

**AREA OF POTENTIAL EFFECTS (APE)
DETERMINATION LETTER TO VIRGINIA STATE HISTORIC
PRESERVATION OFFICER (SHPO),
DATED FEBRUARY 26, 2003**



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
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), it 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.

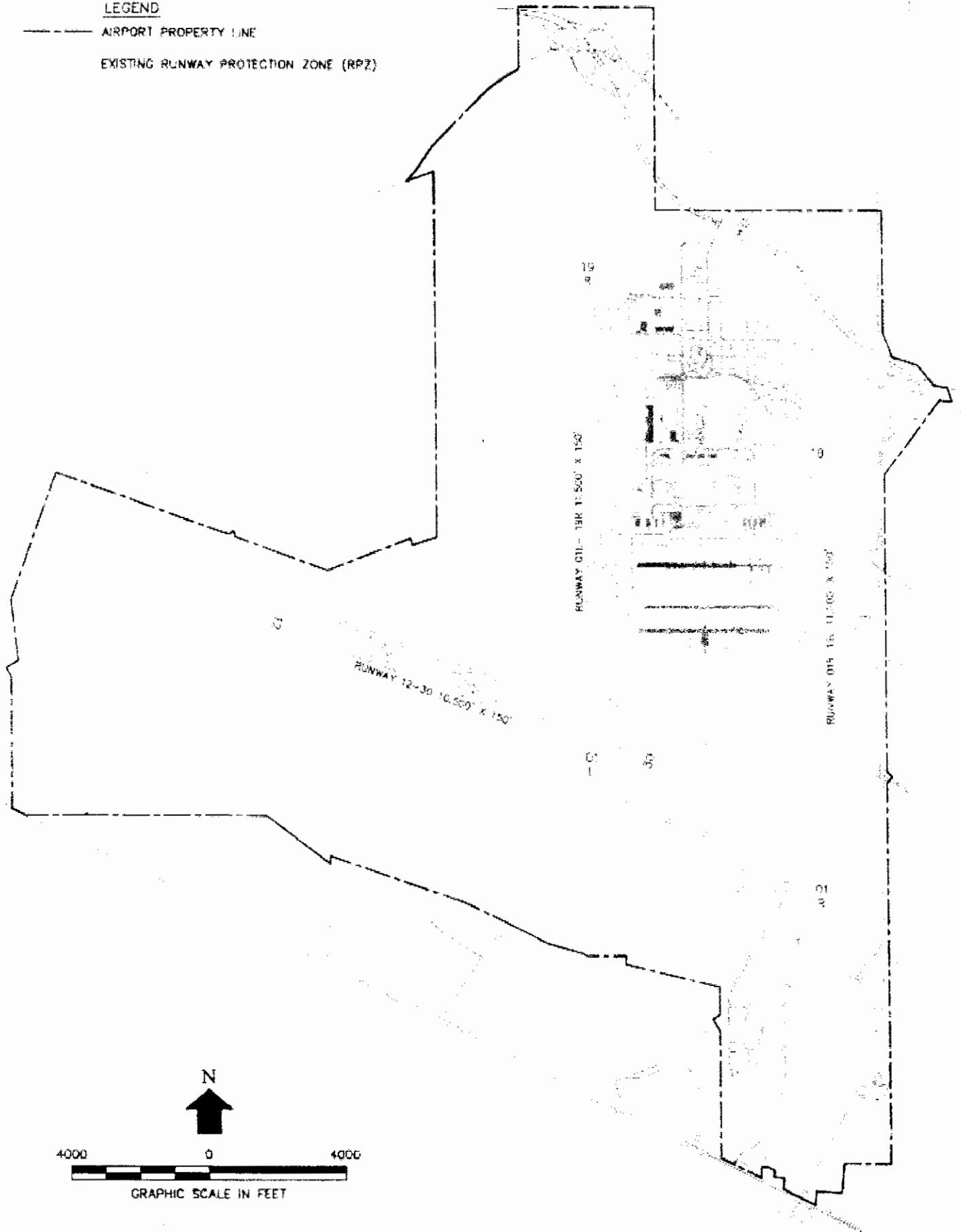
Raba-Kistner Consultants, Inc. Report on Vibration Monitoring. Transplan, Inc. New York, New York.
1986.

Washington Dulles International Airport; Final Environmental Assessment Tier 2 and related projects. EA
Engineering, Maryland. 2002

LEGEND

--- AIRPORT PROPERTY LINE

--- EXISTING RUNWAY PROTECTION ZONE (RPZ)

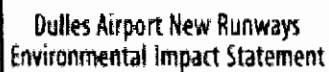
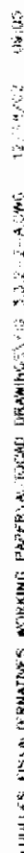
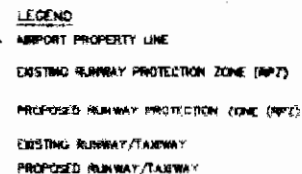


Dulles Airport New Runways
Environmental Impact Statement

URS

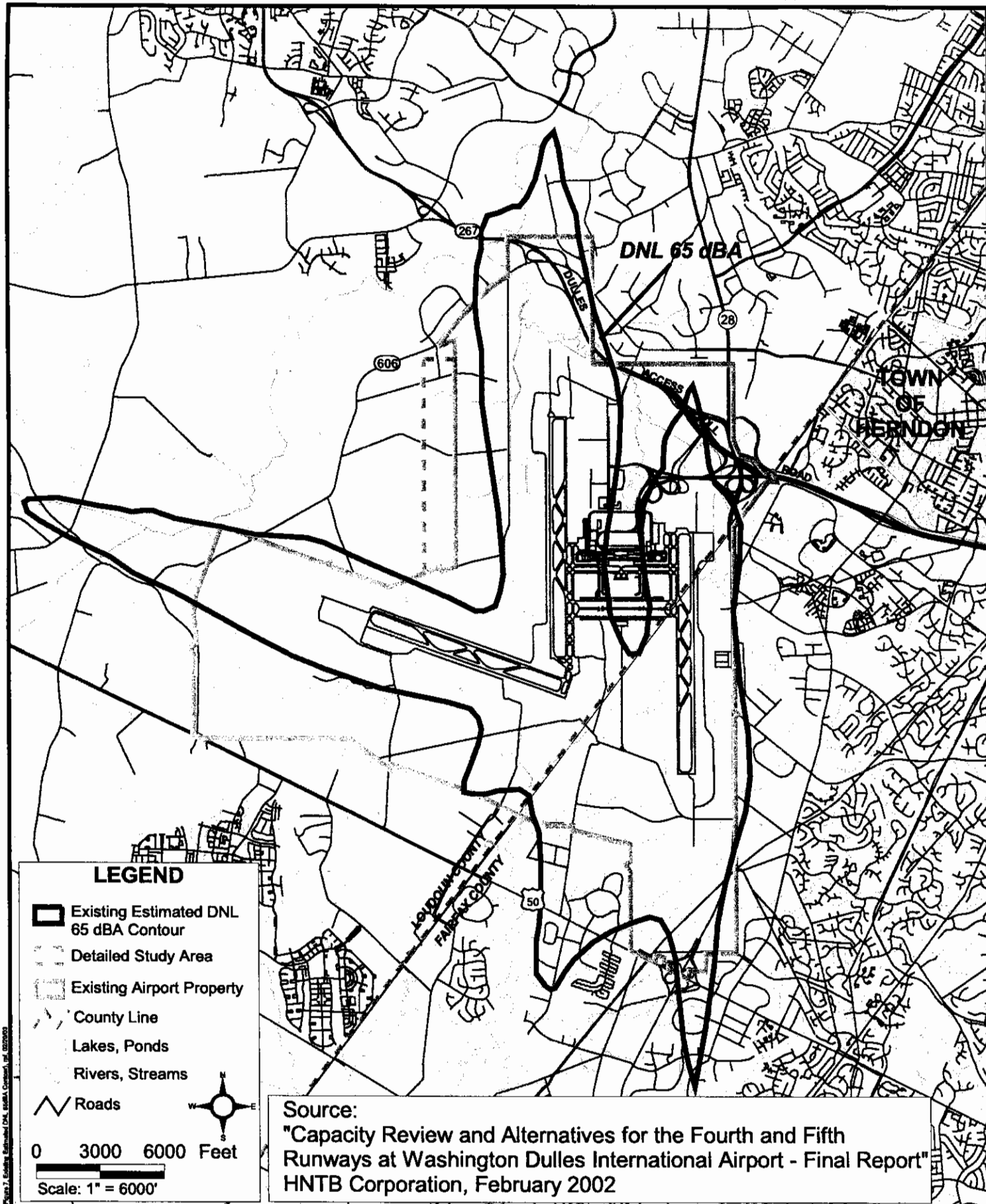
NO-ACTION ALTERNATIVE

**FIGURE
2**

**URS**

**BUILD ALTERNATIVE 1
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-3,500'
SEPARATION WITH NEW EAST/WEST RUNWAY)**

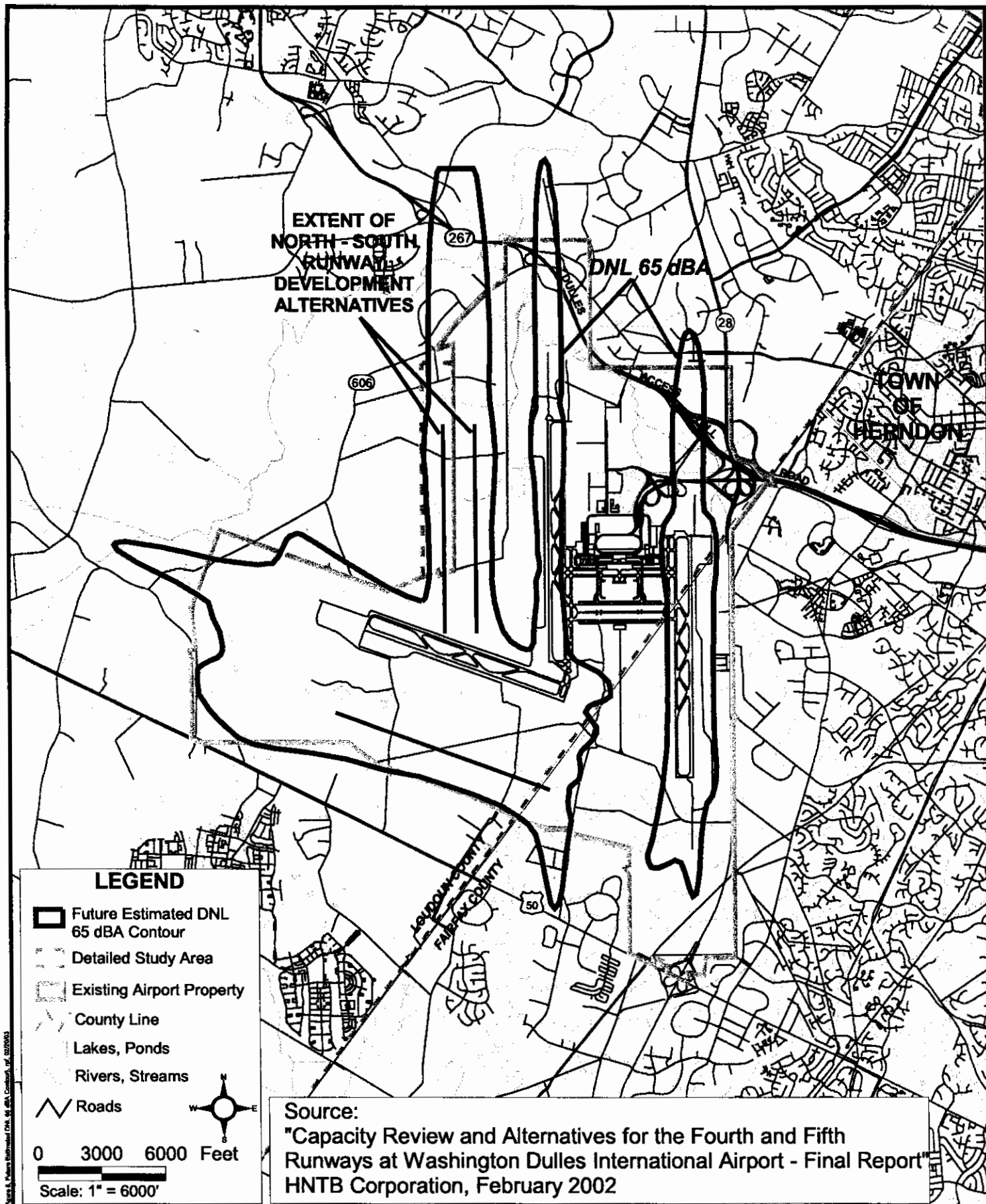
FIGURE
6




Dulles Airport New Runways
Environmental Impact Statement

**EXISTING ESTIMATED
DNL 65 dBA CONTOUR**

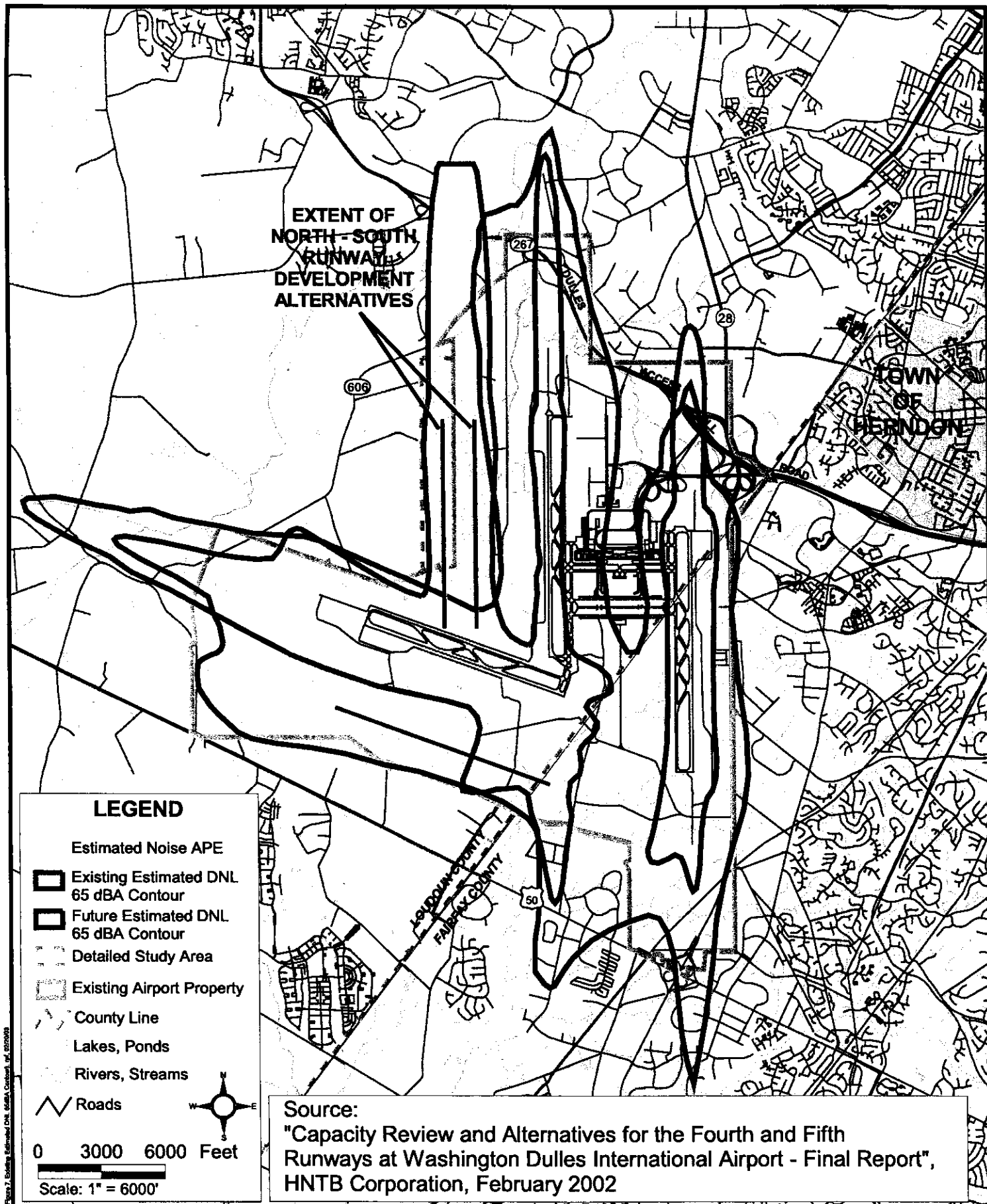
**FIGURE
7**



**Dulles Airport New Runways
Environmental Impact Statement**

**FUTURE ESTIMATED
DNL 65 dBA CONTOUR**

**FIGURE
8**

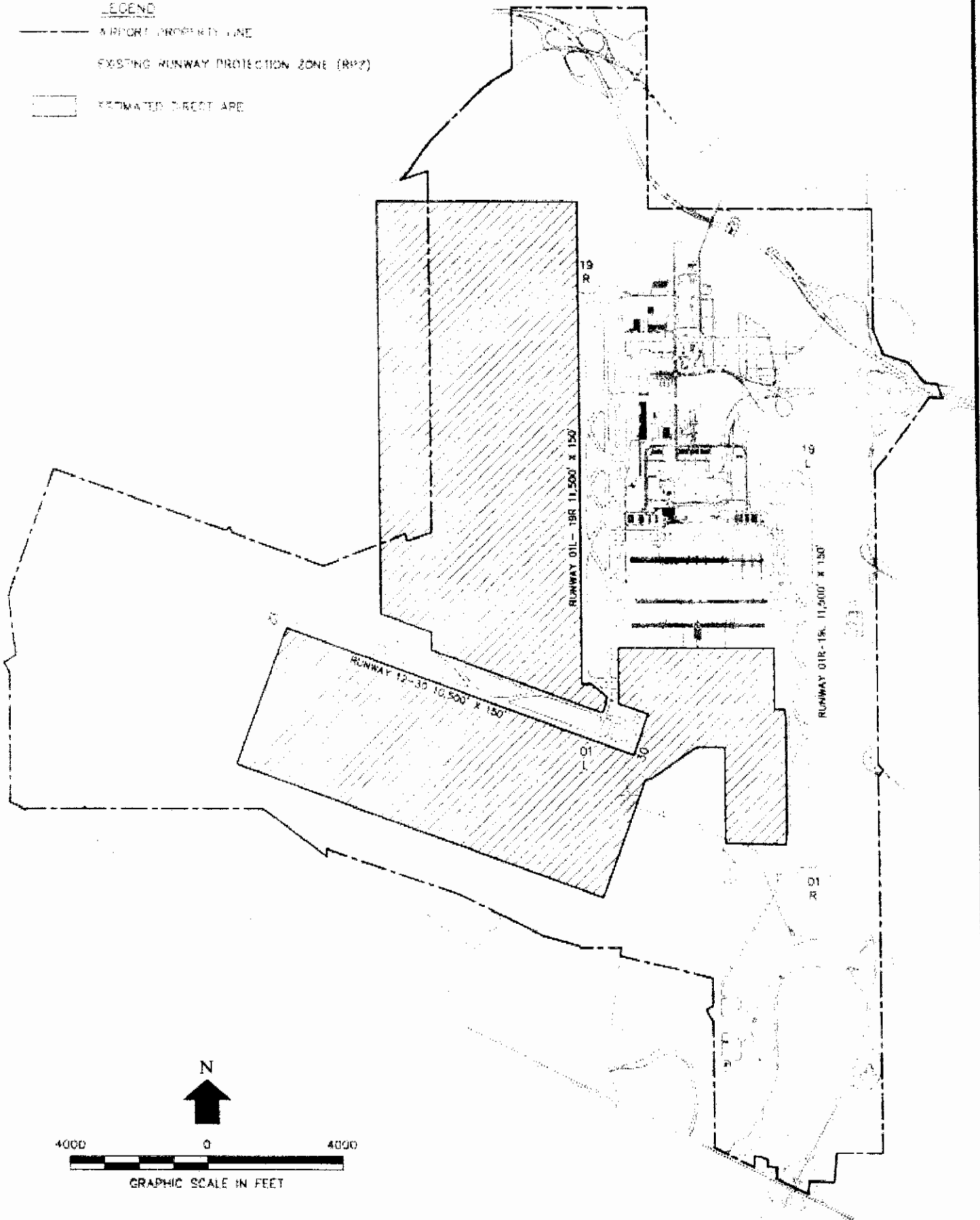


**Dulles Airport New Runways
Environmental Impact Statement**

ESTIMATED NOISE APE

**FIGURE
9**

ESTIMATED DEBT ARE



Dulles Airport New Runways Environmental Impact Statement

URS

ESTIMATED DIRECT APE

FIGURE
10

**STATE HISTORIC PRESERVATION OFFICER (SHPO)
CONCURRENCE OF AREA OF POTENTIAL EFFECTS (APE),
DATED JUNE 9, 2003**



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.

Administrative Svcs.
10 Courthouse Avenue
Petersburg, VA 23803
Tel: (804) 863-1685
Fax: (804) 862-6196

Petersburg Office
19-B Bollingbrook Street
Petersburg, VA 23803
Tel: (804) 863-1620
Fax: (804) 863-1627

Portsmouth Office
612 Court Street, 3rd Floor
Portsmouth, VA 23704
Tel: (757) 396-6709
Fax: (757) 396-6712

Roanoke Office
1030 Penmar Avenue, SE
Roanoke, VA 24013
Tel: (540) 857-7585
Fax: (540) 857-7588

Winchester Office
107 N. Kent Street, Suite 203
Winchester, VA 22601
Tel: (540) 722-3427
Fax: (540) 722-7535

Page 2

June 2, 2003

Mr. Mark R. Edwards

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,

A handwritten signature in black ink, appearing to read "Marc Holma", written in a cursive style.

Marc Holma, Architectural Historian
Office of Review and Compliance

**CONSULTATION CONCURRENCE STATEMENT FROM STATE
HISTORIC PRESERVATION OFFICER (SHPO),
DATED JUNE 28, 2004**

Baummer Jr., Charley

From: Ward, Henry
Sent: Thursday, July 01, 2004 11:06 AM
To: Baummer Jr., Charley
Subject: FW: Consultation Documentation - IAD New Runways (HS 500)

Charley:

Version of the VDHR document as sent.

Henry

-----Original Message-----

From: Jones, David A. (MA-34)
Sent: Wednesday, June 16, 2004 7:12 AM
To: 'eeaton@thr.state.va.us'
Cc: Turner, Richard; Ward, Henry
Subject: Consultation Documentation - IAD New Runways (HS 500)

Dear Dr. Eaton:

The Metropolitan Washington Airports Authority has recently received a request from the Federal Aviation Administration to provide documentation of our ongoing consultation related to the New Runways and Related Projects archaeological investigations.

In order to expedite our response to this request, the Authority is submitting the attached letter to your office which includes a Consultation Concurrence Statement indicating your office's concurrence with our ongoing consultation procedure. If you and your staff concur with this statement, we request that the appropriate VDHR staff representative sign the statement and return the last two pages to the Authority.

We appreciate that you have agreed to allow us to make a preliminary submission in electronic format (with the original to follow by mail in the next few days). Please feel free to indicate your concurrence and return a copy of the letter to the Authority. To further expedite the transmission of your response, this concurrence/signature page can be transmitted by FAX to this number (703-417-8199), to the attention of David Jones.

Once again, we appreciate your cooperation in expediting this consultation procedure and look forward to receiving your response.

If you have any questions or require additional information, please feel free to contact Henry Ward directly (Phone: 410-925-6730 or henry.ward@mwaa.com).

Thank you for your assistance.

David A. Jones
Manager, Design Department
Office of Engineering
Metropolitan Washington Airports Authority
703-417-8184



IADConsultation_V
DHR_NewRunway...

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 CFR 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 were 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.

E. Eaton, VASHPO/DHR
Archaeological Consultation on New Runways and Related Projects
Washington Dulles International Airport
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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

E. Eaton, VASHPO/DHR
Archaeological Consultation on New Runways and Related Projects
Washington Dulles International Airport
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**CONSULTATION CONCURRENCE STATEMENT RELATED TO
THE ARCHAEOLOGICAL INVESTIGATIONS OF
NEW RUNWAYS AND RELATED FACILITIES
WASHINGTON DULLES INTERNATIONAL AIRPORT**

STATEMENT OF CONCURRENCE

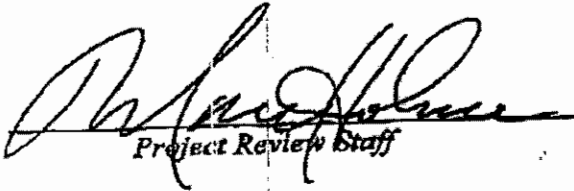
As a certified representative of the Virginia State Historic Preservation Officer (VASHPO), I have reviewed the attached record of consultation related to the Archaeological Investigations of New Runways and Related Facilities at Washington Dulles International Airport.

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 CFR 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 Facilities 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);

E. Eaton, VASHPO/DHR
Archaeological Consultation on New Runways and Related Projects
Washington Dulles International Airport
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- 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 Jan 04
Date

1990-0460
VASHPO / VDHR Project No.

Department of Transportation
Federal Aviation Administration

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

Washington Dulles International Airport
Dulles, Virginia

September 2004

For further information:



Mr. Brad Mehaffy
Department of Transportation
Federal Aviation Administration
Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166
703.661.1364





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

Page 2

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
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

ABSTRACT

On behalf of the Federal Aviation Administration (FAA), 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 new runways project at Washington Dulles International Airport (IAD) between February and March 2003 and between April and June 2004. These resources are located within the APE of the proposed runway and alternatives at IAD 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 noise 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 IAD to accommodate future aviation activity levels with acceptable levels of 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, navigational aids (NAVAIDS) and relocation of National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS) facilities. Three alternatives, No Action, Build Alternative 3, and Build Alternative 4, are being considered.

Because the Federal Aviation Administration (FAA) proposes to fund a portion of this project, it 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 the FAA is preparing to provide a comprehensive review of the environmental impacts associated with multiple design alternatives.

Fourteen architectural resources (buildings, structures, objects, and/or complexes) were identified within the APE for the proposed project 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 remaining twelve resources within the APE were evaluated and were found to be ineligible for listing in the National Register due to a lack of significance and/or integrity. 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.

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. Initial 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.

ABSTRACT

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).

Table 1: Summary of 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
053-5253	Building- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A
053-5254	Building 19- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A
053-5255	Building 18- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A
053-5256	Building 22- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A

ABSTRACT

VDHR Inventory #	Name	Property Type	NR Eligible? (Criteria)	No Action Alternative	Build Alternative 3	Build Alternative 4
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	N/A	N/A	N/A
053-5266	House at 44210 Beaver Meadow Road Ruins	Ruins	No	N/A	N/A	N/A

NOTE: It should be noted that FAA/MWAA is currently negotiating the transfer of property and relocation of NOAA/NWS facilities. If the results of the land transfer change the APE described in this report in any way, the FAA will contact the Virginia Department of Historic Resources to conduct additional consultation under 36 CFR Part 800.

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1.1 PROJECT LOCATION

On behalf of the Federal Aviation Administration (FAA), 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 new runway project at Washington Dulles International Airport (IAD) between February and March 2003 and between April and June 2004. These resources are located within the APE of the proposed runway and alternatives at IAD 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 noise 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 IAD proposal project. Mark R. Edwards, URS National Capital Area Cultural Resources Practice Leader, served as the overall Project Manager.

1.2 DESCRIPTION OF UNDERTAKING

Two additional runways and associated improvements are needed to enable IAD (shown on Figure 1-1) to accommodate future aviation activity levels with acceptable levels of 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 taxiways, a new Tier 3 Concourse, other associated support facilities such as lighting systems, navigational aids (NAVAIDS), relocation of National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS) Sterling facilities. These lighting systems and NAVAIDS assist pilots during periods of reduced visibility by providing additional visual guidance to maneuver around the Airport Operations Area (AOA) and to identify the landing threshold when on final approach to the airport. New lighting systems that would be incorporated into the proposed project 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 partially fund this project, it 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 the FAA is preparing to provide 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.

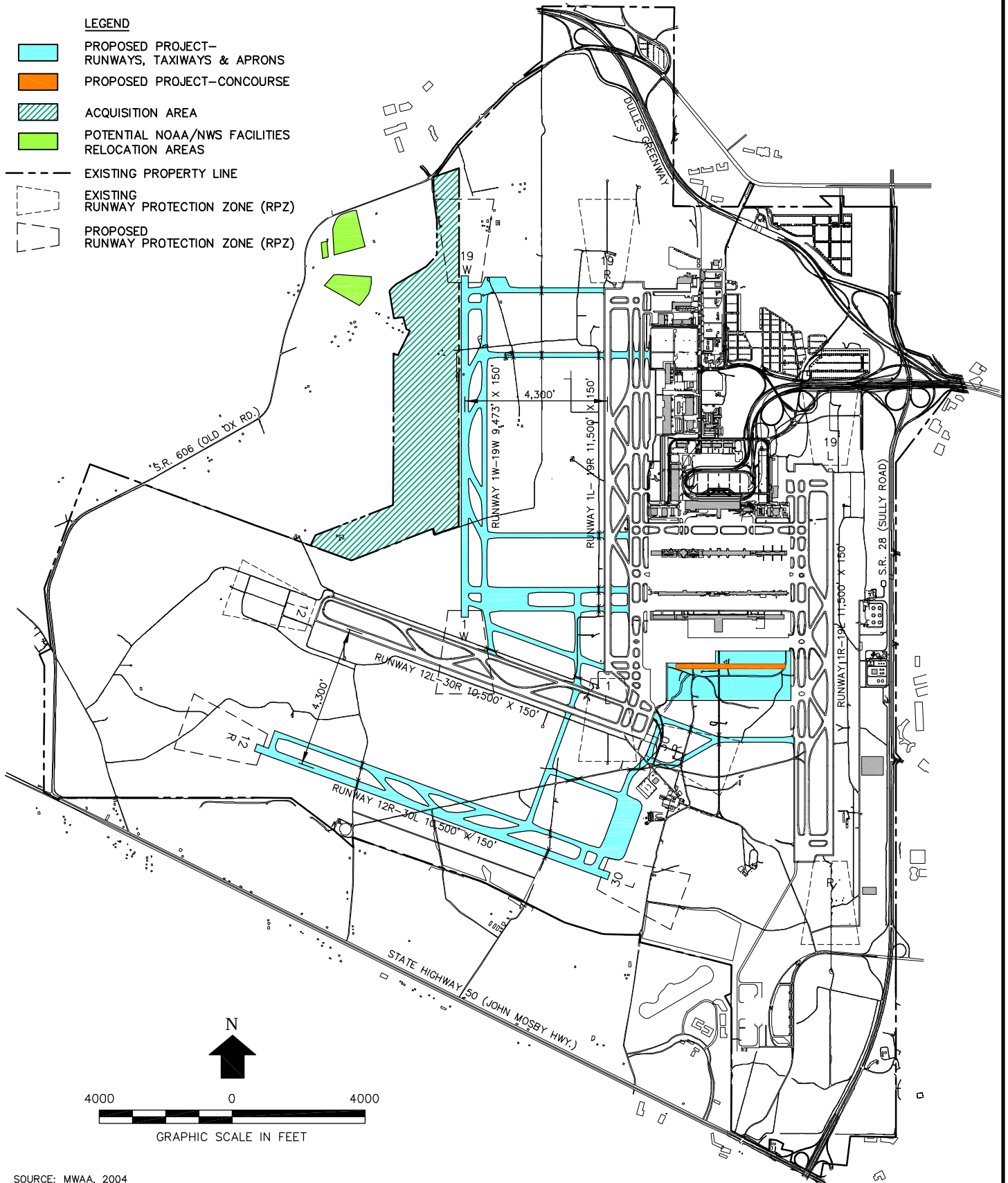
1.2.1 Direct Actions:

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 (approximately 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 (approximately 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 (approximately 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 (shown on Figure 1-2).
- Build Alternative 4 - a five-runway system with a new north-south runway (approximately 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 (shown on Figure 1-3).

LEGEND

- PROPOSED PROJECT—
RUNWAYS, TAXIWAYS & APRONS
- PROPOSED PROJECT—CONCOURSE
- ACQUISITION AREA
- POTENTIAL NOAA/NWS FACILITIES
RELOCATION AREAS
- EXISTING PROPERTY LINE
- EXISTING
RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED
RUNWAY PROTECTION ZONE (RPZ)



SOURCE: MWA, 2004
SRI INTERNATIONAL, 2004

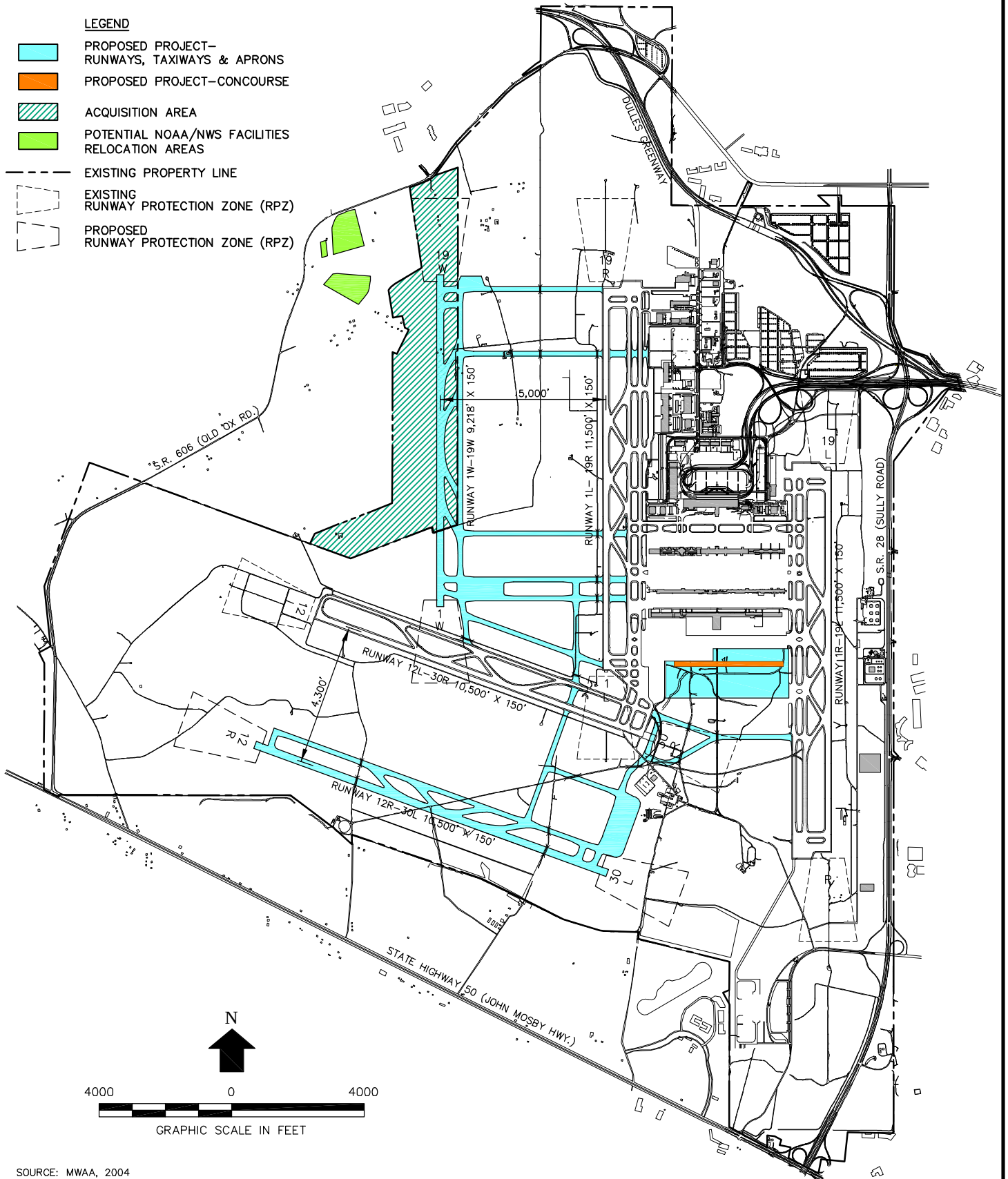


BUILD ALTERNATIVE 3

FIGURE
1-2

LEGEND

- PROPOSED PROJECT—
RUNWAYS, TAXIWAYS & APRONS
- PROPOSED PROJECT—CONCOURSE
- ACQUISITION AREA
- POTENTIAL NOAA/NWS FACILITIES
RELOCATION AREAS
- EXISTING PROPERTY LINE
- EXISTING
RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED
RUNWAY PROTECTION ZONE (RPZ)



SOURCE: MWA, 2004
SRI INTERNATIONAL, 2004



Dulles Airport New Runways
Environmental Impact Statement

BUILD ALTERNATIVE 4

**FIGURE
1-3**

- Build Alternative 5 - a four-runway system with a new north-south runway (approximately 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.

Of the seven alternatives initially evaluated, Build Alternative 3 (a five-runway system with a 4,300 foot north-south runway separation; shown on Figure 1-2), Build Alternative 4 (a five-runway system with a 5,000 foot north-south runway separation; shown on Figure 1-3), and the No-Action Alternative have been selected by FAA for further review, and will be carried through the full analysis under the EIS.

Specifically, the Purpose and Need for the runways at IAD 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 FAA has 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 are 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 taxiway connectors between new Runway 12R/30L and existing runway 12R/30L;
- Installation and operation of lighting and NAVAIDS for new runways 1W/19W and 12R/30L;
- Construction and operation of a new cross-field taxiway connector between existing Runway 30 and Taxiway Juliette 5 (“J5”);
- Tier 3 Concourse development;
- Construction and operation of the automated people mover from the Tier 2 Concourse to the Tier 3 Concourse;
- Relocation of NOAA/NWS Sterling facilities including the Weather Surveillance Radar (WSR-88D), Weather Forecast Office, NDBC Test Bed Facilities, and Upper Air Testing Facilities group;
- Obtain State Water Quality Section 401 Certification and USACE Section 404 wetland fill permit prior to start of construction and implementation of mitigation measures;
- Acquisition of 448 acres of property on the west side of the airport to accommodate FAR Part 77 clearance surfaces, a runway protection zone (RPZ), and buffer area;
- Potential changes in air traffic procedures, 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 are 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 was performed as part of the 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;
- Construction and operation of automated people mover from main terminal to Concourse B, and Concourse B to Tier 2 (Concourse C/D);
- Reconstruction of existing Runway 12/30;
- Construction and operation of new Airport Traffic Control Tower (ATCT);
- On-airport roadway improvements;
- IAD 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 Build alternatives are 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 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, 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

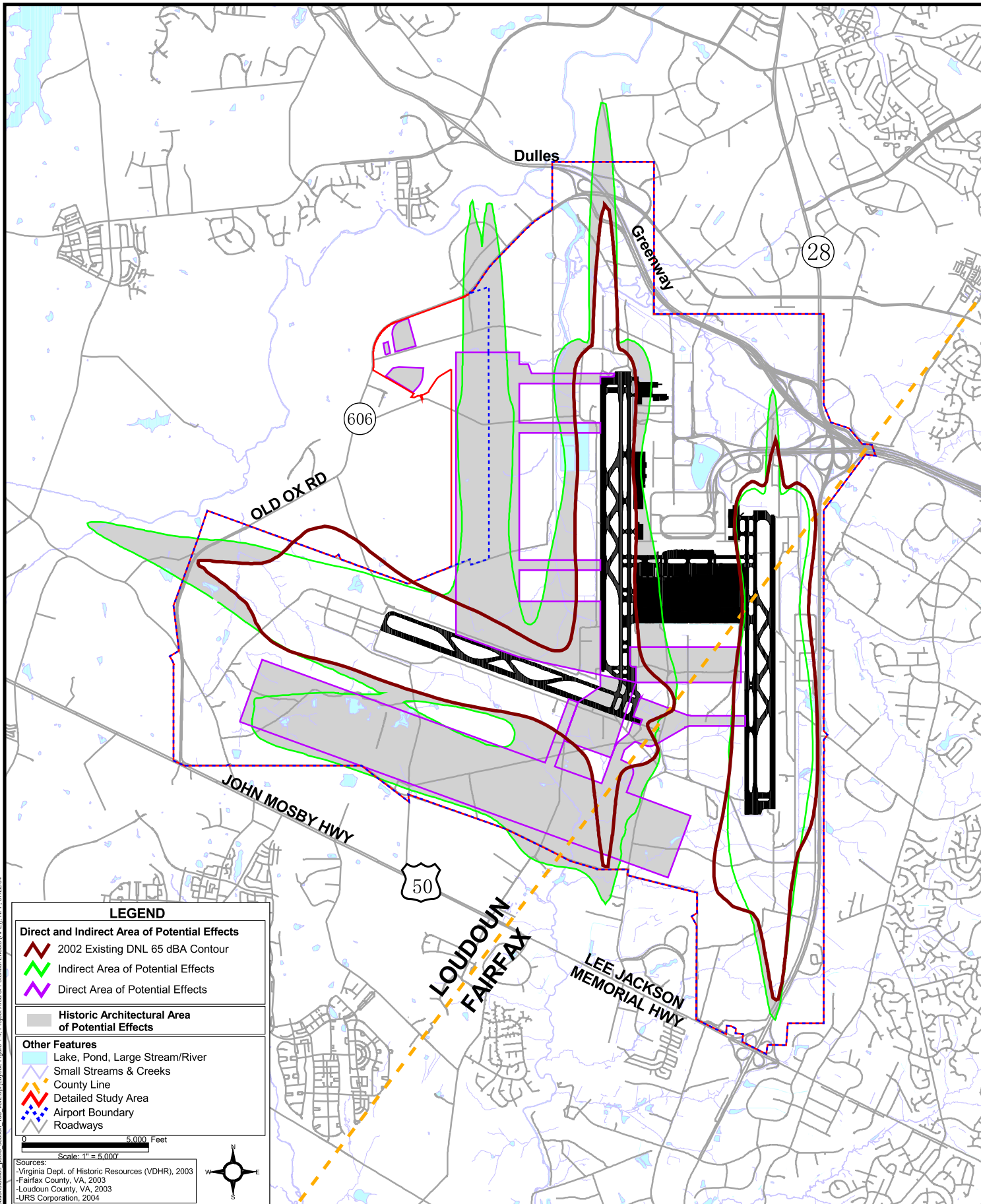
The APE associated with historic resources for the EIS includes lands at IAD presently owned by MWAA and parcels that would be acquired by MWAA as part of the proposed action and other reasonable alternatives (Figure 1-4). In addition, the APE for historic resources includes those locations that would newly 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.”

M:\p1a on m370\ Dulles EIS\12001757\Applications\dulles p1a section 106_v02.apr\Layout: Figures 1-4, Project Area of Potential Effects (APE), RFP, 07/22/04




Dulles Airport New Runways
Environmental Impact Statement

**PROJECT AREA OF
POTENTIAL EFFECTS (APE)**

**FIGURE
1-4**

Date: 07/22/04

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 APE also includes parcels currently occupied by the NOAA and used to support a weather station. FAA has consulted with NOAA regarding the identification and/or eligibility of potential resources on these parcels and MWAA has conducted a cultural resource survey at NOAA's present location which is located 0.6 miles west of the fenced IAD boundary on a

parcel of land approximately three acres in size. The results of the architectural resource survey of the NOAA property are included in Section 4.0 of this report.

The direct effects within the APE will consist of areas related to the proposed project construction, as well as associated clearance areas, as illustrated in Figure 1-4.

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, such as 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.*, 17 F.2d 1502).

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 newly 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 1-4.

The historic resources survey fieldwork identified a single noise-sensitive historic resource (located outside of the DNL 65 dBA contour) pursuant to 36 CFR §800.4, and FAA requests consultation with VDHR regarding this proposed adjustment to the Noise APE. 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. Additional information regarding this property is contained in Section Four of this report.

1.3.6 Atmospheric and Visual Effects

In addition, the APE considers 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. 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, 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 indicates the potential for atmospheric or related effects, FAA may revise the APE.

The design of lighting systems and NAVAIDS 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 considers 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.

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 IAD vicinity and the project area. VDHR records of surveyed properties proximate to IAD, 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 IAD 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 IAD 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 IAD 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 IAD provided a comprehensive summary regarding previously surveyed historic and archaeological resources within IAD boundaries. During this review, two 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 IAD 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 IAD 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 IAD 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 Loudoun, Fairfax, and 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 IAD 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 from 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; Donnelly-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 Washington 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 IAD (Donnelly-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 (Donnelly-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 Washington 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 IAD led to a substantial shift in land use from traditional agricultural purposes to airport-related commercial development. The location of the latter operations near IAD 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 IAD 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 IAD, 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 IAD boundary. The crossroads center of Willard, consisting of nine dwellings, was situated at what is now the southern end of the present north-south 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 IAD 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.

Fourteen 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

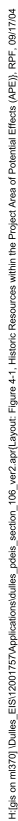
Plan Type: Side Passage, Double Pile

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



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 tendon 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 “garretting,” 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:

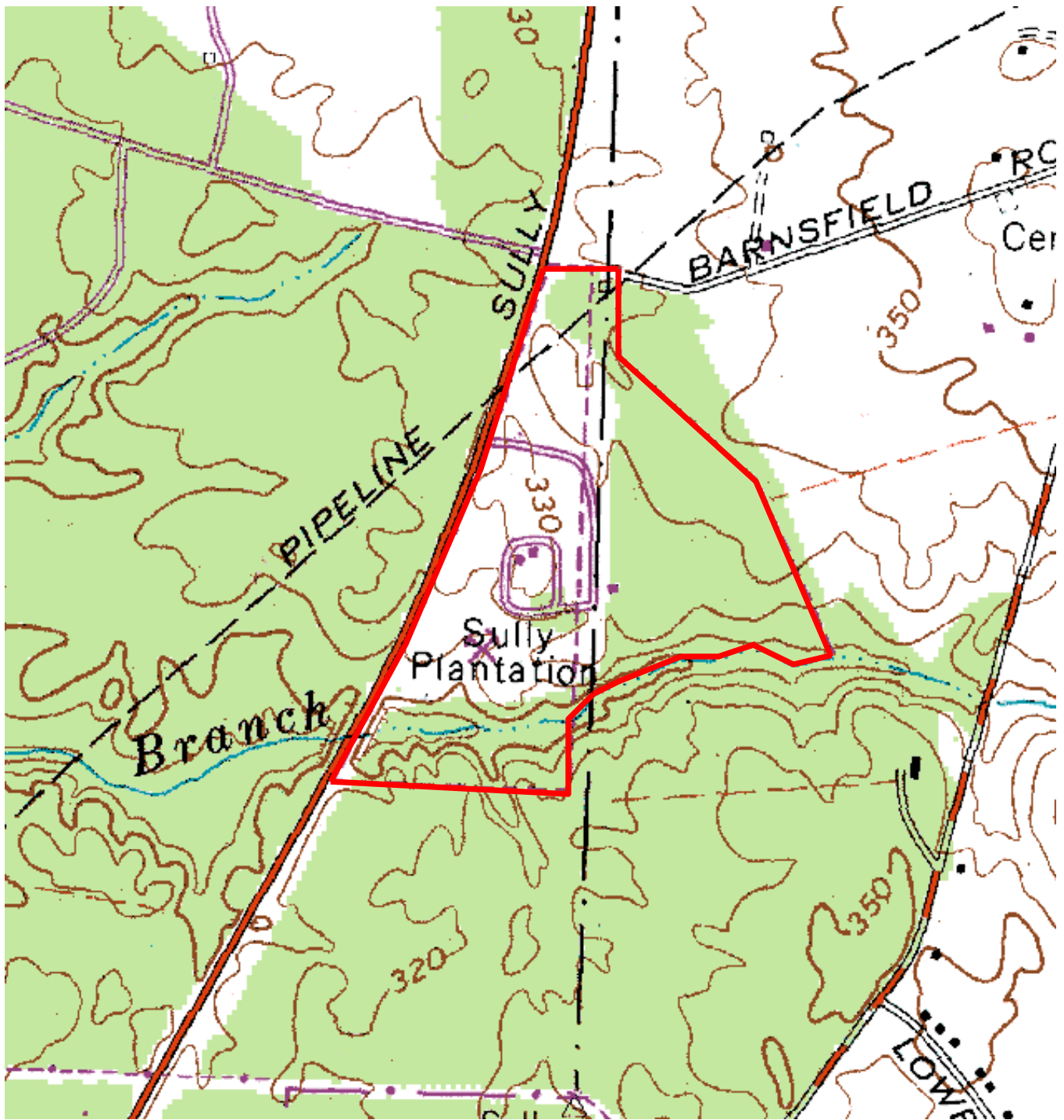
There might well be instances in which the 65 Ldn standard for residential properties would be inadequate to protect the particular values that led to the designation of a site as historic. Consider, for example, a village preserved specifically in order to convey the atmosphere of rural life in an earlier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

Sully Plantation will not experience an adverse effect due to either Build Alternative 3 or Build Alternative 4. Initial noise modeling for aircraft traffic and analysis of the proposed runway alternatives indicates that the construction of additional runways would divert traffic away from the existing runway located closest to Sully Plantation. This in turn would result in the aircraft-

related noise level either remaining the same, or experiencing an estimated 1 dBA decrease. This noise level estimate is associated with all of the preferred runway expansion alternatives.



**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 that might otherwise detract from the Main Terminal, such as the main parking facility and service buildings, from visitors 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 better 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 effects the proposed Tier 3 Concourse Improvements and associated utility improvements will have on the Dulles Airport Historic District, 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).

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, 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

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 have led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

4.5 053-5253 (BUILDING- NATIONAL WEATHER SERVICE STERLING FACILITY)



Address: Weather Service Road, Sterling, Loudoun County

UTM: 18 284758E 4316812N

Construction Date: 1949

Architectural Style: No Style

Plan Type: Other- Open Plan

Area within Direct APE: 100 percent

Area within Noise APE: 0 percent

Setting:

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.

Description:

This unnumbered building, a circa 1949 laboratory 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.

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 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.

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.

4.6 053-5254 (BUILDING 19- NATIONAL WEATHER SERVICE STERLING FACILITY)



Address: Weather Service Road, Sterling, Loudoun County

UTM: 18 284794E 4316929N

Construction Date: 1949

Architectural Style: No Style

Plan Type: Other- Open Plan

Area within Direct APE: 100 percent

Area within Noise APE: 0 percent

Setting:

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.

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.

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.

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 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.

4.7 053-5255 (BUILDING 18- NATIONAL WEATHER SERVICE STERLING FACILITY)



Address: Weather Service Road, Sterling, Loudoun County

UTM: 18 284830E 4317178N

Construction Date: 1949

Architectural Style: No Style

Plan Type: Other- Open Plan

Area within Direct APE: 100 percent

Area within Noise APE: 0 percent

Setting:

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.

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.

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 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.

4.8 053-5256 (BUILDING 22- NATIONAL WEATHER SERVICE STERLING FACILITY)



Address: Weather Service Road, Sterling, Loudoun County

UTM: 18 285104E 4316838N

Construction Date: Circa 1950

Architectural Style: No Style

Plan Type: Other- Open Plan

Area within Direct APE: 100 percent

Area within Noise APE: 100 percent

Setting:

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. The building's immediate surroundings are overgrown testing fields.

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.

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 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.

4.9 053-5257 (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 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.

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 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.

4.10 053-5258 (BUILDING 16- NATIONAL WEATHER SERVICE STERLING FACILITY)



Address: Weather Service 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 1943. 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.

4.11 053-5261 (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 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.

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 ethane 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 structure for balloon testing activities. These buildings rest on a continuous poured concrete foundation. 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. 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 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 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.

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.

4.12 053-5263 (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 had a partial loss of 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.

4.13 053-5264 (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 through 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 driven into the supporting members and the rafters for 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.

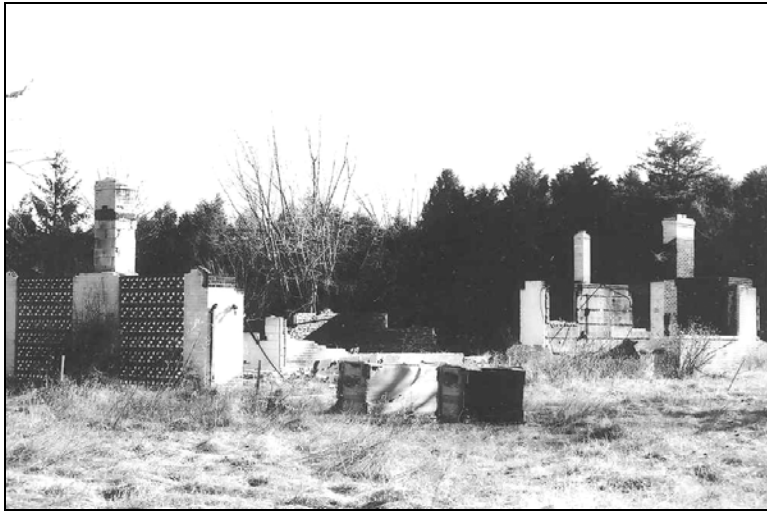
To the east of the barns is the one story wood frame hog house. This timber frame building rests on concrete masonry unit piers. The building is clad with vertical boards and has a shed roof clad with standing seam metal. A fenced in yard is located directly to the rear of the building.

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, 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.

4.14 053-5266 (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.

5.1 SUMMARY

A total of fourteen architectural resources were identified within the APE for the proposed IAD 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 2 provides a summary of each property'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.

5.2 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 there would be no adverse effect to the Dulles Airport Historic District (VDHR #053-0008) due to either Build Alternative 3 or 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. 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).

Table 2: Summary of Survey Findings

VDHR Inventory #	Name	Property Type	NR Eligible? (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
053-5253	Building- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A	No action necessary
053-5254	Building 19- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A	No action necessary
053-5255	Building 18- National Weather Service, Sterling Facility	Laboratory	No	N/A	N/A	N/A	No action necessary
053-5256	Building 22- National Weather Service, Sterling Facility	Laboratory	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 Eligible? (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	N/A	N/A	N/A	No action necessary
053-5266	House at 44210 Beaver Meadow Road Ruins	Ruins	No	N/A	N/A	N/A	No action necessary

5.3 RECOMMENDATIONS

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. Upon further development of the proposed Tier 3 Concourse Improvements, and associated construction, the effects of the proposed associated actions on the Dulles Airport Historic District (VDHR #053-0008) will be assessed by FAA and submitted to VDHR for concurrence.

NOTE: It should be noted that FAA/MWAA is currently negotiating the transfer of property and relocation of NOAA/NWS facilities. If the results of the land transfer change the APE described in this report in any way, the FAA will contact the Virginia Department of Historic Resources to conduct additional consultation under 36 CFR Part 800.

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Appendix A
Agency Correspondence



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
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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.

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Page 2
June 2, 2003
Mr. Mark R. Edwards

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,

A handwritten signature in black ink, appearing to read "Marc Holma", written in a cursive style.

Marc Holma, Architectural Historian
Office of Review and Compliance



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,

A handwritten signature in black ink that reads "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

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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), it 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

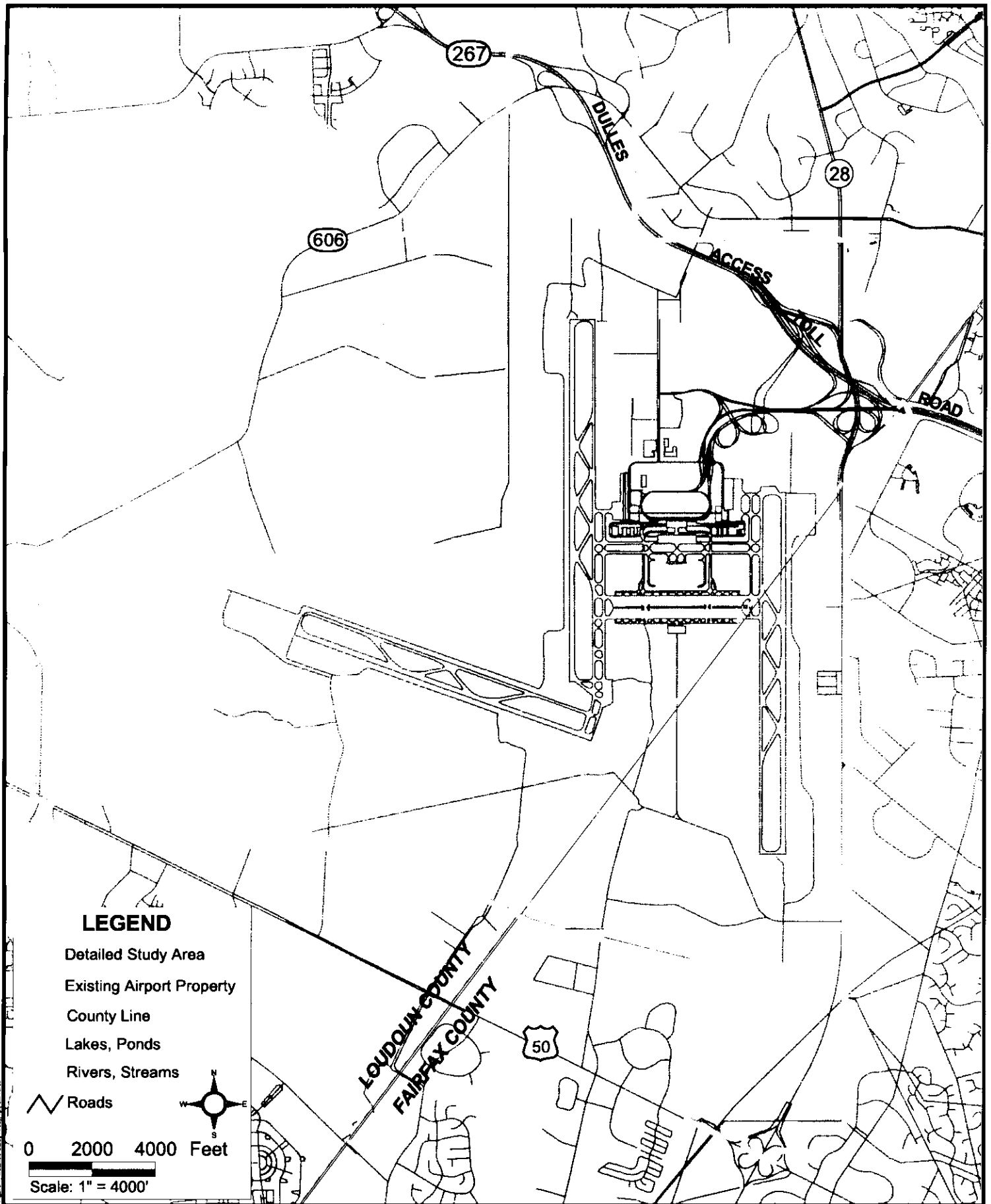
FAA. Order 5050.4A, Airport Environmental Handbook. 1985.

FAA. Order 1051.1D, Policies and Procedures for Considering Environmental Impacts. Attachment 2 "Historical, Architectural, Archeological and Cultural Resources" pages 34-41. 1999

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Raba-Kistner Consultants, Inc. Report on Vibration Monitoring. Transplan, Inc. New York, New York. 1986.

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Dulles Airport New Runways
Environmental Impact Statement

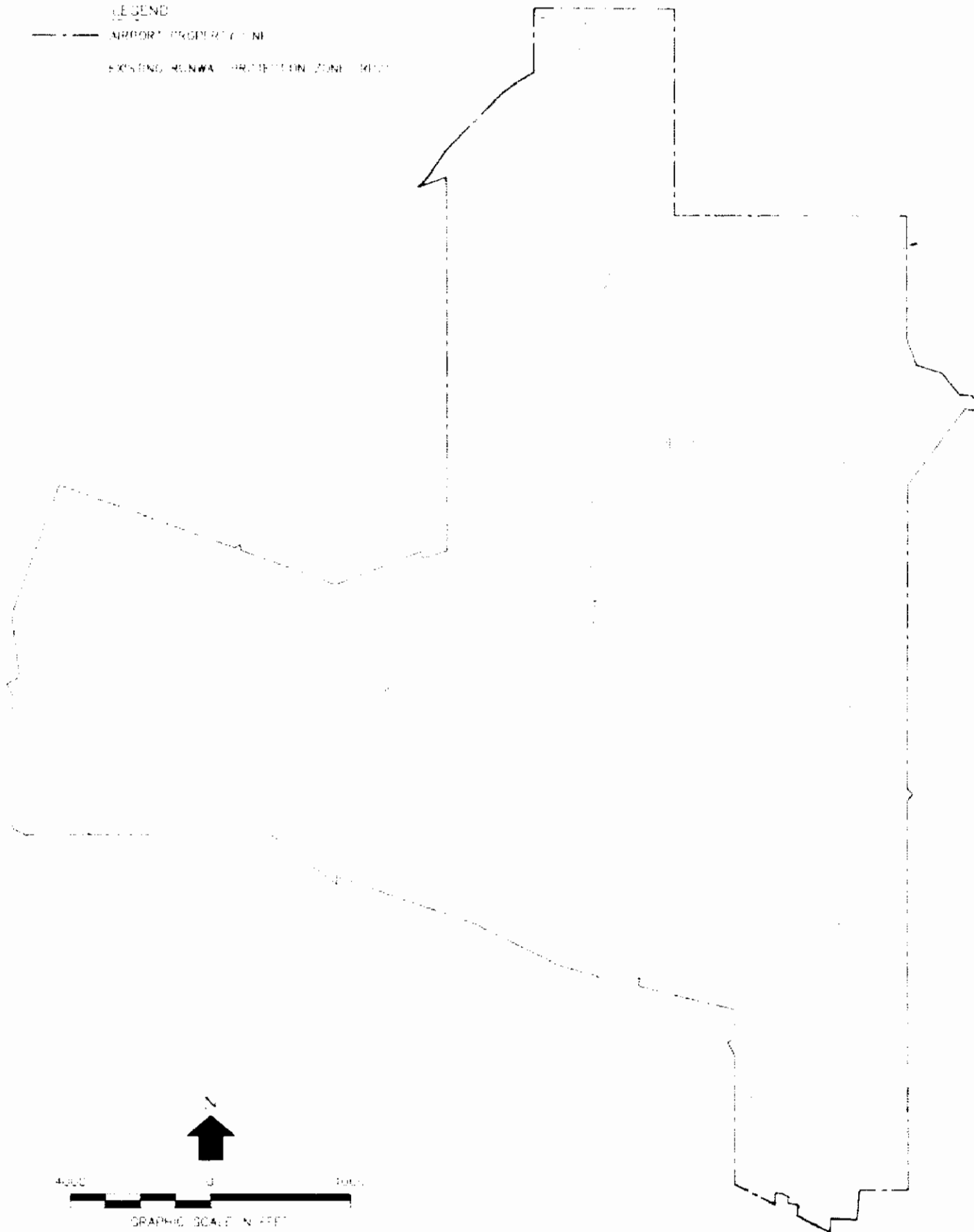
DETAILED STUDY AREA

FIGURE
1

LEGEND

— AIRPORT PROPERTY LINE

- - - - - EXISTING RUNWAY PROTECTION ZONE (RPZ)

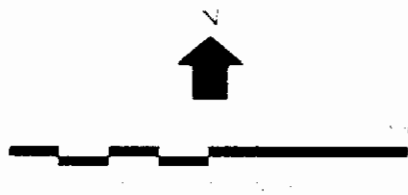


Dulles Airport New Runways
Environmental Impact Statement

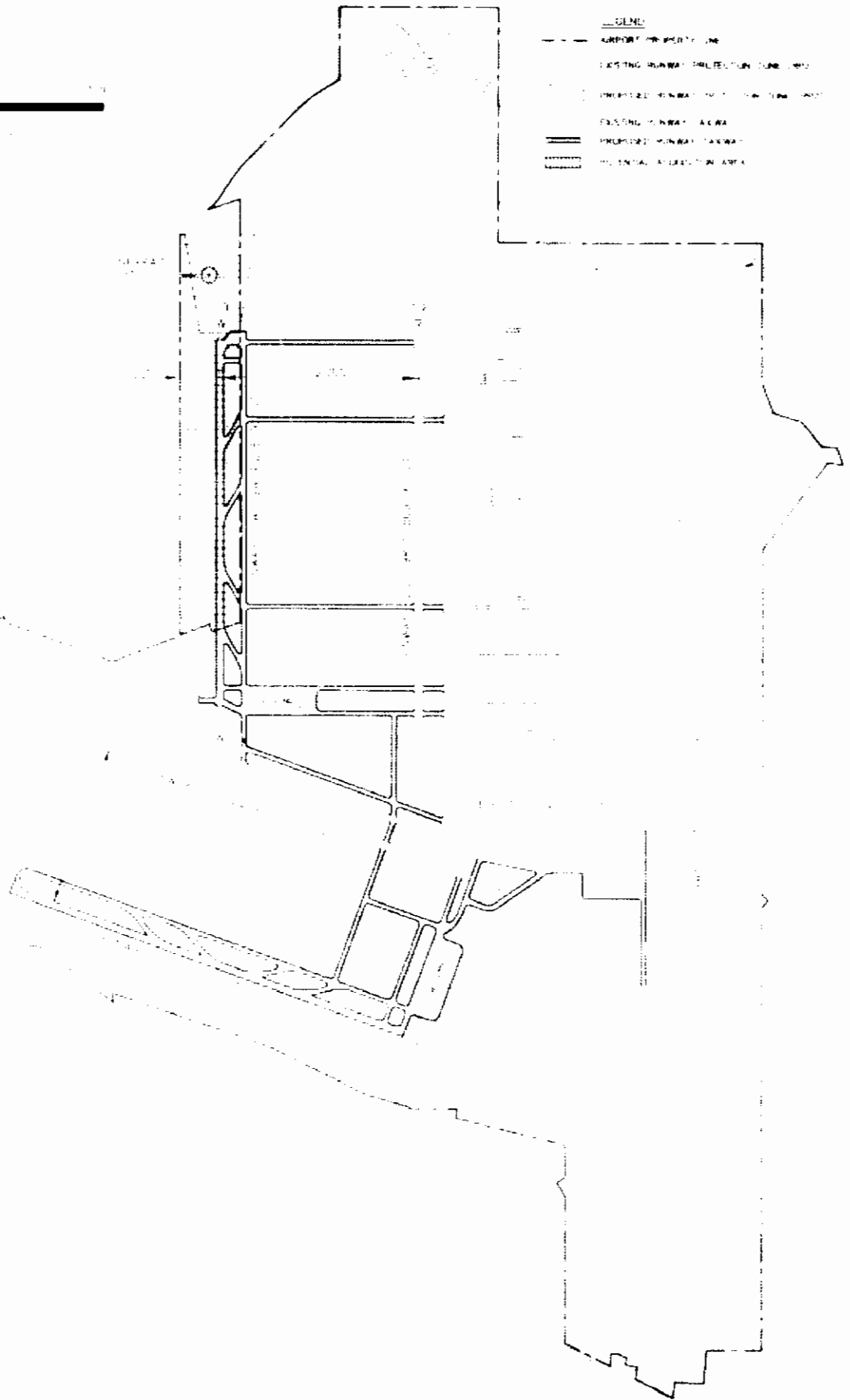
URS

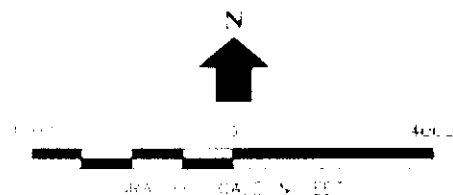
NO-ACTION ALTERNATIVE

**FIGURE
2**

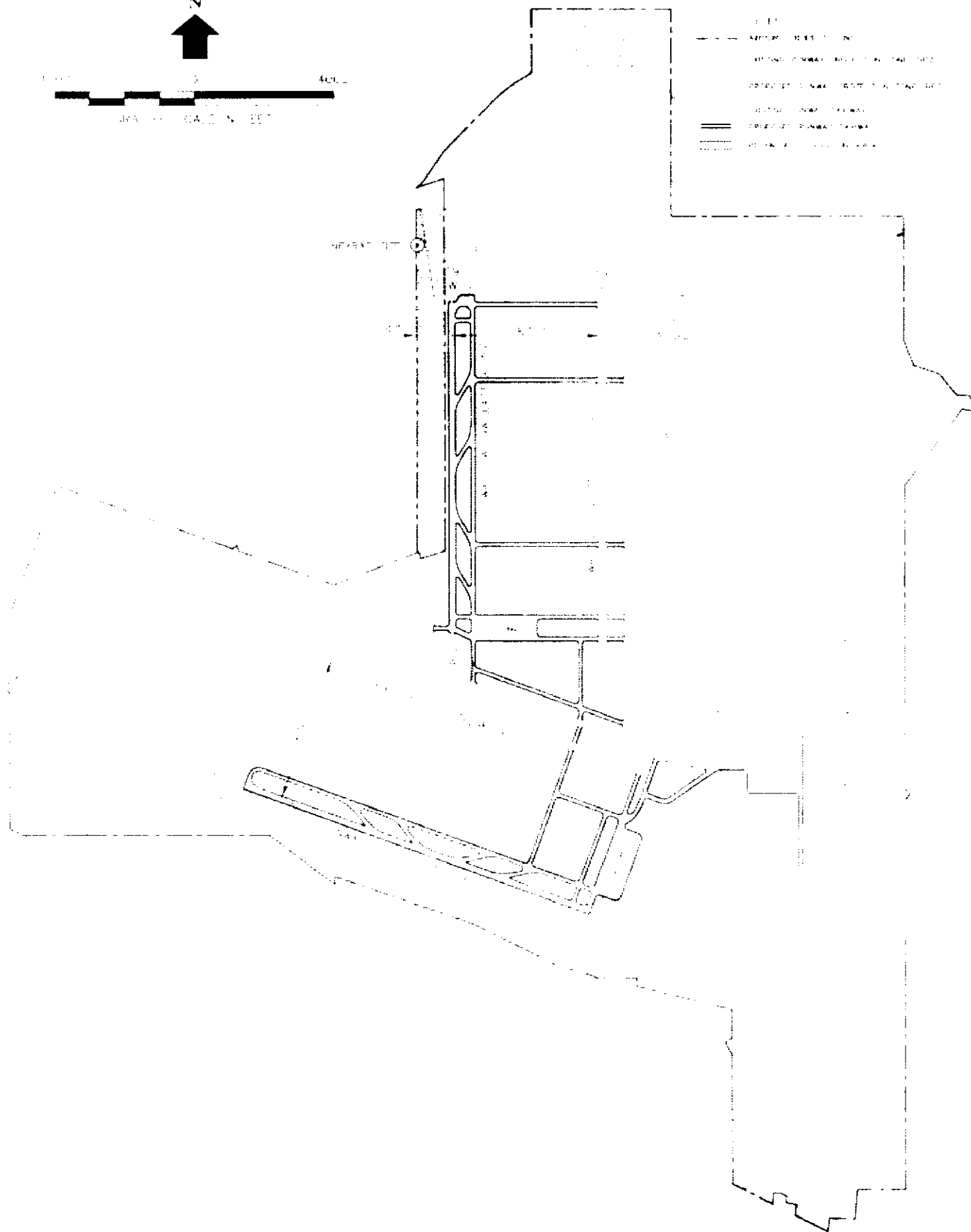


- LEGEND**
- AIRPORT PROPERTY LINE
 - - - - - EXISTING RUNWAY PROTECTION ZONE (RPZ)
 - - - - - PROPOSED RUNWAY PROTECTION ZONE (RPZ)
 - ==== EXISTING RUNWAY AREA
 - ==== PROPOSED RUNWAY AREA
 - ==== POTENTIAL ACQUISITION AREA



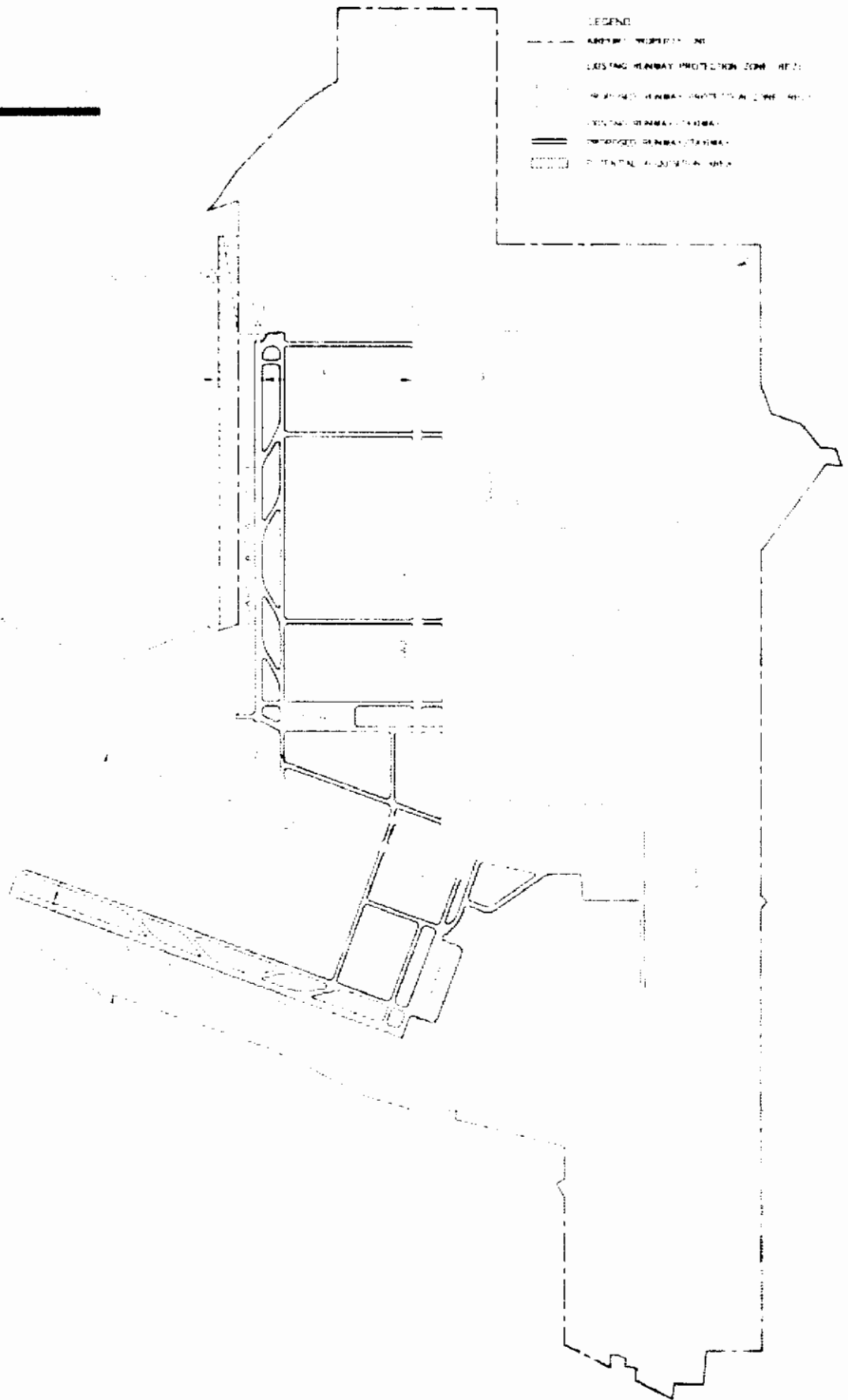


- LEGEND
- AIRPORT PROPERTY LINE
 - EXISTING RUNWAY - 4,300' x 150' (1967)
 - PROPOSED RUNWAY - 4,300' x 150' (2017)
 - EXISTING RUNWAY - 10,000' x 150'
 - PROPOSED RUNWAY - 10,000' x 150'
 - EXISTING TAXIWAY
 - PROPOSED TAXIWAY





- LEGEND
- AIRPORT PROPERTY LINE
 - EXISTING RUNWAY PROTECTION ZONE (RPZ)
 - REMOVED RUNWAY PROTECTION ZONE (RPZ)
 - EXISTING RUNWAY CENTERLINE
 - PROPOSED RUNWAY CENTERLINE
 - POTENTIAL FLOODPLAIN AREA

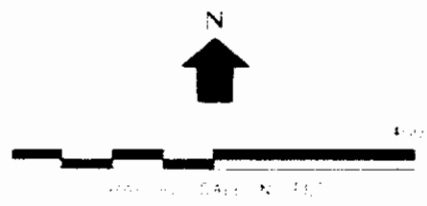


Dulles Airport New Runways
Environmental Impact Statement

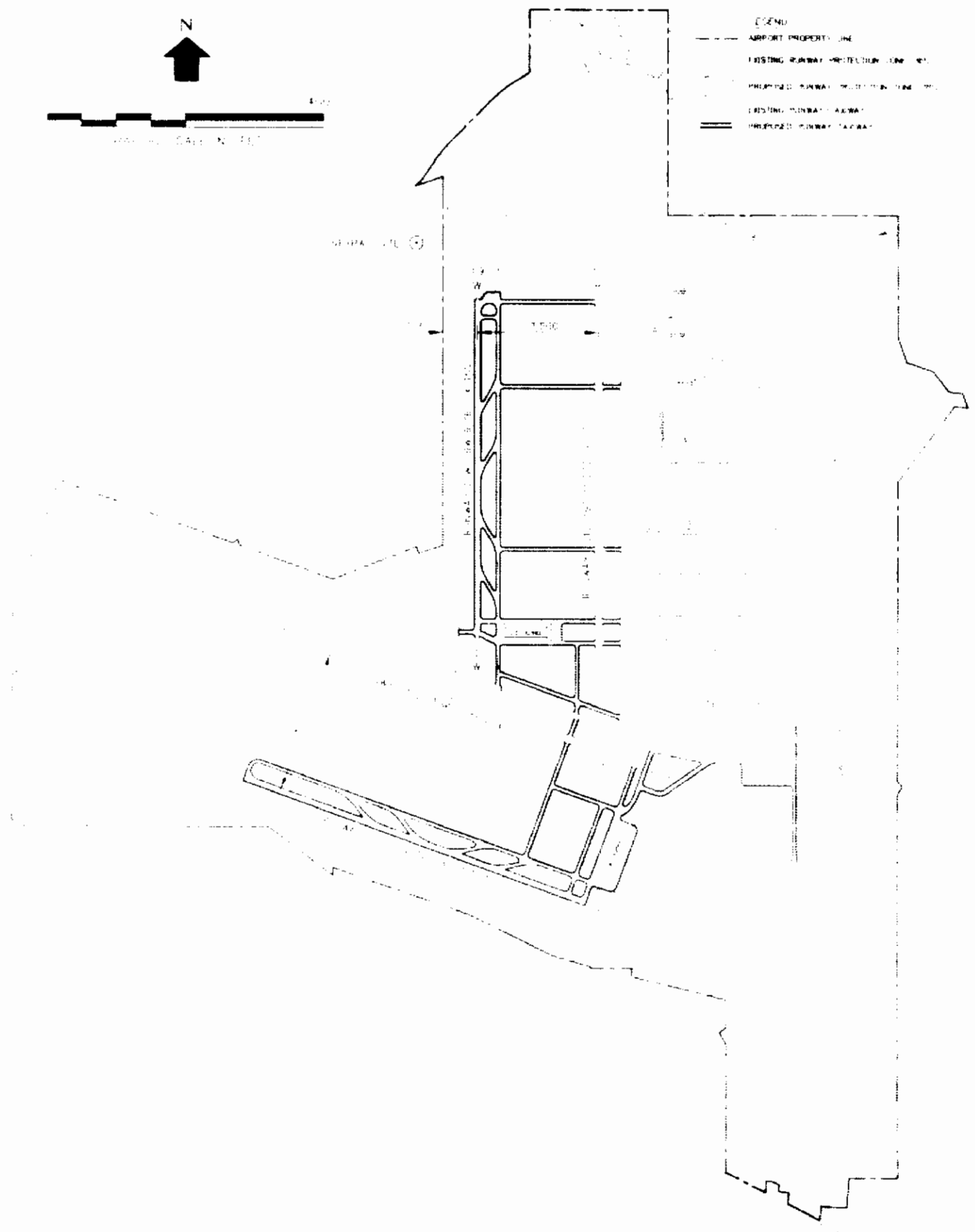
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**BUILD ALTERNATIVE 2
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-4,000'
SEPARATION WITH NEW EAST/WEST RUNWAY)**

**FIGURE
5**



- LEGEND
- AIRPORT PROPERTY LINE
 - - - EXISTING RUNWAY PROTECTION LINE (EPL)
 - - - PROPOSED RUNWAY PROTECTION LINE (EPL)
 - ==== EXISTING RUNWAY TAXIWAY
 - ==== PROPOSED RUNWAY TAXIWAY

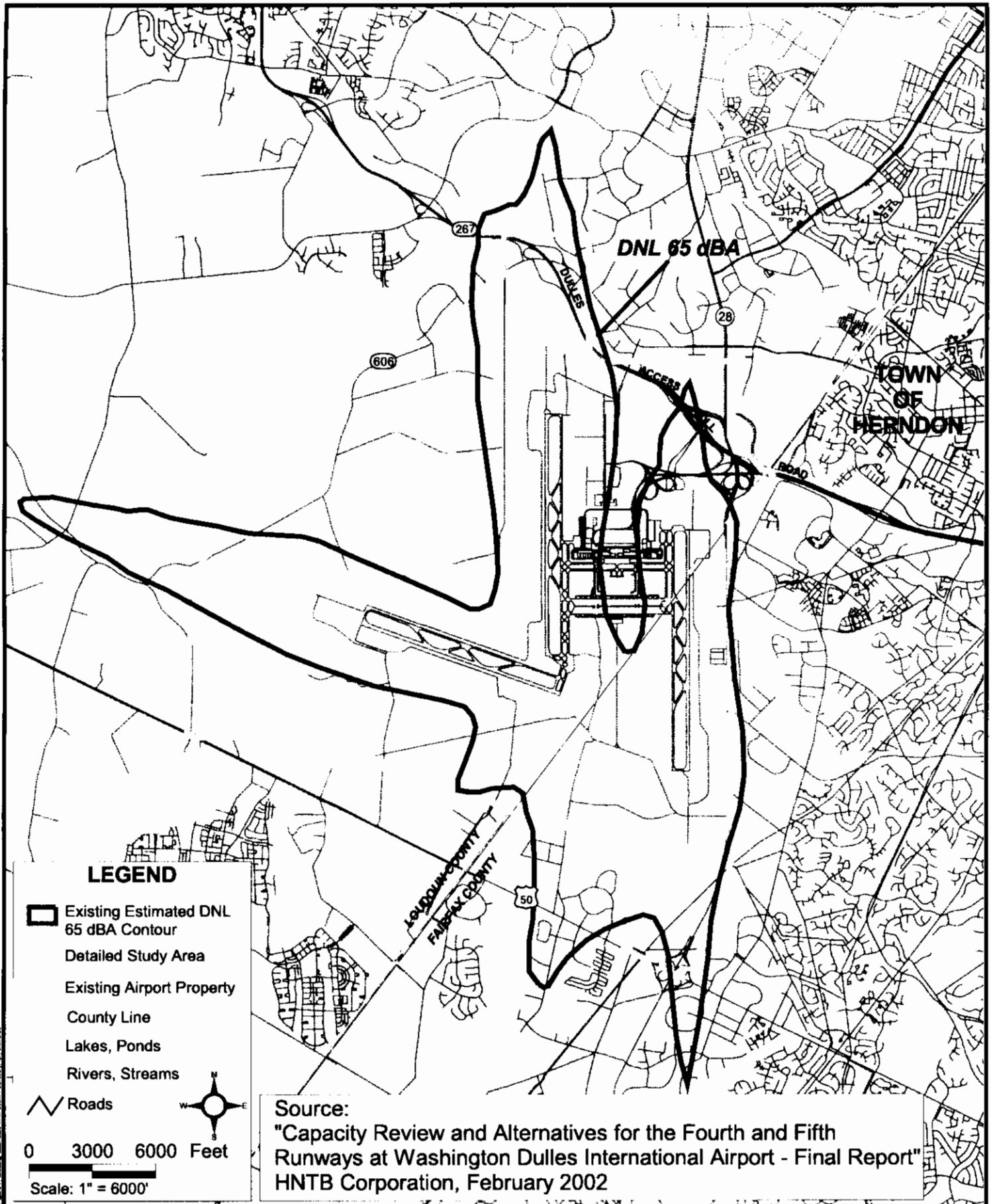


Dulles Airport New Runways
Environmental Impact Statement

URS

**BUILD ALTERNATIVE 1
FIXED NORTH THRESHOLD
(NEW NORTH/SOUTH RUNWAY-3,500'
SEPARATION WITH NEW EAST/WEST RUNWAY)**

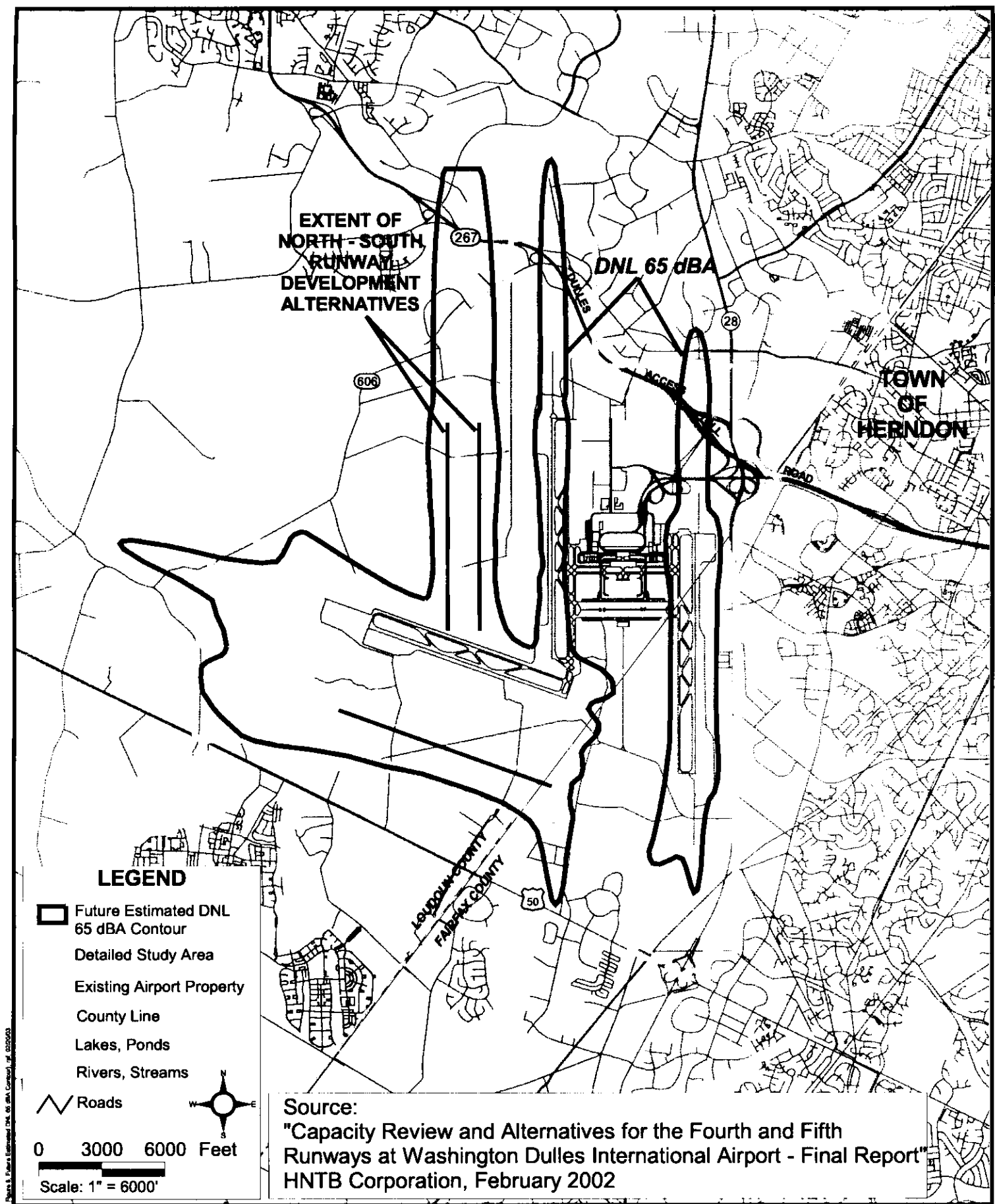
**FIGURE
6**




Dulles Airport New Runways
Environmental Impact Statement

**EXISTING ESTIMATED
DNL 65 dBA CONTOUR**

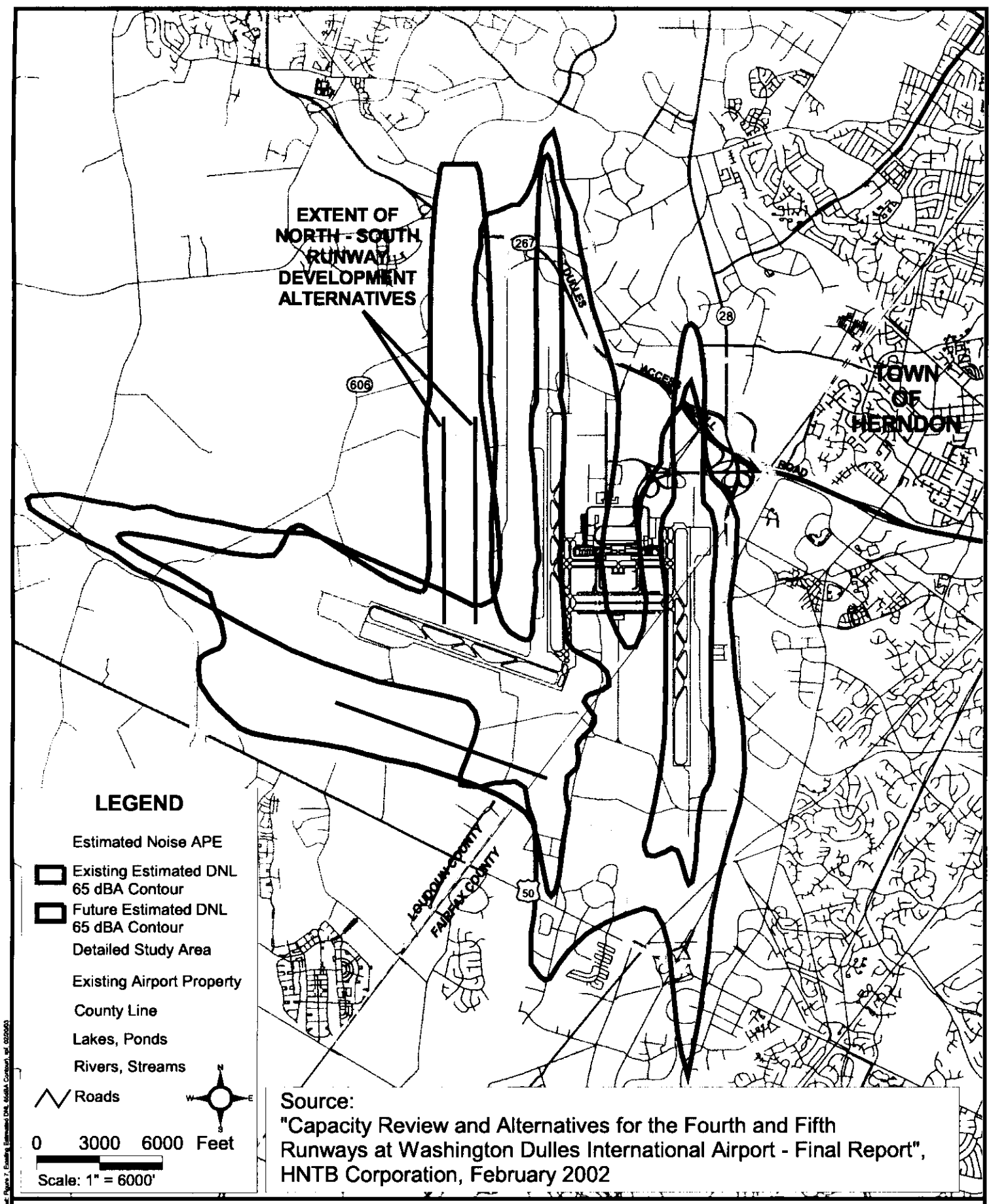
**FIGURE
7**



**Dulles Airport New Runways
Environmental Impact Statement**

**FUTURE ESTIMATED
DNL 65 dBA CONTOUR**

**FIGURE
8**



G:\11000\Chulaw and Dulles ISS and Airport Figure 7: Existing Estimated DNL, Noise Contour, and 02/20/02



Dulles Airport New Runways
 Environmental Impact Statement

ESTIMATED NOISE APE

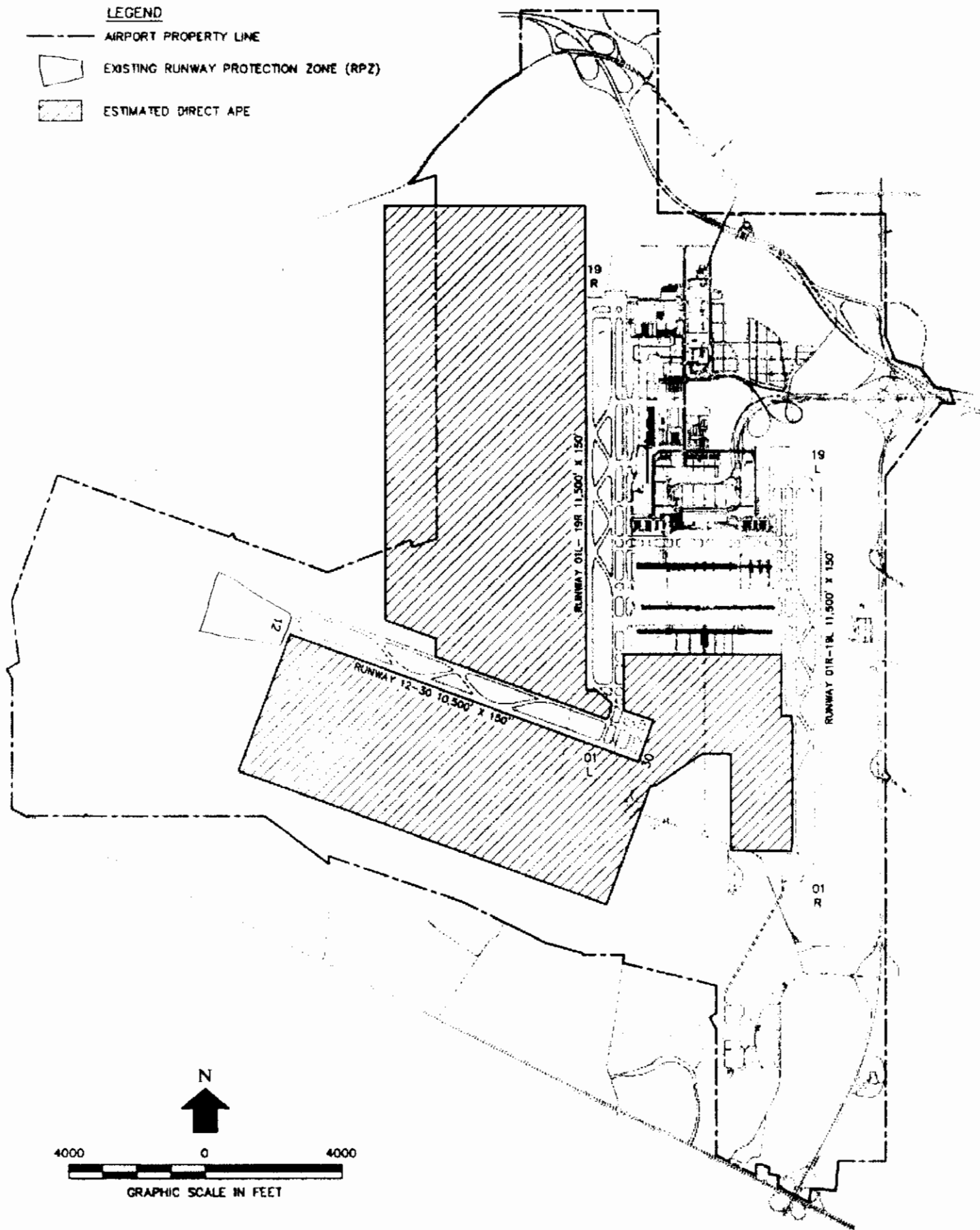
FIGURE 9

LEGEND

--- AIRPORT PROPERTY LINE

EXISTING RUNWAY PROTECTION ZONE (RPZ)

ESTIMATED DIRECT APE



Dulles Airport New Runways
Environmental Impact Statement

URS

ESTIMATED DIRECT APE

FIGURE
10

Appendix B
1989 VDHR Memo
Re: Dulles International Airport Historic District



COMMONWEALTH of VIRGINIA

Department of Historic Resources

Hugh C. Miller, Director

321 Governor Street
Richmond, Virginia 23219
Telephone (804) 788-5141
TDD: 804-786-4276

VIRGINIA DEPARTMENT 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 uplying 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 reseedling 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 (Neiherton *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

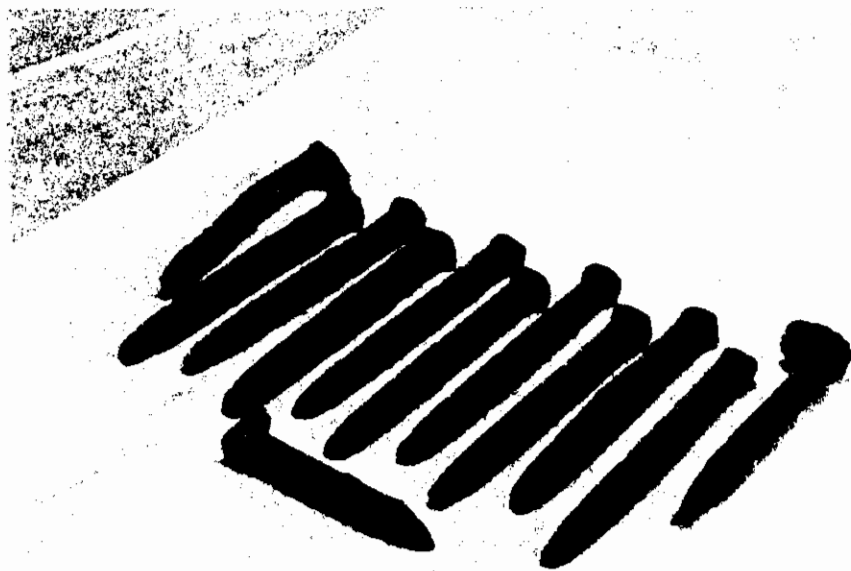


Plate 2
Pennington Historic Collection:
Railroad Spikes

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.

<u>1</u>	High	F2, W1, W2, ST, TF, B, S, 7OB	
<u>2</u>	High	F2, 2W2, ST, TF, B, S, 3OB	
3	High	M, ST, TF	
<u>4</u>	High	F2, W1, ST, TF, 6OB	
<u>5</u>	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	
<u>9</u>	Gone	B, OB	FBO Survey Area
10	High	M, W2, ST, TF	
11	Gone	F2, W2, 3OB	FBO Survey Area
<u>12</u>	High	F2, W2, 2B, OB	
13	High	F, W2, ST, TF, OB	

<u>14</u>	Extant	F2, W1, ST, TF, 2B, OB	44LD386 (previous investigation)
15	Gone	M2, F, W1, ST, TF, B, 4OB	FBO Survey Area
<u>16</u>	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	E	
25	Moderate	M, W1, ST, TF	
<u>26</u>	Moderate	M, W1, ST, TF, B, 2OB	
<u>27</u>	Moderate	M, 2B, S, 2OB	
28	Moderate	B	
<u>29</u>	Moderate	Ruins, W2	
<u>30</u>	Gone	F2, M, W2, ST, TF, 2B, S, 3OB	Runway Survey Area
<u>31</u>	Gone	Ruins, S	Runway Survey Area
32	Moderate	F2, W2, W1, ST, E, S, 1OB	Beard, residence 1830
33	High	F, W2, ST, TF	
<u>34</u>	High	F2, W2	
35	High	F2, F, 5OB	
<u>36</u>	High	F2, W2, ST, TF, 5OE, pumphouse	

<u>37</u>	Extant (well)	F2, W2	Runway Survey Area
38	Moderate	F, W1, OB, M2, W2, B	
39	Moderate	F	
40	Moderate	M, W2	
<u>41</u>	Moderate	F, W2, 5OB	
42	Moderate	F, OB	
43	Moderate	F	
<u>44</u>	Moderate	F2	
<u>45</u>	Moderate	M, W2, ST, TF, frame church, cemetery	
46	Moderate	M, W2, ST, OB	
<u>47</u>	Moderate	W2, 5OB	
48	Moderate	F	
49	Moderate	F, M	
<u>50</u>	Moderate	F, W1	
51	Moderate	M	
52	Moderate	F2, W1, OB	
53	Moderate	F2, W2, B	
<u>54</u>	High	F2, 2W2, 5OB	
<u>55</u>	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
<u>59</u>	Moderate	F2, W2, 2W1, ST, 2S, E, 4OB	Carusillo, residence 1895
<u>60</u>	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
<u>63</u>	Moderate	F2, W2, W1, B, 2OB	Jackson, residence 1830
<u>64</u>	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	
<u>67</u>	Moderate	abandoned farm, F2, 5OB, W1	Wrenn, 1820
<u>68</u>	High	F, W2, OB	
69	Moderate	B, S, 4OB	
<u>70</u>	Moderate	F2, ST, W2, 3OB	
71	Moderate	M2, W2, 70, 2B	Melton, residence 1910
<u>72</u>	High	F2, W2, TF, 2B, 3OB	
73	High	F2, W2, ST, TF, 3OB	
<u>74</u>	High	F2, W2, ST, TF, 2OB	Delay, residence 1905
75	High	2F, W2, 2ST, TF, B, 2OB	
<u>76</u>	High	F, W2, ST	Rector, residence 1928
<u>77</u>	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	
<u>82</u>	High	F	

<u>83</u>	Extant	F2, 2W2, barn, 2ST, 2TF, F, M	Nolting, Sully Plantation, residence, smokehouse, kitchen, office, 1795; dairy, 1801
<u>84</u>	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
<u>86</u>	High	F, W2, ST, TF, 6OB	
87	High	M, W2, ST, TF, 3OB	
88	High	M2, W2, ST	
<u>89</u>	High	F, 6OB	
<u>90</u>	High	M2, F, W1, ST, TF, B, 2S, 11OB, underground gas tank	
<u>91</u>	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	
<u>97</u>	High	F2, ST, B, S, 4OB	
<u>98</u>	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

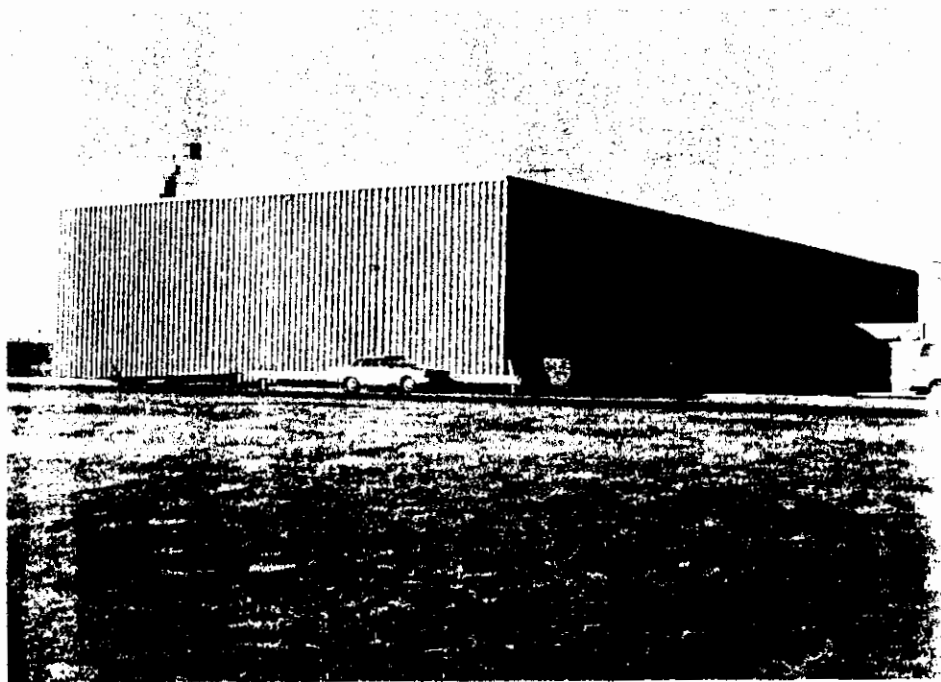


Plate 23
Heating and Air Conditioning Plant

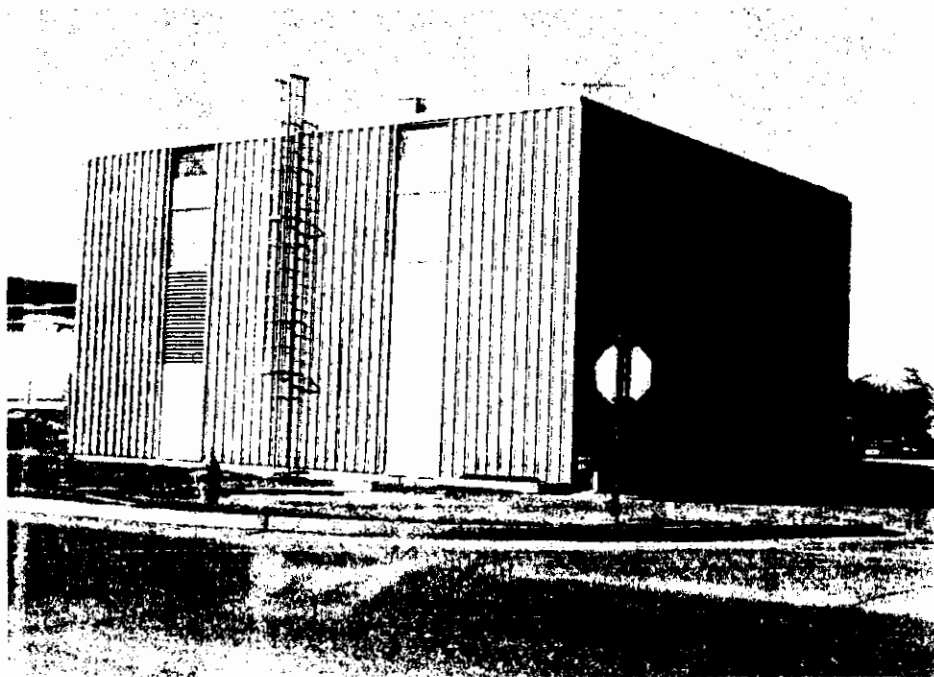


Plate 24
Telephone Exchange

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)

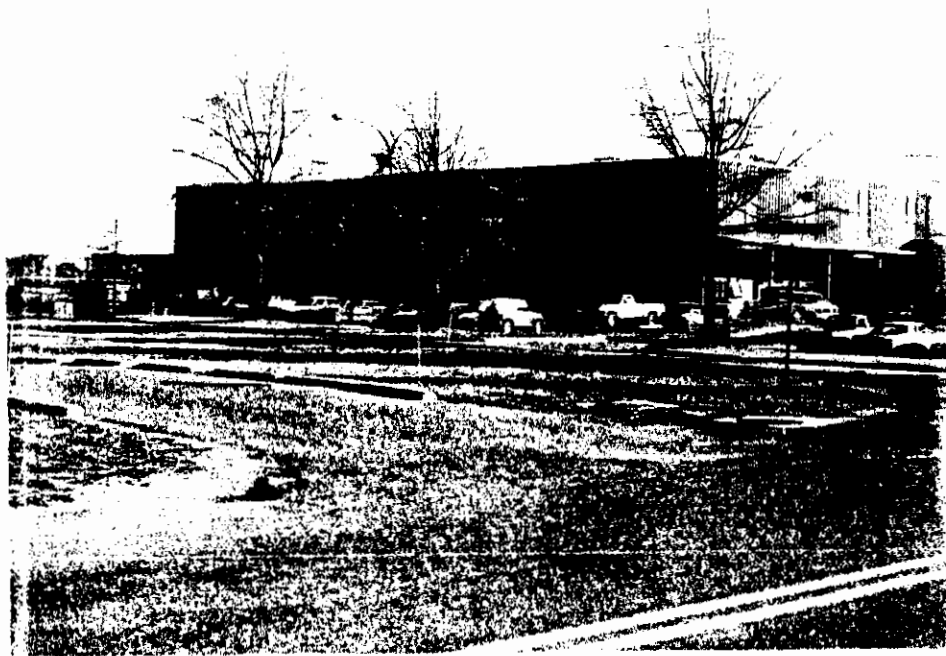


Plate 26
Hot Shoppes In-Flight Food Building



Plate 19
Vehicle Maintenance Building

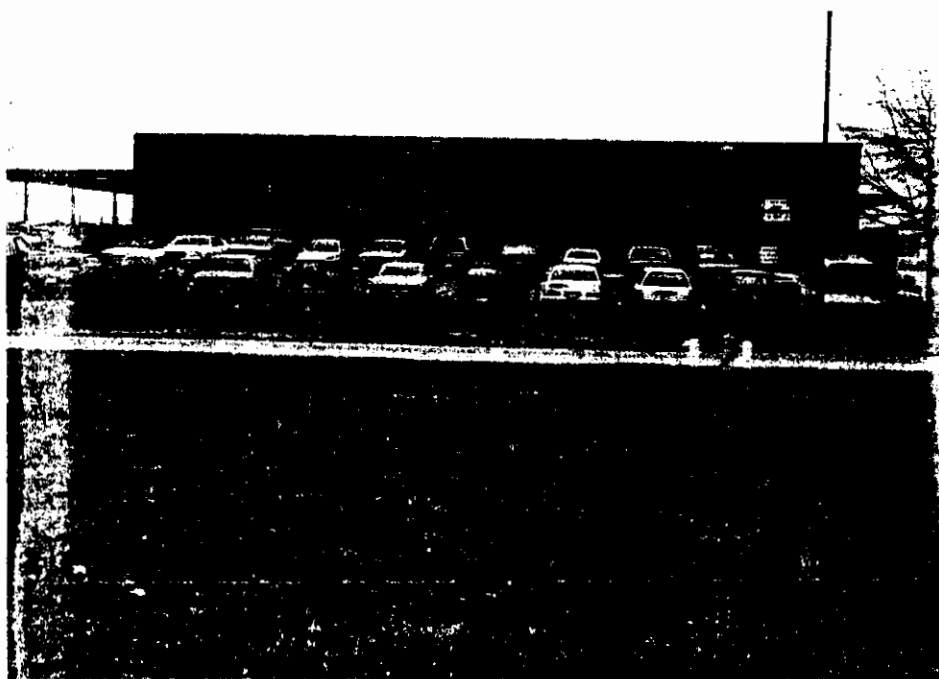


Plate 20
Air Mail Facility



Plate 27
Allied Fuel Building



Plate 9
Triturator Building



Plate 10
Original Mobile Lounges

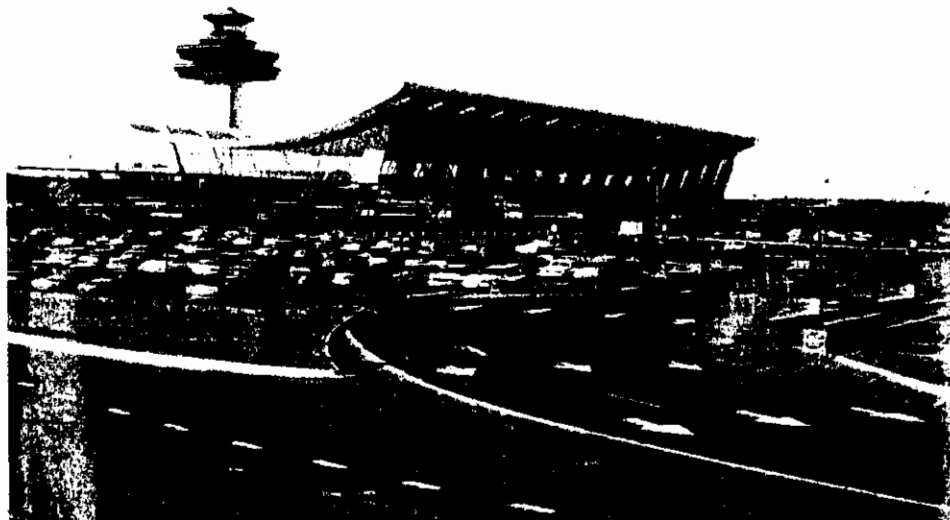


Plate 3
Main Terminal:
View from the Northeast



Plate 4
Main Terminal: Interior-Solar Board

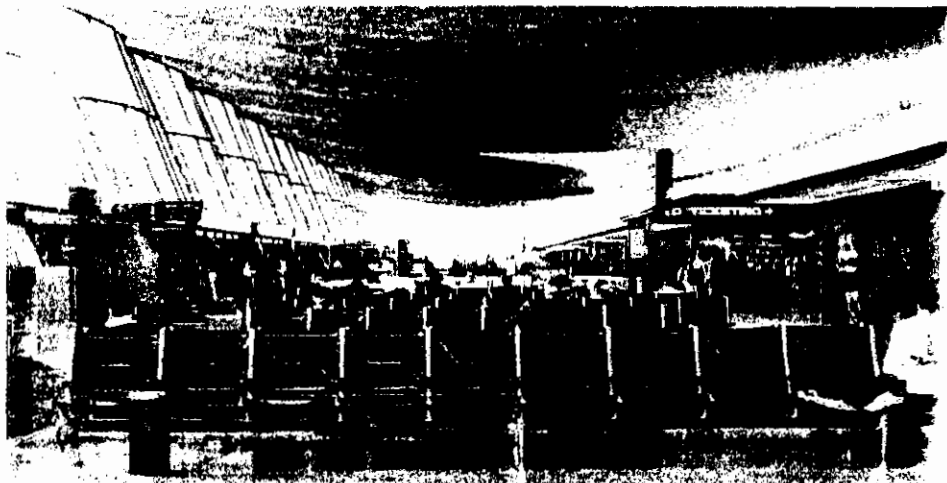


Plate 5
Main Terminal: Interior-Eames Chairs

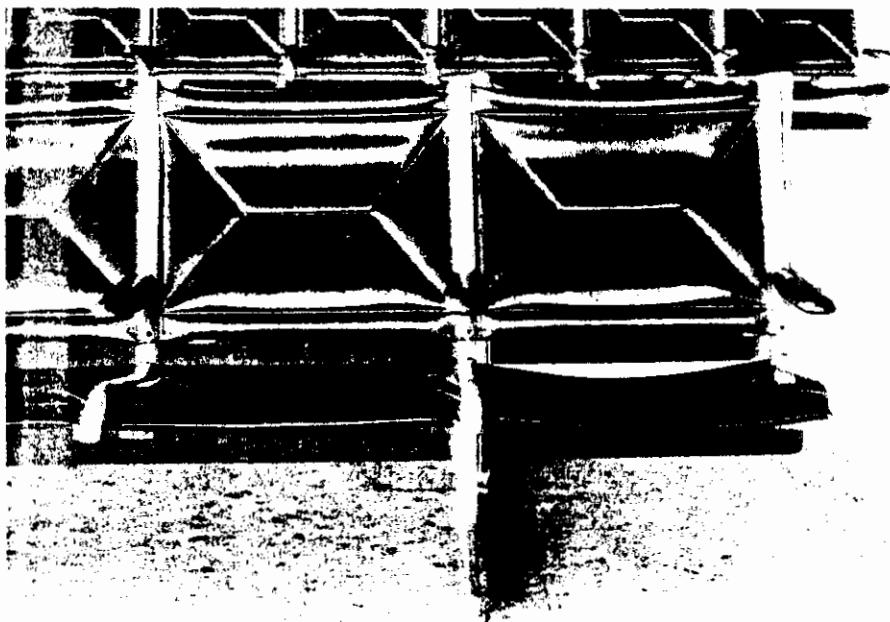


Plate 6
Main Terminal: Detail-Eames Chairs



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

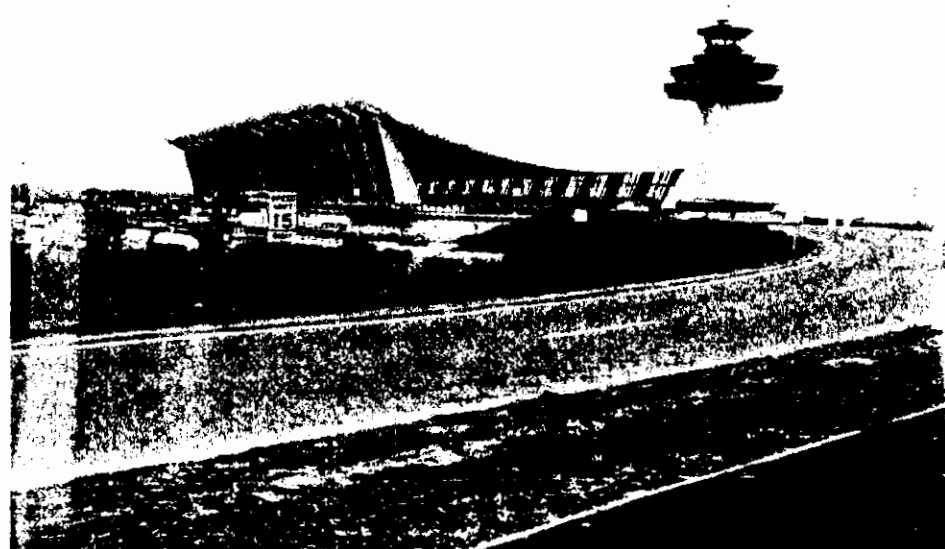


Plate 16
View of Main Terminal from Dulles Access Road
at Main Parking Lot: View from Northwest

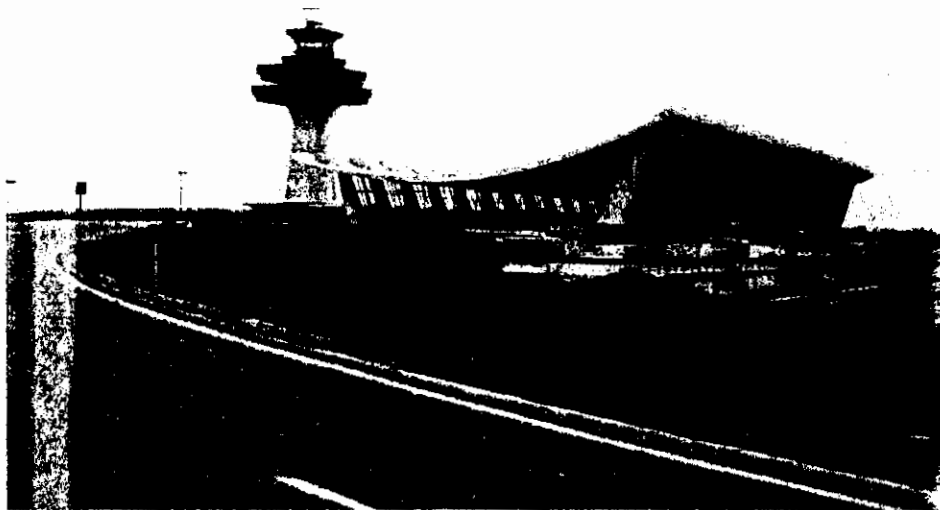
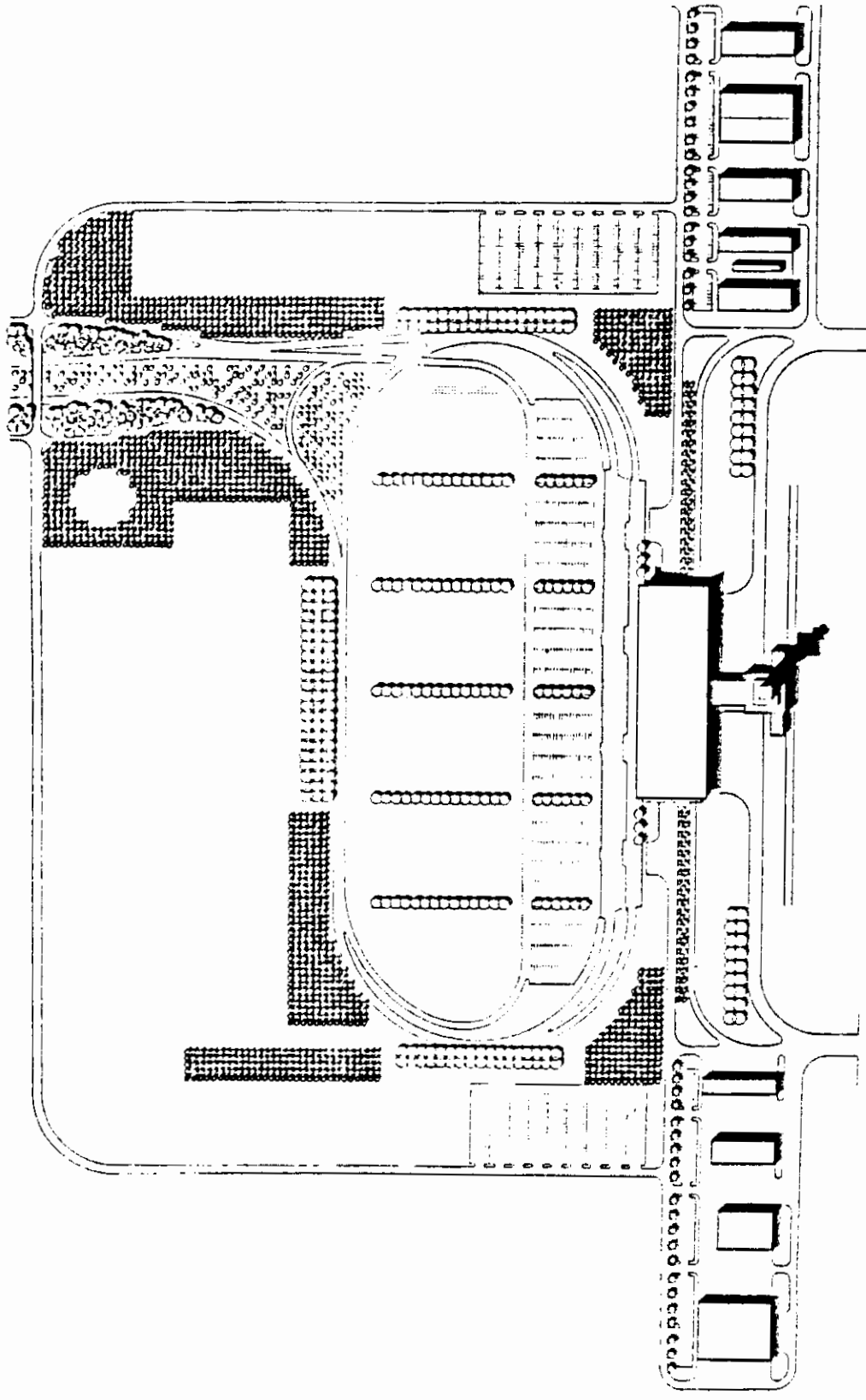


Plate 17
Main Terminal: View from the East



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

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 "Pioneer America").

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: Metropolitan Washington
Airports Authority (MWAA)
City: Dulles
Zip: 20166 State: Virginia Country: USA
Relation to the Property: Owner of property

Graphic Media Documentation

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
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
CRM Event Notes or Comments: Dulles International Airport Proposed Runway Expansion

DHR Id#: 053-5252

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5252

Individual Resource Information

WUZIT: Ruins

<i>Est. Date of Construction:</i>	1920 ca {Site Visit}	<i>Accessed?</i>	No	Not accessible
<i>Primary Resource?</i>	No	<i>Number of Stories:</i>	1.0	
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Ruinous	
<i>Interior Plan Type:</i>		<i>Threats to Resource:</i>	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.

WUZIT: Milk House

<i>Est. Date of Construction:</i>	1920 ca {Site Visit}	<i>Accessed?</i>	Yes	
<i>Primary Resource?</i>	No	<i>Number of Stories:</i>	1.0	
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Poor	
<i>Interior Plan Type:</i>	Double Pen (Farm Building)	<i>Threats to Resource:</i>	Deterioration	
			Neglect	
			Structural Failure	
			Vacant	

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.

WUZIT: Barn

<i>Est. Date of Construction:</i>	1920 ca {Site Visit}	<i>Accessed?</i>	Yes	
<i>Primary Resource?</i>	Yes	<i>Number of Stories:</i>	1.0	
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Poor	
<i>Interior Plan Type:</i>	Undivided Space (non-domestic)	<i>Threats to Resource:</i>	Neglect	
			Structural Failure	
			Vacant	
			Deterioration	

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.

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)

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5252

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 have led to the loss of the resource's integrity of location, design, materials, workmanship, association, and feeling.

Bibliographic Documentation

Ownership Information

Graphic Media Documentation

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W	21427	VDIIR	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
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Siding
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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
1	Laboratory	Historic

NR Resource Count:

Individual Resource Information

WUZIT: Laboratory

Est. Date of Construction:	1949 ca {Owner/written data}	Accessed?	Yes
Primary Resource?	Not Evalua	Number of Stories:	1.0
Architectural Style:	No Style Listed	Condition:	Fair
Interior Plan Type:	Open	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

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5253

National Register Eligibility Information

Historic Context(s): Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Department of Historic Resources

Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5253

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W		VDHR	2004/06/16	

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
Foundation	Foundation - Raised	Cloth/Canvas	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Siding
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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
1	Laboratory	Historic
1	Carport	Non-historic

NR Resource Count:

**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)

Department of Historic Resources
Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5254

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W		VDIIR	2004/06/16	

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Siding
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}

Accessed? Yes

Primary Resource? Yes

Number of Stories: 1.0

Architectural Style: No Style Listed

Condition: Fair

Interior Plan Type: Open

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

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5255

Bridge Information

National Register Eligibility Information

Historic Context(s): Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5255

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W		VDHR	2004/06/16	

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
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. The building's immediate surroundings are overgrown testing fields.

WUZIT Count:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
1	Quonset Hut	Historic

NR Resource Count:

Individual Resource Information

WUZIT: Quonset Hut

Est. Date of Construction:	1950 ca {Owner/written data}	Accessed?	Yes
Primary Resource?	Yes	Number of Stories:	1.0
Architectural Style:	No Style Listed	Condition:	Poor
Interior Plan Type:	Open	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

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5256

Historic Context(s): Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Department of Historic Resources
Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5256

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W		VDHR	2004/06/16	

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
Foundation	Foundation - Raised	Concrete	Foundation - Poured
Structural System	Structural System - Frame	Wood	
Structural System		Aluminum	Structural System - Aluminum Siding
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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
1	Laboratory	Historic

NR Resource Count:

Individual Resource Information

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: 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

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5257

Bridge Information

National Register Eligibility Information

Historic Context(s): Education

Historic Time Period(s):..... S- The New Dominion (1941- Present)

Department of Historic Resources

Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5257

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
35mm B&W		VDHR	2004/06/16	

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
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)

Department of Historic Resources

Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5258

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'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#: 053-5258

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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
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
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
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 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.

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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
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:

**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
Vacant
Transportation Expansion
Neglect

Description: Adjacent to the circa 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
Development
Neglect
Vacant
Transportation Expansion

Description: Adjacent to the circa 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
Development
Vacant
Transportation Expansion

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
Neglect
Transportation Expansion
Development
Vacant

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
Vacant
Transportation Expansion
Neglect

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
Development
Neglect
Vacant
Transportation Expansion

Description: The poured concrete base to a radar array is located directly to the south 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
Development
Vacant
Transportation Expansion

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
Neglect
Transportation Expansion
Development
Vacant

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
Vacant
Transportation Expansion
Neglect

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 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. 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
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 9. This one story wood frame building rests on continuous poured concrete foundations. 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.

**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
Development
Vacant
Transportation Expansion

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
Neglect
Transportation Expansion
Development
Vacant

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
Vacant
Transportation Expansion
Neglect

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.

Department of Historic Resources Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5261

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
Development
Neglect
Vacant
Transportation Expansion

Description: 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.

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
Development
Vacant
Transportation Expansion

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
Neglect
Transportation Expansion
Development
Vacant

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
Vacant
Transportation Expansion
Neglect

Description: This laboratory, known as Building 7, was constructed circa 1942. This buildings is one story tall and was constructed from corrugated metal quonset huts 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
Development
Neglect
Vacant
Transportation Expansion

Description: This laboratory, known as Building 6, was constructed circa 1942. This buildings is one story tall and was constructed from corrugated metal quonset huts 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: 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 buildings is one story tall and was constructed from corrugated metal quonset huts 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.

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5261

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.

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:
Deterioration
Development
Neglect
Transportation Expansion
Vacant
Demolition

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 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.

Cemetery Information

Bridge Information

National Register Eligibility Information

Historic Context(s): Education

Historic Time Period(s): S- The New Dominion (1941- Present)

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5261

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 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

<i>Medium</i>	<i>Depository ID #</i>	<i>Photo Depository</i>	<i>Date</i>	<i>File Name</i>
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		VDHR	2004/06/15	Frames

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Section 106 Survey
Date: 2004/07/31
Organization or Person: URS Corporation
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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
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)

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5263

Significance Statement: This resource was identified as the Moran House in a 1995 MWAA 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: Metropolitan 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

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 Component Description:

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
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 corner, 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:

<u>No.</u>	<u>Wuzit Types</u>	<u>Historic?</u>
1	House	Historic
1	Smoke/Meat House	Historic
1	Pump House	Historic
3	Outbuilding	Historic
1	Cornerib	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.

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5264

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 corner 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 corner. 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.

Department of Historic Resources Reconnaissance Level Survey

Loudoun

DHR Id#: 053-5264

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.

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5264

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)

**Department of Historic Resources
Reconnaissance Level Survey**

Loudoun

DHR Id#: 053-5264

Significance Statement: 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, 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: Metropolitan Washington
Airports Authority (MWAA)
City: Dulles
Zip: 20166 *State:* Virginia *Country:* USA
Relation to the Property: Owner of property

Graphic Media Documentation

<i>Medium</i>	<i>Depository ID #</i>	<i>Photo Depository</i>	<i>Date</i>	<i>File Name</i>
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
CRM Event Notes or Comments: Dulles International Airport Proposed Runway Expansion

Loudoun

Resource Identification

National Register Eligibility Status
Property is not Historic (50 years or older)

Ownership Status: Public - Local
Acreage: 2.0

<u>Component</u>	<u>Comp Type/Form</u>	<u>Material</u>	<u>Material Treatment</u>
Foundation	Foundation - Raised	Concrete	Foundation - Block
Chimneys	Chimneys - Central interior	Brick	
Chimneys	Chimneys - Exterior end	Brick	

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.

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

<i>Est. Date of Construction:</i>	1980 ca {Site Visit}	<i>Accessed?</i>	Yes
<i>Primary Resource?</i>	No	<i>Number of Stories:</i>	1.0
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Fair
<i>Interior Plan Type:</i>	Undivided Space (non-domestic)	<i>Threats to Resource:</i>	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

<i>Est. Date of Construction:</i>	1980 ca {Site Visit}	<i>Accessed?</i>	Yes
<i>Primary Resource?</i>	No	<i>Number of Stories:</i>	1.0
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Fair
<i>Interior Plan Type:</i>	Undivided Space (non-domestic)	<i>Threats to Resource:</i>	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

<i>Est. Date of Construction:</i>	1960 ca {Site Visit}	<i>Accessed?</i>	Yes
<i>Primary Resource?</i>	No	<i>Number of Stories:</i>	1.0
<i>Architectural Style:</i>	No Style Listed	<i>Condition:</i>	Fair
<i>Interior Plan Type:</i>	Undivided Space (non-domestic)	<i>Threats to Resource:</i>	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}

Accessed? Yes

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 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 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.

Bibliographic Documentation

Ownership Information

Name: Unknown Unknown

Company: Metropolitan 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

<u>Medium</u>	<u>Depository ID #</u>	<u>Photo Depository</u>	<u>Date</u>	<u>File Name</u>
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

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 completed 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-early 1960s airport designed by Finnish architect Eero Saarinen. 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. Heikkinen, 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. Heikkinen, 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 Blancy 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,

AWARDS AND HONORS

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.

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 Historian 1992-
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, or 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 effects 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 pamphlet 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 Investigator, 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 dam 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 Corps 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 of 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 Archaeological 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.

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| 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 |

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| | 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) |