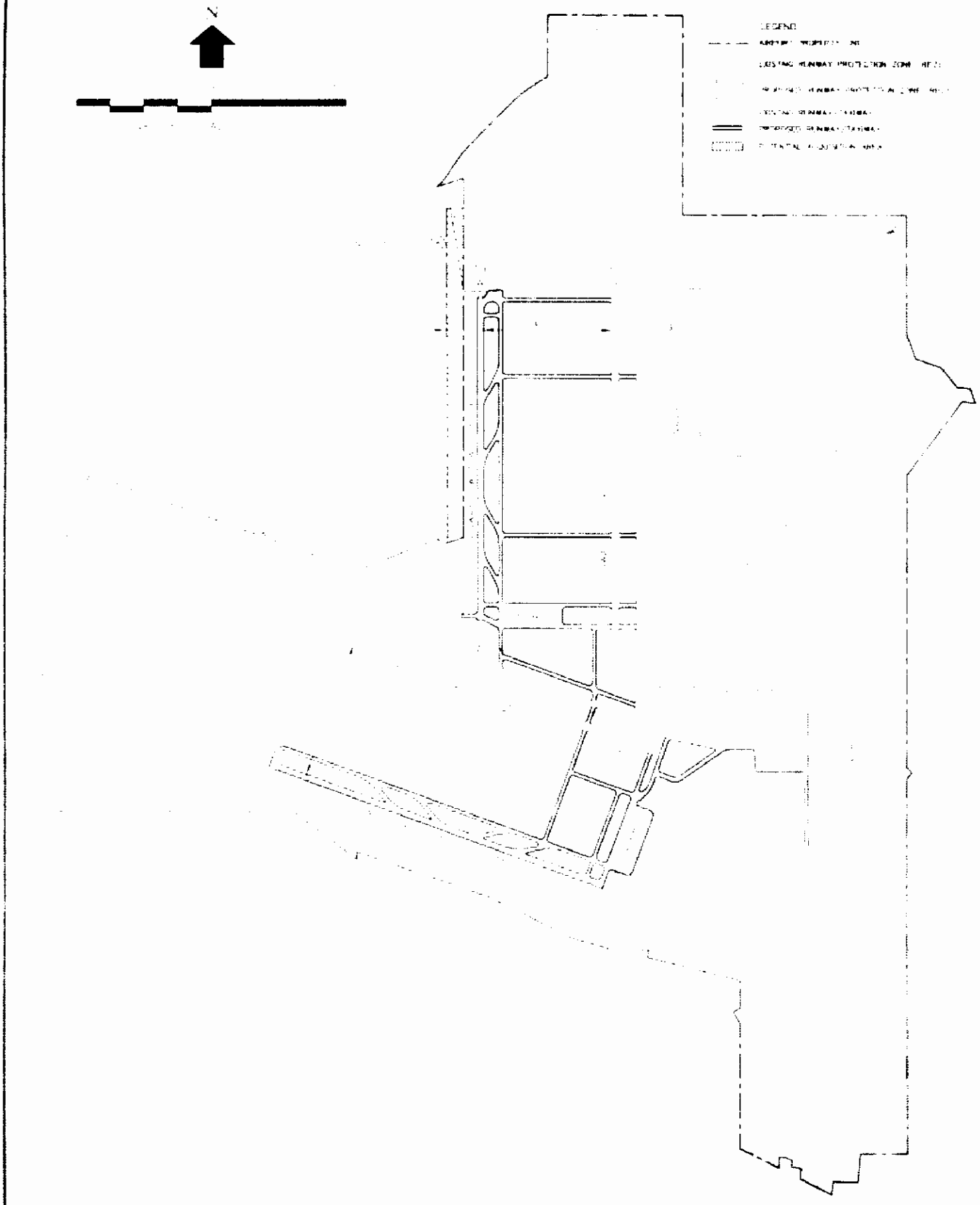


Dulles Airport New Runways
Environmental Impact Statement

URS

BUILD ALTERNATIVE 3
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-4,300' SEPARATION WITH NEW EAST/WEST RUNWAY)

FIGURE
4

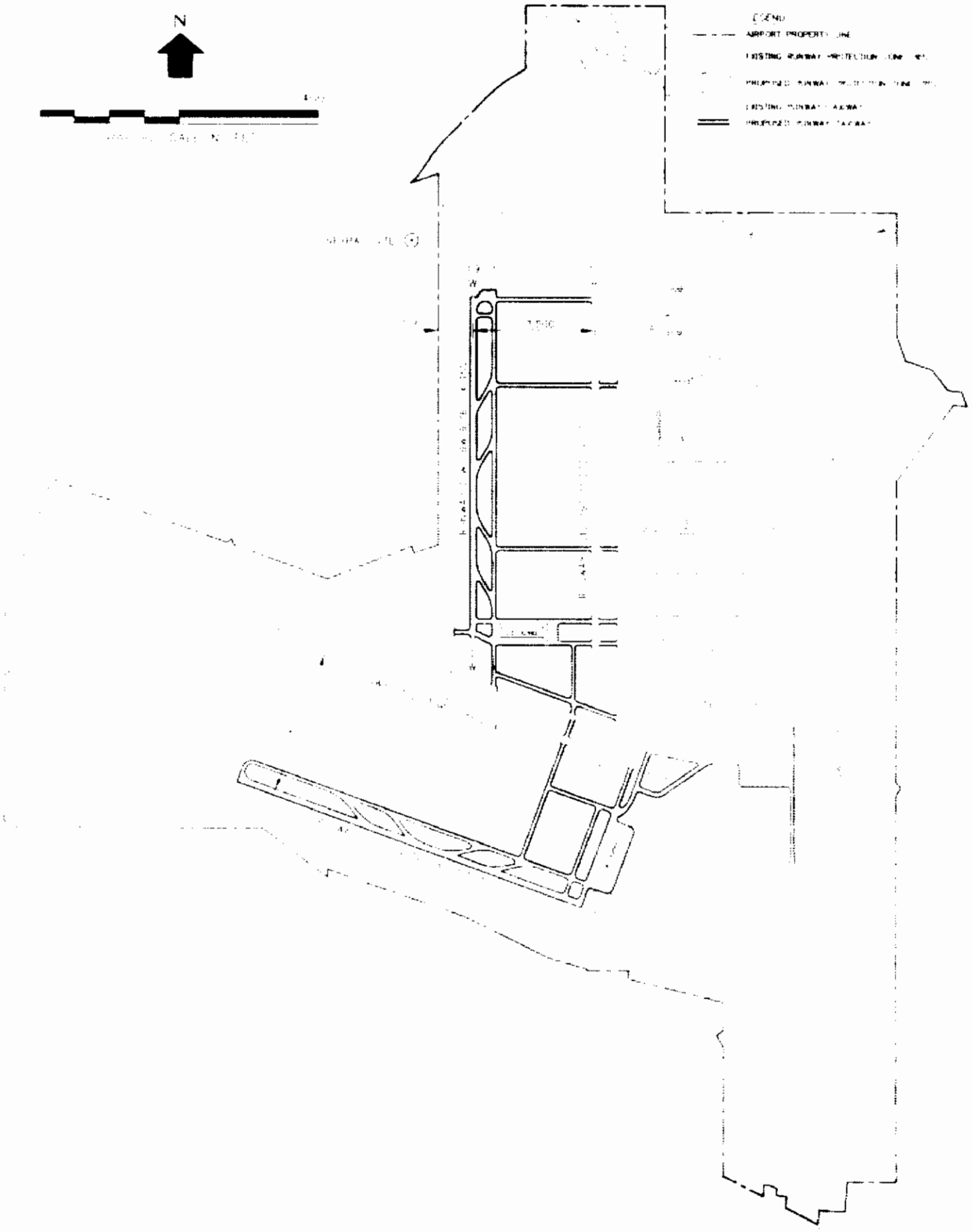


Dulles Airport New Runways
Environmental Impact Statement

URS

BUILD ALTERNATIVE 2
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-4,000' SEPARATION WITH NEW EAST/WEST RUNWAY)

FIGURE
5

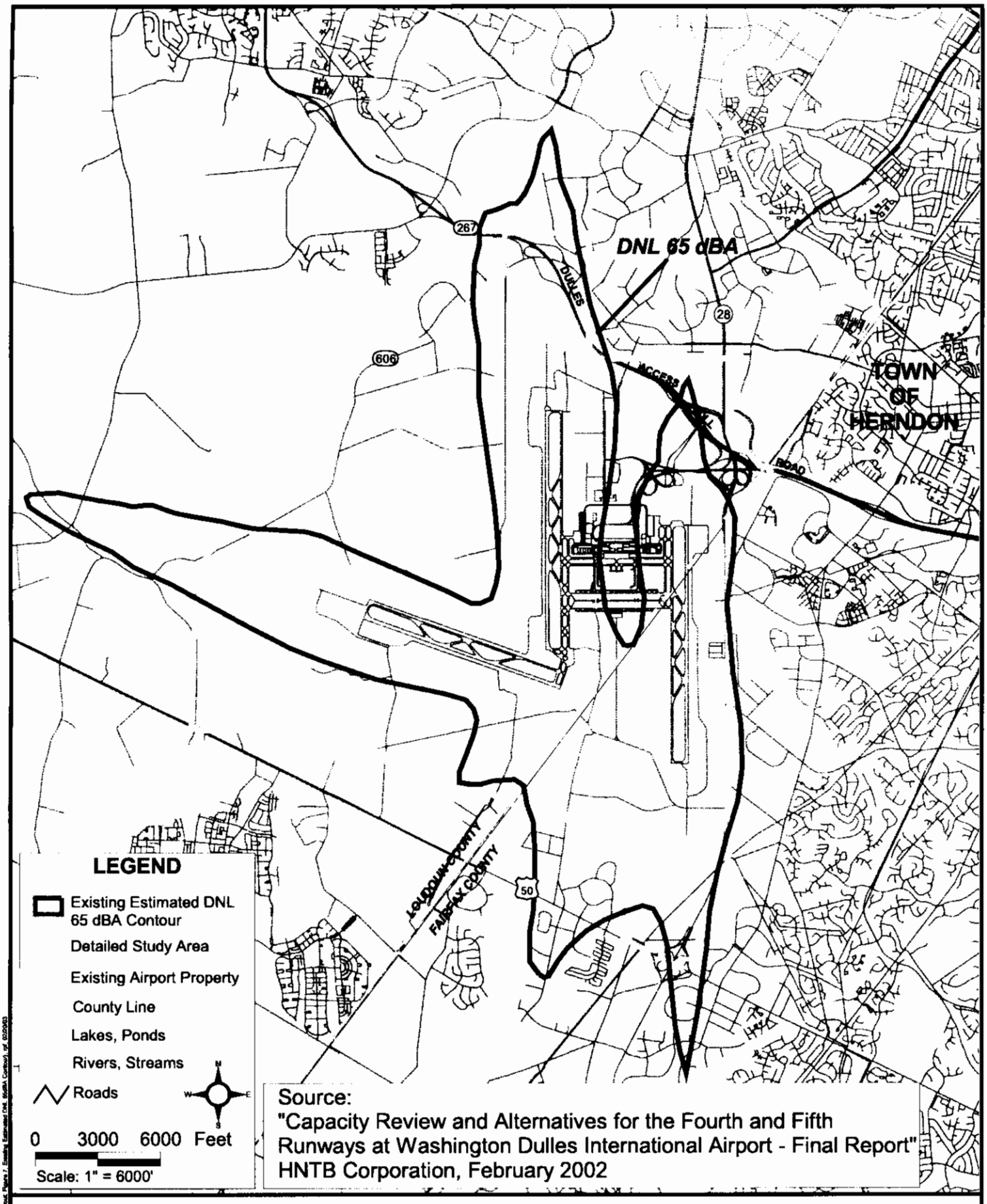


Dulles Airport New Runways
Environmental Impact Statement

URS

BUILD ALTERNATIVE 1
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-3,500' SEPARATION WITH NEW EAST/WEST RUNWAY)

FIGURE
6

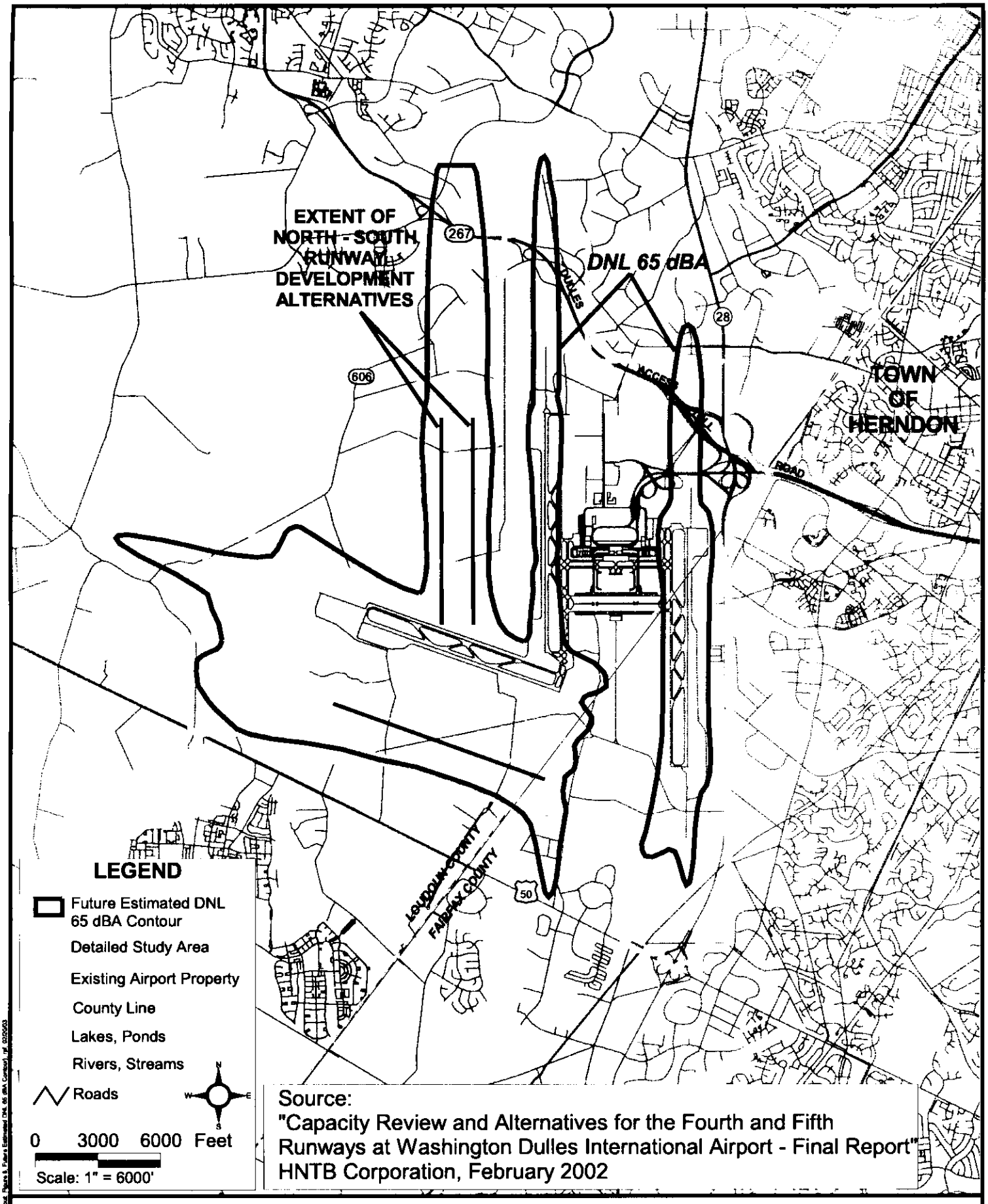


Source:
"Capacity Review and Alternatives for the Fourth and Fifth Runways at Washington Dulles International Airport - Final Report"
HNTB Corporation, February 2002

Dulles Airport New Runways
Environmental Impact Statement

EXISTING ESTIMATED DNL 65 dBA CONTOUR

FIGURE 7

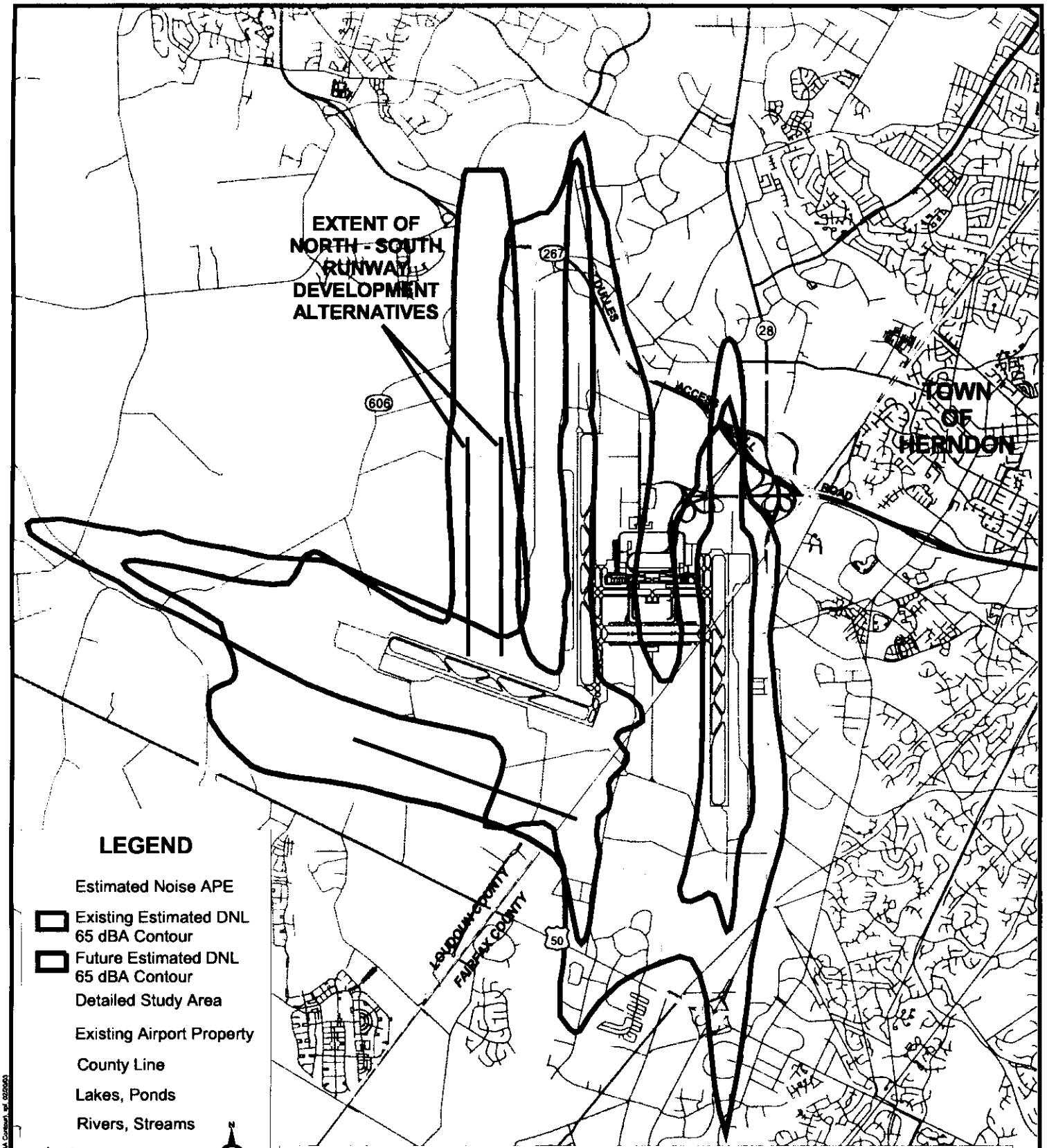


Source:
"Capacity Review and Alternatives for the Fourth and Fifth Runways at Washington Dulles International Airport - Final Report"
HNTB Corporation, February 2002

Dulles Airport New Runways
Environmental Impact Statement

FUTURE ESTIMATED DNL 65 dBA CONTOUR

FIGURE 8

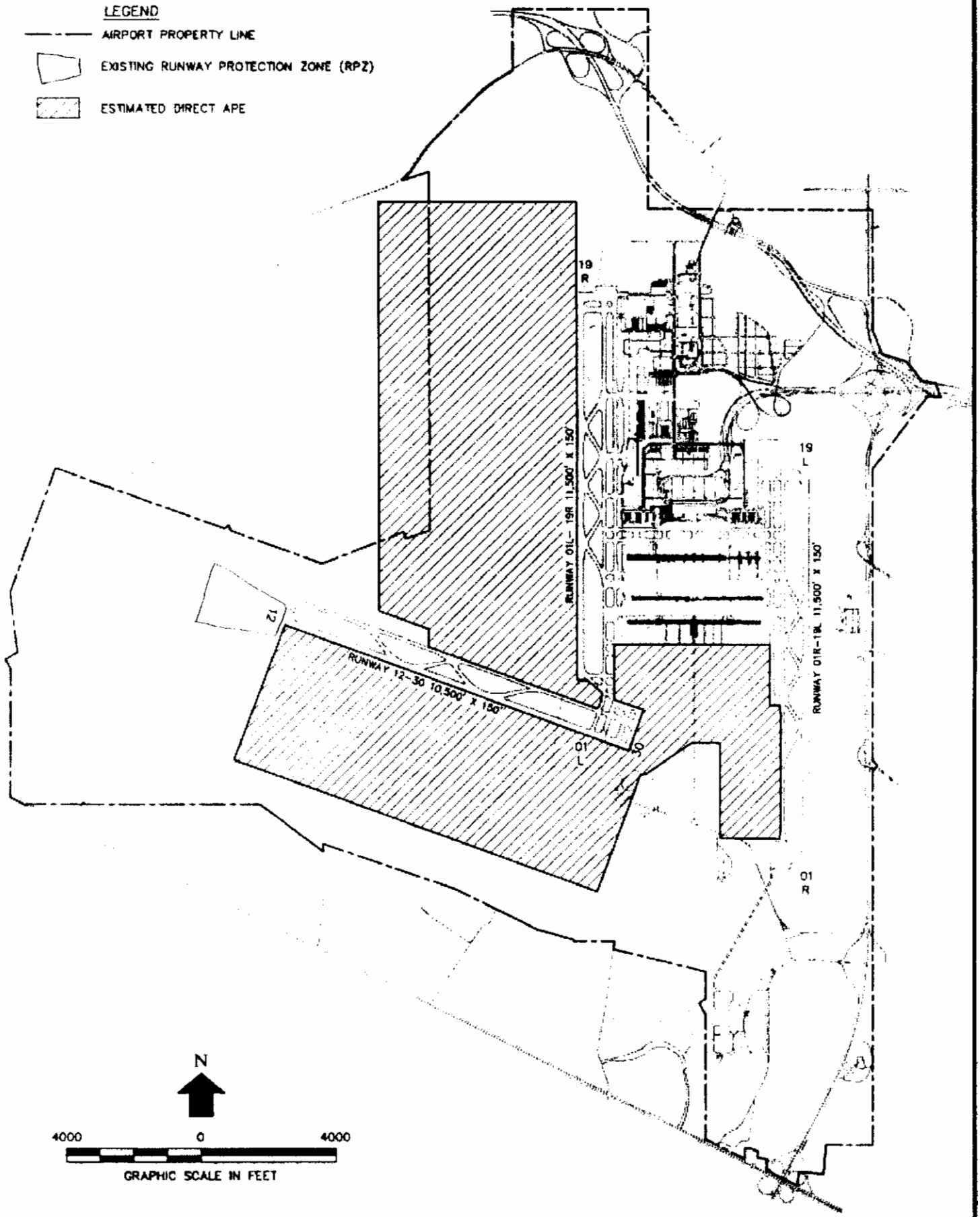


Source:
"Capacity Review and Alternatives for the Fourth and Fifth Runways at Washington Dulles International Airport - Final Report", HNTB Corporation, February 2002

Dulles Airport New Runways
Environmental Impact Statement

ESTIMATED NOISE APE

FIGURE 9



Dulles Airport New Runways
Environmental Impact Statement

URS

ESTIMATED DIRECT APE

FIGURE 10

J:\DULLES EIS\ALTERNATIVES\AUTOCAD DRAWINGS\FIG 10.DWG 02/18/03 13:22

Appendix B

1989 VDHR Memo

Re: Dulles International Airport Historic District

COMMONWEALTH of VIRGINIA

Hugh C. Miller, Director

Department of Historic Resources

221 Governor Street
Richmond, Virginia 23219
Telephone (804) 786-3143
TDD: 804-786-1934

VIRGINIA DEPARMENT OF HISTORIC RESOURCES
EVALUATION TEAM MEETING MEMO

DATE: October 18, 1989

PROJECT NAME/ADDRESS: Historical and Archaeological Survey Report, Washington Dulles International Airport, Loudoun and Fairfax Counties, Virginia

---

The Evaluation Team reviewed the report and concurred with the recommendations for the proposed historic district. 13 structures, 18 mobile lounges, the landscaping plan and approach road were all judged to be contributing to a proposed historic district.

III. ENVIRONMENTAL AND CULTURAL BACKGROUND

A. Location and Environmental Setting

Dulles International Airport is located in western Fairfax and eastern Loudoun counties, Virginia. The property lies wholly within the Piedmont Lowlands, an elongated physiographic province which extends from north of the Potomac River to south of the Occoquan River. The region is also known as the Culpeper Basin, the Triassic Basin or the Leesburg Basin.

The Piedmont Lowlands are characterized by flat or gently rolling relief, with elevations between 250 and 350 feet above sea level. A number of first-order water courses and their attendant tributaries cut through these low hills, running north and east to the Potomac. On the Dulles International Airport property the most significant drainages are Horsepen Run and Stallion Branch, Cub Run and Cain Branch, and the Cabin Branch of Broad Run. These watercourses range from year-round streams to narrow, seasonal trickles. Along many of these, concentrated damming activity by beavers has produced channelized networks and small flooded basins between upiying knolls.

The area's underlying bedrock is siltstone, a layer which is only semi-permeable and therefore retains a certain amount of water. Above this is a layer of reddish-brown plastic clay, often containing gravel and fragments of decomposed and weathered bedrock. The uppermost soil horizon is silty loam, approximately 20 centimeters thick where intact.

The lithic resources of the area within and around Dulles International Airport property are primarily quartz and hornfels (Drake and Froelich 1977). Exposed bedrock outcrops occur, and fragments have eroded into river cobbles. A quartzite outcrop lies 10 to 15 miles southeast of the airport, at the Tysons Corner formation (Johnson 1983b). Rhyolite occurs at South Mountain, about 30 to 35 miles west. Near Front Royal, about 40 to 45 miles west, is a jasper source. Further south, below Richmond, cherts and chalcedonies are found. Other materials, such as argillite, must have been imported from the northern parts of the mid-Atlantic region, as they are unavailable locally (Gardner 1982; Johnson 1986).

Large tracts of Dulles International Airport property are now forested. Although much of this is the result of deliberate reseeding after the airport's initial construction, the conditions largely parallel those of antiquity, at least before the advent of systematic and widespread cultivation. By *c.* 8000 BC the final glaciation had receded, the sea level had risen substantially and the mouth of the Susquehanna River had consequently been drowned, forming the beginnings of the present bay. The concomitant warmer and drier climactic conditions resulted in an increased oak and hickory forest over much of the coastal interior (Carbone 1976; Delcourt and Delcourt 1981). The Piedmont Lowlands in particular, however, were more poorly drained and marshy (Gardner 1980). This wet environment would have supported a steady supply of game as well as a wide range of floral resources. Such diversity in turn ensured the area's repeated exploitation by man.

Figure 3 compiles the information on historic occupations gathered from the archival sources. All structures which do not clearly lie underneath airport buildings are indicated. These include six late eighteenth or early nineteenth century residences. Due to changes in roads, stream courses and the general lack of detail in the maps from 1841 to 1886, correlating their structures with those attested later would yield a high margin of error. Therefore, only the general areas in which structures appear on these maps have been shaded. The many twentieth century occupations are more precisely plotted. Some of the information recovered from the maps was evaluated in conjunction with the records and photographs of Joseph Seay, who appraised those properties within Fairfax County which were purchased for the airport. Twenty-two structures of historic interest have been tentatively dated based on their appearance in Seay's photographs. Five structures, four of which stand on the Sully plantation, and one of which is known as "Leeton," date to the eighteenth century. Eleven structures are nineteenth century and six date to the early twentieth century. The tentative dates and the name of the family who owned them at the time of FAA purchase are noted in *Appendix B*.

1. Previous Investigations

There have been numerous previous archaeological investigations located on Dulles International Airport property and in the vicinity of the airport. For the purposes of this report, studies conducted on airport property and around airport property are discussed separately.

Previous Investigations on Airport Property *(Figure 4)*

Upper Horsepen Run Drainage

Information on prehistoric and historic sites along those sections of Horsepen Run and its tributary branches which run through the northern sections of airport property can be found in four places: the Dulles Toll Road Extension survey report, Rule and Evans' 1983 reports on Phase II excavations near the Blue Satellite parking lot, individual VDHL site forms for this area, and a private collection of prehistoric stone tools, most of which were picked up by former airport employee Howard Pennington along the watershed's southern banks.

Prehistoric Sites

Sixteen prehistoric sites have been identified along the upper sections of the Horsepen Run drainage. Beginning at the northwestern edge of the airport, just at the confluence of Horsepen and Broad Runs, and proceeding southeast towards the point at which the Dulles Access Highway enters the airport, these sites are 44LD383, 380, 408, 381, 382, 407, 405, 379, 406, 385, 300, 299, 298, 386, 297 and 384. Each site is a small to moderate sized lithic scatter, representing ephemeral encampments along the watershed for the purposes of either hunting or foraging expeditions, the provender from which would then be carried back to a larger, semi-permanent base camp. The diagnostic points from these sites cover a wide span of time, from the Early Archaic period (St. Albans points), through the Middle and Late Archaic periods (Morrow Mountain, Holmes and Savannah River points).

large, semi-sedentary camp sites. Tools are largely restricted to points suitable for hunting, and the lithic debris reflects resharpening or rehafting efforts, rather than initial production activity. The quantity of finds indicates that the area was visited repeatedly and often by hunters, who would then carry their spoils back to a large base camp.

Woodland Period

Around 1000 BC, the manufacture of pottery was introduced. This innovation marks the beginning of the Woodland period. Few other changes are observable, and in fact lifestyles remain based primarily on deliberate and intensive collecting (Gardner 1982).

It has been hypothesized that by *c.* AD 800 plant cultivation, in effect early agriculture, was being practiced (Johnson 1983b; Humphrey and Chambers 1977). Maize, beans and squash were probably the focus of initial efforts. The significance of an agriculturally-based subsistence strategy cannot be overestimated; no other factor is as crucial in the establishment and maintenance of permanent, year-round settlements. In the tidewater areas of Virginia, and along the terraces of the major river systems, small villages are in evidence by the Middle Woodland period. Further inland, however, the archaeological evidence is limited to the small triangular points indicative of bow-and-arrow technology, reflecting mobile hunting forays. About 10 examples have been found in and around Dulles International Airport property.

Contact Period

In 1607, with the founding of Jamestown, a permanent European settlement was introduced to an area already occupied by many Native American settlements. East of the fall line the Powhatan Confederacy, composed of 30 Algonquian-speaking tribes, dominated (Humphrey and Chambers 1977). The Piedmont Lowlands south of the Potomac were occupied by Souian language speaking Indians. No primary archaeological data have been recorded for these tribes in this area. By 1714 the last of northern Virginia's native inhabitants had moved to the upper reaches of the Mattaponi River. The area's remaining material culture and settlement pattern reflects only subsequent European occupation; archaeological evidence is here joined by literary records, allowing a detailed historic exposition.

C. Historic Occupation and Land Use

In 1649 King Charles II awarded to several loyal followers the property between the Rappahannock and the Potomac Rivers, containing some 5,282,000 acres which became known as the Northern Neck Proprietary. By 1719, ownership of the Proprietary had passed to one man, Thomas, sixth Lord Fairfax. Lord Fairfax's land agent in Virginia was Robert "King" Carter (Netherton *et al.* 1978:5-6). Carter was unable to sell any of the land in our study area until after a treaty had been negotiated between Governor Spotswood and Iroquois living in Southern Virginia. According to the terms of the treaty, adopted in 1722, the Indians agreed not to cross the Potomac and to remain west of the Blue Ridge (Harrison 1987:225). This opened up the Virginia frontier for purchase and eventual settlement.

Most of the acreage that was to become Dulles International Airport was purchased by 11 men between 1724 and 1731. Four others obtained grants for the remainder of the property between 1740 and 1769 (Mitchell 1988a). The size of the average grant was large compared to the surrounding region. In what would become Fairfax County, the majority of land grants were between 200 and 500 acres (Netherton *et al.* 1978:17). The average size of airport area grants was 2,054 acres (Mitchell 1988a). The large grants were mostly obtained, not by frontier settlers, but by well established tidewater planters who hoped to turn a profit by resale when land values went up (Netherton *et al.* 1978:15). Smaller acreage was taken up by speculators of more modest means. For example, on 22 July 1765, William Barr of Prince William County purchased 265 acres on Salisbury Plain (Cub) Run. Just over two years later, on 20 September 1767, Barr leased this tract to Charles Stewart Presley, having previously informed Presley of disputes regarding the land (Loudoun County Deeds, F:209).

Before 1757, what is now Dulles International Airport lay entirely within Fairfax County. That part of Fairfax County which later became Loudoun was the new parish of Cameron, formed in 1748. It encompassed all of Fairfax north and west of Difficult Run. In 1749 the total population of this parish was estimated at 2,191. This figure included 1,555 whites and 636 blacks (Netherton *et al.* 1978:29). By the time of the creation of Loudoun County, in 1757, the population had grown to 3,345 (Netherton *et al.* 1978:32). During the next dozen years settlement proceeded rapidly. Earlier speculators cashed in on their investments, parceling out their huge holdings so that by 1769 only 11 of the then 287 landholders in Loudoun County owned more than 100 acres each (Poland 1976:26). Most of these larger holdings were concentrated in the vicinity of the project area.

The settlers that contributed to this growth in population were initially placed on the land by wealthy land owners as tenants, overseers, white indentured servants, and slaves. Perhaps the single most often mentioned group were the Scots/Irish Protestants sent into the area by Robert Carter in the 1730s (Chittenden *et al.* 1985:VIII-H4). Carter also imported slaves and Cornish miners for his "copper mines" that turned out to be green sandstone deposits. Henry Lee established a "quarter" consisting of a group of slave laborers supervised by an overseer who cleared the land and put it under cultivation (Gamble 1973:10). Other early settlers to the region included Quakers from Pennsylvania and Lutherans from Germany (Poland 1976:41).

When Loudoun County was created in 1757 the colony was in the midst of the French and Indian War (1754-1763). Several men from the Loudoun area fought in the war and/or contributed supplies or services. By the time of the Declaration of Independence most of Loudoun supported the revolutionary cause (ibid. 50-51). As a whole, except for some Tories and Quakers, Loudouners were spared some of the worst privations of the struggle (ibid. 50-51).

After the war the sons and grandsons of the original purchasers of large holdings in the project area began to settle and build large homes. Thus began the importation of the "cavalier" character of the Tidewater into a region dominated by smaller independent farmers. This was especially true of the Cub Run and Horsepen Run drainages. As early as December 1781, Richard Bland Lee and others of the landed gentry petitioned the General Assembly to establish a new county, ostensibly to cut the distance to the county seat. According to Fairfax Harrison, the planters' real motive was to separate themselves from the more numerous farmers and establish hegemony in a county of their own. Eventually they

Piedmont Lowlands. These discrepant settlement patterns may be due to the topographical disparity between the Horsepen Run and Frying Pan Branch drainage, and others in and around the airport; along the former elevations range between 250 and 300 feet above sea level, and the terrain is somewhat undulating. In contrast the areas around Cub Run, south of the airport, and Broad Run, to the north, are lower and less rolling. The banks of these other watercourses are thus less constricted, and their floodplains more expansive, allowing quicker drainage.

Historic Sites

Sixty-one historic archaeological sites were identified in the drainage of Horsepen Run and Frying Pan Branch east of airport property. Most of the sites clustered around historic transportation corridors such as Centreville Road, West Ox Road, Monroe Street, Coppermine Road, Frying Pan Road and abandoned sections of Old Ox Road. Many were associated with standing structures, graves, wells, foundations, road traces springs and fieldstone walls. The Chittenden report does not inventory the specific finds recovered from each site but states that the artifacts, although often datable and diagnostic, were not numerous enough to reveal the function of a site or reflect socio-economic patterns. The artifacts fell into five of ten study groups defined by the Historic Resource Management Plan: 80% of the sites yielded artifacts related to Agrarian Fairfax 1840-1940, 57% to Suburbanization 1890-present, 11% to Early Diversified Agriculture 1750-1840, and 12% to Fairfax Black Community. Only three sites yielded Civil War artifacts despite the heavy activity which took place in the region.

One hundred-six standing historic structures were identified in a large area encompassing the villages of Frying Pan, Hattontown, Pleasant Valley and Chantilly. The south panhandle of airport property and a narrow band of airport property south of the access highway and east of the eastern north-south runway were included in this survey area. Building types include farm houses, churches, schools, stores, middle- to lower-class housing, and farm buildings. The earliest period, 1730-1820, is represented in high style buildings associated with the Tidewater and Pennsylvanian culture imported into the area. From 1820 onward, however, local architecture took on its own character, reducing style to a few symbolic elements. Whether this was due to aesthetic or economic reasons is unclear. During the 1920s, a large amount of money was invested in dairy barns - two to three story gambrel roof frame structures with a tile, brick or cinder block first story. Their sense of form, proportion and color made them one of the most distinctive of local forms. After World War II the area became increasingly suburban and the architecture began to lose its local character. The structures located on airport property prior to FAA purchase would undoubtedly have reflected the same architectural style as those in this general survey area.

Cub Run and Sand Branch Drainages

South of airport property, along Cub Run and Sand Branch, periodic survey work has identified over fifty prehistoric sites (VDHL site forms; Johnson 1983a; Engquist 1985). Every period, from Paleo-Indian to Late Woodland, is represented. Some sites are very large, and contain many types of tools and a wide range of raw materials, as well as soapstone bowl fragments. Larger sites are found at the confluence of stream courses, and probably represent at least seasonal encampments. The majority of sites, however, are small lithic scatters, representing

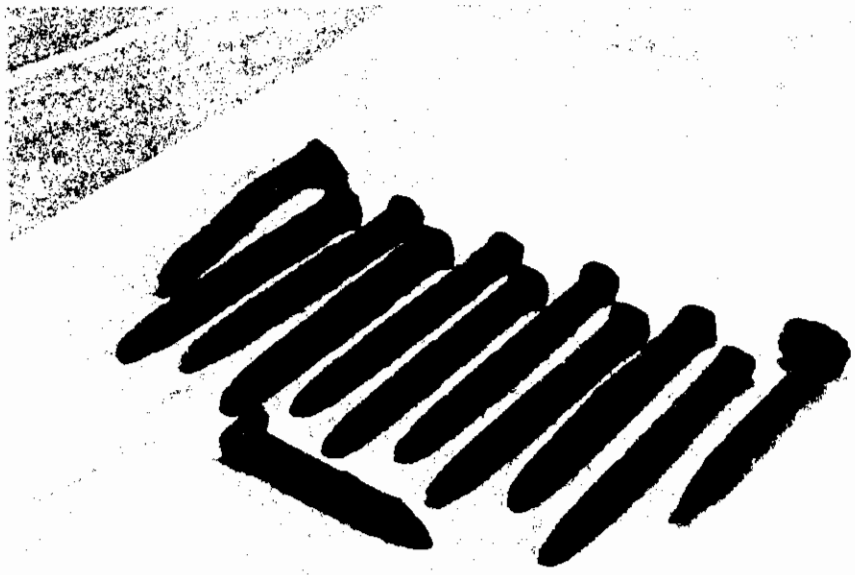


Plate 2
Pennington Historic Collection:
Railroad Spikes

The remaining finds (clockwise from top) are: 1) the iron and brass fitting to a .22 caliber rifle, 2) iron padlock fragments, 3) plumb bob, 4) silver snuff box (left of heel plates), 5) silver bracelet, 6) lead strip used for bullet manufacture, 7) iron hammer head with a square socket and 8) hand-forged iron axe head. These artifacts cannot be accurately dated but may well be contemporary.

The quantity of finds, some of a domestic nature (eg. bracelet and snuff box), suggest at least a temporary occupation on the hill. The many padlocks may indicate that its character was not wholly straightforward. Excavation might reveal foundations and other related artifacts which would clarify the site's function and ultimate date.

Railroad Embankment

An abandoned elevated railroad embankment extends for almost four miles across the southern width of the airport. The western two-thirds is just south of and roughly parallel to the east-west runway. The embankment is generally thought to be the remnant of a pre-Civil War project intended to connect Leesburg with the coast by a spur line. Construction had proceeded as far as the present embankment when the war began; lack of funds and manpower stopped the project. After the region's fall into Confederate hands work recommenced, apparently in the hope that the track might serve supply functions.

The Confederate effort seems also to have remained unfinished, as no traces of track have been found anywhere along the top of the trestle (John Litzenberger 1988 personal communication). Some construction, however, did occur. This is confirmed by a group of 12 iron railroad spikes, found by Howard Pennington on a hillock below the eastern end of the east-west runway (*Plate 2*). The circumstance of finding the spikes all together some distance from the embankment suggests their deliberate removal subsequent to the abandonment. A secondary use may have been planned. In any event, their existence confirms that construction of the spur track had at least begun before the end of the Civil War. Excavation against the base of the trestle might uncover artifacts which would pinpoint the initial construction phase. As no literary documentation exists to clarify the trestle's history, archaeological evidence alone would allow a more detailed and substantive historical reconstruction.

Cain Branch Drainage

A series of 19 prehistoric sites have been identified along the north and south banks of that portion of Cain Branch which extends across the southern panhandle of the airport (VDHL site survey forms; Johnson 1983c). From west to east these are 44FX162, 55, 751, 190, 750, 161, 749, 693, 694, 692, 691, 690, 695, 696, 391, 697, 431, 698 and 712. All are small lithic scatters, representing ephemeral encampments along the watercourse. The time periods represented at these sites ranges from Early Archaic (Kirk points) through Middle and Late Archaic (Halifax and Savannah River points) to Early Woodland (Piscataway points). No evidence for large or semi-permanent settlement has been found.

APPENDIX B
LIST OF STRUCTURES PLOTTED ON FIGURE 3

The following is a list of the historic structures plotted on Figure 3. The inventory of structures on a homestead was obtained from the 1958 USCGSM. Sites which appear on the 1910 United States Postal Service map are underlined. Structures thought to date from the eighteenth, nineteenth and early twentieth centuries based upon their appearance in photographs are numbered in bold type. The name of the owner of the property in 1958 and a tentative date for the structure of interest follow the inventory. An indication of archaeological potential based on proximity to airport structures (high, less) follows the number (Figure 33). "Gone" or "Extant" indicates that the site has been checked.

F	Frame dwelling. (F2 denotes two stories, F3 denotes three stories, etc.)
M	Masonry dwelling, (M2 denotes two stories, M3 denotes three stories, etc.)
W1	Dug well
W2	Drilled well
ST	Septic tank
TF	Tile field
B	Barn
S	Silo
OB	Other farm buildings

The quantity precedes the building type, e.g., 2F denotes two frame buildings, 3B denotes three barns.

1	High	F2, W1, W2, ST, TF, B, S, 7OB	
2	High	F2, 2W2, ST, TF, B, S, 3OB	
3	High	M, ST, TF	
4	High	F2, W1, ST, TF, 6OB	
5	High	F2, W1, B, 4OB	
6	High	M, W1, OB	
7	Extant	F, ST, TF, 2B, S, 5OB	44LD407 (previous investigation)
8	High	M, W2, ST, TF, 2OB	
9	Gone	B, OB	FBO Survey Area
10	High	M, W2, ST, TF	
11	Gone	F2, W2, 3OB	FBO Survey Area
12	High	F2, W2, 2B, OB	
13	High	F, W2, ST, TF, OB	

14	Extant	F2, W1, ST, TF, 2B, OB	44LD386 (previous investigation)
15	Gone	M2, F, W1, ST, TF, B, 4OB	FBO Survey Area
16	Moderate	2M, W2, ST, TF, B, 2OB	
17	Moderate	M, W2, ST, TF	
18	Moderate	F2, W2, OB	
19	Moderate	F, W1, ST, TF	
20	Gone	F, 2W2, F2, 2ST, TF	Runway Survey Area
21	Gone	A) F, W2, ST, TF, OB B) F, W2, ST, TF, C) F, W2, ST, TF D) F, W2, ST, TF	Runway Survey Area
22	Gone	A) M, W2, ST, TF B) M, W2, ST, TF C) M, W2, ST. TF, OB D) M, W2, ST, TF	Runway Survey Area
23	Gone	F2, W1, W2, B, S, 5OB	Runway Survey Area
24	Moderate	B	
25	Moderate	M, W1, ST, TF	
26	Moderate	M, W1, ST, TF, B, 2OB	
27	Moderate	M, 2B, S, 2OB	
28	Moderate	B	
29	Moderate	Ruins, W2	
30	Gone	F2, M, W2, ST, TF, 2B, S, 3OB	Runway Survey Area
31	Gone	Ruins, S	Runway Survey Area
32	Moderate	F2, W2, W1, ST, B, S, 1OB	Beard, residence 1830
33	High	F, W2, ST, TF	
34	High	F2, W2	
35	High	F2, F, 5OB	
36	High	F2, W2, ST, TF, 5OB, pumphouse	

37	Extant (well)	F2, W2	Runway Survey Area
38	Moderate	F, W1, OB, M2, W2, B	
39	Moderate	F	
40	Moderate	M, W2	
41	Moderate	F, W2, 5OB	
42	Moderate	F, OB	
43	Moderate	F	
44	Moderate	F2	
45	Moderate	M, W2, ST, TF, frame church, cemetery	
46	Moderate	M, W2, ST, OB	
47	Moderate	W2, 5OB	
48	Moderate	F	
49	Moderate	F, M	
50	Moderate	F, W1	
51	Moderate	M	
52	Moderate	F2, W1, OB	
53	Moderate	F2, W2, B	
54	High	F2, 2W2, 5OB	
55	High	M	
56	Moderate	F2, W2, W1, ST, TF, 2B, 2OB	Morris, residence 1850
57	Moderate	M, W2	
58	High	F2, W1, W2, 2B, 2S, 4OB	Herwig, residence 1850
59	Moderate	F2, W2, 2W1, ST, 2S, B, 4OB	Carusillo, residence 1895
60	High	F2, W2, ST, B, 4OB	Hyde, residence 1910, tenant house 1915

61	Moderate	F2	
62	Moderate	F2, ST, S, W2	McClaren, residence, tenant house 1830
63	Moderate	F2, W2, W1, B, 2OB	Jackson, residence 1830
64	Moderate	F2, W1, ST	Hasilden, residence 1890
65	Extant	M, 2W2, ST, B, S, OB	Used by airport operations
66	High	M, W2, ST, TF, 1OB	
67	Moderate	abandoned farm, F2, 5OB, W1	Wrenn, 1820
68	High	F, W2, OB	
69	Moderate	B, S, 4OB	
70	Moderate	F2, ST, W2, 3OB	
71	Moderate	M2, W2, 70, 2B	Melton, residence 1910
72	High	F2, W2, TF, 2B, 3OB	
73	High	F2, W2, ST, TF, 3OB	
74	High	F2, W2, ST, TF, 2OB	Delay, residence 1905
75	High	2F, W2, 2ST, TF, B, 2OB	
76	High	F, W2, ST	Rector, residence 1928
77	High	2F, M, W2, 2B, S, underground gas tank	Lohmen & Mayhew, residence 1915
78	High	M, W2, 6OB	
79	High	M, W2	
80	High	F, W2, ST, TF	
81	High	F, W2, 3OB	
82	High	F	

83	Extant	F2, 2W2, barn, 2ST, 2TF, F, M	Nolting, Sully Plantation, residence, smokehouse, kitchen, office, 1795; dairy, 1801
84	Extant	M3, W2, W1, ST, B, FOB, swimming pool F2 (other end of property)	Cain Branch Survey Area Travis, residence 1794, tenant house 1850
85	High	F, ST, TF, W2, 2OB	Smith, log cabin date uncertain
86	High	F, W2, ST, TF, 6OB	
87	High	M, W2, ST, TF, 3OB	
88	High	M2, W2, ST	
89	High	F, 6OB	
90	High	M2, F, W1, ST, TF, B, 2S, 11OB, underground gas tank	
91	High	M2, W2, W1, ST, TF, OB	
92	High	F, W2, 2S, 4OB	
93	Moderate	B, S	
94	High	M, OB	
95	High	M, W2, ST, TF, 2OB	
96	High	F, W2, ST, TF, 2OB	
97	High	F2, ST, B, S, 4OB	
98	Moderate	M2, W2, ST	
99	High	F, W2, W1, 2OB	
100	High	M, 2W2, ST	
101	High	M, W2, 1OB	
102	High	F2, W2, B, 7OB	
103	High	M, W2, ST, 5OB	
104	High	F2, W1, W2, 6OB, B, S	

105	High	F2, W2, 4OB, ST
106	High	4M, 4W2
107	High	F, W2, 1OB
108	High	M, ST, W2
109	High	M, W2, 2OB
110	High	F2, M, B, 2S, 2ST, 2TF, 4OB
111	High	F, F2, ST, TF, B, S, OB
112	High	F2, W2, 2B, S, ST, TF, 3OB
113	High	F, B, ST, TF, OB
114	High	Ruins

Plate 21
Shop-Warehouse Building

Plate 22
Cargo Building
(Cargo Building No.1)

this building include machine shops and administrative offices. Designed by Saarinen in 1962 as part of the original plan for the first airport built specifically for jets, the Shop-Warehouse Building fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands, the immediately adjacent landscaping, and the row of buildings of which it is part.

Cargo Building (Cargo Building No. 1) (*Plate 22*)

Built in 1962, the Cargo Building was the first of four such buildings to be erected at Dulles International Airport. The first building was designed by Saarinen and built during the original construction of the airport; the others are exact replicas, built according to need. As the prototype, the Cargo Building has historical significance. The Cargo Building sits on a concrete slab foundation and has steel frame construction divided into a long series of bays that are pierced with roll-up doors that allow truck access. It is rectangular in plan with its axis running north/south. A large span steel truss system supports a flat roof covered with fluted dark metal panels. The exterior walls are similarly covered with fluted dark metal panels. The interior is divided into different sized areas partitioned with concrete block and leased out to different airlines. Designed by Saarinen in 1962 as part of the original plan for the first airport built specifically for jets, the Cargo Building fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands and the immediately adjacent landscaping.

East Services

Heating and Air Conditioning Plant (*Plate 23*)

Designed in 1960 and built in 1962, the Heating and Air Conditioning Plant is the nearest to the Main Terminal of the East Services. It was constructed by Humphreys and Harding, Inc. of Washington, DC. Rectangular in plan and of steel frame construction on a concrete slab foundation, it measures 128 feet by 78 feet and is sheathed with vertical, fluted dark metal panels. Vent stacks protrude on the roof above the seven equal bays. Each bay has a series of windows with removable steel sash units. In 1977 a two bay, 50 foot addition was added to the north end of the building. The addition is in keeping with the design intent of the original structure. Two cooling towers surrounded with a fence sit on the east side of the Heating and Air Conditioning Plant. This building houses utilities for the airport. Designed by Saarinen as part of the original plan for the first airport built specifically for jets, the Heating and Air Conditioning Plant fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands, the row of buildings of which it is a part, and the immediately adjacent landscaping.

Telephone Exchange (*Plate 24*)

Designed in 1960 and built in 1962, the Telephone Exchange stands east of the Heating and Air Conditioning Plant. Construction was carried out by Humphreys and Harding, Inc., of Washington, DC. The structure is square in plan (51 1/2 feet per side), low in massing and, like the other buildings in this complex, of steel frame construction. A combination of windows, louvered vents and dark metal panels are symmetrically placed on all elevations. Entrance doors are found on the east and west sides. Except for the observation room, the roof is flat and covered with composition materials. A metal ladder is hooked onto the south

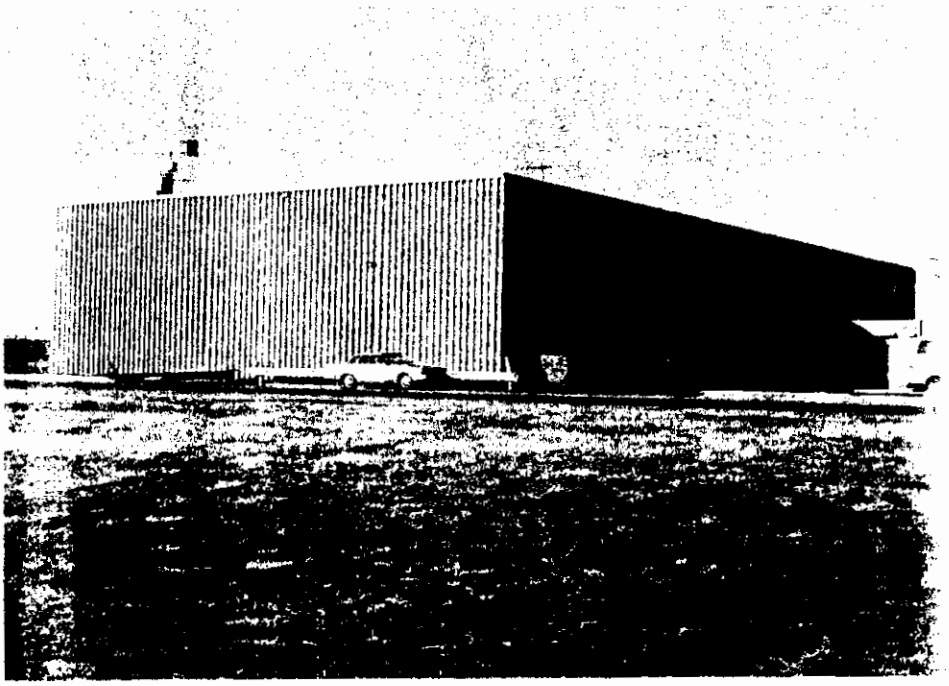


Plate 23
Heating and Air Conditioning Plant

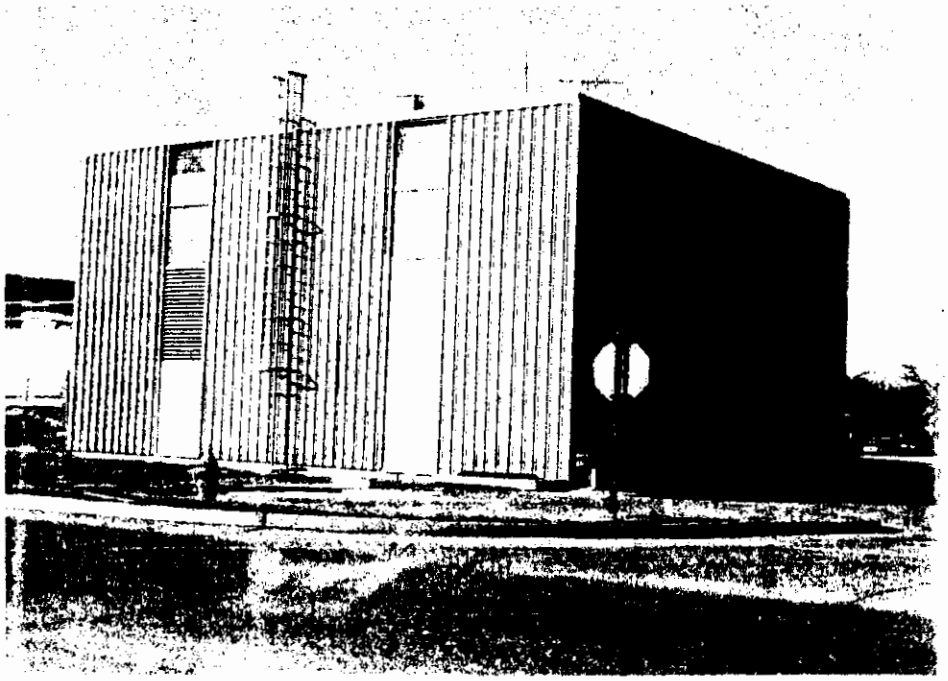


Plate 24
Telephone Exchange

elevation for access to the observation room. The National Weather Service is housed in the Telephone Exchange, necessitating interior divisions for meteorology, storage, and radar. In the center of the second floor is a space for briefing, observation and communication, which is currently occupied by Gateway Aviation Inc. Designed by Saarinen as part of the original plan for the first airport built specifically for jets, the Telephone Exchange fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands, the row of buildings of which it is a part, and the immediately adjacent landscaping.

Gladieux Corporation In-Flite Food Building (Ogden Food Kitchen) (*Plate 25*)

East of the Telephone Exchange stands the Gladieux Corporation In-Flite Food Building, commonly known as the Ogden Food Kitchen. Built in 1962 of steel frame construction, the large, 226 foot by 101 foot, rectangular structure has exterior walls sheathed with porcelain-faced metal panels and stands on a concrete foundation. The north, south and east elevations are completely unfenestrated, while the west elevation is equipped with roll-up garage doors and double doors at the pick-up dock area. A central penthouse projects from the roof of the one story structure. Flat, built-up roofs cover the main building and the penthouse. The building is presently divided into several service areas including those for food preparation, cooking, washing dishes, storage, and office space. Designed by Saarinen as part of the original plan for the first airport built specifically for jets, the Gladieux Corporation In-Flite Food Building fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands, the row of buildings of which it is a part, and the immediately adjacent landscaping.

Hot Shoppes In-Flite Food Building (Marriott Food Kitchen) (*Plate 26*)

The Hot Shoppes In-Flite Food Building is located east of and adjacent to the Gladieux Corporation In-Flite Food Building. A concrete slab foundation supports the steel frame clad in vertically fluted, dark metal panels. The rectangular building measures 280 feet by 225 feet, and is low in massing. A square truck garage supplements the north side of the west elevation while a shed addition is appended to the south elevation. The east elevation consists of a loading dock that runs the entire length of the kitchen. The north elevation has a 25 foot wide gate serving as an opening for metal retaining walls that enclose the parking area for trucks. Also, the east wall on the north elevation extends past the loading dock about 20 feet to hide the activities of the dock. This building has undergone a few internal, mechanical renovations. In 1984, some internal modifications to the drainage system and light fixtures were made by mechanical engineer Arley J. Koran. He was assisted by James R. Cox, Jr., electrical consultant, and Kenneth Cobb, consulting engineer. In 1987, a new dock roof addition on the west elevation and drainage system by Murray and Associates were added. Designed by Saarinen as part of the original plan for the first airport built specifically for jets, the Hot Shoppes In-Flite Food Building fulfills criteria A and C of the National Register. The context of the facility is the land on which it stands, the row of buildings of which it is a part, and the immediately adjacent landscaping.

Allied Fueling Building (*Plate 27*)

The easternmost structure in the East Services complex is the Allied Fueling Building. Designed by Saarinen in the early 1960s, it was built in 1963. It is

Plate 25
Gladieux Corporation In-Flight Kitchen
(Ogden Food Kitchen)

Plate 26
Hot Shoppes In-Flight Food Building

Plate 19
Vehicle Maintenance Building

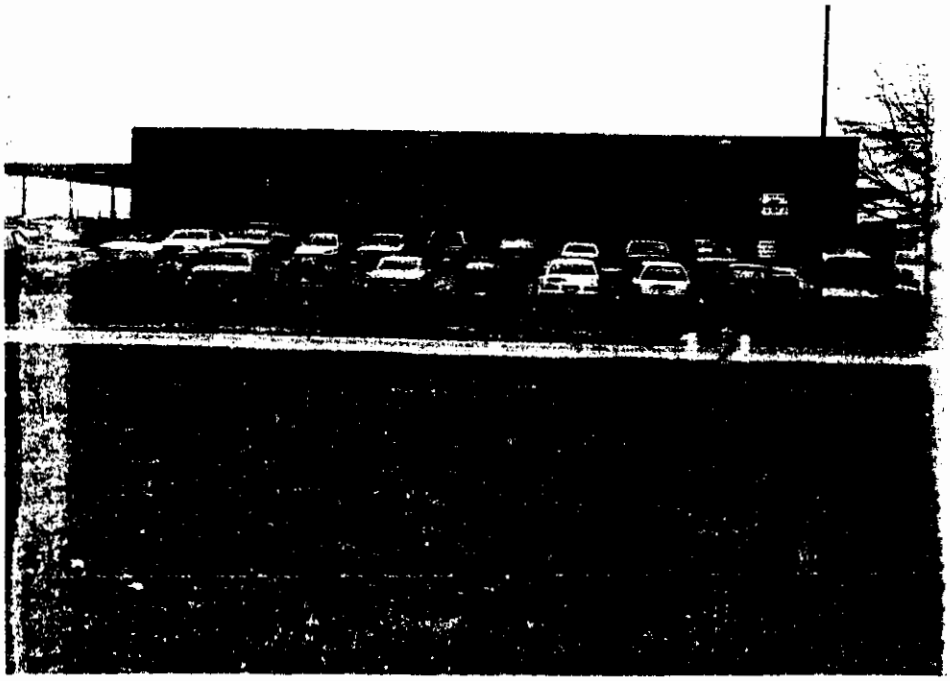


Plate 20
Air Mail Facility

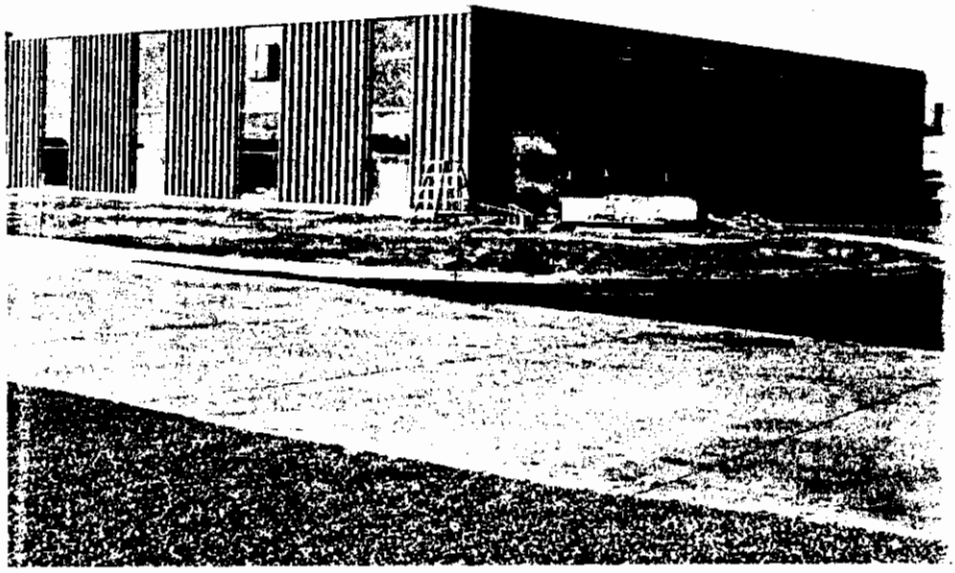


Plate 27
Allied Fuel Building

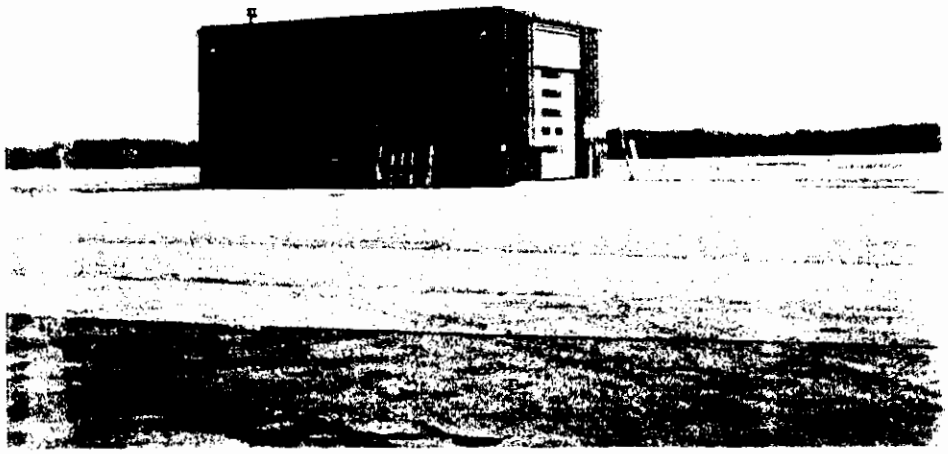


Plate 9
Triturator Building

Plate 10
Original Mobile Lounges

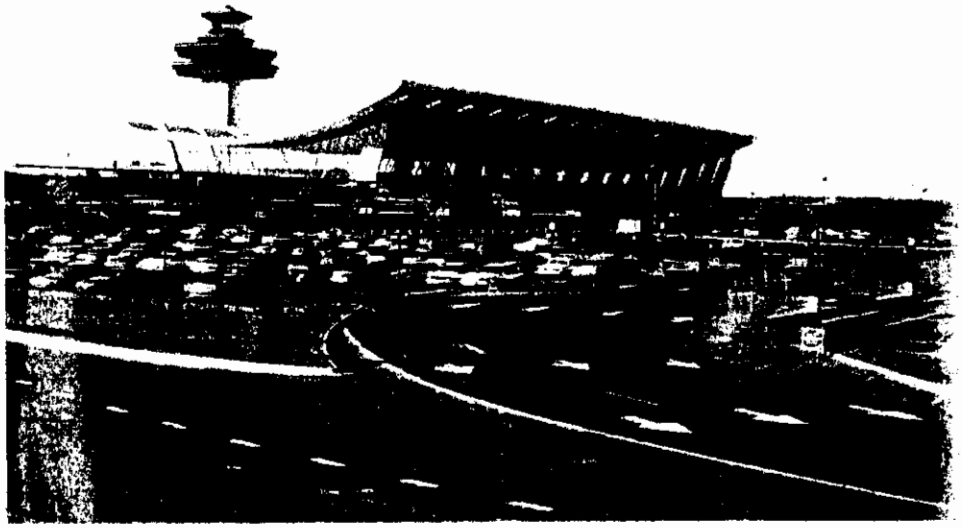


Plate 3
Main Terminal:
View from the Northeast

Plate 4
Main Terminal: Interior-Solari Board

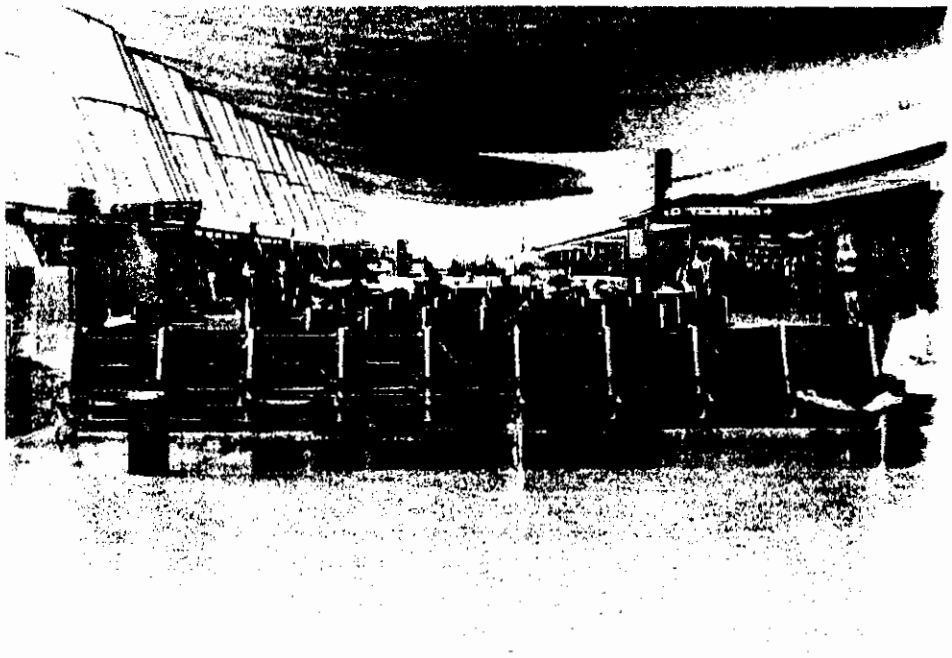


Plate 5
Main Terminal: Interior-Eames Chairs

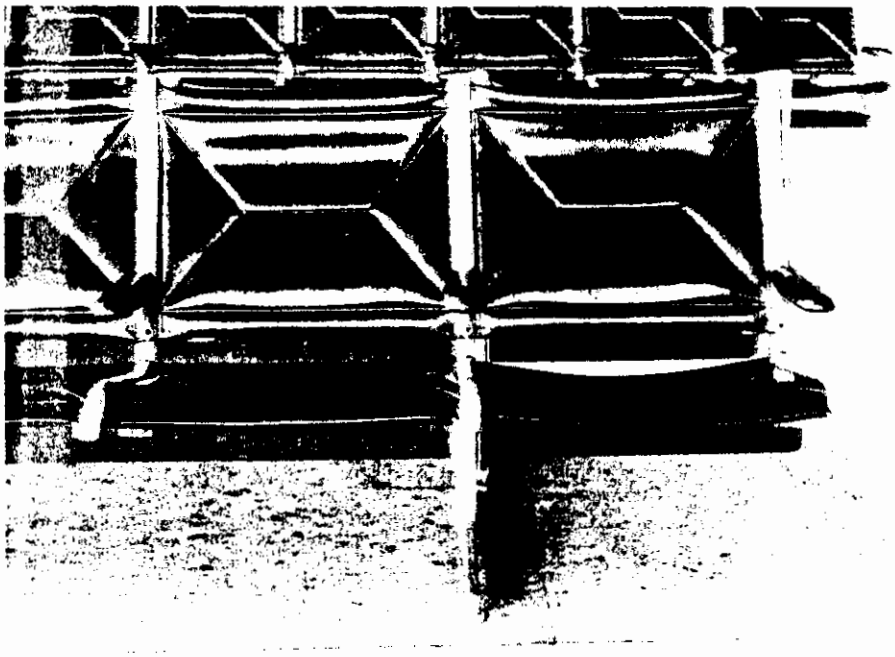


Plate 6
Main Terminal: Detail-Eames Chairs

Plate 7
Control Tower

Plate 8
Apron Tower

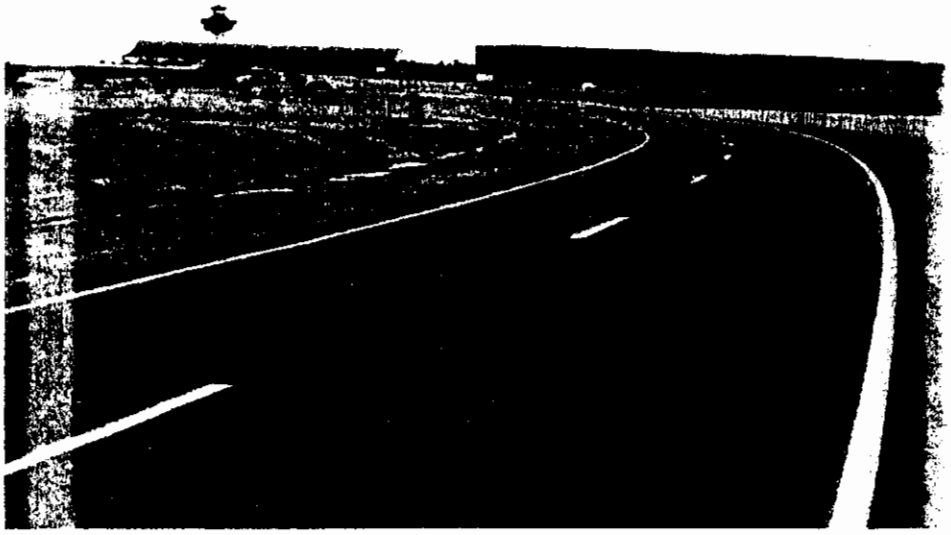


Plate 11
View of Main Terminal from Dulles Access Road:
View from the Northeast

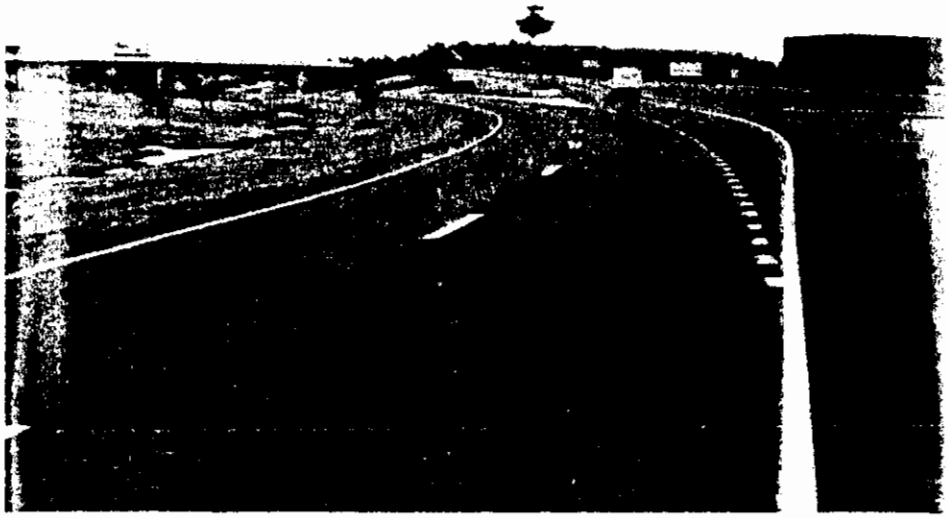


Plate 12
View of Main Terminal from Dulles Access Road
and Service Road: View from the Northeast

Plate 15
View of Main Terminal from Dulles Access Road
at Main Parking Lot: View from the North

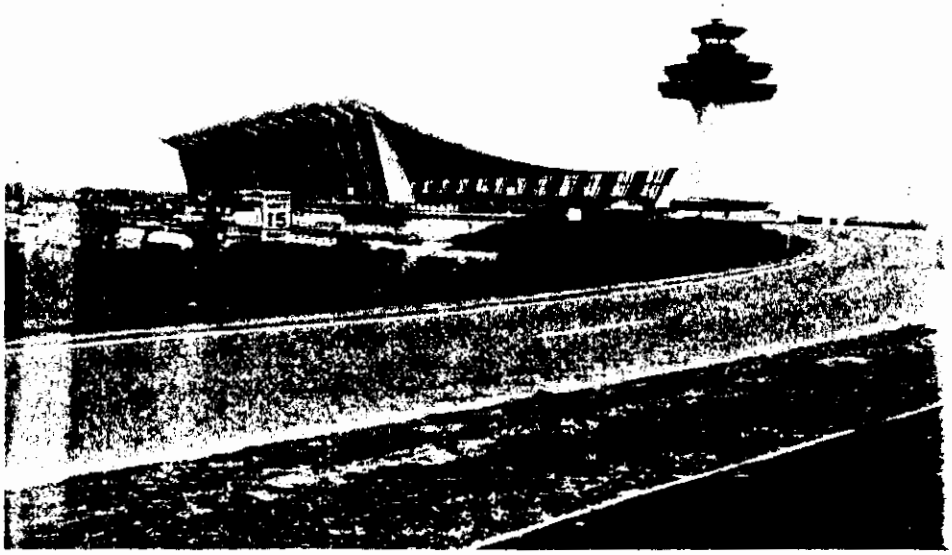


Plate 16
View of Main Terminal from Dulles Access Road
at Main Parking Lot: View from Northwest

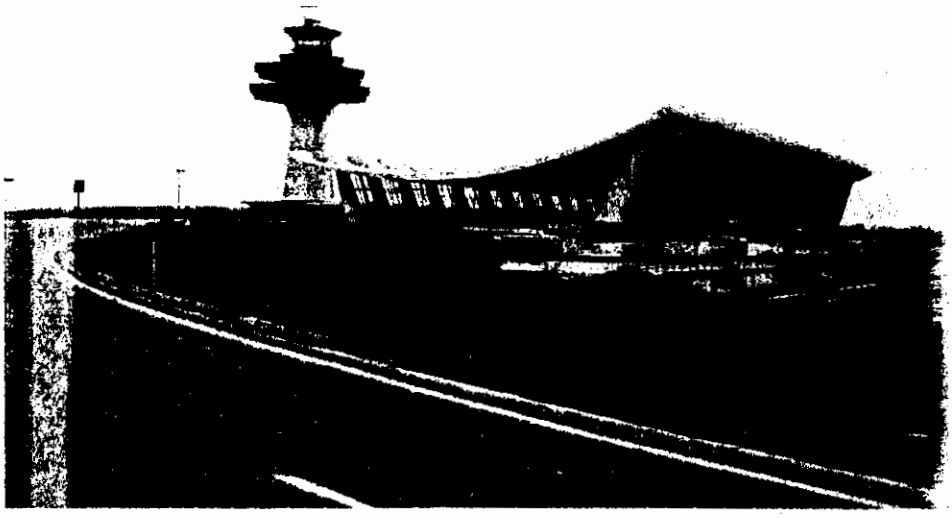
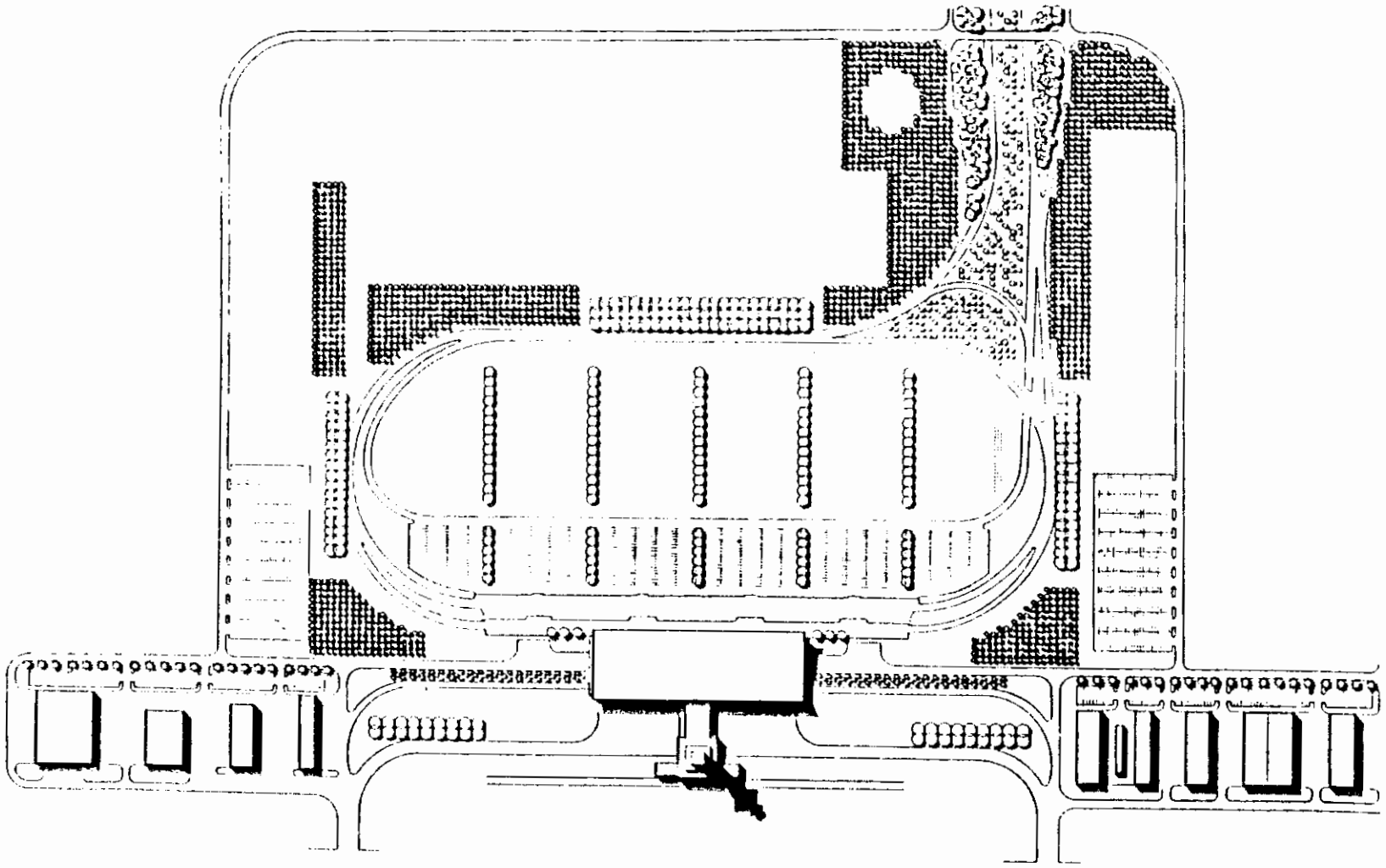


Plate 17
Main Terminal: View from the East

Plate 18
Fire-Crash Station



Source: Process Architecture, No. 33

Dulles International Airport

Figure 37
Original Landscape Design

Appendix C
VDHR DSS Forms

Department of Historic Resources
Reconnaissance Level Survey

Fairfax (County) ***DHR Id#:*** **029-5274**

Resource Identification

Property Name(s): ..... Manassas Gap Rail Bed {Descriptive}
Property Date: ..... ca 1853
Address(s): ..... Stonecroft Road {Current}
County/Independent City: Fairfax (County)
Vicinity of: ..... Chantilly
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4311354/287623
18/4311070/287887
18/4310887/288009
18/4310603/288202
18/4311740/287176
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Local

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
other	other	Earth	other

Site Description: ..... The resource is located within the fenced Dulles International Airport Boundary. The route currently runs through wooded areas which are interspersed with cleared areas of development associated with the construction and operation of Dulles International Airport, including roadways, a firing range, parking areas, and maintenance buildings. At the time of the 2003 and 2004 site visits, portions of the rail bed were clearly visible, but not accessible, to the rear of a police firing range. The only accessible portion of the resource is located on the south side of Stonecroft Road at its intersection with Willard Road.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Railroad Bed	Contributing

NR Resource Count:

Individual Resource Information

WUZIT: ..... Railroad Bed

Est. Date of Construction: .... 1853 ca {Written Data}
Primary Resource? ..... Yes
Architectural Style: ..... No Style Listed
Interior Plan Type: .....

Accessed? .....
Number of Stories: 0.0
Condition: ..... Poor
Threats to Resource: ..... Demolition
Deterioration
Development
Neglect
Transportation Expansion
Erosion

Description: The approximately 150’ wide accessible portion of the resource has been bisected by the construction of Stonecroft Road. The resource is a raised earthwork feature. Where the road and rail bed meet, the top of this rail bed is located at the same grade as the road. The eastern side of the rail bed has an approximately 15’ high embankment and the western side has an approximately 5’ high embankment. The differences in the height of the two sides of the rail bed may be due either to the topography of the area or may be the product of later Dulles-related construction in the resource vicinity. Additional segments of the Manassas Gap Rail Bed near Dead Run, which are visible on the USGS Topographic Map and were described in 1975, appear to have been destroyed by the construction of roadways and buildings.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Transportation/Communication

Historic Time Period(s):..... N- Antebellum Period (1830 to 1860)

Significance Statement: The Manassas Gap Railroad began work in 1853 on a rail line which would run through Fairfax County and connect the communities of Gainsworth and Alexandria. Work was slowed due to financial difficulties in 1858 and terminated in 1861 with the start of the Civil War. Construction was not continued after the conclusion of the war. From 1853 to 1861, the majority of the rail line was graded, and abutments and culverts were constructed over the many waterways which lay in the route of the rail line but no track was ever laid and the completed rail bed was the only remaining trace of the proposed route (Douglas 1975).

This portion of the Manassas Gap Rail Bed is not eligible for the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The rail bed was constructed in association with the development of the Manassas Gap Railroad and the development of transportation routes in Northern Virginia in the mid-nineteenth century, but is neither the only nor best example of this resource type in the region. Other surveyed sections of the original Manassas Gap Rail Bed which have been surveyed in Loudoun County near the Goose Creek Historic District retain the integrity that this segment lacks. Therefore this portion of the Manassas Gap Rail Road is not eligible for listing in the National Register.

The resource has had a complete loss of integrity due to extensive demolition and loss of the rail bed. In many places, the original path of the route can not be determined due to alteration of both the resource and its setting. Only small segments of the route can be identified on a topographic map or in the field. These alterations to the setting have led to the loss of the resource's integrity of location, design, setting, materials, workmanship, association, and feeling.

Bibliographic Documentation

Reference #: 1

Bibliographic RecordType: ..... Article

Author: ..... H.H. Douglas

Citation Abbreviation: ..... Douglas "Pioneer America"

Notes: ..... "The Unfinished Independent Line of the Manassas Gap Railroad," Pioneer America, Journal of Historic American Material Culture. Vol. 5 No. 4, November 1975.

Ownership Information

Department of Historic Resources
Reconnaissance Level Survey

Fairfax (County) ***DHR Id#:*** **029-5274**

Name: ..... Unknown Unknown
Company: ..... Metropolitain Washington Airports Authority (MWAA)
City: ..... Dulles
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21425	VDHR	2004/04/05	Frames 10-12

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5252**

Resource Identification

Property Name(s): ..... Farmstead at 43995 Beaver Meadow Road {Address-Current}
Property Date: ..... ca 1920
Address(s): ..... 43995 Beaver Meadow Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4315980/285233
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Private
Acreage: 2.0

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Block
Structural System	Structural System - Masonry	Concrete	Structural System - Block
Structural System		Wood	Structural System - Vertical Board
Roof	Roof - Gable, front	Metal	Roof - Standing Seam
Windows	Windows - Sash	Wood	other

Site Description: ..... This farmstead is located at 43995 Beaver Meadow Road, east of State Route 606, and directly west of the fenced Dulles International Airport Boundary. The surrounding area is a mixture of residential and agricultural uses with a densely wooded area located directly to the east of the resource. A dirt and gravel access road leads from Beaver Meadow Road to the farmstead.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Barn	Historic
1	Milk House	Historic
1	Ruins	Historic

NR Resource Count:

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5252**

Individual Resource Information

WUZIT: ..... Barn

Est. Date of Construction:	1920 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	Yes	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Neglect Structural Failure Vacant

Description: The barn is a one story masonry structure constructed of concrete block. The building rests on a continuous concrete block foundation. The exterior is clad with vertical wood boards in the gable ends. The windows are two pane wood hopper sashes. The front gable roof is clad with standing seam metal. The interior of the building is accessed through sliding doors on the west and east facades.

WUZIT: ..... Milk House

Est. Date of Construction:	1920 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Double Pen (Farm Building)	*Threats to Resource:*	Deterioration Neglect Vacant Structural Failure

Description: The milk house is a one story, double pen, masonry structure constructed of concrete block. The building rests on a continuous concrete block foundation. The exterior is clad with vertical wood boards in the gable ends. The windows are six pane wood hopper sashes. The side gable roof is clad with standing seam metal. The milk house is connected to the ruins by a passageway.

WUZIT: ..... Ruins

Est. Date of Construction:	1920 ca {Site Visit}	*Accessed?*	No Not accessible
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:		*Threats to Resource:*	Deterioration Neglect Structural Failure Vacant

Description: The ruins are the remains of an agricultural outbuilding with an unknown use which was formerly attached to the milk house. The structure was constructed of concrete block with a gable roof.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Subsistence/Agriculture

Historic Time Period(s):..... Q- World War I to World War II (1914-1945)

Significance Statement: This farmstead is not eligible for the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The property has no associated residential structure and does not appear on maps of the area until the 1970s due to the lack of an associated residence.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. All three buildings have some degree of structural failure of the roof and walls, with one structure in ruins. The wood building elements are decaying and the metal building elements are rusted. The deterioration of the three historic outbuildings has led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

Bibliographic Documentation

Ownership Information

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21427	VDHR	2004/04/08	Frames 10-12

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5253**

Resource Identification

Property Name(s): ..... Unnumbered Building- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1949
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4316812/284758
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Sidin
Roof	Roof - Gable, front	Metal	Roof - Corrugated

Site Description: ..... This unnumbered building is located along Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields. The building is located within a chain link fence.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Laboratory	Historic

NR Resource Count:

Individual Resource Information

WUZIT: ..... Laboratory

Est. Date of Construction: .... 1949 ca {Owner/written data}
Primary Resource? ..... Not Evalua
Architectural Style: ..... No Style Listed
Interior Plan Type: ..... Open
Accessed? ..... Yes
Number of Stories: 1.0
Condition: ..... Fair
Threats to Resource: ..... Neglect
Deterioration

Description: This unnumbered building is a one-story wood frame structure. The building rests on a continuous poured concrete foundation. The building is clad with aluminum siding. There are no windows, but the three panel door has four lights. The front gable roof is clad with corrugated metal. The building contains equipment for the adjacent metal frame antenna array with atmospheric testing equipment located on the top.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

This unnumbered building located at the National Weather Service's Sterling Research and Development Center is not eligible for the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

This unnumbered laboratory building has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5253**

Ownership Information

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21638	VDHR	2004/06/16	Frame 8

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5254**

Resource Identification

Property Name(s): ..... Building 19- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1949
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4316929/284794
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Sidin
Roof	Roof - Gable, front	Asphalt	Roof - Asphalt Shingle
Porch	Porch - Gable, Front		Porch - Enclosed
Windows	Windows - Sash	Wood	Windows - 6/1
Windows	Windows - Sash	Wood	Windows - 6/6

Site Description: ..... Building 19 is located along Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Laboratory	Historic
1	Carport	Non-historic

NR Resource Count:

Report generated 5/23/05

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5254**

Individual Resource Information

WUZIT: ..... Carport

Est. Date of Construction:	1970 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Neglect

Description: Adjacent to Building 19 is a circa 1970 one-story, wood frame carport. This structure is clad with plywood sheeting and has a side gable roof clad with asphalt shingles.

WUZIT: ..... Laboratory

Est. Date of Construction:	1949 ca {Owner/written data}	*Accessed?*	Yes
Primary Resource?	Yes	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Open	*Threats to Resource:*	Neglect Deterioration

Description: Building 19, a circa 1949 laboratory building, is a one-story wood frame structure with a rear addition. The building rests on a continuous raised poured concrete foundation with a continuous raised concrete block foundation in the rear. The building is clad with aluminum siding. The windows are 6/1 wood sashes in the original portion of the building with 6/6 wood sashes in the rear addition. The front gable roof is clad with asphalt shingles. The original entry porch has been enclosed with aluminum siding and has front gable roof clad with corrugated metal. The building is currently used for storage.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 19 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 19 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5254**

Ownership Information

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21638	VDHR	2004/06/16	Frame 9

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5255**

Resource Identification

Property Name(s): ..... Building 18- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1949
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4317178/284830
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Sidin
Roof	Roof - Gable, front	Asphalt	Roof - Asphalt Shingle
Porch	Porch - Gable, Front		Porch - Enclosed
Windows	Windows - Sash	Wood	Windows - 6/1
Windows	Windows - Sash	Wood	Windows - 6/6

Site Description: ..... Building 18 is located off of Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Laboratory	Historic

NR Resource Count:

Individual Resource Information

WUZIT: ..... Laboratory

Est. Date of Construction: .... 1949 ca {Owner/site visit}
Primary Resource? ..... Yes
Architectural Style: ..... No Style Listed
Interior Plan Type: ..... Open
Accessed? ..... Yes
Number of Stories: 1.0
Condition: ..... Fair
Threats to Resource: ..... Deterioration Neglect

Description: Building 18, a circa 1949 laboratory building, is a one-story wood frame structure with a rear addition. The building rests on a continuous raised poured concrete foundation with a continuous raised concrete block foundation in the rear. The building is clad with aluminum siding. The windows are 6/1 wood sashes in the original portion of the building with 6/6 wood sashes in the rear addition. The front gable roof is clad with asphalt shingles. The original entry porch has been enclosed with aluminum siding and has front gable roof clad with corrugated metal. The building is currently used for storage.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 18 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 18 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Ownership Information

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5255**

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21638	VDHR	2004/06/16	Frame 11

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5256**

Resource Identification

Property Name(s): ..... Building 22- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1950
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4316838/285104
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Slab	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Metal	Structural System - Corrugated
Roof	other	Metal	Roof - Corrugated

Site Description: ..... Building 22 is located off of Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Quonset Hut	Historic

NR Resource Count:

Individual Resource Information

WUZIT: ..... Quonset Hut

Est. Date of Construction: .... 1950 ca {Owner/written data}
Primary Resource? ..... Yes
Architectural Style: ..... No Style Listed
Interior Plan Type: ..... Open
Accessed? ..... Yes
Number of Stories: 1.0
Condition: ..... Poor
Threats to Resource: ..... Deterioration, Neglect

Description: Building 22, a circa 1950 laboratory building, is a one-story wood frame Quonset hut. The building rests on a continuous poured concrete foundation. Both the building's end walls and roof are clad with corrugated metal. There are no windows, but the three panel door has a single light. The building is currently used for storage.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 22 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1950 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 22 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Ownership Information

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5256**

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21638	VDHR	2004/06/16	Frame 12

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5257**

Resource Identification

Property Name(s): ..... Building 14- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1949
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4317046/285419
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Sidin
Roof	Roof - Gable, front	Asphalt	Roof - Asphalt Shingle
Porch	Porch - Gable, Front		Porch - Enclosed
Windows	Windows - Sash	Wood	Windows - 1/1

Site Description: ..... Building 14 is located on Weather Service Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Laboratory	Historic

NR Resource Count:

Individual Resource Information

WUZIT: ..... Laboratory

Est. Date of Construction: .... 1949 ca {Owner/written data}
Primary Resource? ..... Yes
Architectural Style: ..... No Style Listed
Interior Plan Type: ..... Open
Accessed? ..... Yes
Number of Stories: 1.0
Condition: ..... Fair
Threats to Resource: ..... Deterioration, Neglect

Description: Building 14, a circa 1949 laboratory building, is a one-story wood frame structure with a rear addition. The building rests on a continuous poured concrete foundation with a continuous concrete block foundation in the rear. The building is clad with aluminum siding. The windows are 1/1 wood sashes in the original portion of the building with no windows in the rear addition. The front gable roof is clad with asphalt shingles. The original entry porch has been enclosed with aluminum siding and has front gable roof clad with corrugated metal. The building is currently used for storage.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 14 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 14 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource's integrity of workmanship and materials has also been adversely effected by the replacement of original horizontal wood siding with aluminum siding. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Ownership Information

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5257**

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21638	VDHR	2004/06/16	Frame 15

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5258**

Resource Identification

Property Name(s): ..... Building 16- National Weather Service Sterling Facility {Descriptive}
Property Date: ..... ca 1949
Address(s): ..... Thunder Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4317343/285360
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Federal
Acreage: 0.5

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Masonry	Concrete	other
Roof	Roof - Flat	other	Roof - None Listed
Porch	Porch - 1-story, 1-bay		Porch - Enclosed
Windows	Windows - Casement	Metal	Windows - 6-light
Windows	Windows - Casement	Metal	other
Windows	Windows - Sash	Metal	Windows - 1/1

Site Description: ..... Building 16 is located along Thunder Road, south of State Route 606. The building is located within the current fenced boundary of the National Weather Service's Sterling Research and Development Center. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

No.	Wuzit Types	Historic?
1	Laboratory	Historic
1	Equipment Shed	Historic
1	Equipment Shed	Non-historic

NR Resource Count:

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5258**

Individual Resource Information

WUZIT: ..... Equipment Shed

Est. Date of Construction:	1980 ca {Site Visit}	*Accessed?*	No Not accessible
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	None Known

Description: The second equipment shed is a modern, one-story, pre-fabricated metal frame structure. This shed is clad with vertical standing seam metal panels and has a front gable roof clad with asphalt shingles.

WUZIT: ..... Equipment Shed

Est. Date of Construction:	1949 ca {Site Visit}	*Accessed?*	No Not accessible
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	None Known

Description: One equipment shed was constructed circa 1949. It is a one-story concrete masonry building which rests on a continuous poured concrete foundation. The windows are three-pane metal casements. The flat roof is clad with a built up roofing membrane composed of gravel and tar.

WUZIT: ..... Laboratory

Est. Date of Construction:	1949 ca {Owner/site visit}	*Accessed?*	Yes
Primary Resource?	Yes	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Open	*Threats to Resource:*	None Known

Description: Building 16, a circa 1949 laboratory building, is a one-story concrete masonry building with several rear and side additions constructed in the same manner as the original core of the building. The building rests on a continuous poured concrete foundation. The poured concrete exterior of the building has been painted. The windows are a mixture of original six-pane metal casements and three-pane metal casements with 1/1 metal sashes used as replacement windows. The flat roof is clad with a built up roofing membrane composed of gravel and tar. The original entry porch has been enclosed with T-111 siding and has four 1/1 metal sashes.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement:

The architectural resources comprising the current NOAA facility were evaluated both as contributing resources in an Interservice Radio Propagation Laboratory (IRPL) historic district and as individual resources. In evaluating the resources as an historic district, issues of significance, integrity, and district boundaries were carefully considered. According to National Register Bulletin 21 Defining Boundaries for National Register Properties, boundaries for an historic district can be drawn according to historic boundaries, legal property lines, natural features, distribution of contributing resources, and hard boundaries such as fences and walls. The period of significance for the surveyed resources at the NOAA facility extends from 1943 through 1954, during its ownership and operation by the Interservice Radio Propagation Laboratory. The resources from this period of significance are widely scattered over two separately owned properties comprising 452 acres, with approximately 20 resources that post-date this period interspersed on the two properties. The two properties, originally one, are today separated by a fence. The National Weather Service's Sterling Research and Development Center was developed on the site of and utilized many of the buildings located on the IRPL property upon its transfer to the National Weather Service in 1954. The original Interservice Radio Propagation Laboratory administrative complex for the facility is located within the current fenced boundaries of Dulles and has been vacant for over ten years. The portion of the facility still within the control and use of the National Weather Service has had substantial alterations to its built landscape since 1954, including the abandonment of testing fields, the removal of equipment, the demolition of pre-1954 buildings, and the construction of two new buildings and modern meteorological equipment. The pre-1954 resources on the current National Weather Service property are isolated from each other and no longer form a cohesive district due to the high degree of alteration to their surroundings. Any proposed district comprising the pre-1954 IRPL resources lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for listing in the National Register under Criterion A, B, C or D.

Following its evaluation as an historic district, each of the pre-1954 resources located at the National Weather Service's Sterling Research and Development Center was surveyed and evaluated individually.

Building 16 at the National Weather Service's Sterling Research and Development Center is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The building was constructed as a part of the Interservice Radio Propagation Laboratory circa 1949 and was used by that agency until 1954, when the agency was transferred to Colorado. As part of the Interservice Radio Propagation Laboratory, the building contained mechanical equipment used in the investigation of ionospheric weather patterns and shortwave radio operations. The building was adapted for meteorological use in 1954, when the property was transferred to the National Weather Service. As such, the building reflects the occupancy of the site by the National Weather Service from the mid-1950s to the present. This adaptation to new scientific uses led to the removal of associated equipment and machinery, such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. The resource is not eligible under Criterion A due to a lack of integrity of setting, feeling, association, workmanship and materials.

Building 16 has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of this building from the administrative complex of the Interservice Radio Propagation Laboratory by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a laboratory building for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of feeling and association as well as a loss of integrity of workmanship. The resource has maintained its integrity of location and design.

Bibliographic Documentation

Ownership Information

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5258**

Name: ..... Unknown Unknown
Company: ..... National Weather Service
City: ..... Sterling
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21427	VDHR	2004/04/08	Frames 4-8

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

Resource Identification

Property Name(s): ..... Interservice Radio Propagation Laboratory (IRPL) Complex {Descriptive}
Property Date: ..... ca 1943
Address(s): ..... Weather Service Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4317199/285993
18/4317204/285754
18/4316950/286262
18/4316838/286252
18/4316940/285764
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Local
Acreage: 75.0

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Slab	Concrete	Foundation - Poured
Structural System	Structural System - Masonry	Brick	Structural System - American Bond
Roof	Roof - Flat	other	Roof - None Listed
Porch	Porch - 1-story, 1-bay		Porch - Enclosed
Windows	Windows - Sash	Wood	Windows - 1/1
Windows	Windows - Sash	Wood	Windows - 1/1, Paired
Windows	Windows - Sash	Wood	Windows - 2/2
Windows	Windows - Sash	Wood	Windows - 2/2, Paired
Chimneys	Chimneys - Central interior	Brick	Chimneys - Common Bond

Site Description: .....

The Interservice Radio Propagation Laboratory (IRPL) Complex is located along Weather Service Road, south of State Route 606. This complex is located within the current fenced boundary of the Washington Dulles International Airport. The surrounding area is a mixture of residential, agricultural, and light industrial uses. The complex contains an isolated portion of the original Interservice Radio Propagation Laboratory. This portion of the facility has been separated both physically and visually from the remainder of the original campus by fences and overgrown testing fields.

The IRPL Complex contains twenty-one buildings, structures, and objects. They are: a circa 1942 administration building, a circa 1942 powerhouse, three circa 1942 Quonset huts, a circa 1942 laboratory building, a circa 1945 laboratory building, a circa 1947 garage, a circa 1965 methane gas house, four circa 1965 research buildings, a circa 1965 balloon testing building, two metal sheds, two free-standing antenna arrays, a hydrothermometer testing field, and two radar arrays. The property was historically used as a scientific laboratory by the US War Department, the US Bureau of Standards, and the National Weather Service. The laboratory complex has been vacant for at least five years.

The central portion of the complex is laid out in a liner plan along Weather Service Road, which was the primary entrance to the Interservice Radio Propagation Laboratory. This was the primary research area for the facility and contains the majority of the buildings. A small paved access road leads north from this area, past the hydrothermometer testing field, antennas, and radar array to the balloon testing building and its ancillary sheds. Further east along Weather Service Road are two isolated research facilities.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT Count:

No.	Wuzit Types	Historic?
1	Administration Bldg.	Historic
1	Power Station	Historic
3	Quonset Hut	Historic
2	Laboratory	Historic
1	Garage	Historic
1	Other	Non-historic
6	Research Facility	Non-historic
4	Research Facility	Historic
2	Shed	Non-historic

NR Resource Count:

Report generated 5/23/05

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

Individual Resource Information

WUZIT: ..... Shed

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Demolition Deterioration Development Neglect Vacant Transportation Expansion

Description: Adjacent to the circa 1965 balloon testing building ia a one story metal frame shed used as support structure for balloon testing activities. The building rests on a continuous poured concrete foundation and is clad with corrugated metal. The front gable roof is clad with corrugated metal.

WUZIT: ..... Shed

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Demolition Deterioration Neglect Development Vacant Transportation Expansion

Description: Adjacent to the circa 1965 balloon testing building ia a one story metal frame shed used as support structure for balloon testing activities. The building rests on a continuous poured concrete foundation and is clad with corrugated metal. The front gable roof is clad with corrugated metal.

WUZIT: ..... Research Facility

Est. Date of Construction:	1945 ca {Written Data}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	0.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:		*Threats to Resource:*	Demolition Deterioration Neglect Transportation Expansion Development Vacant

Description: A free-standing metal antenna array is located adjacent to the hydrothermometer testing field .

WUZIT: ..... Research Facility

Est. Date of Construction:	1945 ca {Written Data}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	0.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:		*Threats to Resource:*	Demolition Deterioration Development Vacant Transportation Expansion Neglect

Description: A free-standing metal antenna array is located adjacent to the hydrothermometer testing field .

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT: ..... Research Facility

Est. Date of Construction:	1945 ca {Written Data}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	0.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:		*Threats to Resource:*	Demolition Deterioration Development Neglect Vacant Transportation Expansion

Description: The poured concrete base to a radar array is located adjacent to the hydrothermometer testing field .

WUZIT: ..... Research Facility

Est. Date of Construction:	1945 ca {Written Data}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	0.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:		*Threats to Resource:*	Demolition Deterioration Neglect Development Vacant Transportation Expansion

Description: The poured concrete base to a radar array is located directly to the west of Building 10.

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:		*Threats to Resource:*	Demolition Deterioration Neglect Transportation Expansion Development Vacant

Description: Located in the area between the U-shaped administration and research area and the balloon testing area is a testing field which contains several objects. This area was known as the hydrothermometer testing field and contains vertical metal pipes which extend three feet above ground level as well as several small metal vents.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Demolition Deterioration Development Vacant Transportation Expansion Neglect

Description: To the northeast of the U-shaped administration and research area is the balloon testing area. The primary building in this area is the circa 1965 balloon testing building. This four story tall metal frame building rests on a continuous poured concrete foundation. The building is clad with corrugated metal. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A wooden observation platform with a wood railing is located on top of the building and is accessed by an exterior metal stair. The interior of the building is accessed through a large metal roll-up door.

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Other	*Threats to Resource:*	Demolition Deterioration Development Neglect Vacant Transportation Expansion

Description: Approximately 70 yards from the main research complex is an isolated research facility which contains a research building, known as Building 10. This one story wood frame building rests on continuous poured concrete foundations. The building is clad with vertical wood boards. The windows are single pane picture windows with metal sashes. The side gable roof is clad with corrgated metal. Building 10 has a side addition clad with corrugated metal.

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Other	*Threats to Resource:*	Demolition Deterioration Neglect Development Vacant Transportation Expansion

Description: Approximately 70 yards from the main research complex is an isolated research facility which contains a research building, known as Building 9. This one story wood frame building rests on continuous poured concrete foundations. The building is clad with vertical wood boards. The windows are single pane picture windows with metal sashes. The gable roof is clad with a corrugated metal.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Other	*Threats to Resource:*	Demolition Deterioration Neglect Transportation Expansion Development Vacant

Description: Building 3 is a one story wood frame building which was used as a research facility. The building rests on continuous poured concrete foundation. The building is clad with brick veneer. The windows are single pane picture windows with metal sashes. The overhanging flat roof is clad with a built up roofing membrane composed of gravel and tar.

WUZIT: ..... Research Facility

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Other	*Threats to Resource:*	Demolition Deterioration Development Vacant Transportation Expansion Neglect

Description: Building 1 is a one story wood frame building which was used as a research facility. The building rests on continuous poured concrete foundation. The building is clad with brick veneer. The windows are single pane picture windows with metal sashes. The overhanging flat roof is clad with a built up roofing membrane composed of gravel and tar.

WUZIT: ..... Other

Est. Date of Construction:	1965 ca {Written Data}	*Accessed?*	No Not accessible
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Demolition Deterioration Development Neglect Vacant Transportation Expansion

Description: Between Building 6 and Building 7 is the circa 1965 methane gas house. This one story metal frame building rests on a continuous poured concrete foundation. The building is clad with corrugated metal. The front gable roof is clad with corrugated metal.

WUZIT: ..... Garage

Est. Date of Construction:	1947 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Demolition Deterioration Neglect Development Vacant Transportation Expansion

Description: Between Building 5 and Building 6 is the circa 1947 garage. This one story wood frame building rests on a continuous poured concrete foundation and is partially collapsed. The front gable roof is clad with corrugated metal.

WUZIT: ..... Laboratory

Est. Date of Construction:	1945 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Neglect Transportation Expansion Development Vacant

Description: Building 8 is an additional laboratory structure constructed circa 1945. This one story wood frame building rests on a continuous poured concrete foundation. The walls are clad with horizontal wood siding. The windows are single pane wood hopper sashes. The front gable roof is clad with asphalt shingles. The building has an interior side wall brick masonry chimney laid using a common bond.

WUZIT: ..... Laboratory

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Development Vacant Transportation Expansion Neglect

Description: An additional ¼ mile down Weather Service Road is an isolated research facility. This laboratory building, also known as Building 13, is a one story brick masonry building. The building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are 2/2 wood sashes. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line. The entrance is sheltered by a wood frame entry porch with a front gable roof. The building has a metal vent on the roof.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT: ..... Quonset Hut

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Development Neglect Vacant Transportation Expansion

Description: This laboratory, known as Building 7, was constructed circa 1942. This building is one story tall and was constructed from a corrugated metal quonset hut placed on a raised continuous concrete block foundation. The building has single pane wood hopper sashes along the side walls. The entrance is sheltered by a wood frame entry porch with a front gable roof. Metal vents are evenly spaced along the apex of the roof. Building 7 has had major alterations with the construction of a large shed roof addition clad with aluminum siding on its west façade. This addition has an asphalt shingle roof and 2/2 vinyl sash windows.

WUZIT: ..... Quonset Hut

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Neglect Development Vacant Transportation Expansion

Description: This laboratory, known as Building 6, was constructed circa 1942. This building is one story tall and was constructed from a corrugated metal quonset hut placed on a raised continuous concrete block foundation. The building has single pane wood hopper sashes along the side walls. The entrance is sheltered by a wood frame entry porch with a front gable roof. Metal vents are evenly spaced along the apex of the roof.

WUZIT: ..... Administration Bldg.

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	Yes	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Other	*Threats to Resource:*	Demolition Deterioration Neglect Transportation Expansion Development Vacant

Description: The circa 1942 administration building, also known as Building 2, is a one story brick masonry building. The building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are 1/1 and 2/2 wood sashes, which are grouped together in 2s, 3s, or 4s. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line. The original entry porch has been enclosed with plywood and has four 1/1 metal sashes. The building has a central interior brick masonry chimney laid using a common bond. A metal antenna array is located on the roof of the building.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5261**

WUZIT: ..... Quonset Hut

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Poor
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Development Vacant Transportation Expansion Neglect

Description: This laboratory, known as Building 5, was constructed circa 1942. This building is one story tall and was constructed from a corrugated metal quonset hut placed on a raised continuous concrete block foundation. The building has single pane wood hopper sashes along the side walls. The entrance is sheltered by a wood frame entry porch with a front gable roof. Metal vents are evenly spaced along the apex of the roof.

WUZIT: ..... Power Station

Est. Date of Construction:	1942 ca {Written Data}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Open	*Threats to Resource:*	Demolition Deterioration Development Neglect Transportation Expansion Vacant

Description: Building 4, the circa 1942 powerhouse, is located directly to the east of Building 2. This one story brick masonry building rests on a continuous poured concrete foundation. The brick was laid using a seven course common bond. The windows are single pane wood sashes. The flat roof is clad with a built up roofing membrane composed of gravel and tar. A deep soffit constructed of wood is located along the roof line.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement: The IRPL Complex is not associated with any individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential. The buildings were constructed as a part of the Interservice Radio Propagation Laboratory from 1943 through 1954 and as such were used as part of the Laboratory's work which advanced the knowledge and understanding of ionospheric weather patterns and shortwave radio operation during World War II and the immediate postwar era. However, this facility has been adapted to new uses since that time necessitating the construction of additions to both the buildings and complex and alterations of the interior configurations and materials to such an extent, that the complex as a whole is reflects the occupancy of the site by the National Weather Service from the mid-1950s to the mid 1990s. These alterations also led to the removal of any associated laboratory equipment and machinery such as radio antennas, used when the Interservice Radio Propagation Laboratory was conducting its research at this site. Traces of these resources, such as concrete pads, antenna arrays, and portions of testing equipment shelter are still located within the district though the equipment has all been removed. Any proposed district comprised of the IRPL Complex lacks integrity of setting, design, association, materials, and feeling. Thus, any IRPL historic district is not eligible for the National Register under Criterion A, B, C or D.

The IRPL Complex has lost its integrity due to alterations to the resource and its setting. The physical and visual separation of the IRPL Complex from the rest of the original IRPL buildings by a new fence has led to the loss of the resource's integrity of setting, feeling, and association. The conversion of the resource from a research laboratory for the study of ionospheric weather patterns and shortwave radio operation into a weather research center and the removal of equipment associated with the original research use, has also led to the loss of the resource's integrity of workmanship, design, feeling, and association. The resource has maintained its integrity of location and materials.

Bibliographic Documentation

Ownership Information

Name: ..... Unknown Unknown
Company: ..... Metropolitan Washington Airport Authority (MWAA)
City: ..... Dulles
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21427	VDHR	2004/04/08	Frames 9, 10, 12
35mm B&W	21426	VDHR	2004/04/05	Frames 9-16
35mm B&W	22139	VDHR	2004/06/15	Frames 3-24

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5263**

Resource Identification

Property Name(s): ..... Moran House {Historic}
Property Date: ..... ca 1930
Address(s): ..... Beaver Meadow Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4316437/285832
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Local
Acreage: 2.0

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Block
Structural System	Structural System - Masonry	Concrete	Structural System - Block
Roof	Roof - Gable	Asphalt	Roof - Asphalt Shingle
Porch	Porch - 1-story, 2-bay	Wood	Porch - Replacement Supports
Windows	Windows - Sash	Wood	Windows - 3/1
Chimneys	Chimneys - Exterior end	Brick	Chimneys - Common Bond

Site Description: ..... The Moran House is located approximately ½ mile north of the intersection of Beaver Meadow Road and a dirt access road, to the northwest of the Dulles Airport Sewage Disposal Facility within the fenced Dulles property. The surrounding area is a mixture of abandoned residential, cleared fields, wooded areas, and airport uses. The property contains approximately 2 acres of land and is located at the end of the dirt access road.

WUZIT Count:

No.	Wuzit Types	Historic?
1	House	Historic
1	Milk House	Historic

NR Resource Count:

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5263**

Individual Resource Information

WUZIT: ..... Milk House

Est. Date of Construction:	1930 ca {Site Visit}	*Accessed?*	No Not accessible
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Neglect Vacant Transportation Expansion

Description: The milk house is a one story concrete block masonry building which rests on a continuous concrete masonry unit foundation. The building is clad with asphalt shingles in the gable ends. The windows are 6-pane wood hopper sashes. The side gable roof is clad with asphalt shingles. The door has been moved to the side wall and the original entry has been closed up.

WUZIT: ..... House

Est. Date of Construction:	1930 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	Yes	*Number of Stories:*	1.0
Architectural Style:	Other	*Condition:*	Fair
Interior Plan Type:	Hall Parlor	*Threats to Resource:*	Deterioration Development Neglect Transportation Expansion Vacant

Description: The circa 1930 residence is a one-story concrete block masonry building. The building rests on a continuous concrete masonry unit foundation. The windows are 3/1 wood sashes. The cross gable roof is clad with asphalt shingles. The shed roof front porch has two square wood posts which are replacements for the original porch supports. A large side entrance addition has been demolished within the last few years. The building has an exterior end gable brick chimney laid using a common bond.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Domestic
Subsistence/Agriculture

Historic Time Period(s):..... Q- World War I to World War II (1914-1945)

Significance Statement: This resource was identified as the Moran House in a 1995 Metropolitan Washington Airport Authority report. The Moran House was moved to this site in the late 1950s by the Moran family. The family continued to live on the property, constructing two nearby houses circa 1970 (Holmes 1995).

This house is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential.

The resource has lost its integrity due to alterations to the resource and its setting. The house was moved to this location from elsewhere on the Dulles property in the 1950s. The house had originally been part of the community of Willard before being sold by MWAA. Though the home's exact original location within Willard is unknown, the resource was most likely located on a small residential lot located alongside a roadway. The moving of the resource to this location has led to the loss of the resource's integrity of location, design, setting, and feeling as the resource is now located in a rural area at the end of a long access road. The building is no longer associated with the community of Willard and has been removed from its rural community context. The conversion of the resource from a residence into a storage facility has also had an adverse effect on the property's integrity of association. This action has damaged the property's associations with the residential development of the project area. The building's conversion into a storage facility has led to the removal of interior elements, such as kitchen equipment, commonly associated with residential occupation. The property has maintained its integrity of workmanship and materials.

Bibliographic Documentation

Reference #: 1
Bibliographic RecordType: ..... Report
Author: ..... Holmes Katherine
Citation Abbreviation: ..... Holmes 1995
Notes: ..... Historic Resources on the Dulles Airport Property. N.p., 1995.

Ownership Information

Name: ..... Unknown Unknown
Company: ..... Metropolitain Washington Airports Authority (MWAA)
City: ..... Dulles
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21425	VDHR	2004/04/05	Frames 24-27

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5264**

Resource Identification

Property Name(s): ..... McCulloch Farm Ruins {Historic}
Property Date: ..... ca 1850
Address(s): ..... Beaver Meadow Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4316295/285954
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Local
Acreage: 2.0

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Stone	Chimneys - Uncoursed Ashlar

Site Description: ..... The McCulloch Farm Ruins are located approximately ¼ mile north of the intersection of Beaver Meadow Road and a dirt access road, to the east of the dirt access road, and to the northwest of the Dulles Airport Sewage Disposal Facility within the fenced Dulles property. The surrounding area is a mixture of abandoned residential, wooded areas, and airport uses. The property contains approximately 2 acres of land and is located off of the access road. The resource itself is overgrown with trees, vines, and bushes.

The McCulloch Farm Ruins contain the remains of ten buildings: a house, a smokehouse, a pump house, three outbuildings, a drive-thru corncrib, two barns, and a hog house. The buildings are arranged in a linear plan along the access road. The property is in ruins with the buildings in various stages of decay.

WUZIT Count:

No.	Wuzit Types	Historic?
1	House	Historic
1	Smoke/Meat House	Historic
1	Pump House	Historic
3	Outbuilding	Historic
1	Corncrib	Historic
2	Barn	Historic
1	Animal Shelter	Historic

NR Resource Count:

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5264**

Individual Resource Information

WUZIT: ..... Animal Shelter

Est. Date of Construction:	1920 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Erosion Demolition other Vacant Transportation Expansion

Description: To the east of the barns is the one story wood frame hog house. This timber frame building rests on concrete masonry unit piers. The building is clad with vertical boards and has a shed roof clad with standing seam metal. A fenced in yard is located directly to the rear of the building.

WUZIT: ..... Barn

Est. Date of Construction:	1900 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Neglect Structural Failure other Demolition Erosion Vacant Transportation Expansion

Description: The second barn is directly adjacent to the foundation of the first and is a one story timber frame structure. The building rests on a stone ashlar masonry foundation. The building is clad with a combination of corrugated metal and vertical boards and has a front gable roof clad with standing seam metal.

WUZIT: ..... Barn

Est. Date of Construction:	1850 ca {Site Visit}	*Accessed?*	
Primary Resource?	No	*Number of Stories:*	0.0
Interior Plan Type:		*Threats to Resource:*	Deterioration Development Neglect Transportation Expansion other Erosion Vacant Structural Failure Demolition

Description: The first barn has been completely destroyed with only the stone ashlar masonry foundation and wood plank floor remaining visible. There is no evidence of the plan type, construction techniques, or materials used in the construction of this barn.

WUZIT: ..... Outbuilding

Est. Date of Construction:	1900 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	2.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Neglect Vacant Erosion Transportation Expansion Structural Failure other Demolition

Description: To the east of the drive-thru corncrib is a two story timber frame outbuilding whose original use is unknown. This building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a gable roof clad with standing seam metal. The building appears to have been constructed in two parts, with the southern section constructed first. The first floor has two rooms, a dirt floor, low ceiling, and a combination of doors and small sliding wood panels. The second floor is accessed via a wood stair. The second floor has two rooms, a built in closet and bench, and window openings. A doorway on the second level above the stair opens out into the farmyard, but there is no evidence of an exterior stair or balcony.

WUZIT: ..... Corncrib

Est. Date of Construction:	1900 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Neglect Vacant Transportation Expansion Structural Failure Erosion Demolition other

Description: To the north of two of the outbuildings is the drive-thru corncrib. This timber frame building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a side gable roof clad with standing seam metal.

WUZIT: ..... Outbuilding

Est. Date of Construction:	1900 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Transportation Expansion Neglect Vacant other Demolition Erosion

Description: The one-story timber frame outbuilding's original use is unknown. The building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a side gable roof clad with standing seam metal.

WUZIT: ..... Outbuilding

Est. Date of Construction:	1900 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Transportation Expansion Erosion Demolition other Vacant

Description: The one-story timber frame outbuilding's original use is unknown. The building rests on concrete masonry unit piers which are replacements for the original piers. The building was originally clad with vertical boards and has a side gable roof clad with standing seam metal.

WUZIT: ..... Pump House

Est. Date of Construction:	1850 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Vacant other Demolition Erosion Transportation Expansion

Description: The pump house is a one story timber frame structure with a front gable roof. The building rests on a continuous poured concrete foundation. The building was originally clad with vertical boards and has corrugated metal on the roof. The interior of the building contains a brick lined well with a wood cover. Later modifications to the well allowed for the installation of a pump which carried water from the well out though the building into a concrete trough in the farmyard.

WUZIT: ..... Smoke/Meat House

Est. Date of Construction:	1850 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Ruinous
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Erosion Demolition other Vacant Transportation Expansion

Description: The smokehouse is also a one story timber frame structure with a front gable roof. The building rests on a continuous poured concrete foundation which is a replacement for the original foundation. The building was originally clad with vertical boards and had standing seam metal on the roof. The interior of the building contains railroad ties driven into the supporting members and the rafters for meat hooks.

WUZIT: ..... House

Est. Date of Construction:	1850 ca {Site Visit}	*Accessed?*	
Primary Resource?	Yes	*Number of Stories:*	0.0
Interior Plan Type:		*Threats to Resource:*	Deterioration Development Neglect Structural Failure Transportation Expansion Vacant Erosion other Demolition

Description: The house was demolished in the 1950s as a part of the construction of Dulles Airport (Holmes 1995). The stone ashlar masonry foundation and cellar remain visible at the southern end of the site. There is no evidence of the architectural style, plan type, construction techniques, or materials used in the construction of the house.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Domestic
Subsistence/Agriculture

Historic Time Period(s):..... Q- World War I to World War II (1914-1945)
N- Antebellum Period (1830 to 1860)

Significance Statement: This site was identified as the location of the McCullough Farm in a 1995 Metropolitan Washington Airport Authority report (Holmes 1995). This ruin is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. The house and one barn are completely in ruins with only the foundations remaining. All eight of the remaining buildings have some degree of structural failure of the roof and walls. The wood building elements are decaying and the metal building elements are rusted. The original specific building uses on this site are often unclear, due to the high level of deterioration. The deterioration of all ten buildings has led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

Bibliographic Documentation

Reference #: 1
Bibliographic RecordType: ..... Report
Author: ..... Holmes Katherine
Citation Abbreviation: ..... Holmes 1995
Notes: ..... Historic Resources on the Dulles Airport Property. N.p., 1995.

Ownership Information

Name: ..... Unknown Unknown
Company: ..... Metropolitain Washington Airports Authority (MWAA)
City: ..... Dulles
Zip: ..... 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21425	VDHR	2004/04/05	Frames 28-37
35mm B&W	21426	VDHR	2004/04/05	Frames 1-7

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: ..... Section 106 Survey
Date: 2004/07/31
Organization or Person: ..... URS Corporation
VDHR Project ID # Associated with Event: .. 1990-0460
CRM Event Notes or Comments: ..... Dulles International Airport Proposed Runway Expansion

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5266**

Resource Identification

Property Name(s): ..... House at 44210 Beaver Meadow Road Ruins {Address-Current}
Property Date: ..... ca 1960
Address(s): ..... 44210 Beaver Meadow Road {Current}
County/Independent City: Loudoun
Vicinity of: ..... Sterling
State, Zip: .....Virginia 20166
USGS Quad Name: ..... HERNDON
UTM Coordinates: 18/4315962/285796
Surrounding area: ..... Suburban
Restricted location data?. No

National Register Eligibility Status
Property is not Historic (50 years or older)

Resource Description

Ownership Status: ..... Public - Local
Acreage: 2.0

Primary Resource Exterior Componant Description:

Component	Comp Type/Form	Material	Material Treatment
Foundation	Foundation - Raised	Concrete	Foundation - Block
Chimneys	Chimneys - Central interior	Brick	
Chimneys	Chimneys - Exterior end	Brick	

Site Description: ..... This ruin is located at 44210 Beaver Meadow Road, east of State Route 606, and within the fenced Dulles boundary. The surrounding area is a mixture of abandoned residential, cleared fields, wooded areas, and airport uses. The property contains approximately 2 acres of land.

The House Ruin at 44210 Beaver Meadow consists of the remains of four buildings: a house, a garage, and two sheds. The house is in ruins with the remaining three buildings abandoned.

WUZIT Count:

No.	Wuzit Types	Historic?
1	House	Historic
1	Garage	Historic
2	Shed	Non-historic

NR Resource Count:

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5266**

Individual Resource Information

WUZIT: ..... Shed

Est. Date of Construction:	1980 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Transportation Expansion Erosion Demolition other Vacant

Description: Shed #2 is a one story wood frame structure which rests on a poured concrete slab. The exterior is clad with vertical boards. The side gable roof is clad with asphalt shingles.

WUZIT: ..... Shed

Est. Date of Construction:	1980 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Vacant other Demolition Erosion Transportation Expansion

Description: Shed #1 is a one story wood frame structure which rests on a poured concrete slab. The exterior is clad with vertical boards. The side gable roof is clad with asphalt shingles.

WUZIT: ..... Garage

Est. Date of Construction:	1960 ca {Site Visit}	*Accessed?*	Yes
Primary Resource?	No	*Number of Stories:*	1.0
Architectural Style:	No Style Listed	*Condition:*	Fair
Interior Plan Type:	Undivided Space (non-domestic)	*Threats to Resource:*	Deterioration Development Structural Failure Neglect Erosion Demolition other Vacant Transportation Expansion

Description: The garage is a one story masonry structure constructed of concrete block. The building rests on a poured concrete slab. The exterior is clad with vertical wood boards in the gable ends. The windows are two pane horizontal metal sashes. The side gable roof is clad with asphalt shingles.

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5266**

WUZIT: ..... House

Est. Date of Construction: .... 1960 ca {Site Visit}

Primary Resource? ..... Yes

Interior Plan Type: .....

Accessed? ..... Yes

Number of Stories: 0.0

Threats to Resource: ..... Deterioration
Development
Neglect
Structural Failure
Transportation Expansion
Vacant
Erosion
other
Demolition

Description: The house was demolished at an unknown date. The concrete masonry unit foundation and cellar remain visible. The building was of frame construction and was clad with brick veneer. The building had a central interior brick masonry chimney and an exterior end wall brick masonry chimney. There is no evidence of the architectural style, plan type, window types, roof form, or roof cladding materials used in the construction of the house.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): ..... Domestic

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Significance Statement: This ruin is not eligible for listing in the National Register under Criterion A, B, C, or D. It is not associated with any event or individual significant at the local, state, or national level; it does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; nor does the property have any archaeological potential.

The resource has had a complete loss of integrity due to extensive deterioration to the resource and its setting. The house, which is the primary resource, is completely in ruins with only the foundation and the chimneys remaining. The deterioration of the house has led to the resource's loss of integrity of design, materials and workmanship. The three outbuildings are in fair condition, but without the primary resource remaining intact, the resource as a whole has no integrity of setting, feeling, or association. The property has maintained its integrity of location.

Bibliographic Documentation

Ownership Information

Name: ..... Unknown Unknown

Company: ..... Metropolitain Washington Airports Authority (MWAA)

City: ..... Dulles

Zip: ..... 20166 *State:* Virginia *Country:* USA

Relation to the Property: Owner of property

Department of Historic Resources
Reconnaissance Level Survey

Loudoun ***DHR Id#:*** **053-5266**

Graphic Media Documentation

Medium	*Depository ID #*	*Photo Depository*	*Date*	*File Name*
35mm B&W	21425	VDHR	2004/04/05	Frames 13-20

Cultural Resource Management (CRM) Events

CRM Event # 1,

Cultural Resource Management Event:	Section 106 Survey
Date:	2004/07/31
Organization or Person:	URS Corporation
VDHR Project ID # Associated with Event: ..	1990-0460
CRM Event Notes or Comments:	Dulles International Airport Proposed Runway Expansion

Appendix D
Resumes of Key Project Members

AREAS OF EXPERTISE

- Historic Preservation
- Cultural Resource Management

EDUCATION

Columbia University Graduate School of Architecture and Planning: M.S., Historic Preservation, 1976

Lafayette College: B.A., History, 1974

Integrating Section 106 and the National Environmental Policy Act

The CSPA Policy Development and Planning Process

Negotiation Strategies for Preservationists Workshop

Victorian Society in America Summer School

The Historic Houses of England

PROFESSIONAL HISTORY

URS Corporation, National Capital Area Cultural Resources Practice Leader, 2004-present

URS Corporation, National Capital Area Cultural Resources Group Manager, 1999-2004

DC Preservation League, Executive Director, January-March, 1999

Georgia Historic Preservation Division,

REPRESENTATIVE EXPERIENCE

Mr. Edwards has over 28 years of experience in historic and architectural studies as well as historic preservation and environmental compliance procedures. His experience includes historic building analyses and interpretation; National Historic Preservation Act (NHPA) Section 106 and Section 110 regulatory compliance; historic preservation analyses under the National Environmental Policy Act (NEPA); programmatic involvement in major historic building restoration programs; direction of preservation planning and emergency response programs and projects at the federal, state, or local level; formulation of tailored stewardship programs for historic property facility managers; direction of consensus-building interdisciplinary teams to design appropriate historic resource protection programs; development of heritage tourism strategies; direction of economic benefits, historic preservation, and economic development studies; and formulation of policies and procedures for preservation activities eligible under TEA-21 enhancement program funding.

Project Manager, Development of FEMA Alternate Section 106 Procedures. Currently serving as Project Manager for a nationwide initiative by FEMA to develop Alternate Procedures to implement Section 106 of the National Historic Preservation Act. This effort, which will take place from 2004-2005, will involve extensive public outreach and involvement, numerous meetings with public interest groups, and coordination with FEMA and the Advisory Council on Historic Preservation. Other than the U.S. Army, FEMA represents only the second Federal agency that has attempted development of these procedures under 36 CFR Part 800 "Protection of Historic Properties" regulations.

Project Manager, FEMA Alternate Section 106 Procedures Study. Served as Project Manager for a nationwide study to evaluate the potential for the development of Alternate Procedures, and/or counterpart regulations by the Federal Emergency Management Agency (FEMA), to substitute for the current Section 106 compliance process. This study involved extensive survey of FEMA personnel, an evaluation of the Department of the Army's recently approved Alternate Procedures, and development of a report summarizing the need and options for future action. Project was competed in February 2003.

Project Manager, Section 106 Consultation and

Georgia State Historic Preservation Officer and Division Director, 1994-1998

Maryland Historical Trust (Maryland SHPO office), Deputy SHPO and Deputy Director, 1976-1994

PROFESSIONAL CERTIFICATION

36 CFR 61 (Architectural History and History)

AFFILIATIONS

Transportation Research Board, Historic and Archaeological Preservation in Transportation Committee (ADC 50)

Association for Preservation Technology

Georgia Trust for Historic Preservation

National Trust for Historic Preservation

Preservation Alumni of Columbia University

Society of Architectural Historians

Society for Industrial Archaeology

Vernacular Architectural Forum

Member, Board of Directors, National Conference of State Historic Preservation Officers, 1997 – 1998 and 1988 - 1990.

Member, Commission on the

Memorandum of Agreement for the Board of Governors of the Federal Reserve System, Proposed Perimeter Security System. Served as Project Manager and coordinated historic preservation consultation and integration of historic property identification, evaluation, and effects data into project Environmental Assessment prepared under the National Environmental Policy Act. Work involved making presentations on the project to the District of Columbia State Historic Preservation Office and the National Capital Planning Commission, culminating in the development and execution of a Memorandum of Agreement that stipulated the steps the Federal Reserve System would take to mitigate the project's adverse effects on the historic Eccles Building and other nearby historic resources. This project took place between March 2003 and February 2004.

Project Manager, "Evaluating Cultural Resource Significance – Implementation Tools." Currently managing second phase of National Cooperative Highway Research Program/Transportation Research Board project that developed two prototype Information Technology (IT) tools to improve evaluation of historic property significance. This $220,000 project has created two tools, called the "Electronic Cultural Resource Evaluation Library" (ECREL) and the "Historic Property Screening Tool" (HPST), which have been nationally evaluated by representatives of State Historic Preservation Offices and state Department of Transportation cultural resource management (CRM) professionals. The IT models and final report will be completed in September 2004.

Project Manager, Cultural Resources Component of Draft Environmental Impact Statement (EIS), New Runways and Terminal Facilities Project, Dulles Airport, Sterling, Virginia. Currently managing interdisciplinary CRM team involved in identifying historic properties, determining National Register eligibility, and assessing project effects at this highly significant late-1950s-early1960s airport designed by Finnish architect Eero Sarrinen. Work involves coordination with the Federal Aviation Administration and the Metropolitan Washington Airports Authority, and participation in extensive public meetings. Data will be integrated into the Draft EIS for this project. Work for this study was initiated in 2003, and will continue through 2006.

Project Manager, Loudoun County, Virginia Historic Resources Survey. URS was retained by the Loudoun County Department of Planning to undertake a reconnaissance-level survey of 750 post-Civil War historic buildings and structures

Preservation of the Georgia State Capitol, 1994 - 1998.

Member, Rhodes Hall Board of Governors, 1996 - 1998.

Member, Save Our Sculpture! Professionals Advisory Group, 1992 – 1994.

throughout this fast-developing county outside of Washington, DC. In addition to producing inventory forms for the surveyed properties, work also included photography of all resources, preparation of computerized site files according to the State of Virginia's Data Sharing System (DSS) guidelines, and the development of a broad historic context from the 18th century to the mid-1950s for future evaluation of significance of these surveyed properties. An evaluation of survey work previously conducted in the county was also prepared. The results of this survey work are currently being integrated into the County's updated historic preservation plan. Work on this project took place between March and October 2003.

Project Manager, Talbot County, Maryland 20th Century Agricultural and Historic Context Project. Served as Project Manager for this project which developed the first 20th century historic context for 20th century agriculture for this Eastern Shore Maryland county. This effort utilized extensive national agricultural records from the Library of Congress and the National Archives, as well as local repositories, and developed detailed information on a wide range of historic property types associated with this context. A written and photographic survey of 15 representative historic properties was also completed. This project, which was undertaken from 2003 to 2004, was recognized for excellence by the Historical Society of Talbot County with a 2004 Heritage Award.

Historic Preservation Specialist and Project Manager, Unified Communications Center Project, Washington, D.C. Beginning in the summer of 2001 through the present, served as Historic Preservation Specialist for the proposed Unified Communications Center (UCC) Project in Washington, D.C. Managed production of archaeological assessment report, and provided Section 106 assistance to the District of Columbia Office of the Chief Technology Officer. Drafted a project Memorandum of Agreement that served as legal tool to document how project adverse effects would be mitigated, and managed Historic American Buildings Survey (HABS) documentation of four 19th century cottages on the project site (part of St. Elizabeths Hospital campus).

Project Manager, Times Square Station Complex Historic Structure Report/Historic Resource Survey. URS was retained by MTA- New York City Transit to produce a combination Historic Structure Report/Historic Resource Survey for this New York city complex, one of the nation's busiest transit centers, dating from 1904-1933. Work involved managing interdisciplinary teams of architects and

architectural historians who documented historic design elements within the complex. Work also included an evaluation of the effects of a $150 million rehabilitation project on the station, with recommendations on both design solutions and mitigation alternatives. A draft project Memorandum of Agreement was also written. Work on this project took place from May through June 2002.

Project Manager, *Looking to the Future: Reducing Flood-Related Damage to Historic Communities – Milton, Pennsylvania*. Served as Project Manager for study that developed a new, community-based decision model that better balances the preservation of historic resources with local hazard mitigation planning. This effort, which involved staff of the Federal Emergency Management Agency (FEMA), the Pennsylvania Emergency Management Agency (PEMA), the Pennsylvania Historical and Museum Commission (PHMC), and the Borough of Milton, developed a new approach to pre-disaster planning in historic communities. This approach was designed to be implemented in many other similar communities within Pennsylvania, and perhaps nationally. This project may now be found on FEMA's Internet web page as a "preservation success story." Project work took place between June 2001 and June 2002.

Co-Principal Investigator and Co-Author, "Review and Improvement of Existing Processes and Procedures for Evaluating Cultural Resource Significance." Served as one of five Co-Principal Investigators for this study, which was undertaken for the National Cooperative Highway Research Program/Transportation Research Board. This project resulted in nationwide assessment of the use of Information Technology in historic property significance evaluations, with recommendations on how the current practice might be improved. Mr. Edwards was responsible for undertaking nationwide literature review of processes and systems now used by federal, state, local, and non-governmental entities involved in historic property identification, evaluation, and preservation planning, and served as principal author of this section of the project final report. Work on this project was conducted during December 2000 – December 2001.

Cultural Resource Task Manager, Woodrow Wilson Bridge Improvement Project, Virginia/Maryland/D.C. Continue to manage a variety of cultural resource tasks associated with this $2 billion bridge replacement, which carries I-95 through Maryland and Virginia. Works tasks involved historic architectural identification, National Register

evaluation and documentation, and coordination of historic research activities on two c. 1940 garden apartment complexes and World War I shipbuilding site. Work also included extensive interaction with project teams, including the Environmental Management Group and Design Review Working Group, and significant coordination on Section 106 and 4(f) issues with Virginia, Maryland, and D.C. SHPO offices and the National Park Service. Also coordinated and wrote sections of cultural resource portions of 1999 Draft Supplemental Environmental Impact Statement for project. (Work conducted for Federal Highway Administration.)

Historic Preservation Specialist, Historic Chiswell Farm Assessment and Development Options Study, Montgomery County, Maryland. Served as principal Historic Preservation Specialist with a team of other landscape architects and historic architects evaluating the historic Chiswell Farm, on behalf of the Montgomery County Department of Public Works and Transportation, Division of Solid Waste Services. Work involved preparation of cultural resource assessment, site and building assessment, development of range of options for adaptive reuse and rehabilitation, and recommendations for future use. Project was initiated in 2000 and completed in January 2001.

Historic Preservation/Archaeological Interpretation Specialist, Portland Wharf Urban Archaeological Park Master Plan, Louisville, Kentucky. As part of an interdisciplinary team assembled by Rhodeside & Harwell of Alexandria, Virginia in 2000, provided archaeological and assessment services in support of a new master plan for a proposed urban archaeological park in Louisville. With other URS archaeologists, Mr. Edwards managed a thorough background research effort focusing on previous archaeological investigations throughout the region, in Louisville, and at the Portland Wharf site. Work involved coordination with local and regional archaeological groups, including the University of Louisville and the Kentucky Archaeological Survey, and extensive research at local and regional historical repositories, including the Kentucky Historical Commission (State Historic Preservation Office), and participation in the Master Plan charrette/public participation process. Based on this information, a predictive model of prehistoric and historic site occurrence with associated mapping was developed, and recommendations made on how the Portland Wharf site might be archaeologically investigated over time. Another major

product included a thorough discussion of themes, options, and examples for future public programming at the Portland Wharf site, using information for similar parks throughout the United States and in Europe.

Historic Preservation Specialist, Food and Drug Administration Consolidation Project, White Oak, Maryland. Retained by the General Services Administration to obtain successful historic preservation review under 36 CFR Part 800 by the Advisory Council on Historic Preservation and the Maryland Historical Trust. Work involved extensive coordination among FDA, GSA, historic preservation organizations, and numerous citizen groups. Developed Memorandum of Agreement to allow $600 million project to proceed.

Project Manager, Measured Drawing Recordation Project, Garrett County, Maryland. Managed project to complete measured drawings of six early-20th century buildings associated with the historic coal mining industry in Western Maryland, under terms of Memorandum of Agreement for Hazard Mitigation Grant project using Federal Emergency Grant Program funding.

Project Manager, Preservation Assistance to Three Virginia Counties. Managed project to bring closure to historic preservation regulatory review for three Federal Emergency Management Agency (FEMA) projects in Bridgewater, Port Republic, and South Boston utilizing Hazard Mitigation Grant Program funding. Work involved extensive coordination with FEMA Region III, the Virginia Department of Emergency Services, and local governments and businesses within a three county area. This project developed three Memoranda of Agreements for these projects, which were successfully accepted by the Virginia SHPO office.

Task Manager, Supplemental Historic American Engineering Record Photographic, Written, and Architectural Documentation for the C&P Ore Docks (Hulett Ore Unloaders), Cleveland, Ohio. Managed project to develop additional photographic, narrative, and measured drawing documentation for the Hulett Ore Unloaders, as required by the Cleveland Landmarks Commission. Worked with Project Historian to develop 60-page narrative and 35 additional historic photographs, and with Project Photographer to produce 30 new black and white large format photographs for site. Project also involved coordination with Hardlines Design Company on preparation of seven interpretive

measured drawings for Hulett Ore Unloaders.

Project Manager, Minnesota Farmstead Study. As subconsultant for BRW, Inc., performed as Project Manager for project focusing on Minnesota's agricultural heritage. Work involved development of agricultural historic contexts for 30-county area in state, development of specific criteria for National Register eligibility of resource types, and survey of representative farmsteads.

Instructor, "Advanced Methods of FEMA's Historic Preservation Program" (Course E265), Federal Emergency Management Agency. Served as one of three principal staff who developed the content and outline for this advanced level Section 106 course offered by FEMA at its Emmitsburg, Maryland training campus. Served as one of five principal instructors at pilot course offering (summer 2001) and first course offering (spring 2002). Topics presented included: other historic preservation laws and presidential executive orders, Tribal consultation, identification and evaluation of historic properties, assessing adverse effects, resolving adverse effects, and preparing effective scopes of work. Also functioned as a facilitator for all group exercises.

Instructor, "Coordinating Historic and Environmental Compliance," Federal Emergency Management Agency. Developed and presented two hour-long modules for 5-day basic level Section 106 course presented by FEMA at its Emmitsburg, Maryland training campus, annually from 1999-2001. Topics included identification of historic properties, assessing project effects, internal FEMA project coordination, and using standard and customized mitigation actions under both the FEMA state-by-state model Programmatic Agreement, and project MOAs. Work also involved preparation of major "case study" for course, and acting as facilitator at certain training session modules.

Cultural Resource Specialist, U.S. Coast Guard Base San Juan Improvement Project, San Juan, Puerto Rico. Assisted the Coast Guard in negotiating changes to 1998 Programmatic Agreement for Base San Juan to allow demolition of two historic buildings to clear area for construction of new Vessel and Electronics Support Building. Work also involved coordination with Project Archaeologists on Phase II and III identification and evaluation of archaeological sites on the base. This work also involved cataloguing and curating over 50,000 artifacts generated through multiple phases of project fieldwork.

Historic Preservation Specialist, U.S. Coast Guard Vessel Documentation Project. Worked with Project Architectural Historian and provided assistance in development of narrative and photographic documentation for a series of National Register-eligible World War II vessels, the 180-foot Seagoing Buoy Tender Class. This project also involved the development of a Programmatic Agreement and a series of state-by-state Memoranda of Agreement for mitigating project adverse effects, and writing cultural resource sections for Environmental Impact Statement. Significant work also focused on identification of, and coordination with, maritime-related organizations across the country to help meet project public participation requirements.

State Representative, Renovation of the Georgia State Capitol, Atlanta, Georgia. As the official representative of the Georgia State Historic Preservation Office, Mr. Edwards provided professional input and oversight to the $26 million renovation of the Georgia State Capitol in Atlanta, Georgia. This effort was guided through a legislatively-created Committee on the Preservation of the Capitol, on which he served as an active member. Mr. Edwards' responsibilities with this project spanned four years and included significant on-site interaction with project architects, building managers (the Georgia Building Authority), historic preservation (paint and plaster) specialists, structural engineers, and lighting experts. His work played an important role in guiding overall programmatic decisions on treatment philosophy, spatial use, materials selection, and lighting (both new fixtures and creation of replicated historic fixtures). He chaired two special technical subcommittees, entitled Preservation Review and Museum Development.

State Representative, Rhodes Hall, Atlanta, Georgia. Served as the official state historic preservation representative on the Rhodes Hall Board of Governors from 1994 to 1998. This property, one of the last early 20th century stone mansions left along Peachtree Street in Atlanta, was donated to the State of Georgia in the 1930s. In late 1997, it was administratively transferred from the Secretary of State's Office and is now managed by the Georgia Department of Natural Resources. The Georgia Trust for Historic Preservation now leases this building as its headquarters. In 1994, a special legislatively-created Rhodes Hall Study Committee - on which Mr. Edwards served - examined the building to determine its overall renovation needs. Mr. Edwards managed a series of annual contracts with the Georgia Trust, through which over

$1 million in state funds were provided to address a series of exterior and interior deferred maintenance issues. As with his work with the Georgia State Capitol, his work involved programmatic project oversight, direct involvement in treatment decisions, and work with project architects and preservation specialists (historic structure report preparers, archaeologists, landscape architects, etc.).

Program Developer, State Agency Historic Property Stewardship Program for the State of Georgia. Developed a major State Agency Historic Property Stewardship Program for the State of Georgia. Based on a recommendation of the 1997 Joint Study Committee on Historic Preservation, Mr. Edwards drafted and obtained passage of a new State law that requires State agencies to develop comprehensive property plans and management systems. This legislation resulted in the development of a new State preservation program and associated treatment standards and guidelines. This is viewed by many as a major preservation milestone in Georgia, and should lead to improved protection and management of the State's historic and archaeological resources.

Executive Director, DC Preservation League (January-March 1999). As Executive Director of the oldest city-wide historic preservation organization in the nation's capital, Mr. Edwards formulated policy, developed programs, interfaced with 20-member Board of Trustees, supervised four professional staff members, created and managed the annual operating budget, and coordinated work of eight major Board committees (full Board, Executive Committee, Development, Membership, Government Affairs, Events, Education, etc.). Recruited through a nationwide search to significantly increase operating capacity of this preservation advocacy and education organization.

State Historic Preservation Officer and Director, Historic Preservation Division, Georgia Department of Natural Resources (1994-1998). Directed all professional planning, management and administrative activities and programs for historic preservation in Georgia, including federal historic preservation activities delegated to the state under provisions of the National Historic Preservation Act of 1966, as amended, and historic preservation responsibilities specified under Georgia law. Functioned as Director of the Historic Preservation Division, one of seven major administrative units of Georgia Department of Natural Resources, and managed day-to-day activities of 36 permanent (plus four contract) professional, technical, and support staff. Served as official

SHPO office liaison to a variety of organizations, including the Georgia Civil War Commission, the Georgia Council on American Indian Concerns, the Commission on the Preservation of the State Capitol, Chairman of the Georgia Transportation Enhancement Activity Program Advisory Committee, and the Rhodes Hall Study Committee. Also served on the Department of Natural Resources River Care 2000 Acquisition and Tools for Management Committees, Board of Directors of the Georgia Trust for Historic Preservation, Rhodes Hall Board of Governors, and the Georgia "Buildings of the United States" Publication Advisory Committee.

Chief Programs Administrator / Deputy State Historic Preservation Officer, Maryland Historical Trust / Deputy Director, Division of Historical and Cultural Programs, Department of Housing and Community Development (1988-1994). Directed all professional planning, management and administrative activities and programs for historic preservation in Maryland, including federal historic preservation responsibilities delegated to the state, and state preservation responsibilities. Functioned as Chief Programs Administrator office-wide, and Deputy State Historic Preservation Officer in directing the day-to-day activities of 42 permanent (plus 10-20 seasonal contract) professional, technical, and support staff of the Maryland Historical Trust. Also appointed as Deputy Director, Division of Historical and Cultural Programs within the Department of Historical and Cultural Programs to coordinate the reorganization and activities of four units (Maryland Historical Trust, Commission on Indian Affairs, Commission on African American History and Culture, and the Historic St. Mary's City Commission) within the Division, consisting of 100 permanent (plus 20 contract and 40 seasonal) employees.

Deputy Director/Deputy State Historic Preservation Officer and Chief, Office of Management and Planning, Maryland Historical Trust (1986 -1988). Mr. Edward's two most import accomplishments were:

- **The Maryland Comprehensive Historic Preservation Plan.** This update of Maryland's written planning process document established long term historic preservation goals and strategies, while analyzing needs and opportunities in the following program areas: resource identification (survey), resource evaluation (National Register), resource protection (federal and state environmental review programs, easement

program, work with local historic district/preservation commissions.resource enhancement (federal historic rehabilitation tax credit review, state income tax deduction program review, State Capital Grant Fund and Revolving Loan Fund programs), educational programs (public outreach activities, coordination of volunteer efforts, publications, etc.).

- **State Program and Procedures to Implement the "Certified Local Government" Program in Maryland** (provides means for local governments to join federal-state preservation program). Provided technical assistance to jurisdictions on CLG program, and how to best meet state requirements. Evaluated CLG applications from local jurisdictions to determine whether federal and state regulations/guidelines have been met. With Office of Survey and Registration Staff and Grants Coordinator, determined whether annual CLG grant-in-aid applications could be funded, established state preservation goals and objectives were met. Evaluated performance of governments to determine qualifications to continue in CLG program. Solicited applications from approximately 260 Maryland jurisdictions to join program.

Administrator, Survey and Planning Services Division and Deputy State Historic Preservation Officer, Maryland Historical Trust (1982-1986).

Historic Sites Survey Coordinator, Maryland Historical Trust (1976-1982). During his 6.5 years as an Historic Sites Survey Coordinator, Mr. Edwards developed the first comprehensive historic building and archeological survey program for State Historic Preservation Office. Advised local governments on survey issues and needs. Formulated, negotiated and supervised all contracts for resource surveys. Coordinated publication of inventory volumes, maps and related publications. Supervised production of historic structure reports for office.

PUBLICATIONS

With Terry Klein et. al., Review and Improvement of Existing Processes and Procedures for Evaluating Cultural Resource Significance, report prepared by URS Corporation for the National Cooperative Highway Research Program, 2002.

The Future of Georgia's State Historic Preservation Program: A Personal Perspective, *Georgia Historical Quarterly*, (Spring, 1999), pp 126-129.

Using Computerized Visual Simulations as a Historic

Preservation Strategy - A Case Study from Columbus, Georgia, *CRM*, Volume 21, Number 5 (May/June, 1998), pp. 5-8.

Protecting the Public Landscape of a National Historic Landmark - A Look at the Work of the Preserving St. Mary's Townlands Study Committee, *Historic Preservation Forum*, Volume 5, Number 4 (July/August, 1991), pp. 16-28.

Ware, Donna, *Green Glades and Sooty Gob Piles: The Maryland Coal Region's Industrial and Architectural Past*, contributor (Annapolis: Maryland Historical and Cultural Publications, 1991).

Historic Preservation in Maryland: Highlights of the State Historic Preservation Office's Efforts Protect our Built and Natural Heritage, *Proceedings of the May 24, 1986 Conference on Rural Preservation in Pennsylvania*, (published by The French and Pickering Creeks Conservation Trust, Inc., and The Agricultural Law Committee of the Pennsylvania Bar Association, 1989), pp. 139-148.

With Peggy Bruns Weissman, Maryland Historical Trust Develops Comprehensive Historic Preservation Plan, *Maryland Chapter, American Planning Association Newsletter* (Vol. 1, No. 7, January, 1985), pp. 3-4.

With Dr. Herman J. Heikkenen, The Key-Year Dendrochronology Technique and its Application in Dating Historic Structures in Maryland, *Association for Preservation Technology Bulletin* (Vol. XV, No. 3, 1983), pp. 2-25.

With Dr. Herman J. Heikkenen, The Years of Construction and Alteration of Two Buildings, as Derived from the Key-Year Dendrochronological Technique, *Construction of Wooden Monuments: Proceedings of ICOMOS Wood Committee IV International Symposium Canada 1982* (Ottawa, Ontario ICOMOS Canada and Heritage Canada Foundation, 1983), pp. 173-198.

Dating Historic Buildings in Lower Southern Maryland Through Dendrochronology, *Perspectives in Vernacular Architecture* (Annapolis: Maryland Historical Trust, 1982), pp. 19-30.

The Computer as a Preservation Planning Tool: Maryland's Approach to Improving Resource Management, *Technology and Conservation Magazine*, Volume 4, Number 2 (Summer, 1979), pp. 18-25.

PRESENTATIONS

With Caleb Christopher, Breaking the Cycle: Integrating Hazard Mitigation and Historic Resource Planning, Association for Preservation Technology Annual Conference, Toronto, Canada, September 2002.

With Terry Klein, Use of Information Technology to Evaluate Cultural Resource Significance: Results of a Nationwide Study, Transportation Research Board 81st Annual Meeting, Washington, D.C., January 2002.

An Update on the Planned Improvements for the Jones Point Lighthouse and the D.C. South Cornerstone, Jones Point Park, Alexandria, Virginia, presentation to the Daughters of the American Revolution, Mount Vernon Chapter, January 2002.

The Jones Point Lighthouse and District of Columbia South Cornerstone: Jewels of Jones Point Park, presentation to the Alexandria, Virginia Historical Society annual meeting, May 2001.

A Look at the State Historic Preservation Programs in Georgia and Maryland, State of Maryland Preservation and Revitalization Conference, sponsored by Preservation Maryland, Easton, Maryland, April 1999.

Facilitator at the 20th Century – Near Past Historic Properties Workshop, National Forum on Assessing Historic Significance for Transportation Programs, sponsored by the Transportation Research Board, Washington, D.C., May 1999.

Successes of the Georgia Transportation Enhancements Program Advisory Committee, presentations at the Surface Transportation Policy Project and Rails-to-Trails Conservancy's TEA-21 workshops, Chicago, Illinois and Atlanta, Georgia, December and November 1998.

Historic Preservation and Transportation Policy: The Next Level in Georgia, presentation at the National Trust 52nd Annual Preservation Conference, Savannah, Georgia, October 1998.

The Architectural Significance of the Old Medical College, and the Importance of its Architect, Charles Blaney Cluskey, presentation at the dedication of the Old Medical College as a National Historic Landmark, Augusta, Georgia, May 1997.

Georgia's State Historic Preservation Program – Where Do We Go From Here?, presentation at the Georgia Association of Historians Annual Meeting, Atlanta, Georgia, April 1997.

Historic Preservation and Economic Development in Georgia, presentation and report to the Natural Resources Committee,

Georgia House of Representatives, Atlanta, Georgia, February 1997.

Recognition of Hog Hammock and Sapelo Island's Listing on the National Register of Historic Places, presentation at Sapelo Island Cultural Day, September 1996.

The Importance of Historic Preservation in Georgia, slide presentation at the International Right of Way Association, Georgia Chapter meeting, Atlanta, Georgia, June 1996.

Repackaging the Historic Preservation Message, presentation at the annual meeting of the National Conference of State Historic Preservation Officers, Washington, DC, April 1996.

The Future of Historic Preservation in Georgia, keynote address at Georgia Day Celebration, Savannah, Georgia, February 1996.

Affordable Housing and Historic Preservation – The Big Picture, presentation at annual statewide historic preservation conference, Atlanta, Georgia, February 1996.

The Historic Preservation Division's Role in Civil War Site Protection in Georgia, presentation at the Atlanta Campaign Conference, Decatur, Georgia, September 1995.

The Future of Georgia's Historic Preservation Program, presentation at the 1995 annual meeting of the Coastal Heritage Society, Savannah, Georgia, May 1995.

Community Conservation, Affordable Housing, and Historic Preservation, presentation at state affordable housing-historic preservation summit, Macon, Georgia, March 1995.

Historic House Museums and Historic Preservation, presentation at Georgia Annual Historic Preservation Conference, Augusta, Georgia, February 1995.

Preserving the Best of Maryland: Open Space and Historic Preservation, slide presentation at Maryland Recreation and Parks Association Annual Meeting, Ocean City, Maryland, April 1993.

Historic St. Mary's City Case Study: Using ISTEA Transportation Enhancements Funding to Link Historic and Scenic Preservation and Protection Goals, slide presentation at Transportation Planning for Livable Communities Conference, Arlington, Virginia, December 1992.

SHPOs and Cultural Conservation Programs: Where People, Places and Traditions Meet, speaker and moderator at National Trust for Historic Preservation's Annual Conference, Miami,

Florida, October 1992.

Expanding A State's Preservation Mission: The Work of the Maryland Historical Trust, slide presentation as part of Experts at the Palace '92 Lecture Series, sponsored by the University of Hawaii, Historic Hawaii Foundation and the Honolulu Chapter of the AIA, Honolulu, Hawaii, February 1992.

Rural Preservation in Maryland, slide presentation to historic preservation planning class, Columbia University Graduate Program in Historic Preservation, New York, New York, April 1990.

AWARDS AND HONORS

American Society of Landscape Architects Historic Preservation Open Committee Award (1997), for outstanding contribution to historic landscape preservation.

Georgia Planning Association Honorable Mention for Outstanding Planning Document (1997), for *New Vision - The Preservation Plan for Georgia's Heritage.*

Georgia Trust for Historic Preservation Merit Award for *New Vision - The Preservation Plan for Georgia's Heritage* (1997).

Georgia Trust for Historic Preservation Merit Award for *Resaca Civil War Resources Preservation Plan* (1996).

Selected as one of five national panelists for Excellence in Highway Design, 1996 Biennial Awards, sponsored by Federal Highway Administration, Washington, DC, July 1996.

1993 recipient of the Governor of Maryland's Salute to Excellence Award, for distinguished leadership and outstanding work performed as Chairman of the Preserving St. Mary's Townlands Study Committee.

1985 recipient with Dr. Herman J. Heikkenen of first Oliver Torrey Fuller Award, presented by the Association for Preservation Technology for best article to appear in *APT Bulletin* in 1984. Article was entitled The Key-Year Dendrochronology Technique and its Application in Dating Historic Structures in Maryland.

In 1974, graduated *Magna cum laude* from Lafayette College with honors in History, and awarded Class of 1910 Prize for best history honors thesis.

AREAS OF EXPERTISE

- Managing/Conducting Architectural Resource Surveys
- Section 106 Compliance-Related Surveys
- National Register Nominations
- Historic Structures Reports
- Architectural Design Guidelines

EDUCATION

University of Virginia: M.S., Architectural History, 1982

University of Virginia: B.A., Architectural History, 1980

PROFESSIONAL HISTORY

URS, Architectural History Team Leader, 2003-Present

GAI Consultants, Inc., Lead Architectural Historian 1995-2003

Dames & Moore, Lead Architectural Historian 1994-1995

Greenhorne & O'Mara, Inc., Architectural Historian1992-1994

Independent Consultant, 1986-1992

Maryland Historical Trust, Editor, 1982, 1986

REPRESENTATIVE EXPERIENCE

Mr. Henry has over 20 years experience in the fields of cultural resources, architectural history, and historic preservation. His responsibilities have included managing and directing large-scale architectural identification and evaluation surveys; producing eligibility and effect determinations; mitigation of adverse effects; and Section 106 compliance. Additionally he has compiled HABS/HAER documentation; written National Register nominations for individual resources and historic districts; researched and written historic contexts, and prepared historic architectural guidelines. An additional area of expertise is developing public outreach presentations and programs. The following illustrates the geographic breadth of Mr. Henry's experience:

WEST VIRGINIA

Historic review of former Jefferson County Jail, Charles Town, West Virginia. The review was conducted to satisfy WVSHPO requirements before the proposed demolition of this 1919 building. The review included research and detailed recording of this building, along with recommendations for mitigation of adverse effects to Charles Town Historic District.

Historic Structures Report for the former West Virginia State Penitentiary in Moundsville, Moundsville Economic and Development Commission.

Comprehensive survey of 200 resources in Town of Ronceverte, WV. Final report provided historic context and boundaries for National Register-eligible historic district.

Comprehensive architectural survey of MMM&I Historic District (269 resources) and Rosemont Historic District (129 resources) in Martinsburg WV.

Architectural Survey and National Register evaluation of Gypsy, an early 20th-century coal company town in Harrison County, for the Harrison County Landmarks Commission, WV.

Comprehensive Architectural Survey of 85 historic resources in Spring Mills and North Garden communities of Berkeley County, West Virginia for Berkeley County Historic Landmarks Commission, WV.

Management and direction of architectural survey for WV Department of Highways of alternate corridors of U.S. Route 219 in Greenbrier and Monroe Counties, WV.

PROFESSIONAL CERTIFICATION

36 CFR 61 (Architectural History and History)

Management and direction of architectural survey for WV Department of Highways of alternate corridors of US Route 19, Fayetteville, Fayette County, WV.

Researched and wrote National Register nomination for Ranson City Hall for the City of Ranson, WV.

Fieldwork and historical research for several buildings on or near the proposed site of the National Training Center for the U.S. Fish and Wildlife Service in Shepherdstown, WV. Preparation of a letter report detailing findings, and assessing impacts of the proposed training center on historic resources.

Management and direction of architectural survey for WV Department of Highways of alternate corridor of US Route 19, Nicholas County, WV.

Historic Structures Report and HABS/HAER documentation for 1912 State Street School, Fairmont WV for the WVDOH.

Management and direction of architectural survey for WV DOH for WV Route 9 (Martinsburg Bypass), Martinsburg, WV.

Management and direction of architectural survey for WVDOH of Raleigh Street Extension, Martinsburg WV.

National Register of Historic Places nominations for:

Medway, Falling Water
Peter Speck House, Martinsburg
MMM& I Historic District, Martinsburg
Rosemont Historic District, Martinsburg
Priscilla Strode House, Martinsburg
Hedges Chapel, Hedgesville
Thomas Carskadon Mansion, Keyser
Rotary Park Bridge, Huntington
Springvale, Gerrardstown
Elias Pitzer House, Martinsburg
Ropp House, Martinsburg
HC Ropp House, Martinsburg
Camp Mad Anthony Wayne, Huntington

MARYLAND AND DISTRICT OF COLUMBIA

Economic analysis study of historic buildings at Ft. McNair, Washington DC. This comparative economic study used two historic officer's quarters as prototypes to develop a template for evaluating costs of options to rehabilitate, renovate, aor reconstruct, or demolish buildings at historic US military facilities.

Integrated Cultural Resource Management Plan for Bolling AFB, Washington DC. Report recommended 19 individual buildings for National Register listing.

Historic Structures Report and MHT Survey forms for Point Lookout Lighthouse, Point Lookout MD for the Maryland Historical Trust.

Preparation of individual survey forms for 56 buildings in the St. Michael's Oxford, Easton, and Bellevue historic districts in MD.

Managed and Conducted Architectural Survey and National Register Evaluation of 1.75-mile Woodfield Road Extension Project near Damascus, MD for the Mounty County Department of Transportation and Engineering Services.

Preparation of historic structures report for the Maryland Veterans Home Commission on seven academic and residential buildings.

Prepared MHT survey form for Wilson farm property, Harford County, for Joseph Hopkins & Associates.

Architectural survey for a study of Cecil County, MD, from the colonial period to the present. Preparation of individual entries for late 19th- and 20th-century structures, including residences, estates, commercial buildings, dams, bridges, railroad stations, and farm complexes.

Preparation of history and planning study report for Rosewood State Hospital, a historic 13-building mental health complex. Preparation of detailed preservation and renovation plans for stone masonry, roofs, and iron work on buildings.

Participation in comprehensive, intensive-level survey of the architecture of the Coal Basin region of western Maryland, including bridges, mining structures, commercial and industrial buildings, company towns, and early 19th-century residences. Participation in all stages of photography, editing, proofreading, and layout. Culminated in *Green Glades and Sooty Gob Piles*, published in October 1991 by the Maryland Historical Trust, in cooperation with the Maryland Bureau of Mines.

Preparation of final report of survey for the Calvert County MD Planning Office that included recommendations for future preservation needs in the county.

Researched and wrote National Register nomination for the downtown Commercial District in the city of Cumberland, MD.

Preparation of individual and district National Register nominations for properties in Maryland including:

Lonaconing Bow-String Arch Bridge - Lonaconing, MD
Kaese Mill - Accident, MD
Glamorgan - Oakland, MD
Swanton Chapel - Swanton, MD
Mountain Lake Park Historic District, MD
Georgetown Preparatory School - Rockville, MD
Churchman House, Elkton, MD
Christ Episcopal Church - Cambridge, MD

Preparation of determination of eligibility reports for Denton, Loch Lynn, Walkersville, and Mt. Airy, MD, historic districts.

DELAWARE

Documentation and National Register evaluation of Bridge 599, Yorklyn, Delaware for Delaware Department of Transportation.

Intensive historical research and site documentation as part of Phase III archeological survey of of eighteenth-century gristmill (Cubbage Mill), Lincoln, DE for the Delaware Department of Transportation.

VIRGINIA

Survey and National Register nomination for the ca. 1859, 8-mile-long Albemarle & Chesapeake Canal Historic District in Chesapeake, VA for the US Army Corps of Engineers.

Management and direction of reconnaissance-level survey of 450 historic resources in the Rivermont Avenue neighborhood of Lynchburg, VA.

Historic architectural survey of 441 historic resources in Warrenton Historic District for the Town of Warrenton, and Research for Historic Context, Warrenton, VA.

Historic architectural survey of 238 historic resources in Town of Leesburg in the National Register-listed Leesburg Old and Historic District for the Town Of Leesburg Planning Department.

Management and direction of reconnaissance-level survey of 150 historic resources in 11 villages and towns in Albemarle County, VA.

Management and direction of reconnaissance and intensive-level survey of 300 resources in designated village centers in Northampton County, VA for Northampton County Department of Planning.

Architectural Historian for a comprehensive, reconnaissance-level survey of 450 historic resources in the city of Norfolk, VA. This survey covered a wide variety of building types, including residential, commercial, industrial, and religious architecture spanning the period between the late 17th century to 1945.

Architectural Historian for Historic Structures and Feasibility Report for 18th century Boyd Tavern in Boydton, Virginia for DASA Architects of Charlottesville, VA.

Management and direction of a reconnaissance and intensive-level survey of 900 historic resources in the Diamond Hill South neighborhood of Lynchburg, VA.

Management and direction of the reconnaissance-level survey of 650 historic resources in the College Hill neighborhood of Lynchburg, VA.

Architectural and historical investigation of the 1930 Stone Arch Bridge at Washington National Airport, Arlington, VA. A Determination of Eligibility form was prepared for the Metropolitan Washington Airport Authority as part of the Section 106 review process.

Architectural Historic Context Study (1700-1949) for Albemarle County, VA for the Albemarle County Department of Planning. The context followed the historic themes and time periods as developed by the VDHR

FLORIDA

Comprehensive survey update of 2590 historic resources in the Key West Historic District for the City of Key West Department of Planning. The survey produced an up-to-date Final report which provided recommendations for future survey and historic designation in Key West. This survey fulfilled a vital need for the City which uses this survey information on a daily basis during the architectural review process.

Comprehensive Architectural Survey of 1100+ historic resources in four local historic districts in Lake Worth, FL.

Produced four local historic district nomination reports and recommendations for National Register-eligible districts and buildings.

Comprehensive architectural survey of Monroe County unincorporated areas for the Historic Florida Keys Foundation and Monroe County Department of Planning. This survey, the first since 1983, identified over 300 historic resources including buildings, bridges, cemeteries, recreation buildings, historic districts, and potential Monroe County landmarks.

Comprehensive Architectural Survey and National Register evaluation of Hollywood Beach, Hollywood, Fl. Surveyed 102 buildings and produced recommendations for 6 historic districts in Hollywood Beach eligible for National Register and local landmark designation.

Comprehensive Architectural Survey of 321-building Brownsville neighborhood in Pensacola and Escambia County, Florida for the Escambia County Redevelopment Authority. The proposed National Register District will be a key to Brownsville's economic revitalization. An additional task order included a PowerPoint presentation on Brownsville's architectural and historic resources.

Architectural Survey and National Register evaluation of Winter Park. Final report produced: *City of Winter Park, A Late Nineteenth Century Central Florida Resort Town*, for the City of Winter Park, FL.

Comprehensive architectural survey and National Register evaluation of the *Downtown Tavares Historic District*, City of Tavares, Florida. Survey included 138 historic resources and historic context for the City between 1880 and 1949.

National Register nomination for the 1949 Osborne Elementary School in Lake Worth FL, the city's only historically African-American school building.

NORTH CAROLINA

Architectural survey, survey update, and National Registration evaluation of the *St. Mary's Road Preservation Corridor in Orange County, North Carolina,* for the Orange County Historic Preservation Commission.

Field surveys and historical research, and evaluation of sites for National Register-eligibility along selected alternate corridors of U.S. Highway 70 near Clayton, NC. A report detailing findings, and assessing impacts on historic properties

of these corridors was prepared for the North Carolina Department of Transportation.

NEW YORK

80-page, illustrated, *Architectural Design Guidelines for Historic Districts and Landmarks,* Village of Southampton, NY, to regulate demolition, renovation, and new construction in the Village's four Historic Districts.

Comprehensive architectural survey of more than 300 historic resources in the *Village of Southampton,* for the Southampton Architectural Review Board. Updated historic context, computerized indexing system, provided recommendations for future historic preservation.

Comprehensive architectural survey of 300 historic resources in the *Town of Southampton*, for the Town of Southampton Landmarks and Historic Districts Board. Work included historic context and thematic study for the Town between the years of 1640 and 1949.

Historic Structures Report for 1869 Plum Island Lighthouse for the US Department of Agriculture. Report contained historic context, conditions assessment, and treatment options for this National Register-listed lighthouse.

Historic Preservation Plan for Ft. Terry, NY. Preservation plan for 74-building pre-World War I military facility closed since 1955 and currently operated by the Plum Island Animal Disease center. The report recommended four National Register-eligible buildings and demolition for the remainder of the buildings.

Historic Structures Report and Feasibility Study of Quarters No. 124, U.S. Military Academy, West Point, New York conducted for Fanning, Phillips, and Molnar and the U.S. Army Corps of Engineers, New York District.

PENNSYLVANIA

Architectural historian for the cultural resources investigation for the Erie East Side Access Study, Erie, PA, for the Pennsylvania Department of Transportation.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Montgomery County, PA. Deliverables included a determination of eligibility report, criteria of

effects report, and 4(f) document.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Upper Salford and Frederick Townships, Bucks County, PA. Deliverables included a determination of eligibility report, criteria of effects report, and 4(f) document.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Nockamixon Township, Bucks County, PA. Deliverables included a determination of eligibility report, criteria of effects report, and 4(f) document.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Haycock Township, Bucks County, PA. Deliverables included a determination of eligibility report, criteria of affects report, and 4(f) document.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Newlin Township, Chester County, PA. Deliverables included a determination of eligibility report, criteria of effects report, and 4(f) document.

Historic architecture survey for Pennsylvania Department of Transportation of resources affected by a proposed historic bridge replacement in Pocopson, Pennsbury, and Birmingham Townships, Chester County, PA.

Management, direction, and research for an intensive-level survey of the foundry and machine shop industry in Erie, PA.

AREAS OF EXPERTISE

- Cultural Resources Management
- Architectural History
- Historic Preservation
- Historic Properties Analysis (Section 106 of the NHPA)

EDUCATION

Savannah College of Art and Design: Masters of Architecture, 2001

Savannah College of Art and Design: B. of Architecture, 2001

Savannah College of Art and Design: B.A., Historic Preservation, 2001

PROFESSIONAL HISTORY

URS, Architectural Historian, 2001-Present

REPRESENTATIVE EXPERIENCE

Ms. Barnes' responsibilities include historic preservation, historic architecture documentation, National and State Register nomination preparation, field surveys, and archival research. She has participated in numerous cultural resources projects, including:

Historic Preservation Projects

- 20th Century Agricultural Historic Context and Property Survey, Talbot County, Maryland, including research into local, state and national agricultural trends and building types, development of a historic context, and a survey of fifteen representative properties. Prepared for Talbot County, Maryland.
- Historic Context and Property Survey, Loudoun County, Virginia, including the development of a historic context, and a survey of 750 previously unidentified properties. Prepared for Loudoun County, Virginia.
- Washington-Rochambeau Route Study. Historic, archival, and field documentation of the route taken by Generals Washington and Rochambeau through Prince William County en route to Yorktown during the Revolutionary War. Prepared for Prince William County, Virginia.
- Old Colchester Road, Fairfax County, Virginia Determination of Eligibility and Determination of Effects Reports prepared for Fort Belvoir, Virginia.
- Integrated Cultural Resource Management Plan for the National Naval Medical Center, Bethesda, Maryland.
- Architectural History investigation, including determinations of eligibility for 150 structures, as part of a flood protection project APE in the community of Cumberland, Harlan County, Kentucky. Prepared for U.S. Army Corps of Engineers (COE), Nashville District.
- Historic American Building Survey Level II addendum to documentation of St. Elizabeths Hospital, Washington, District of Columbia.
- Historic American Building Survey Level II documentation of Allen Park Veterans Administration Medical Center, Allen Park, Michigan.

- Historic American Building Survey Level I documentation of a portion of the Central of Georgia Railroad Complex, Savannah, Georgia.
- Detailed color history of the African Baptist Church, Raccoon Bluff, Sapelo Island, Georgia.
- Cemetery documentation and conditions assessment at Laurel Grove South, Savannah, Georgia.

United States Postal Service Projects

- Revisions to Fine Arts Management Instruction which provides guidance to all levels of postal management on the care and maintenance of murals and sculptures in the USPS New Deal Arts Inventory.
- Creation of a Fine Arts Database consolidating previous USPS and GSA inventory records into a comprehensive database of murals and sculptures in the USPS New Deal Arts Inventory, including historic images of the completed artworks.
- Creation of a Historic Buildings Database consolidating previous USPS and GSA inventory records into a comprehensive database, including historic images of the structures.
- Update of the Cultural Resources sections of the United States Postal Service Handbooks.
- Development of *Postal Preservation*, an internal newsletter for the USPS on Cultural Resource laws and issues, in conjunction with the USPS Federal Preservation Officer. An issue providing a general overview of Cultural Resource issues was completed in June 2002. A second issue on the New Deal Arts Inventory is currently under development.
- Management of the USPS FY03 artwork projects, including overseeing the restoration of five murals from the New Deal Arts Inventory in New York and Arkansas, monitoring the removal of murals from a surplus postal facility, and aiding in the location of missing artworks.

Archaeology Archival Research Projects

- Dover Air Force Base, Delaware Phase II Background Research on Lackey Field, a potential 18th century tenant farm.
- Fort George G. Meade, Maryland Phase II Background Research on eight historic sites dating from the mid-18th to the early-20th centuries.
- Piscataway Village, Piscataway, Maryland Phase II Background Research on 18th to 20th century area occupants.
- Innovation, Phase II architectural evaluation of a late-nineteenth-century homestead and historical research on twelve historic archeological sites. Historic sites included early eighteenth- through late-nineteenth-century homesteads and a mill, conducted for Prince William County, Virginia.

National Environmental Policy Act

Telecommunications Projects

Ms. Barnes has worked on preparing checklists to respond to Federal Communications Commission (FCC) Regulations at 47 CFR § 1.1307, in which the FCC requires that modifications to or new construction of, cellular antennas address the issues outlined in the National Environmental Policy Act.

Ms. Barnes has conducted site visits and research, completed Environmental Assessments, written Memorandums of Agreement, and produced written reports and letters to the State Historic Preservation Offices, and other federal compliance agencies. Selected URS NEPA projects include:

- Nextel NEPA checklists and letter reports, completed for collocations and new construction of lattice towers and monopoles in Delaware, Maryland, New Jersey and Pennsylvania.
- Sprint NEPA checklists and letter reports, completed for collocations, and new construction of lattice towers and monopoles in Delaware, Maryland, New Jersey and Pennsylvania.

- American Tower Corporation NEPA checklists and letter reports, completed for collocations, and new construction of lattice towers and monopoles in the District of Columbia, Maryland, New Hampshire, Pennsylvania, and Virginia

AREAS OF EXPERTISE

- Cultural Resource Management
- US NHPA and NEPA Compliance

EDUCATION

The American University: Ph.D. Candidate (ABD), Anthropology, 1992

The College of William and Mary: M.A., Anthropology, 1988

Mary Washington College: B.A., Prehistory, 1982

PROFESSIONAL HISTORY

URS Corporation, Principal Anthropologist, 2002-present

Greenhorne & O'Mara, Manager, Cultural Resources Group, 1994-2002

The Octagon House Museum, Director of Archaeology, 1992-1996

Design Forum, Consulting Archaeologist, 1993-1994

Smithsonian Institution, National Museum of Natural History, Lithic Analyst, 1991-1994

Society for American Archaeology, Consultant, 1993

Einhorn Yafee Prescott, Building #42, Consulting

REPRESENTATIVE EXPERIENCE

Ms. Boyd is a Registered Professional Archaeologist with 22 years of experience in cultural resources management, and exceeds the Secretary of Interior Standards for archaeology and history. Ms. Boyd has extensive experience in the design, management, and technical execution of historical and archaeological investigations. She has managed reconnaissance and intensive investigations on prehistoric and historic sites throughout the eastern United States and the Caribbean. Ms. Boyd has managed project teams with over 150 members and budgets exceeding $4 million, including many open-end, multiple-task contracts. Clients have included the U.S. Coast Guard, several U.S. Army Corps of Engineers districts, Federal Emergency Management Agency, Federal Aviation Administration, Federal Highway Administration, state transportation agencies, state and local infrastructure authorities, state governments, non-profit organizations, and private developers. She has experience in complying with federal, state, and local regulations, and has successfully worked with State Historic Preservation Offices to develop work plans and create Memoranda of Agreement for cultural resources management. She formerly managed Greenhorne & O'Mara's cultural resources group, having assumed the position of URS Principal Anthropologist in the Summer of 2002. She is currently the Archaeology Team Leader for URS.

- *Project Manager/Principal Investigator, Spring Hill Park, Fairfax County, VA.* Managing a Phase I survey of an historic property under an open-end contract with Fairfax County.
- *Principal Anthropologist, Dulles, EIS, Dulles, VA.* Managing and writing the archaeological section of the EIS for the airport expansion project.
- *Principal Anthropologist, Woodrow Wilson Bridge Project, Alexandria, VA.* Managed a Conditions Assessment Study for St. Mary's Cemetery. Developed system for recording condition and data for all cemetery grave markers and structures.
- *Principal Anthropologist, U.S. Coast Guard, Base San Juan, Puerto Rico.* Managing outreach efforts for the publication of a public archaeology pamplet that reports the results of historical and archaeological studies at the

Archaeologist, 1993

The American University, Director of Archaeology, 1991-1992

Maryland Historical Trust, Rosenstock Collection Laboratory Director, 1991-1992

The American University, Project Manager and Field Director, 1988-1992

Madam Russell Church, Consulting Archaeologist, 1991

Scott-Walker House, Consulting Archaeologist, 1991

Duke Street Baptist Church, Consulting Archaeologist, 1990

Ethnographer, Nevis, West Indies, 1987-1988

College of William and Mary, Chief Field School Supervisor, 1986

Mid-Atlantic Archaeological Research, Inc., Field Technician, 1986

Researcher, West Indies, 1985-1986

College of William and Mary, Government Guest House, West Indies, Field Technician, 1985

Archaeological Society of Virginia, Canal Boat Site, Field and Laboratory Technician, 1984-1985

Thunderbird

the results of historical and archaeological studies at the base.

- *Project Manager and Principal Investigator, Rippon Lodge, Prince William, VA.* Under contract to Prince William County, managing a Phase II study of the 18th century plantation, including excavations in the house area and location of outbuildings apparent in a Benjamin Latrobe sketch of the property. Managing the archaeological public outreach and education program associated with the project.
- *Project Manager, Berea Plantation, Prince William County, VA.* Managing a Phase I survey of a 19th century plantation site and associated cemetery under open-end contract to Prince William County, VA.
- *Project Manager and Principal Investigator, Dover Air Force Base, Dover, DE.* Managing a Phase II Evaluation study of an 18th-19th century historic site.
- *Principal Anthropologist, Veterans Administration, San Juan Puerto Rico.* Managed and wrote archaeological section of the EA for proposed construction at the VA hospital in San Juan.
- *Project Manager and Principal Investigator, Prince William County, VA.* Private Developer. Phase Ia and IB studies of large parcels of land slated for development.
- *Project Manager and Principal Investigator, Piscataway, MD.* Private Developer. Phase II Evaluation study on an 18th- 19th century historic plantation site.
- *Project Manager and Principal Investigator, Piscataway, MD.* Private Developer. Managing MOA compliance work for four Phase III mitigation studies on historic and prehistoric sites. Compiled Annual Report on Cultural Resources for the Advisory Council on Historic Preservation. Developed the Data Recovery Plan for the four sites.
- *Project Manager and Principal Investigator, Piscataway, MD.* Private Developer. Under terms of a MOA managed the archaeological monitoring of a multi-component National Register-eligible site.

Archaeological Research Corporation, Field Technician, 1983

George Washington's Birthplace National Park, Archaeological Intern, 1982

Virginia Department of Historic Resources, Virginia Research Center for Archaeology, Archaeological Intern, 1981

REGISTRATIONS

Registered Professional Archaeologist

SECURITY CLEARANCE

Top Secret Level Clearance through the Defensive Security Service

SPECIAL TRAINING

Integrating Cultural Resources in NEPA Compliance, National Preservation Institute, 2002

National Register/National Historic Landmarks Update Seminar, National Parks Service, 2002

Project Management Boot Camp I and II, PSMJ Resources, Inc., 2001

The New Section 106 Regulations, Advisory Council for Historic Preservation, 1999.

A National Forum on Assessing Historic

- *Project Manager, Fort Meade, MD* USACE, Baltimore District. Client management and QA/QC oversight for a Phase I survey and 21 Phase II archaeological evaluation studies of historic and prehistoric sites in Anne Arundel County, MD.
- *Project Manager and Principal Investigaor, Maryland Avenue Interceptor, Baltimore, MD.* Baltimore City Department of Public Works. Conducted assessment to determine potential effects for a sewer improvement project.
- *Project Manager and Principal Investigator, Leetsdale Geomorphology, Allegheny County, PA* USACE, Pittsburgh District, suconsultant to Greenhorne & O'Mara, Inc. Managing a team of geomorphologists for data recovery analysis and environmental reconstructions for a deeply buried prehistoric site.
- *Project Manager and Principal Investigator, Leetsdale Palynology, Allegheny County, PA.* USACE, Pittsburgh District, subconsultant to Greenhorne & O'Mara, Inc. Managing the palynology team for data recovery analysis and environmental reconstructions for a deeply buried prehistoric site.
- *Principal Investigator,FEMA, Marquette, MI.* Managed and performed an archaeological assessment for the Dead River damn removal project. Also managed geoarchaeological component of the project.
- *Principal Anthropologist, Woodrow Wilson Bridge Project, Alexandria, VA.* Assisted with the final preparation of the Jones Point Archaeological Preservation Plan and with other various cultural resources tasks.
- *Project Manager and Principal Investigator, St. James Development, Piscataway, MD.* Private Developer. Phase I survey, including reidentification of three previously recorded prehistoric sites.
- *Principal Investigator, Seton Cemetery, Baltimore, MD.* Private Developer. Conducted the field survey and managed the delineation study of the cemetery.
- *Project Manager and Principal Investigator, Hunt Field, Jefferson County, WV.* Private Developer. Managing

Significance for the Transportation Programs, Transportation Research Board, Federal Highway Administration, and National Park Service, 1999

Section 106: An Advanced Seminar, NPI, 1998

Assessing the Archaeological Significance of Historical Sites, University of Nevada, Reno, Heritage Resources Management Program, 1998

Total Quality Management, Greenhorne & O'Mara, Inc., 1996

Project Management Workshop, Greenhorn & O'Mara, Inc., 1995

AWARDS

National Education Telecommunications Association, Honorable Mention for Instructional Television Programs, 1998

Preservation Pennsylvania Award, 1997

American University Travel Competition Award, 1992

American University Teaching Fellowship, 1986-1989

College of William and Mary Teaching Assistantship, 1985

National Park Service VIP

cultural resources studies for for the 1,000 acre project area that includes Washington family historic plantation sites. Managing both archaeological and architectural history portions of the project.

Project Director, Greenhorne & O'Mara, Inc. (Project Director 2001 – 2002; Senior Project Manager 2000 – 2001; Senior Archaeologist 1994 - 2000) As Project Director served as the Manager for the Cultural Resources Group and Project Manager and Principal Investigator for historic and prehistoric studies throughout the United States and Caribbean. Responsible for departmental budgets and finances, permanent staffing, marketing and sales, and all other departmental management duties. Focused on client-oriented service and successful project financial performance. Responsible for cultural resources hiring practices and coordinating with Human Resources to assure compliance with all federal regulations (e.g., EEO). Created research designs for all levels of investigation, directed historical research, fieldwork, analysis, and prepared reports. For much of the period served as Principal Investigator and Task Manager on a large 5 year data recovery project. For the project also managed the $4,000,000 budget and a staff of over 150 technicians, crew chiefs, and field directors. Author or co-author of dozens of reports. Also developed award-winning public education and outreach programs and authored numerous public education documents.

- *Principal Investigator, Lorton Prison Facility, Fairfax County, VA*. GSA. Phase I survey of the 418-acre project area. Thirty-six archaeological sites were identified, including five prehistoric sites, five historic sites, and 26 multi-component prehistoric and historic sites.
- *Project Manager and Principal Investigator, Leetsdale Geomorphology, Allegheny County, PA*. USACE, Pittsburgh District. Managing a team of geomorphologists for data recovery analysis and environmental reconstructions for a deeply buried prehistoric site.
- *Project Manager and Principal Investigator, Leetsdale Palynology, Allegheny County, PA*. USACE, Pittsburgh District. Managing the palynology team for data recovery analysis and environmental reconstructions for a deeply buried prehistoric site.

Award, 1982

PROFESSIONAL AFFILIATIONS

Archaeological Society of Maryland, Vice President, Past Board Member

Middle Atlantic Archaeological Conference, Awards Committee Chair

Register of Professional Archaeologists, Certified Member

Society for Historical Archaeology, Member

- *Project Manager and Principal Investigator, Hunt Field, Jefferson County, WV.* Private Developer. Cultural resources assessment of 1,000 acres, which include two historic plantation sites. Numerous sites within the project area are associated with the late 18th and early 19th century Washington family plantations. Assessment led to Phase I archaeological survey and historic properties survey and evaluation of the area. Conducted oral history interviews with numerous Washington family members regarding sites and the family history.
- *Project Manager and Principal Investigator, U.S. Customs Fire-Arms Training Facility, Jefferson County, WV.* U.S. Customs. Historic and archaeological studies of a 104 acre parcel which included land where Stonewall Jackson's Right Flank marched and camped during the siege of Harpers Ferry.
- *Project Manager and Principal Investigator, Star Spangled Banner Flag House, Baltimore, Maryland.* Historic research and archaeological survey and evaluation of the historic property. The archaeological investigations mitigated the effects of proposed construction of the War of 1812 Museum. Field investigations identified numerous house foundations and associated privies.
- *Principal Investigator and Task Manager, Fort Frederick State Park, Big Pool, MD.* State of Maryland, Department of General Services and Department of Natural Resources. Intensive archaeological and historical investigations to assist in the reconstruction of the historic fort. Investigations focused on the recovery of new information regarding construction and appearance of the fort's interior curtain walls and bastions. Focused on how the walls were defended; the appearance, construction, and location of the powder magazine; and the appearance and function of the Officer's Quarters. This information is expected to provide an authoritative basis for design and specifications for reconstruction work.
- *Task Manager and Principal Investigator, S.R. 219 Meyersdale, Pennsylvania.* Pennsylvania Department of Transportation, District 9-0. Phase III investigations on four prehistoric sites for a roadway improvement project.

Directed Phase II investigations on 20 prehistoric and one historic site. Managed Phase III investigations on four prehistoric sites. Managed more than 150 field and lab staff, and coordinated with the SHPO and a multi-agency Task Force to assure the schedule, scope, and budget goals were met. Additionally, responsible for all stages of archaeological research including fieldwork, laboratory analysis, and report writing. Developed a Public Outreach and Education Program for the project, winning the 1997 Preservation Pennsylvania Initiative Award for Community Involvement. The project won the 1999 Pennsylvania Quality Initiative Project Recognition Award. Two PBS videos and more than 20 newspaper articles chronicled the progress of the investigations and public events associated with the project.

- *Project Manager and Principal Investigator, Shaffer Property, Prince William and Fauquier Counties, VA.* Marsh Resources, Inc. Cultural Resources Assessment for proposed wetlands banking project.
- *Project Manager and Principal Investigator, Rock Creek Boat Club, Anne Arundel County, MD.* Private Developer. Phase I archaeological survey for proposed housing development.
- *Principal Investigator, Anacostia Wetlands Creation, Prince George's County, MD.* Phase I archaeological survey and geomorphological study of the floodplain of the Anacostia River.
- *Project Manager and Principal Investigator, Harvest Hills, Jefferson County, WV.* Private Developer. Historic and archaeological study of 417 acre parcel.
- *Project Manager, Kelson Ridge Construction Booklet, Maryland.* Environmental Consulting & Technology. Prepared booklet Recognizing and Reporting Archeological Sites for use during construction for a generating station and pipelines. Booklet prepared in lieu of Phase I investigations.
- *Project Manager and Principal Investigator, Dean Property, Fauquier County, VA.* Marsh Resources, Inc. Cultural Resources Assessment for proposed wetlands banking project.

- *Project Manager and Principal Investigator, Atchley Property, Fauquier County,* VA. Marsh Resources, Inc. Cultural Resources Assessment for proposed wetlands banking project.
- *Project Manager and Principal Investigator, Schwartz Property, Fauquier County, VA.* Marsh Resources, Inc. Cultural Resources Assessment for proposed wetlands banking project.
- *Project Manager and Principal Investigator, Madison Crescent, Prince William County, VA* Private Developer. Cultural Resources Assessment for proposed housing development project in the vicinity of Bucklands Battlefield.
- *Project Manager and Principal Investigator, Lupo, Fairfax County, VA.* Private Developer. Phase I archaeological survey.
- *Project Manager and Principal Investigator, Beaver Creek Development, Prince William County,* VA Private Developer. Phase II archaeological evaluation of 3 prehistoric sites.
- *Project Manager and Principal Investigator, Beaver Creek Development, Prince William County,* VA. Private Developer. Phase I archaeological survey of 258 acres. Survey identified one historic and 21 prehistoric sites.
- *Principal Investigator and Task Manager, Locks and Dam 4 Access and Work Areas and Additional Lands at Victory Hollow Off-Loading/Staging Area, Washington and Westmoreland Counties, PA.* U.S. Army Corps of Engineers, Pittsburgh District. Archaeological assessment conducted including historic literature review and pedestrian survey.
- *Project Manager and Principal Investigator, Letterkeny Pipeline, Greene County, PA.* Pennsylvania Power and Light. Phase I survey of pipeline right-of-way.
- *Task Manager and Principal Investigator, Phase I Research and Preliminary Field Reconnaissance for the Monongahela River, Pool 2, PA.* U.S. Army Cops of Engineers, Pittsburgh District. Survey to assess impacts of proposed raise in pool elevation to the Monongahela and Youghiogheny Rivers. Managed preliminary field

reconnaissance and geomorphological study of the project area. The goals of the project were to identify potentially significant cultural resources, determine archaeological potential including the potential for deeply buried deposits, and prepare a plan for Phase I reconnaissance along sections of the Monongahela and Youghiogheny Rivers. The USACE project includes the raising of elevation of Pool 2 and lowering of Pool 3 associated with the "Lower Monongahela River Locks and Dams 2, 3, and 4 in Allegheny, Washington, and Westmoreland counties, Pennsylvania. Tasks for the project included historic literature review, pedestrian survey, nautical survey, preliminary geomorphological survey, and reports preparation. More than 425 structures and complexes were identified within the Area of Potential Effects, though fewer than 200 retained any physical integrity. The archaeological and geomorphological study identified 117 areas that needed Phase I investigations to determine the presence or absence of potentially significant archaeological resources.

- *Task Manager and Principal Investigator, Phase I Cultural Resources Survey, Lower Girard Dam, Girard, OH.* U.S. Army Corps of Engineers (USACE), Pittsburgh District. The USACE is planning the repair and rehabilitation of the Lower Girard Dam and will impact approximately 30 acres of land surrounding the dam. Tasks for the project included historic literature review, field testing, artifact analysis, and report preparation. The survey indicated that the area had undergone significant grading, erosion, and

  landscaping, and no significant archaeological resources were identified.

- *Principal Investigator, Archaeological and Geomorphological Survey for Replacement of Various Public Facilities, McKeesport and Dravosburg, PA.* US Army Corps of Engineers, Pittsburgh District. Survey to locate deeply buried archaeological resources. Principal Investigator for the Locks and Dams 2, 3, and 4 Monongahela River Project. Directed archaeological survey to identify and record any potentially significant cultural resources along portions of the Monongahela and Youghiogheny Rivers in Allegheny County, Pennsylvania. The USACE is initiating navigation

improvements on the rivers. The authorized project will replace the fixed-crest dam with a gated dam in one area and construct a new twin locks in another portion of the river. The replacement strategy will raise the minimum elevation of the navigation pool, which will affect shoreline facilities and properties. Tasks for archaeological and geomorphological deep testing at eight locations, hand excavation of 1m x 1m excavation units, artifact analysis, and report preparation. The testing strategy was tailored to specific site conditions and to reflect the potential for both prehistoric archaeological resources.

- *Principal Investigator, Heritage Hunt, Prince William County, VA.* Private Developer. Phase I archaeological survey for a golf-course and residential development project.
- *Principal Investigator, Bellwood, Prince William County, VA.* Private Developer. Phase I archaeological survey for a golf-course and residential development project.
- *Task Manager, Blue Grass Army Depot, Madison County,* KY. U.S. Army Corps of Engineers, Louisville District. Phase I cultural resources reconnaissance of 470 acres of the Richmond Battlefield.
- *Task Manager, Fort Campbell, Fort Campbell Military Reservation, TN.* U.S. Army Corps of Engineers, Louisville District. Phase I cultural resources reconnaissance or portions of Training Areas 23 and 25.
- *Project Manager and Principal Investigator, Stafford County Airport, Stafford County, VA.* Stafford County Airport Commission and the Federal Aviation Administration. Managed Phase II archaeological evaluations of four historic and prehistoric sites on 590 acres of land for the proposed airport. Two sites were determined ineligible for the National Register of Historic Places, one site was determined ineligible though the recommendations for the preservation of the historic cemetery component were developed, and one prehistoric site was determined potentially eligible.
- *Principal Investigator, Washington National Airport, Alexandria, VA.* Metropolitan Washington Airports Authority. Managed monitoring activities associated

with the construction of a parking facility at Washington National Airport. Managed field crew, coordinated with the client, and assisted with the compilation of the report.

- *Principal Investigator, Stafford Renaissance Festival, Stafford County, VA.* Renaissance Festival, Inc. Phase I archaeological survey for the Renaissance Festival grounds.
- *Principal Investigator, Brandy Station Civil War Battlefield, Stafford County, VA.* Benton Ventures, Ltd. Archaeological Assessment and Phase I Workplan for development on the battlefield.
- *Principal Investigator, S.R. 2036, Bucks County, PA.* Pennsylvania Department of Transportation, District 5-0. Phase I archaeological investigations for the highway improvement project.
- *Principal Investigator, S.R. 4003, Buck County,* PA. Pennsylvania Department of Transportation, District 5-0. Phase I archaeological investigations for the highway improvement project.
- *Senior Archaeologist, U.S. Army Corps of Engineers property in Trenton, TN* (Developed work plan and budget). Federal Emergency Management Agency, sub-consultant to Woodward-Clyde. Archaeological Assessment of the U.S. COE property.
- *Principal Investigator, Station Sabine, TX.* U.S. Coast Guard, Atlantic Division. Phase I survey in the area of the new base development.
- *Principal Investigator, Station Grand Isle, LA.* U.S. Coast Guard, Atlantic Division. Archaeological Assessment in the area of the new base housing development.
- *Principal Investigator, Station New Orleans, LA.* U.S. Coast Guard, Atlantic Division. Archaeological Assessment in the area of proposed new development.
- *Principal Investigator, Station Atlantic City, NJ.* U.S. Coast Guard, Atlantic Division. Archaeological Assessment in the area of the new base development.
- *Principal Investigator, Coast Guard Academy in New London, CT.* U.S. Coast Guard, Atlantic Division.

Archaeological Assessment in the area of the new base development.

- *Principal Investigator, Langdon Bend, NE.* U.S. Army Corps of Engineers, Omaha District. Archaeological Assessment for the floodplain restoration along the Missouri River.
- *Task Manager and Principal Investigator, Base San Juan, Puerto Rico.* U.S. Coast Guard, Atlantic Division. Phase I investigations of an historic site and historic structure in the area of the new base development. Conducted detailed shoreline evolution study to determine the impacts of land-filling on archaeological resources. Conducted research (in Spanish), managed field crew and backhoe operator, conducted artifact analysis, and co-authored report.

Director of Archaeology, Octagon House Museum, Washington, D.C. (1992-1994) Directed Phase II and III archaeological investigations of the yard and basement of the historic house. Investigations of the Housekeeper's Room and Servant's Hall were jointly funded by the American Architectural Foundation and the National Trust for Historic Preservation. Worked in association with architectural historians, preservation staff, and other renovation personnel to create an exhibit focusing on archaeological materials and structural remains. Trained and supervised over 45 interns, volunteers, and graduate and undergraduate students. Contributed archaeological context for the National Trust for Historic Preservation grant proposal, which provided matching funds for the 1993 excavations of the servant's hall and housekeeper's room. Met with the Octagon executives and representatives from National Endowments for the Humanities regarding a grant to excavate the well uncovered in the central passage of the basement of the house. Assisted with the NEH grant proposal. Responsible for all stages of archaeological research including fieldwork, laboratory analysis, curation, database management, and report writing.

Lithic Analyst, Smithsonian Institution, National Museum of Natural History, Washington, D.C. (1991-1994) Analyst for an assemblage of Mississippian sites from Missouri known as Powers Phase. Conducted detailed analysis of stone tools including projectile points, bifaces, drills, gravers, and ground stone tools. In addition,

conducted lithic reduction sequence analysis on the debitage.

Consultant, Society for American Archaeology, Washington, D.C. (1993). Responsible for responding to archaeological inquiries from the public and career interviews with educational organizations. Assisted with the new computerized membership support and annual meeting organization.

Consulting Archaeologist, Einhorn Yafee Prescott Washington, D.C. (1993). Principal Investigator for the Renovation of Building #42 study at Fort Myer. Conducted historical research and studied the impact of renovations on archaeological features. Building #42, located at Fort Myer, is a rare example of 19th century impermanent military architecture. Also conducted field excavations under the floorboards of the historic structure.

Consulting Archaeologist, Design Forum, Washington, D.C. (1993 - 1994). Principal Investigator for cultural resources components of matching grant projects for Design Forum and the District of Columbia. Co-authored grant proposals, conducted surveys, and wrote reports documenting the results of the cultural resources studies.

- *Principal Investigator, Southeast/Southwest Architectural* Survey. Design Forum grant from Washington, D.C. SHPO. Archaeological and historical survey to determine the potential for archaeological resources within the southern quadrants of the city.
- *Principal Investigator, East End Architectural Survey.* Design Forum grant from Washington, D.C. SHPO. Archaeological and historical survey to determine the potential for archaeological resources within east end neighborhoods.
- *Principal Investigator, Mid-Town Washington, D.C. Architectural Survey*. Design Forum grant from Washington, D.C. SHPO. Archaeological and historical survey to determine the potential for archaeological resources in downtown Washington, D.C.

Director of Archaeology, Archaeological Survey of the Southwest Quadrant of the District of Columbia. The American University, Washington, D.C. (1991 – 1992). Directed the archaeology for the Matching Grant-in-Aid project with the D.C. Historic Preservation Office. Co-

authored grant proposal and report for a project to conduct a multi-faceted view of the archaeological, historical, social, and cultural development of the southwest quadrant of Washington, D.C.

Rosenstock Collection Laboratory Director, Maryland Historical Trust, (1991 – 1992). Laboratory Director responsible for the processing of artifacts recovered from the Late Woodland Period Rosenstock village investigations. Established two field laboratories and created and organized a Rosenstock laboratory system at the state archaeological facility. Recruited, trained, and supervised approximately 150 volunteers.

Project Manager and Field Director, The American University, Potomac River Archaeology Survey, Washington, D.C. (1988 – 1992)

- *Project Manager, Collington Branch, Prince George's County, MD.* Private Developer. Phase III investigations of a Late Archaic/Early Woodland Transitional site.
- *Field and Laboratory Director, Collington Branch, Prince George's County, MD.* Private Developer. Phase II investigations of a Late Archaic/Early Woodland Transitional site.
- *Field and Laboratory Director, Chesapeake Bay Property, Annapolis, MD.* Private Developer. Phase I survey for a residential development project.
- *Field Supervisor and Laboratory Director, Tysons Corner, Tysons Corner, VA.* Private Developer. Phase I survey for a residential development project.
- *Field and Laboratory Director, Fort Ward, Alexandria, VA.* Private Developer. Phase II excavations on an historic site in the vicinity of Fort Ward.
- *Field Supervisor and Laboratory Director, National Zoological Park, Washington, D.C.* Smithsonian Institution. Phase I survey within the zoological park.
- *Field and Laboratory Director, Crab Creek, Anne Arundel County, MD.* Private Developer. Phase I survey for a residential development project.
- *Field and Laboratory Director, M-83 Highway Alignment, Montgomery County, MD.* Montgomery County, MD. Phase I survey for the roadway project.

- *Field and Laboratory Director, Katchef Site, Anne Arundel County, MD.* Private Developer. Phase I, II, and III investigations of a stratified Early to Late Archaic site.
- *Field Supervisor, Lowes Island, VA.* Private Developer. Phase II investigations on two prehistoric sites for a golf-course and residential development project.
- *Field Supervisor, Bull Run Park, Manassas, VA.* National Park Service. Phase I survey within Bull Run Park.
- *Field and Laboratory Director, Arlington County, VA.* Arlington County, VA. Phase I survey on historic and prehistoric sites.
- *Field Technician, Congress Heights, Washington, D.C.* Private Developer. Phase I archaeological survey for a residential development project.
- *Field Technician, National Institutes of Health, Bethesda, MD.* National Institutes of Health. Phase I archaeological survey.
- *Archaeology Laboratory Director and Coordinator, Potomac Valley Archaeological Internship Program.* The American University. Directed undergraduate and graduate intern studies.

Consulting Archaeologist, Madam Russell Church, Saltville, VA (1991). Principal Investigator and author for Phase I archaeological excavations of the historic Madam Russell House.

Consulting Archaeologist, Scott-Walker House, Saltville, VA (1991). Principal Investigator and author for Phase I archaeological excavations of the historic house grounds.

Consulting Archaeologist, Duke Street Baptist Church, Alexandria, VA (1990). Principal Investigator and author for archaeological monitoring of construction on the church property.

Ethnographer, Nevis, West Indies (1987-1988). Conducted ethnoarchaeological and ethnographical research on marketplace structures and trade networks.

Chief Field School Supervisor, The College of William and Mary, St. Eustatius, Netherlands Antilles, West Indies (1986). Directed the intensive level excavations of an eighteenth and nineteenth century sugar boiling house site

and conducted a survey of the Princess Estate Plantation. Oversaw a staff of five and 25 field school students. Prepared and presented lectures on historical and archaeological methods and theory.

Field Technician, Mid-Atlantic Archaeological Research, Inc., Old Hampton, VA (1986). Technician on Phase III investigations of a seventeenth to nineteenth century complex site in Old Hampton, VA. Also conducted Phase I surveys on historic and prehistoric sites in Fort Lee, VA.

Researcher, St. Eustatius, Nevis, and Saba West Indies (1985-1986). Performed independent historic cemetery studies on St. Eustatius, Nevis, and Saba in the West Indies.

Field Technician, Government Guest House, The College of William and Mary, St. Eustatius, Netherlands Antilles, West Indies (1985). Field Technician on extensive excavations of historic houses and properties on the island of St. Eustatius.

Field and Laboratory Technician, Canal Boat Site, Archaeological Society of Virginia, Richmond, VA (1985). Technician for excavations of eighteenth to nineteenth century canal boats.

Field Technician, Thunderbird Archaeological Research Corporation, Portsmouth, VA. (1983). Technician for Phase I surveys of historic and prehistoric sites in Portsmouth, VA.

Archaeological Intern, George Washington's Birthplace National Park (1982). Analyzed and curated historic artifacts from the 1930's excavations of the historic house site. Coordinated museum exhibit on local prehistoric Native Americans.

Archaeological Intern, Virginia Research Center for Archaeology (1981). Responsible for burial excavations on a prehistoric palisaded village site in Virginia Beach, Virginia. Also responsible for lab procedures ranging from the cataloging, curation, cleansing, and conservation of prehistoric burials, as well as ceramics. Surveys of historic sites were also conducted in conjunction with the Virginia Research Center for Archaeology. The VRCA is no longer extant as it has been incorporated into the Virginia Department of Historic Resources.

Teaching Experience

Instructor, Historic Ceramics Class, Archaeological Society of Maryland, Certified Archaeological Technician Program. (Fall 2002)

Field Instructor, Archaeological Methods. The Octagon House Museum. Taught archaeological field and lab methods to students and interns from The American University, Catholic University, and George Washington University. (Spring 1993)

Teaching Fellow, Human Variations. The American University, Washington, D.C. (Spring 1989)

Teaching Fellow, Honors Section, Human Origins. The American University, Washington, D.C. (Fall 1988)

Teaching Fellow, Human Origins. The American University, Washington, D.C. (Spring 1988)

Teaching Fellow, Cultures of the World . The American University, Washington, D .C. (Fall 1987)

Teaching Fellow, Human Origins. The American University, Washington, D.C. (Spring 1987)

Teaching Fellow, Cultures of the World. The American University, Washington, D.C. (Fall 1986)

Teaching Assistant, Physical Anthropology. The College of William and Mary, Williamsburg, Virginia. (Fall 1985)

Teaching Assistant, Cultural Anthropology. The College of William and Mary, Williamsburg, Virginia. (Spring 1985)

PUBLICATIONS

U.S. 219 Meyersdale: Public Outreach and Education. *CRM Magazine*, Vol. 22, 1999.

Mystery of the Monongahela Indians (Children's book). Federal Highway Administration and Pennsylvania Department of Transportation, Engineering District 9-0, 1998.

SELECTED PRESENTATIONS

Forum on Women in Archaeology: Alternative Careers in Archaeology. Invited panel discussant. Society for American Archaeology, Milwaukee, Wisconsin. 2003.

Historic Ceramic Workshop. Archeological Society of Maryland, CAT Program. 2002.

A Critical Consideration of "Hands-on" Education/Volunteer Programming: Case Studies from Cultural Resources Management. Society for Historical Archaeology, Long Beach, California. 2001

Monongahela Settlement and Community Patterns in the Meyersdale Pennsylvania Area: A Synthesis and Directions for Future Research. Society for American Archaeology, Philadelphia, Pennsylvania. 2000

Archaeological and Historical Investigations at Fort Frederick. Middle Atlantic Archaeological Conference, Ocean City, Maryland. 2000

U.S. 219 Meyersdale Bypass: Contributions to the Study of Monongahela Culture. Presentation at the First Annual Conference on Historic and Archaeological Investigations in Pennsylvania Transportation Projects. Indiana, Pennsylvania. 2000

Public Education in Archaeology. Chair for a round-table discussion on public education at the Society for Historical Archaeology annual meeting, Quebec City, Canada. 2000

Seventy Years of Digging: Archaeology at Fort Frederick. Presentation to the Archeological Society of Maryland, Baltimore, Maryland. 2000

Monongahela Site Structure and Community Patterns. Society for Pennsylvania Archaeology, Brookville, Pennsylvania. 1999

Data Recovery at Site 36SO62: Site Structure and Community Patterns at a Multi-Occupation Monongahela Village. Middle Atlantic Archaeological Conference, Cape May, New Jersey. 1998

Data Recovery at the Martz Rock Shelter No. 2 Site: The Effects of Post-Depositional Processes on Context. Middle Atlantic Archaeological Conference, Cape May, New Jersey. (co-author). 1998

Refitting in Plowzone Contexts: Lessons from 36SO106. Middle Atlantic Archaeological Conference, Cape May, New Jersey. (co-author). 1998

Ghosts of the Mountains. Penn State PBS video focused on Ms. Boyd and the 219 Meyersdale Monongahela village investigations. 1997

The La Puntilla Dump: A Late Nineteenth Century Refuse Deposit in Old San Juan, Puerto Rico. Society for Historical Archaeology, Corpus Christi, Texas. 1997

Bringing the Public into Public Archaeology. Eastern States Archaeological Federation, Huntingdon, West Virginia. 1996

Translating Archaeology: Public Outreach and Education for 219 Meyersdale. Middle Atlantic Archaeological Conference, Ocean City, Maryland. 1996

Archaeology and Highway Construction. American Society of Highway Engineers, Windber, Pennsylvania. 1995

Under the Floor: Archaeological Investigations at The Octagon House. Middle Atlantic Archaeological Conference, Ocean City, Maryland. 1995

Archaeological Investigations of The Octagon House, A Summary View. Society for Historical Archaeology, Washington, D.C. 1995

Urban Archaeology and The Octagon. District of Columbia Historical Society, Washington, D.C. 1993

What is Archaeology and Why are we doing it at The Octagon? Architectural Institute of America, Washington, D.C. 1993

Whither Go the Drains? Archaeological Investigations at the Octagon House. Middle Atlantic Archaeological Conference, Washington, D.C. 1993

Plantation Archaeology in the Caribbean. Archaeological Society of Maryland. 1992

A Comparison of Two Late Archaic sites along the Patuxent River. Archaeological Society of Maryland. 1992

Evolution of Community, De-evolution of Family, Williamsburg, Virginia. Society for Historical Archaeology, Kingston, Jamaica. 1992

Numerous seminars, lectures, and presentations to community groups, historical societies, and educational venues.

ACTIVITIES/SERVICE

1999-2003 Chair, Awards Selection Committee, Middle Atlantic Archaeological Conference.

2000-2002	Vice President, Archeological Society of Maryland
1999-2001	Coordinator, Teacher of the Year Award, Archeological Society of Maryland
1999-2001	Coordinator, Student Scholarship Program, Archeological Society of Maryland
2000	Chair, round-table discussion on Public Outreach and Education, Society for Historical Archaeology, Quebec City, Canada.
1998-2000	Board member, Archeological Society of Maryland
1998	Organized and Chaired Session on Prehistoric Settlement in the Casselman Valley: Phase III Investigations in Meyersdale, Pennsylvania. Middle Atlantic Archaeological Conference, Cape May, New Jersey.
1997-1998	Committee Member, Awards Selection Committee, Middle Atlantic Archaeological Conference.
1997	Chaired the Terrestrial Contributed Papers Session, Society for Historical Archaeology Annual Meeting, Corpus Christ, Texas.
1994-1996	Committee Member, Nominations Committee, Anthropological Society of Washington, D.C.
1993-1996	Board Member, Anthropological Society of Washington, Washington, D.C.
1993-1996	Committee Member, Awards Criteria Committee, Middle Atlantic Archaeological Conference.
1993	Organized and Chaired session on Current Research in Historical Archaeology. Middle Atlantic Archaeological Conference, Ocean City, Maryland.
1992	Organized and Chaired session on Historic Mortuary Behavior, annual meetings of the

Society for Historical Archaeology. Kingston, Jamaica.

1992 Assisted the Program Organizer for the Society of Ethnobiology 15th Annual Conference, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

1987-1989 Program Chair, Journal Club (The American University Anthropology Guest Lecture Series)