NOVEMBER 2016

RONALD REAGAN WASHINGTON NATIONAL AIRPORT

Final Environmental Assessment Terminal B/C Redevelopment, Secure National Hall, and Related Improvements

Volume 2: Appendices

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

PREPARED BY:

Ricondo & Associates, Inc.

IN ASSOCIATION WITH:

AGD Associates LLC
EA Engineering, Science, and Technology, Inc.
Harris Miller Miller & Hanson Inc.
Kimley-Horn and Associates, Inc.
Nspiregreen, LLC
Paciulli, Simmons & Associates, Ltd.
Wetland Studies and Solutions, Inc.

Appendix A

List of Preparers

Appendix A List of Preparers

An interdisciplinary team consisting of experts and technicians in airport planning, noise assessment, land use planning, air quality, biology, and historic, archaeological, and architectural resources contributed to the analyses discussed in the EA.

A.1 Ricondo & Associates, Inc.

Stephen R. Muench, Vice President, has more than 38 years of experience in airport environmental and physical planning. He recently managed two successful National Environmental Policy Act (NEPA) environmental assessments (EAs) for runway safety area improvements at Ronald Reagan Washington National Airport and has contributed to NEPA documents for airports ranging from large hubs to general aviation airports. Mr. Muench assisted the Federal Aviation Administration (FAA) in its technical review of the EA for the World Gateway Program at Chicago O'Hare International Airport. Mr. Muench is responsible for overall project management.

Virginia F. Jackson, A.A.E., Director, has 30 years of experience conducting and managing complex transportation planning and environmental projects, including two NEPA EAs prepared for Hartsfield-Jackson Atlanta International Airport, which evaluated potential impacts that could result from the people mover and consolidated rental car facility and site preparation for a future south terminal complex. As a consultant to the FAA, she contributed to the FAA's review of the EA for the World Gateway Program at Chicago O'Hare International Airport. Ms. Jackson is the Deputy Project Manager, managing the preparation of the sections of the EA pertaining to Purpose and Need, Affected Environment, Environmental Consequences, and she manages document production.

Laura L. Brunn, PMP, Senior Consultant, began her land use, transportation, and environmental planning career in 2000 and has focused on aviation since 2007. She served as an environmental planner and staff geologist for the County of San Diego and is a founding member of the California Airport Land Use Consortium, which is a statewide association dedicated to fostering collaboration among public agencies, airports, and private developers. Ms. Brunn also served as member of the Technical Advisory Committee for the Caltrans Division of Aeronautics' update to the *Airport Land Use Planning Handbook* in 2010–2011. Currently, she is assisting the San Diego County Regional Airport Authority in updating the Airport Land Use Compatibility Plan (ALUCP) for the County's urban airports and in developing the outreach program for Naval

Air Station (NAS) North Island's ALUCP. Ms. Brunn is contributing to sections of this EA that pertain to agency coordination.

Darrin P. McKenna, Director, has over 15 years of experience in airport landside transportation planning and engineering, traffic engineering and design, operational analysis, traffic simulation, and intelligent transportation systems (ITS). He manages R&A's on-call planning services for the Authority and oversees a variety of airport planning efforts, which include landside, terminal, airfield, environmental, and land use planning. Mr. McKenna leads R&A's landside roadway and curbside model/simulation development efforts to include demand on curbsides and roadways, vehicle interactions along the roadway, and curbside network. Mr. McKenna is supporting the preparation of the Alternatives Section of this EA.

Jitin D. Sahni, Managing Consultant, has over 11 years of experience in project management, airport planning, and Geographic Information Services (GIS) analysis and development. He has managed numerous studies for Washington Dulles International Airport and DCA using GIS. He provided oversight of a team of subcontractors that developed a web-enabled GIS database to map environmental resources, as well as developed web-enabled GIS-based airport planning tools. Mr. Sahni also assisted with requirements analysis and data gathering for the Metropolitan Washington Airports Authority's spatially enabled enterprise GIS program. He is providing GIS support for the analysis of potential impacts in this EA.

Casey L. Venzon, Senior Consultant, has over 7 years of airport environmental and sustainability consulting experience, with particular expertise in preparing NEPA documentation and airport sustainability analyses. In this EA, Mr. Venzon was responsible for completing the NEPA analysis and documentation included in the Affected Environment and Environmental Consequences Sections of this EA pertaining to Children's Environmental Health and Safety Risks, demographics and socioeconomic profile; Environmental Justice, existing and compatible land use; Land and Water Conservation Fund Act Section 6(f) resources, light emissions and visual impacts, local jurisdictions, secondary (induced impacts); and U.S. Department of Transportation Act of 1966 Section 4(f) resources.

A.2 AGD Associates LLC

Anthony Dockery, AIA, President, has over 28 years of planning and design experience directly related to airport facilities, with special expertise in terminal and concourse buildings. His project management experience leading numerous terminal facility planning programs is extensive and covers many large airports, including Ronald Reagan Washington National and Washington Dulles International Airports. Mr. Dockery's facility experience covers conceptual planning, design, and implementation planning of: terminal elements—ticketing lobbies, baggage claim areas, baggage makeup space; international arrivals building facilities; and concourse gate areas. He was instrumental in developing alternatives in previous planning studies and this EA.

Miguel Carvajal, Director and Principal Planner, has more than 25 years of planning and design experience directly related to airport facilities, with special expertise in terminal and concourse buildings. He has worked

on large airport programs throughout his career, including programs at Ronald Reagan Washington National and Washington Dulles International Airports. Mr. Carvajal's facility experience covers conceptual planning, design, and implementation planning of: terminal elements—ticketing lobbies, baggage claim areas, baggage makeup space; international arrivals building facilities; and concourse gate areas. He was instrumental in developing alternatives in previous planning studies and this EA, and he has led the preparation of many of the exhibits included in this EA.

A.3 EA Engineering, Science, and Technology, Inc., PBC

Tracy J. Layfield, NEPA Specialist and Senior Scientist, has more than 14 years of airport environmental planning experience, including environmental studies, NEPA compliance and analysis, public and agency involvement, and project management. In this EA, Ms. Layfield is overseeing EA Engineering, Science, and Technology, Inc., PBC's (EAEST's) contributions to the existing conditions and analysis of potential impacts on floodplains; fish, wildlife, and plants; and threatened and endangered species.

Anita Struzinski, Environmental Scientist, has more than 8 years of experience in natural resource studies, NEPA compliance, and technical writing. In this EA, Ms. Struzinski is responsible for preparing the existing conditions and analysis of potential impacts on floodplains; fish, wildlife, and plants; and threatened and endangered species.

A.4 Harris Miller Miller & Hanson Inc.

Philip M. DeVita, CCM, Director of Air Quality, is an American Meteorological Society Certified Consulting Meteorologist with over 20 years of experience in air quality permitting and modeling, air emissions characterization, and meteorological monitoring. He has conducted air quality impact assessments for a variety of transportation projects as well as analyses of power and industrial sources using state-of-the-art computer modeling tools. He also has prepared greenhouse gas and sustainability analyses under the Massachusetts Environmental Policy Act (MEPA) Greenhouse Gas Emissions Policy, emissions inventories, source registrations, and air plan applications for various industrial sources. Mr. DeVita prepared the air quality assessment that describes the current air quality and evaluates potential air quality impacts associated with construction activities from the Proposed Action in this EA.

Robert Mentzer, Principal Consultant, specializes in airport environmental noise analyses for airports. He has led the preparation of noise contours for over 50 airports, including noise elements of Federal Aviation Regulation (FAR) Part 150, *Airport Noise Compatibility Planning Studies*, FAR Part 161, *Noise and Access Restriction Studies*, NEPA environmental assessments and environmental impact statements, airport master plan studies, and other studies concerning airport noise. Mr. Mentzer prepared the construction noise impact assessment, which summarizes the results of the noise modeling analysis, in this EA.

Dave Towers, Principal Engineer, specializes in noise and vibration control for transportation systems and for construction projects. His activities in these areas have included field measurements, acoustical design and specification, noise modeling, environmental assessments, and noise and vibration control for facility construction and operation. Mr. Towers conducted the noise modeling of construction activities associated with the Proposed Action in this EA.

A.5 Kimley-Horn and Associates, Inc.

David Samba, P.E., PTOE, Transportation Engineer, has 5 years of experience covering traffic operations and transportation planning in Virginia, Maryland, and the District of Columbia, including extensive experience with the multimodal level of service, traffic operations, and traffic impact analysis. He has participated in and served as a task manager for traffic data collection, asset management efforts, and corridor planning studies. Mr. Samba served as the technical lead for the analysis of construction impacts related to surface traffic in this EA.

Edward Papazian, P.E., Senior Transportation Engineer, has nearly 40 years of experience and has completed traffic studies for more than 500 development projects in Maryland and Virginia in both urban and suburban settings. He has extensive experience in Arlington, Virginia, and has been involved in the emergence of the Rosslyn-Baltimore corridor as a transit-oriented development. Mr. Papazian assisted in the development of the surface traffic analysis methodology and underlying assumptions in this EA.

Andrew Smith, P.E., Traffic Engineer, has more than 5 years of experience in traffic operations and design and transportation planning. He is skilled in traffic engineering design, including the design of guide signage, pedestrian improvements, traffic signals, and maintenance of traffic plans. Mr. Smith has performed several traffic impact analyses and studies, including those involving modifications to major roadway networks with U.S. and interstate highways. He provided technical quality control and assisted in the refinement of the text describing the analysis of surface traffic included in this EA.

A.6 Paciulli, Simmons & Associates, Ltd.

Jason Franti, Apex Companies, LLC, Senior Project Manager, has over 17 years of experience in environmental consulting. He has conducted environmental impact analyses with an emphasis on management of environmental assessment document preparation. Mr. Franti was responsible for the Solid Waste and Hazardous Materials analyses included in this EA.

Dr. Allan Morton, Registered Professional Archaeologist, has 18 years of cultural resource management experience, with expertise in geoarchaeology, faunal analysis, and physical anthropology. Additional areas of experience include soils and geology, assessing archaeological site formation, and human osteology. Dr.

Morton was responsible for the Historic, Archaeological, Cultural Resources, and Architectural sections of this EA.

Kevin Reilly, Environmental Planner, has 11 years of experience and expertise in environmental analysis, including environmental impact studies and assessments, and NEPA documents. Mr. Reilly is a certified arborist, a trained wetland delineator, and a landscape architect. Mr. Reilly was responsible for the Natural Resources and Energy Supply sections of this EA.

Tiffany Turner, Project Manager, has 3 years of project design, development, and management experience. She was responsible for the administration, coordination, compilation, and review of the Historic, Archaeological, Architectural, Cultural Resources, Natural Resources, Energy Supply, Solid Waste, and Hazardous Materials analyses of this EA.

Jason Franti, Apex Companies, LLC, Senior Project Manager, has over 17 years of experience in environmental consulting. Mr. Franti has conducted environmental impact analyses with an emphasis on management of environmental assessment document preparation. Mr. Franti was responsible for the Solid Waste and Hazardous Materials analyses included in this EA.

A.7 Wetland Studies and Solutions, Inc.

Douglas W. Chapin, Principal-Regulatory, has more than 11 years of experience in natural and cultural resource consulting. His expertise includes the preparation of applications for Clean Water Act Section 401 and 404 permits, as well as coordination with regulatory agencies and clients throughout the review process. Mr. Chapin also assists with the preparation of NEPA documentation and compensatory mitigation plans. He reviewed relevant regulations and natural resources information to assess the action alternatives and assisted with drafting the Water Resources, Wetlands and Waterways, and Coastal Resources sections of this EA.

Frank R. Graziano, Director of Engineering, has over 28 years of experience in civil/environmental engineering consulting, specializing in various aspects of water resources management and stormwater runoff. His experience includes stream restoration, adequate outfall determinations, design and analysis of stormwater management (SWM) pond outlet structures, and studies to quantify the effects of development in compliance with federal, state, and local stormwater regulations. Mr. Graziano reviewed stormwater regulations and the National Pollutant Discharge Elimination System (NPDES) Multi-sector General Permit (MSGP) for Ronald Reagan Washington National Airport to assess the action alternatives and assist with drafting the Water Resources section in this EA.

Daniel C. Lucey, Director-Regulatory, has more than 20 years of experience as a consultant in the fields of environmental science and engineering. He has extensive familiarity in the application of the Code of Virginia and Code of Federal Regulations (CFR) Sections 401 and 404 of the Clean Water Act as they pertain to the permitting of impacts to subaqueous beds, open water, wetlands, non-tidal streams, and tidal waters. As Director of Regulatory, Mr. Lucey is responsible for the preparation, submission, and review coordination with

applicable regulatory agencies of a variety of permits required for activities that may affect jurisdictional wetlands and other Waters of the U.S., as well as listed species and cultural and historic resources. Mr. Lucey is also responsible for the preparation of NEPA documentation, addressing water quality issues, the preparation of Resource Protection Area Plans, Water Quality Impact Assessments, Environmental Quality Corridor Studies, Existing Condition Plats, and obtaining Resource Protection Area Exceptions. He reviewed relevant regulations and natural resources information to assess the alternatives and assisted with drafting the Water Resources, Wetlands, and Waterways and Coastal Resources sections in this EA.

Kelly L. Petrey, Senior Associate Engineer, has more than 10 years of experience in civil/environmental engineering consulting. She specializes in the design, permitting, and construction of stream restoration projects; water quality issues; watershed studies; the Chesapeake Bay Preservation Act; and engineering services relevant to federal, state, and local stormwater regulations. Ms. Petrey reviewed stormwater regulations and existing Airport NPDES MSGP to assess the alternatives and assisted with drafting the Water Resources section of this EA.

Appendix B

Agency and Public Coordination

Attachment B-1 Authority Letter to Agencies, April 10, 2015

Attachment B-2 Agency Scoping Meeting Slides, April 29, 2015, and Public Scoping Workshop Boards, May 28, 2015

Attachment B-3 Notice of Public Scoping Workshop, April 22 and 23, 2015

Attachment B-4 Agency Scoping Meeting Minutes

Attachment B-5 Scoping Comments Received from Agencies

Attachment B-6 State Historic Preservation Office Statement of Concurrence

Attachment B-1

Authority Letter to Agencies, April 10, 2015

April 10, 2015

Mr. Marcus Brundage
Federal Aviation Administration
Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166

RE: Environmental Assessment (EA), Terminal B/C Redevelopment, Ronald Reagan Washington National Airport (Reagan National)

Dear Mr. Brundage:

The Metropolitan Washington Airports Authority (the Airports Authority) invites you to participate in the environmental scoping process for the redevelopment of Terminal B/C at Reagan National, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements. The proposed federal actions associated with these improvements, including approval by the Federal Aviation Administration (FAA) of a change in the Airport Layout Plan, approval of construction on a federally obligated airport, and possible federal Airport Improvement Program funding, are subject to the National Environmental Policy Act (NEPA). The Airports Authority is preparing an EA of the proposed improvements in accordance with FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and the FAA's *Environmental Desk Reference for Airport Actions*. The Airports Authority and the FAA have not made a final decision on the content of the EA.

Background

Exhibit 1 is a map of the area surrounding Reagan National.

The need for the proposed Terminal B/C redevelopment is to provide a more efficient and better quality of service to existing air carrier operations located at a hardstand area (i.e., an off-gate aircraft parking area) east of the Airports Authority's Corporate Office Building (COB). This hardstand area currently serves 14 regional jet aircraft positions and requires bus transport of passengers from/to the American Airlines (formerly US Airways) facilities in the North Pier. Exhibit 2 illustrates the aircraft parking layout at the hardstand area. Passengers utilizing the 14 regional jet aircraft positions are currently served by an undersized passenger holdroom area at Gate 35X on the apron level directly adjacent to the bus curb. When the apron level holdroom becomes congested, passengers also use the holdroom area at Gate 35 on the concourse level or congregate in the hallway of the North Pier. The volume of passengers in the holdroom areas at Gates 35 exceeds acceptable levels of service, contributing to a poor overall passenger experience.

The proposed Secure National Hall is intended to more efficiently handle Transportation Security Administration (TSA) mandated passenger security screenings, provide interconnectivity between the

existing and proposed piers of Terminal B/C, and eliminate an existing bussing operation between the center and north piers. Recent changes to the airlines serving Reagan National (including mergers, strategic alliances, and slot reallocations) have resulted in an increased frequency of connecting traffic, requiring passenger movement between multiple piers. With the current security screening checkpoints (SSCPs) at each pier, airline passengers transferring between piers to connecting flights must exit the secure area of the arrival pier and clear security again at the SSCP of the departing pier, creating unnecessary congestion at the SSCPs, and introducing additional time requirements for the travelling passengers. The proposed Secure National Hall project would construct two new SSCPs over the terminal roadways at the National Hall level (i.e., one north of the north Metro Bridge, and the other south of the south Metro Bridge). The entire National Hall level of Terminal B/C would then be converted to a post-security secure area, allowing passengers to move freely between piers, without additional security screening requirements.

Project Description

The Airports Authority's preferred alternative for the NNC and Secure National Hall improvements include the following components:

NNC

- Replacing 14 hardstand positions with 14 regional jet contact gates for the commuter aircraft operation at the NNC;
- Demolition of the Airports Authority's COB and relocation of the Airports Authority's employees to other Airports Authority office facilities at Reagan National or Washington Dulles International Airport (Dulles International);
- Demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at Reagan National;
- Demolition and replacement of Hangar 12 with a similar facility in the same general area;
- Relocation of utilities in the NNC project area;
- Modifications to Gate 35 (concourse level) and Gate 35X (apron level);
- Modifications to the Central Utility Plant;
- Modifications to the airport security fence; and,
- Modifications to parking locations for aircraft that remain overnight at Reagan National.

Secure National Hall

- Construction of two new SSCPs over the terminal roadways at the National Hall level (i.e., one north of the north Metro bridge, the other south of the south Metro bridge);
- Construction of new vertical circulation corridors;
- Modification and relocation of concessions areas and support space; and,
- Conversion of National Hall to a post-security secure area.

Exhibits 3 and 4 provide conceptual illustrations of the proposed NNC and Secure National Hall concepts respectively.

Environmental Resources

The EA will address each environmental resource category identified in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, Appendix A, *Analysis of Environmental Impact Categories*.

Previous environmental and facilities planning studies and past improvements within the area of the proposed project indicate that:

- The following resource categories are or could be within the limits of physical disturbance of the proposed project area to be assessed in this EA: construction noise and emissions, and hazardous materials (e.g., asbestos containing materials, lead paint, and contaminated soils and groundwater).
- The following resource categories are in proximity to but not within the limits of physical disturbance of the proposed project area to be assessed in this EA: coastal resources; Chesapeake Bay Preservation Areas; Department of Transportation Act, Section 4(f) properties; fish, wildlife, and plants; floodplains, historical, architectural, archeological, and cultural resources; threatened and endangered species; and, wetlands and waterways.
- The following resource categories are not in proximity to the limits of physical disturbance of the proposed project area to be assessed in this EA: farmlands; Land and Water Conservation Fund Act, Section 6(f) Resources; and, wild and scenic rivers.

Because the proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length, the Airports Authority assumes that aircraft noise and operational emissions will be the same for the Proposed Action and the No Action alternatives.

Scoping Process

The environmental scoping process provides opportunities for you to identify potential environmental impacts that you believe should be assessed in the EA. In addition, the Airports Authority will use the scoping process to identify: issues that need not be addressed in detail; temporal and geographic boundaries of the environmental analysis; available technical information prepared by others that may relate to the environmental resources being assessed; past, present, and reasonably foreseeable actions in the proposed project area that may be appropriate for consideration during the analysis of cumulative effects; and, agencies with jurisdiction or having special expertise and their relevant issues, consultation requirements, and data needs.

As part of our scoping efforts, the Airports Authority will host an agency scoping meeting from 10:00 a.m. to Noon on Wednesday, April 29, 2015 at the Airports Authority's Corporate Office Building (COB) at One Aviation Circle, on the campus of Reagan National Airport. The meeting will be held in Conference Room 1C. Directions and a map to the COB are attached, as Exhibit 5. The Airports Authority and its Consultant Team will provide additional information about the proposed improvements, and be available to answer any questions regarding the proposed project at this meeting.

The Airports Authority will also be scheduling a public scoping workshop in late May or early June, to provide information on the proposed improvements and to solicit comments from the public. Agency comments from the April agency scoping meeting will assist the Airports Authority in preparing

for the public scoping workshop. The Airports Authority and its Consultant Team will be available and relevant graphics will be on display throughout the workshop.

If you unable to attend the scoping meeting, written scoping comments may be submitted to Erik Schwenke, Planning Department, Metropolitan Washington Airports Authority, One Aviation Circle, Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to environmental.comments@mwaa.com.

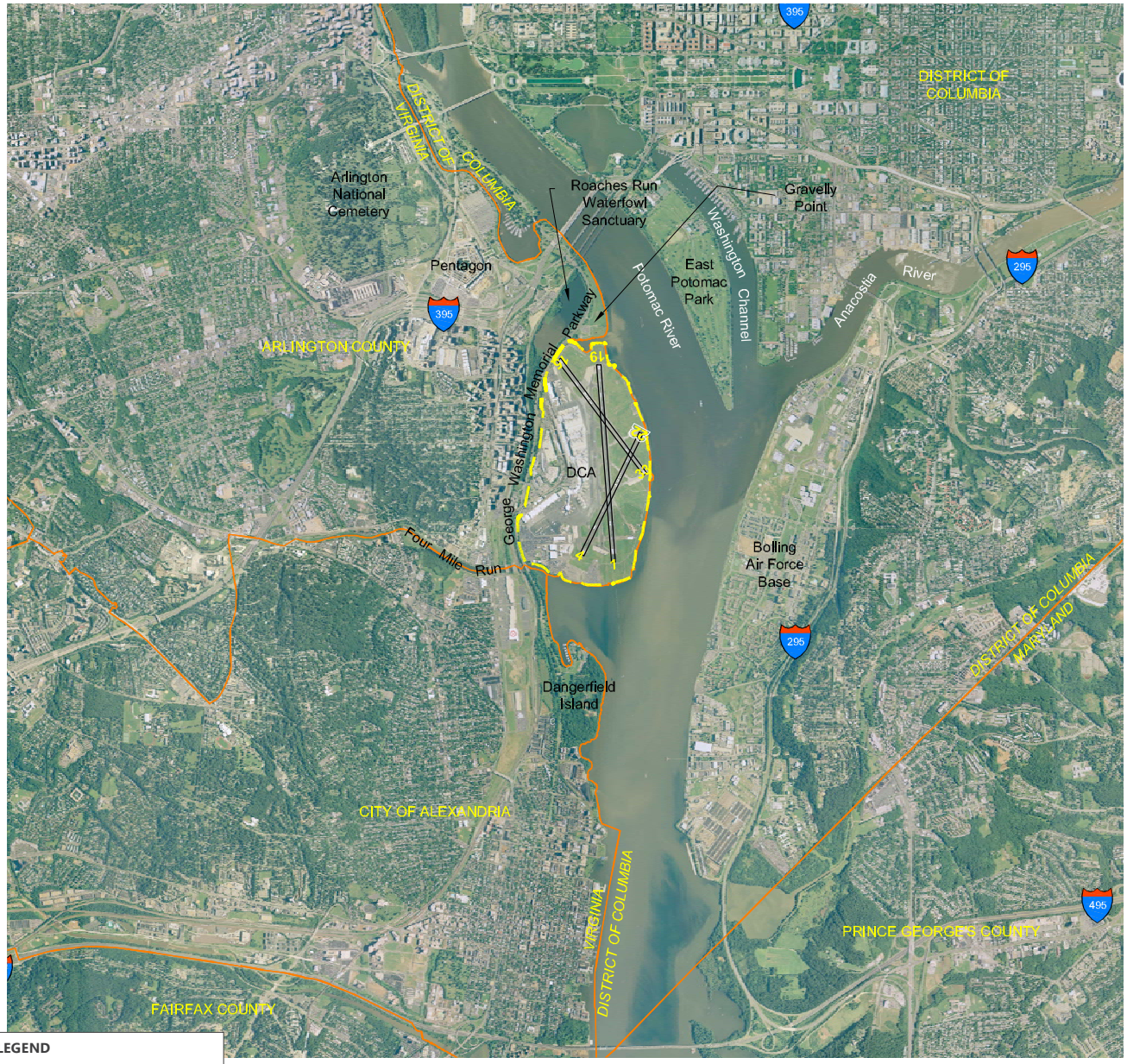
If you have questions, please contact me at 703-572-0268. Thank you for your input to the scoping process.

Sincerely,

Erik N. Schwenke
Lead Environmental Planner

ENS:smm

Enclosures



LEGEND

- Airport Boundary
- Jurisdictional Boundary
- Interstate Highway
- Runway
- DCA Ronald Reagan Washington National Airport

SOURCE: AirPhotoUSA 2001 (Aerial); Ricondo & Associates, Inc.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

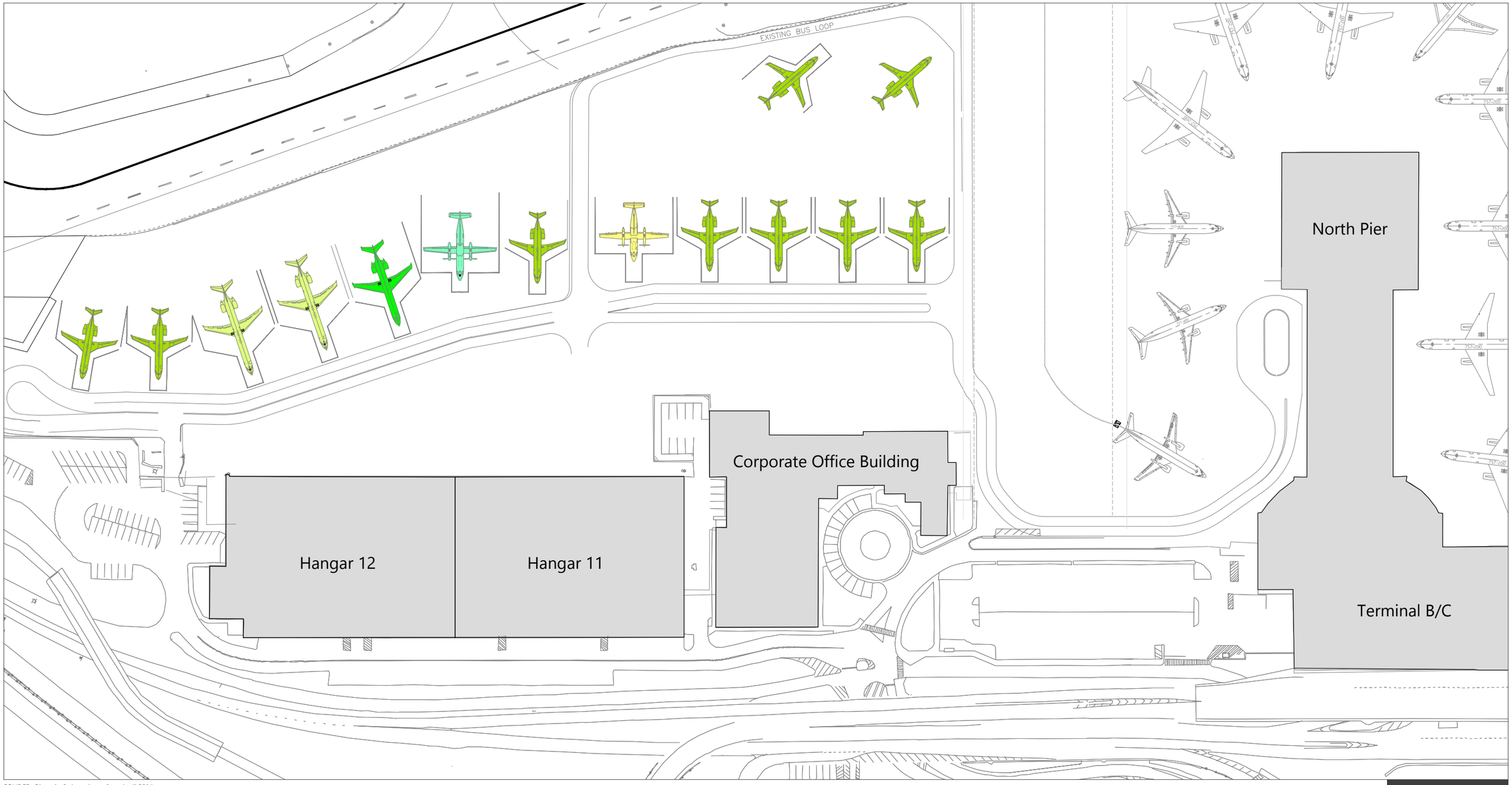
EXHIBIT 1

NORTH

0 6,000 ft.

Area Map

C:\Users\egranata\Desktop\DCA Exhibits\Final Exhibits\Exhibit 1 Area Map - March 2015.indd



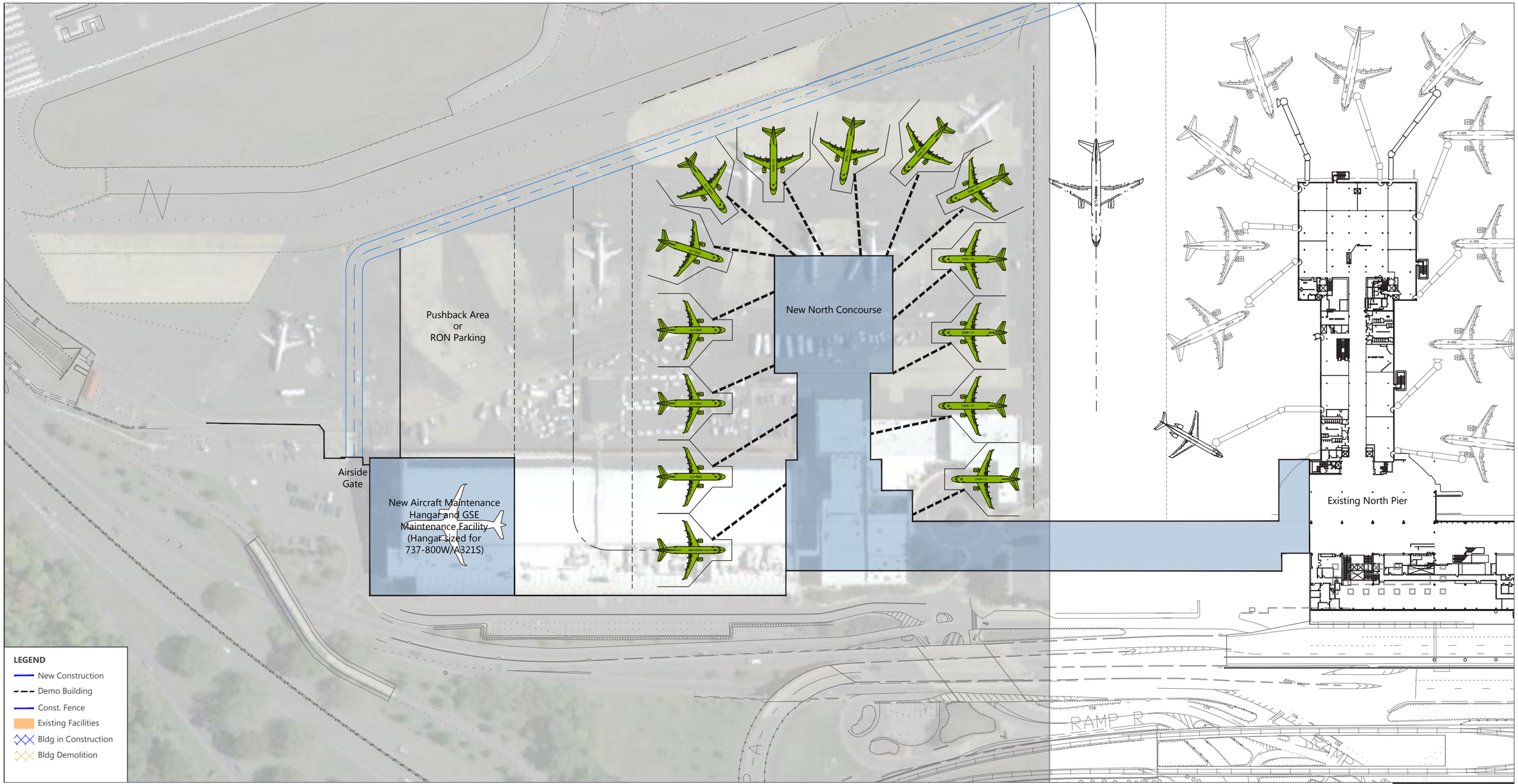
SOURCE: Ricondo & Associates, Inc., April 2014.
PREPARED BY: AGD Associates, LLC., May 2014.

EXHIBIT 2

NORTH 0 120 ft.

Current Aircraft Parking Layout in the Hardstand Area

C:\Users\egranata\Desktop\DCA Exhibits\Final Exhibits\Exhibit 2 DCA Aircraft Parking Layout - March 2015 .indd



SOURCE: Metropolitan Washington Airports Authority ALP; Google Earth Image, February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015; AGD Associates, LLC., February 2015

EXHIBIT 3

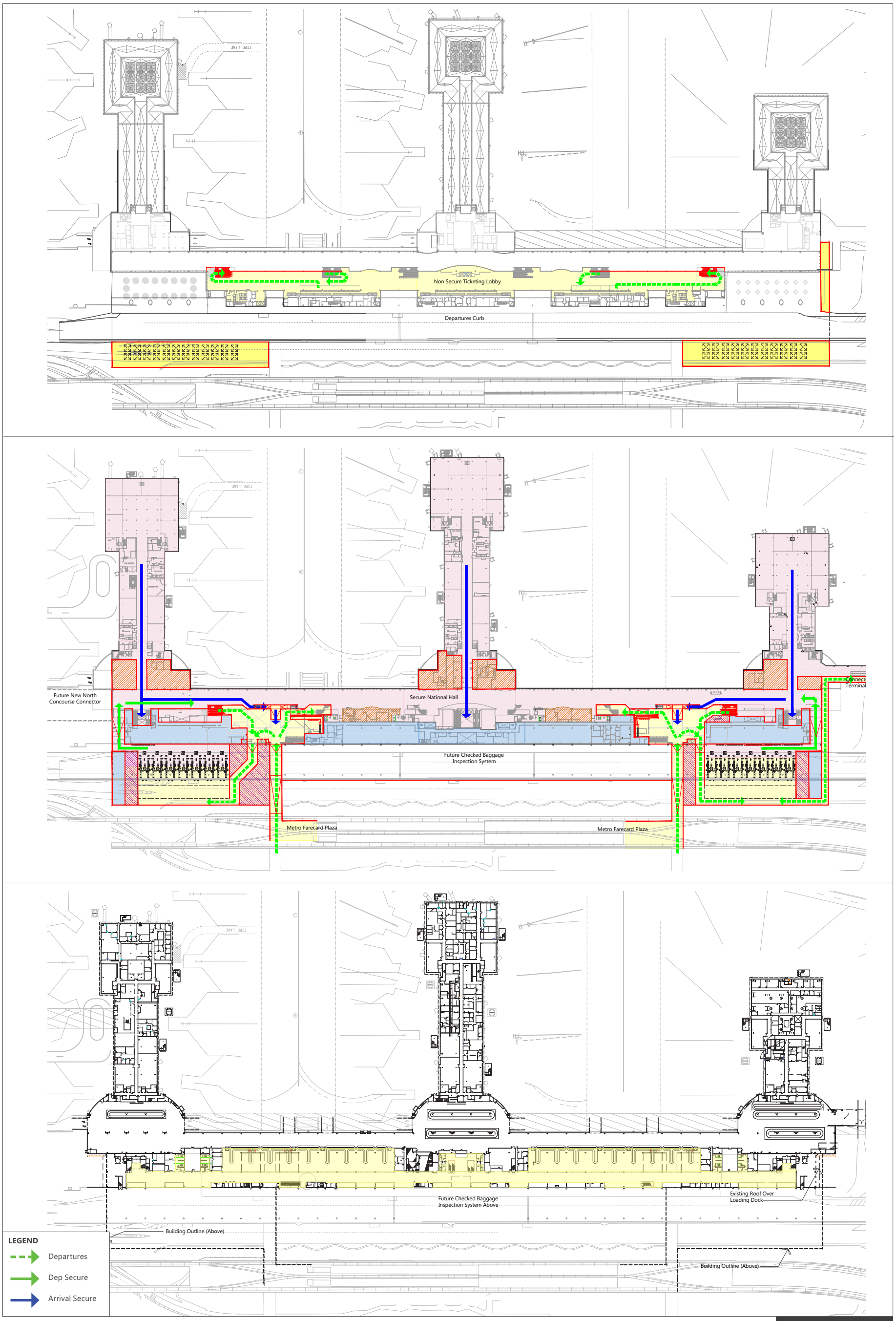
NORTH

0 140 ft.

New North Concourse Phasing Study
Phase 3 (Final)

C:\Users\egranata\Desktop\DCA Exhibits\Final Exhibits\Exhibit 3 DCA New North Concourse - March 2015 .indd

[Preliminary Draft for Discussion Purposes Only]



SOURCE: Metropolitan Washington Airports Authority Airport Layout Plan Background, March 2015.
PREPARED BY: Ricondo & Associates, Inc., January 2015; AGD Associates, LLC., March 2015.

EXHIBIT 4

NORTH 0 Not To Scale

Secure Terminal New Option Study | Checkpoints at Metro/Garage Bridge Level

C:\Users\egranata\Desktop\DCA Exhibits\Final Exhibits\Exhibit 4 DCA Secure Terminal New Option Study - March 2015 .indd

Attachment B-2

Agency Scoping Meeting Slides, April 29, 2015, and Public Scoping Workshop Boards, May 28, 2015

1

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Environmental Assessment
Terminal B/C Redevelopment, Secure National Hall, And Related Improvements
Ronald Reagan Washington National Airport (DCA)

Scoping Meeting with Permitting Agencies, April 29, 2015

Public Information Workshop, May 29, 2015

2

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Purpose of Scoping

- Solicit input from agencies and the public
- Identify significant environmental issues to be analyzed in greater depth
- Eliminate from detailed study issues that are insignificant or have been covered by prior environmental review
- Set temporal and geographic boundaries for impact analysis
- Identify available technical information and additional reasonable alternatives, if any
- Identify necessary permits, licenses, approvals, authorizations
- Clarify areas of special expertise

3

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Aerial Photograph of DCA

4

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

DCA Overview

- Opened June 16, 1941
- 860 acres
- 3 Runways
- 45 airline gates
- 14 hardstand regional aircraft positions
- 84 nonstop destinations
- 20.8 million passengers in 2014
- 283,174 operations in 2014

5

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

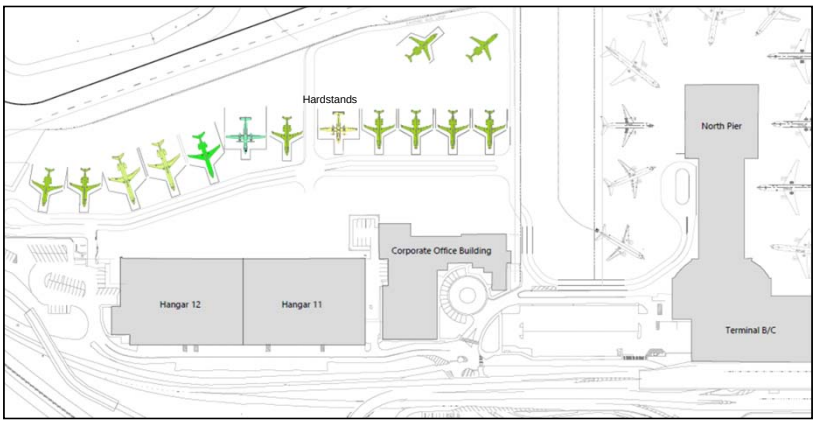
Preliminary Purpose and Need

- Terminal B/C Redevelopment/New North Concourse (NNC):
  - *The volume of passengers in the holdroom areas at Gates 35 and 35X exceeds acceptable levels of service, contributing to a poor overall passenger experience*
  - *Passengers must be bussed to/from hardstand area from Terminal B/C*
  - *NNC would provide a more efficient and better quality of service to existing air carrier operations and eliminate bussing of passengers*
- Secure National Hall
  - *Current security screening checkpoints (SSCPs) are located at each pier*
  - *Airline passengers transferring between piers must exit the secure area of the arrival pier and clear security again at the SSCP of the departing pier, creating unnecessary congestion at the SSCPs, and introducing additional time requirements for the passengers*
  - *The Secure National Hall project would allow passengers to move freely between terminal piers, without additional security screening requirements*

6

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Current New North Concourse Area



7

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

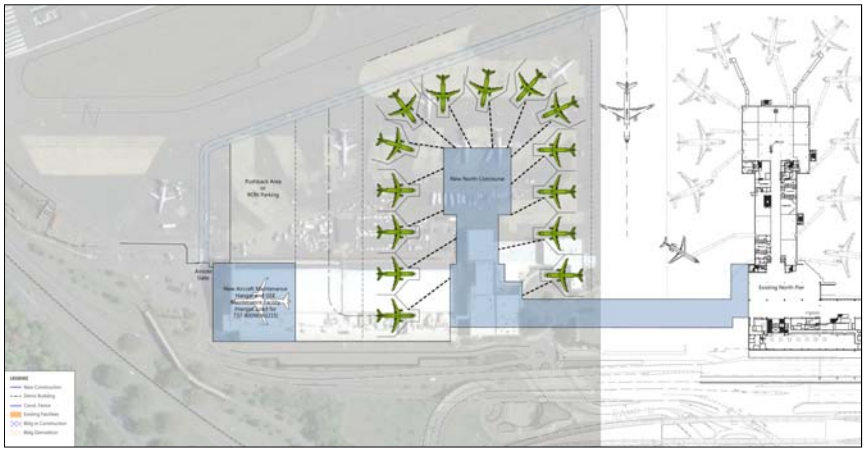
Proposed Action
New North Concourse and Hangar 12

- Replace 14 regional aircraft parking hardstand positions with 14 regional aircraft contact gates for commuter aircraft operations at the NNC
- Demolish the Authority's Corporate Office Building; relocate the Authority's employees to other Authority office facilities at DCA or Washington Dulles International Airport
- Demolish Hangar 11; relocate tenants to renovated facilities in the South Hangar Line area at DCA
- Demolish and replace Hangar 12 with a similar facility in the same general area
- Relocate utilities in the NNC project area
- Modify Gate 35 (concourse level) and Gate 35X (apron level), the Central Utility Plant, the airport security fence; and, parking locations for aircraft that remain overnight at DCA

8

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Proposed New North Concourse And New Hangar 12



9

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Proposed Action Secure National Hall

- Construction of two new Security Screening Checkpoints (SSCPs) over the terminal roadways at the National Hall level
  - *One north of the north Metro bridge*
  - *The other south of the south Metro bridge*
- Construction of new vertical circulation corridors
- Modification and relocation of concessions areas and support space
- Conversion of National Hall to a post-security secure area

10

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Proposed Secure National Hall

11

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Preliminary Schedule
Environmental Assessment

A
M
A
S
O
N
D
F
M
A
M
A

A S M

P S W

P D E A
• P N
• A
• A E
• E C /C I
• M

P I W R P

R C

F E A

FAA F I A P

12

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

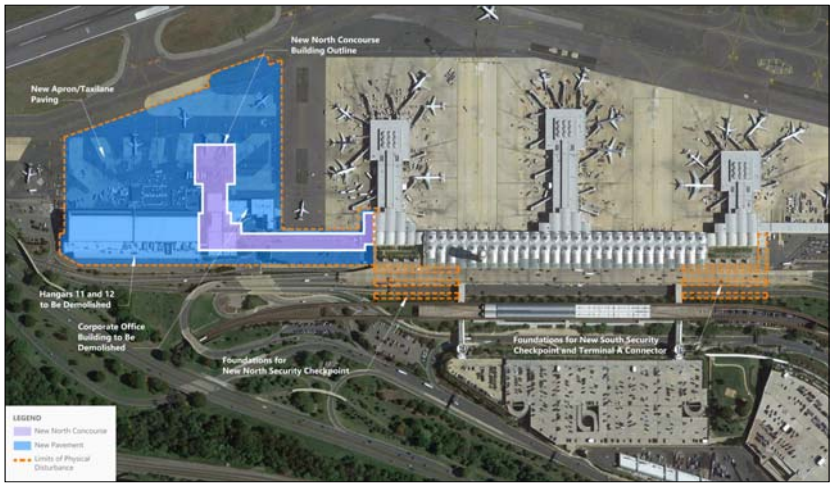
Key Elements of NEPA EA

- **PURPOSE AND NEED** – identifies the problem (need for action), the proposed solution (purpose of action), and the proposed timeframe
- **PROPOSED ACTION** – describes the solution
- **ALTERNATIVES** – compares the no action and reasonable action alternatives
- **AFFECTED ENVIRONMENT** – describes the environmental resources the proposed action and its reasonable alternatives, if any, are likely to affect
- **ENVIRONMENTAL CONSE UENCES** – provides concise analyses for the potential environmental impacts that the no action, proposed action and its reasonable alternatives, if any, may cause, including cumulative impacts
- **MITIGATION** – describes the conceptual measures proposed to mitigate the identified environmental impacts

13

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Limit of Physical Disturbance (LOPD)



14

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Environmental Impact Categories

- Air Quality
  - Excavation and replacement of large volumes of soil
  - Asbestos and lead paint in buildings to be demolished
- Hazardous Materials and Pollution Prevention – contaminated soil and groundwater within limits of physical disturbance
- Solid Waste – materials from demolished pavement and structures
- Water Quality
  - Contaminated groundwater within limits of physical disturbance
  - Impact of new stormwater regulations
- Temporary construction impacts (e.g., dust, local traffic, construction noise)

15

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Environmental Impact Categories Outside LOPD

- Chesapeake Bay Preservation Areas
- Coastal Resources
- Fish, Wildlife and Plants
- Floodplains
- Historic, Architectural, Archeological, and Cultural Resources
- Natural Resources
- Public Lands (i.e., DOT Section 4[f], Land Conservation Fund [LCF])
- Subaqueous Lands
- Threatened and Endangered Species
- Wetlands and Waterways

16

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Environmental Impact Categories Outside of Airport Environs

- Farmlands
- Wild and Scenic Rivers

17

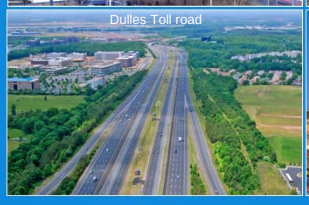
METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Three Ways to Provide Comments

- Provide comments during Agency Scoping Meeting or Public Information Workshop
- Mail comments for delivery by 5:00 PM Eastern Time, June 12, 2015 to:

  Erik N. Schwenke
  Planning Department
  Metropolitan Washington Airports Authority
  1 Aviation Circle
  Ronald Reagan Washington National Airport
  Washington, DC 20001-6000
- Email comments by 5:00 PM Eastern Time, June 12, 2015 to environmental.comments@mwaa.com

18



METROPOLITAN WASHINGTON
AIRPORTS AUTHORITY

19

Attachment B-3

Notice of Public Scoping Workshop
April 22 and 23, 2015

NOTICE OF PUBLIC SCOPING WORKSHOP ENVIRONMENTAL

NOTICE OF PUBLIC SCOPING
WORKSHOP
Environmental Assessment for
Terminal B/C Redevelopment
Ronald Reagan Washington
National Airport

The Metropolitan Washington Airports Authority (the Authority) is preparing an Environmental Assessment (EA) of potential environmental impacts associated with the proposed redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements at Ronald Reagan Washington National Airport (DCA). The improvements include: replacing 14 off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates for commuter operations at the NNC; demolition of the Authority's Corporate Office Building and relocation of the Authority's employees to other Authority office facilities at DCA or Washington Dulles International Airport; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; relocation of utilities in the NNC project area; and, modifications of Gate 35 (concourse level), Gate 35X (apron level), the Central Utility Plant, the airport security fence, and parking locations for aircraft that remain overnight at DCA. The proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length.

The EA is being prepared pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1E, Environmental Impacts: Policies and Procedures, FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, and the FAA's Environmental Desk Reference for Airport Actions.

The need for the proposed NNC is to provide a more efficient and better quality of service to existing air carrier operations located at a hardstand area (i.e., an off-gate aircraft parking area) east of the Authority's Corporate Office Building. The proposed Secure National Hall is intended to more efficiently handle Transportation Security Administration (TSA) mandated passenger security screenings, provide interconnectivity between the existing and proposed piers of Terminal B/C, and eliminate an existing bussing operation between the center and north piers.

The Authority invites the public to attend a workshop that will be held on Thursday, May 28, 2015 from 6:00 PM to 8:00 PM at the Historic Main Terminal adjacent to Terminal A at DCA. Representatives from the Authority and its Consultant Team will be available to answer questions throughout the public workshop, and graphics will be on display illustrating the Airport, the preliminary purpose and need for the proposed improvements, alternatives considered, the Authority's preferred alternative based on previous studies, the EA and scoping processes, and the schedules for the EA and implementation of the preferred alternative.

An opportunity to submit written comments will be provided during and after the public workshop. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 1 Aviation Circle, Ronald Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to **environmental.comments@mwaa.com**. Comments must be received by 5:00 PM Eastern Time, Friday, June 12, 2015.

Those interested in attending the public workshop who have special communication or accommodation needs are encouraged to contact Stephen Muench of Ricondo & Associates, Inc. at (703) 519-2181, x329 or **s_muench@ricondo.com** at least 2 days prior to the workshop. Every reasonable effort to accommodate special needs will be made. This notice and graphics of the project site may be previewed at **www.mwaa.com/news_publications/newsroom/public_notices.**

Appeared in: ***Washington Post*** on 04/22/2015 and 04/23/2015

Ad # 11907475 Name RICONDO & ASSOCIATES, INC. Size 152 Lines T0001
Class 820 PO# Final ad Authorized by Stephen Muench Account 2010070577

PROOF OF PUBLICATION

District of Columbia, ss., Personally appeared before me, a Notary Public in and for the said District, Alba Cortes well known to me to be BILLING SUPERVISOR of The Washington Post, a daily newspaper published in the City of Washington, District of Columbia, and making oath in due form of law that an advertisement containing the language annexed hereto was published in said newspaper on the dates mentioned in the certificate herein.

I Hereby Certify that the attached advertisement was published in The Washington Post, a daily newspaper, upon the following date(s) at a cost of $3,636.52 and was circulated in the Washington metropolitan area.

Published 2 time(s). Date(s):22 and 23 of April 2015

Account 2010070577

Alba Cortes

Witness my hand and official seal this 23rd day of April 2015

JENNIFER A. MITCHELL-JOHNSON NOTARY PUBLIC MY COMMISSION EXPIRES 10/31/2019 DISTRICT OF COLUMBIA

Jennifer A. Mitchell-Johnson

My commission expires 10/31/2019

NOTICE OF PUBLIC SCOPING WORKSHOP Environmental Assessment for Terminal B/C Redevelopment Ronald Reagan Washington National Airport The Metropolitan Washington Airports Authority (the Authority) is preparing an Environmental Assessment (EA) of potential environmental impacts associated with the proposed redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements at Ronald Reagan Washington National Airport (DCA). The improvements include: replacing 14 off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates for commuter operations at the NNC; demolition of the Authority's Corporate Office Building and relocation of the Authority's employees to other Authority office facilities at DCA or Washington Dulles International Airport; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; relocation of utilities in the NNC project area; and, modifications of Gate 35 (concourse level), Gate 35X (apron level), the Central Utility Plant, the airport security fence, and parking locations for aircraft that remain overnight at DCA. The proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length. The EA is being prepared pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1E, Environmental Impacts: Policies and Procedures, FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, and the FAA's Environmental Desk Reference for Airport Actions. The need for the proposed NNC is to provide a more efficient and better quality of service to existing air carrier operations located at a hardstand area (i.e., an off-gate aircraft parking area) east of the Authority's Corporate Office Building. The proposed Secure National Hall is intended to more efficiently handle Transportation Security Administration (TSA) mandated passenger security screenings, provide

interconnectivity between the existing and proposed piers of Terminal B/C, and eliminate an existing bussing operation between the center and north piers. The Authority invites the public to attend a workshop that will be held on Thursday, May 28, 2015 from 6:00 PM to 8:00 PM at the Historic Main Terminal adjacent to Terminal A at DCA. Representatives from the Authority and its Consultant Team will be available to answer questions throughout the public workshop, and graphics will be on display illustrating the Airport, the preliminary purpose and need for the proposed improvements, alternatives considered, the Authority's preferred alternative based on previous studies, the EA and scoping processes, and the schedules for the EA and implementation of the preferred alternative. An opportunity to submit written comments will be provided during and after the public workshop. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 1 Aviation Circle, Ronald Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to environmental.comments@mwaa.com. Comments must be received by 5:00 PM Eastern Time, Friday, June 12, 2015. Those interested in attending the public workshop who have special communication or accommodation needs are encouraged to contact Stephen Muench of Ricondo & Associates, Inc. at (703) 519-2181, x329 or s_muench@ricondo.com at least 2 days prior to the workshop. Every reasonable effort to accommodate special needs will be made. This notice and graphics of the project site may be previewed at www.mwaa.com/news_publications/newsroom/public_notices.

THIS PAGE LEFT INTENTIONALLY BLANK

Attachment B-4

Agency Scoping Meeting Minutes

Terminal B/C Redevelopment, Secure National Hall, and Related Improvements Environmental Assessment **Agency Scoping** **Include Project Number**			**April 29, 2015** **10:00 AM Eastern** **MWAA Corporate Office Building**
Facilitator:	Steve Muench	**Note takers:**	Virginia Jackson
Attendees:	**Representing**		**Email**
Andrew Brooks	Federal Aviation Administration (FAA) Eastern Region (by phone)		Andrew.Brooks@faa.gov
Marcus Brundage	Federal Aviation Administration Washington Airports District Office		Marcus.Brundage@faa.gov
Chad Carper	Federal Aviation Administration Washington Airports District Office		Chad.Carper@faa.gov
Jeff Hinkle	National Capital Planning Commission (NCPC)		Jeff.hinkle@ncpc.gov
Mary Polacek	District Department of the Environment Water Quality		Mary.Polacek@dc.gov
Brian Stout	Arlington County		bstout@arlingtonva.us
Mike Hines	Metropolitan Washington Airports Authority (MWAA)		Mike.Hines@mwaa.com
Erik Schwenke	Metropolitan Washington Airports Authority		Erik.Schwenke@mwaa.com
Steve Muench	Ricondo & Associates, Inc.		s_muench@ricondo.com
Darrin McKenna	Ricondo & Associates, Inc.		d_mckenna@ricondo.com
Virginia Jackson	Ricondo & Associates, Inc.		v_jackson@ricondo.com
David Sumba	Kimley-Horn Associates		David.Samba@kimley-horn.com
Chancee` Lundy	Nspiregreen		clundy@nspiregreen.com
Pete Rigby	Paciulli Simmons & Associates		prigby@psaltd.com
Dan Lucey	Wetland Studies and Solutions, Inc.		dlucey@wetlandstudies.com

Introduction and Opening Comments

Meeting participants introduced themselves.

Erik Schwenke began the meeting with the agency representatives by explaining that the Metropolitan Washington Airports Authority (the Authority) is initiating the preparation of an Environmental Assessment (EA) for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements at Ronald Reagan Washington National Airport (DCA or the Airport). The agency scoping meeting will be followed by a public information meeting May 28th.

Steve Muench reviewed the purposes of this agency scoping meeting, namely to: a) solicit input from agencies regarding resources in the vicinity of the enhancements and related improvements; b) identify significant environmental issues to be analyzed in greater depth in this EA and those other environmental

issues that are either insignificant or have been covered by prior environmental review; c) set temporal and geographic boundaries for impact analysis; d) identify available technical information and additional reasonable alternatives, if any; e) identify necessary permits, licenses, approvals and authorizations; and, f) clarify areas of special expertise.

The Terminal B/C Redevelopment preferred alternative would provide a more efficient and better quality of service to existing air carrier operations by replacing 14 hardstands used by commuter aircraft with 14 contact gates and eliminate bussing of passengers between Gate 35X and the commuter aircraft parked at the hardstands. The Secure National Hall would allow passengers to move freely between terminal piers without additional security screening.

Steve Muench reviewed the National Environmental Policy Act (NEPA) process and the approximate timeline for completion of this EA. The Authority's current expectations are to complete this EA and to receive the FAA's finding by the summer of 2016.

Dialogue

The following is a general summary of questions and comments raised by agency representatives during the meeting and the Authority's responses.

Questions/Comments	Responses
Andrew Brooks asked whether the security screening checkpoint (SSCP) would be redesigned/relocated.	Steve Muench replied that the north SSCP will be north of the north Metro bridge and the south SSCP will be south of the south Metro bridge. New vertical circulation corridors will be added. There are currently 3 SSCPs for 3 piers within Terminal B/C. The Authority proposes to have 2 SSCPs for the entire Terminal B/C
Andrew Brooks asked if there was a profile view of the SSCPs?	Steve Muench stated that the SSCPs would be constructed above the commercial and public vehicle arrivals level roadway and below the departures level roadway. A profile view was not in the presentation but one is attached hereto. Erik Schwenke pointed out that the new SSCPs would extend beyond the edge of the departures level roadway.
For the Runway Safety Area Environmental Assessment, Steve Muench noted that the FAA issued a Finding of No Significant Impact (FONSI)/Record of Decision (ROD) and he asked whether the FAA expected to issue a ROD for this EA?	Andrew Brooks stated that the FAA will consider whether a ROD would be needed after the impacts and mitigations are known. The FAA does not want to predetermine the outcome, but a ROD is likely.
Chad Carper asked when will the Airport Layout Plan (ALP) be submitted to FAA?	Mike Hines indicated the ALP would be submitted to the FAA within the next 30 days.
Marcus Brundage indicated that the schedule appeared to be tight and that it takes time to get on NCPC's agenda. He asked whether NCPS's NEPA review would impact the project schedule?	Jeff Hinkle indicated that NCPC will review the 30% design. This EA is expected to be concluded before the NCPC starts its review.

Questions/Comments	Responses
Andrew Brooks asked about noise impacts.	Steve Muench replied that because the Authority's preferred alternative does not have a direct effect on aircraft fleet mix, runway utilization or aircraft operations, aircraft noise impacts are not expected and new noise contours will not be produced as part of this EA. Construction noise will be included in the EA. Continue discussion with FAA regarding the noise analysis if the project would allow a different category of aircraft to operate.
Andres Brooks asked if the New North Concourse would be able to accommodate larger jet aircraft?	Steve Muench said that the New North Concourse would be designed to provide 14 contact gates for the commuter aircraft currently operating at the hardstands. While the new concourse could be modified in the future to accommodate narrow-body aircraft, there are no plans to do so at this time. American Airlines, the sole occupant of the facility, is not proposing to up-gauge their regional aircraft fleet to narrow-body aircraft at this new facility.
Marcus Brundage requested Coastal Resources and Historic, Architectural, Archeological, and Cultural Resources impact categories be moved from environmental impact categories outside the limits of physical disturbance (LOPD) to within the LOPD.	The Authority agreed to address these impact categories as categories inside the LOPD.
Following the meeting, Mary Polacek indicated that the District of Columbia would have a particular interest in how the Authority plans to prevent contaminated soils, ground water, rain water, etc. from reaching waters under DC's jurisdiction (i.e., the Potomac River). A permit is required if any water is to be discharged into the waters of DC.	Steve Muench indicated that the Authority's design engineer would take these matters into consideration and the intent is to design and operate the preferred alternative in a way that would avoid contamination reaching the waters of DC.

Attachments:
Sign-in Sheets
SSCP Profile View

Distribution:
14080868-03
[Meeting Attendees]
Read File

THIS PAGE LEFT INTENTIONALLY BLANK

Attachment B-5

Comments Received from Agencies

DIVISIONS
ENERGY
GAS AND OIL
GEOLOGY AND MINERAL RESOURCES
MINED LAND RECLAMATION
MINERAL MINING
MINES
ADMINISTRATION

COMMONWEALTH OF VIRGINIA

Department of Mines, Minerals and Energy
Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
www.dmme.virginia.gov

April 23, 2015

Erik N. Schwenke
Lead Environmental Planner
Metropolitan Washington Airports Authority
1 Aviation Circle
Washington, DC 20001-6000

Dear Mr. Schwenke:

The Department of Mines, Minerals and Energy (DMME) is making difficult decisions in response to state budget reductions. One of the most difficult decisions to date was to reduce staff in our Division of Geology and Mineral Resources (DGMR) in January 2009. Since that time, DMME has carefully reviewed services that we have provided in the past in order to determine which services can be provided in the future with existing staff. One service that we considered was the review of environmental impact reports for state and local projects.

We have determined that existing staff levels within DMME do not allow for the review of environmental impact reports on a routine basis. As a result, we ask that you remove DMME from your environmental review distribution lists. We understand that there are times when specific information related to geologic conditions, mineral extraction, and energy policy is an important consideration for a particular project. In these instances, please contact State Geologist David Spears with our Division of Geology and Mineral Resources: 900 Natural Resources Drive, Suite 500, Charlottesville, VA 22903, (434) 951-6350; or by e-mail at david.spears@dmme.virginia.gov/.

Sincerely,

Conrad T. Spangler, III
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 28, 2015

Metropolitan Washington Airports Authority
Mr. Erik N. Schwenke, Lead Environmental Planner
1 Aviation Circle
Washington, D.C. 20001

RE: Terminal B/C Redevelopment at Reagan National Airport, NEPA Scoping Process

Dear Mr. Schwenke:

Thank you for your April 10, 2015 letter and enclosures (received April 22) regarding the scoping process for the re-development of Terminal B/C at Reagan National Airport and inviting our participation in scoping for the NEPA document covering the re-development project.

DESCRIPTION OF PROPOSED PROJECT

According to your letter, the Metropolitan Washington Airports Authority ("Authority") proposes a re-development of Terminal B/C. The project includes construction and operation of a New North Concourse, a Secure National Hall, and projects making up or enabling these facilities. The federal role in this project, which makes the National Environmental Policy Act applicable to it, includes the following actions or potential actions by the Federal Aviation Administration:

- Approval of a change in the Airport Layout Plan to reflect the proposed changes/projects;
- Approval of construction on a federally obligated airport;
- Possible funding from the federal Airport Improvement Program.

The projects contemplated for the New North Concourse include the following:

- Replacing 14 "hardstand" positions with 14 regional jet contact gates for commuter aircraft operations;

- Demolition of the Authority's Corporate Office Building and relocation of Authority employees to other Authority offices at Reagan National or Washington Dulles International Airport ("Dulles");
- Demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area;
- Demolition and replacement of Hangar 12 with a similar facility in the same general area;
- Relocation of utilities;
- Modifications to Gate 35 (concourse level) and Gate 35X (apron level);
- Modifications to the Central Utility Plant;
- Modifications to the airport security fence; and
- Modifications to parking locations for aircraft remaining overnight.

The projects contemplated for the Secure National Hall include:

- Construction of two new security screening checkpoints over the terminal roadways at the National Hall level (i.e., one north of the north Metro bridge, the other south of the south Metro bridge);
- Construction of new vertical circulation corridors;
- Modification and relocation of concessions areas and support space; and
- Conversion of National Hall to a post-security secure area.

ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act ("NEPA," PL 91-190) requires the Federal Aviation Administration (FHwA) to take environmental impacts into account when assisting airports with project planning, funding, or construction. Specifically, NEPA and its implementing regulations (Title 40, *Code of Federal Regulations*, Parts 1500-1508) require draft and final Environmental Impact Statements (EISs) for federal, federally licensed, or federally funded undertakings which will or may give rise to significant impacts upon the human environment. EISs carry more stringent public participation requirements than Environmental Assessments (EAs), which support Findings of No Significant Impact. EISs provide more time and detail than do EAs for comments and public decision-making. The possibility that an EIS may be required for the projects under consideration should not be overlooked in your planning for these projects. Accordingly, we refer to "NEPA document" in this letter.

The roles of the Virginia Department of Environmental Quality (DEQ) in relation to the review of this project are as follows. First, DEQ's Office of Environmental Impact Review (OEIR) will coordinate Virginia's review of the NEPA document and comment on behalf of the Commonwealth. A similar review process will pertain to the Federal Consistency Certification or Determination (see next section), although the time frames for review are different. If the time frames allow and the documents are provided together, there can be a single review.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972, as amended, activities affecting Virginia's coastal resources or coastal uses and receiving federal assistance must be consistent, to the maximum extent practicable, with the enforceable policies of the Virginia Coastal Zone Management Program (VCP) (see section 307(c)(1) of the Act and the *Federal Consistency Regulations*, 15 CFR Part 930, subpart D, sections 930.50 *et seq.*, governing federally licensed or permitted activities). The federal agency or applicant must provide a federal consistency certification (FCC) to the affected state which includes an analysis of the proposed activities in light of the enforceable policies of the VCP (Enclosure 1) and a commitment to comply with the enforceable policies. In addition, we invite your attention to the advisory policies of the VCP (Enclosure 2).

The FCC may be provided as part of the NEPA document or independently, depending on agency preference. We recommend, in the interests of an effective review, that the FCC be provided with the final NEPA document, and that sufficient time be allowed for review, in keeping with the *Federal Consistency Regulations* (see section 930.62(a)). Section 930.58 of these *Regulations*, and Virginia's Federal Consistency Information Package (available at http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview/FederalConsistencyReviews.aspx#cert) provide content requirements for the FCC.

PROJECT SCOPING AND AGENCY INVOLVEMENT

While this Office does not participate in scoping efforts beyond the advice given in this letter, other agencies are free to provide scoping comments concerning the preparation of the NEPA document. Accordingly, we are sharing our response to the letter with selected state, regional, and local Virginia agencies which have responsibilities bearing on the proposed action. These are likely to include the following (note: starred (*) agencies administer one or more of the enforceable policies of the VCP):

Department of Environmental Quality:
- Office of Environmental Impact Review
- Northern Regional Office*
- Division of Air Program Coordination*
- Division of Land Protection and Revitalization (formerly Waste Division)
- Office of Stormwater Management*
- Office of Wetlands and Stream Protection*

Department of Conservation and Recreation
Department of Health
Department of Game and Inland Fisheries*
Virginia Marine Resources Commission*
Department of Historic Resources
Northern Virginia Regional Commission
Arlington County

In order to ensure an effective coordinated review of the environmental document and/or FCC, we request electronic copies, with 2 hard copies (CD or paper) for our files and for small localities. Electronic copies may be sent to eir@deq.virginia.gov or made available for download at a website, file transfer protocol (ftp) site or the VITAShare file transfer system (*https://vitashare.vita.virginia.gov*). The document should include a U.S. Geological Survey topographic map as part of its information. We recommend, as well, that project details be adequately described for the benefit of reviewers of the NEPA document and/or the Federal Consistency Certification.

DATA BASE ASSISTANCE

Below is a list of databases that may assist the Authority or FAA in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- DEQ Permit Expert

  Helps determine if a DEQ permit is necessary:
  - www.deq.virginia.gov/permitexpert/

- DHR Data Sharing System

  Survey records in the DHR inventory:
  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DGIF Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:
  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

I hope this information is helpful to you. If you have questions about the environmental review process or the federal consistency review process, please feel free to call John Fisher of this Office at (804) 698-4339.

Sincerely,

Bettina Sullivan, Program Manager
Environmental Impact Review and Long-Range Priorities

Attachments:
Enclosure 1 – VCP Enforceable Policies
Enclosure 2 – VCP Advisory Policies

ec: Daniel Burstein, DEQ-NRO
Kotur S. Narasimhan, DEQ-DAPC
G. Stephen Coe, DEQ-DLPR
Larry Gavan, DEQ-OSM
Holly Sepety, DEQ-OSM
Daniel Moore, DEQ-OSM
Christopher Egghart, DEQ-OWSP
Amy M. Ewing, DGIF
Roberta D. Rhur, DCR
Roger W. Kirchen, DHR
Roy Soto, VDH-ODW
Tony Watkinson, VMRC
G. Mark Gibb, NVRC
Barbara Donellan, Arlington County

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

Attachment 1

Enforceable Regulatory Programs comprising Virginia's Coastal Zone Management Program (VCP)

a. Fisheries Management - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC) (Virginia Code §28.2-200 to §28.2-713) and the Department of Game and Inland Fisheries (DGIF) (Virginia Code §29.1-100 to §29.1-570).

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities (Virginia Code §3.2-3904 and 3.2-3935 to §3.2-3937).

b. Subaqueous Lands Management - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Virginia Marine Resources Commission (VMRC) (Virginia Code §28.2-1200 to §28.2-1213).

c. Wetlands Management - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

(1) The tidal wetlands program is administered by VMRC (Virginia Code §28.2-1301 through §28.2-1320).

(2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands - both tidal and non-tidal - (Virginia Code §62.1-44.15:20 *et seq.*) and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by VMRC (Virginia Code §28.2-1400 through §28.2-1420).

e. Non-point Source Pollution Control - (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by DEQ (Virginia Code §62.1-44.15:51 *et seq.*).

(2) Coastal Lands Management is a state-local cooperative program administered by DEQ's Water Division and 84 localities in Tidewater (see i) Virginia (Virginia Code §62.1-44.15:67 – 62.1-44.15:79 and Virginia Administrative Code 9 VAC 25-830-10 *et seq.*).

f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of:

(1) The National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.

(2) The Virginia Water Protection Permit (VWPP) program administered by DEQ (Virginia Code §62.1-44.15:5) and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (VDH) (Virginia Code §32.1-164 through §32.1-165).

h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (DEQ) (Virginia Code §10-1.1300 through §10.1-1320).

i. Coastal Lands Management - A state-local cooperative program administered by DEQ's Water Division and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15:67 – 62.1-44.15:79) and Chesapeake Bay Preservation Area Designation and Management Regulations (Virginia Administrative Code 9 VAC 25-830-10 *et seq.*).

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

a. Coastal Natural Resource Areas - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:

a) Wetlands
b) Aquatic Spawning, Nursery, and Feeding Grounds
c) Coastal Primary Sand Dunes
d) Barrier Islands
e) Significant Wildlife Habitat Areas
f) Public Recreation Areas
g) Sand and Gravel Resources
h) Underwater Historic Sites.

b. Coastal Natural Hazard Areas - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:

i) Highly Erodible Areas
ii) Coastal High Hazard Areas, including flood plains.

c. Waterfront Development Areas - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:

i) Commercial Ports
ii) Commercial Fishing Piers
iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCP is encouraged.

Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCP recognizes two broad classes of priority uses for waterfront development APC:

i) water access dependent activities;
ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.

b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.

d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.

f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.

COMMONWEALTH of VIRGINIA
Department of Agriculture and Consumer Services
PO Box 1163, Richmond, Virginia 23218
Phone: 804/786-3501 • fax: 804/371-2945 • Hearing Impaired: 800/828-1120
www.vdacs.virginia.gov

Sandra J. Adams
Commissioner

April 29, 2015

Mr. Erik N. Schwenke
Lead Environmental Planner
Metropolitan Washington Airports Authority
1 Aviation Circle
Washington, D.C. 20001-6000

RE: Environmental Assessment for the Terminal B/C Redevelopment at Ronald Reagan Washington National Airport (Reagan National)

Dear Mr. Schwenke:

This is in response to a letter from you dated April 10, 2015, inviting our participation in the environmental scoping process for the proposed redevelopment of Terminal B/C at Reagan National.

Based on your description of the proposed project, it does not appear that the impacted area includes agricultural lands nor does it appear that the project will affect any of the regulations administered by this agency.

VDACS works closely with the Department of Conservation and Recreation (DCR) in determining the potential impact of proposed projects on state endangered and threatened plant and insect species. Through a Memorandum of Agreement between our agencies, DCR reviews these projects and submits comments on our behalf. Consequently, inquiries relating to state protected plant and insect species should be directed to DCR. If after researching its database of natural resources, critical habitats, and species locations DCR finds that a project poses a potential adverse impact on an endangered or threatened plant or insect species, the appropriate information will be referred to VDACS for further review and possible mitigation. Please note that requests of this nature should be sent to Rene Hypes at the DCR Division of Natural Heritage Project Review Program. Ms. Hypes can be reached at (804) 371-2708 or rene.hypes@dcr.virginia.gov.

Thank you for the opportunity to present VDACS' comments on the Environmental Assessment

for the Terminal B/C Redevelopment at Ronald Reagan Washington National Airport.

Sincerely,

Sandra J. Adams
Commissioner

cc: Andres Alvarez, Director, Division of Consumer Protection
Kevin Schmidt, Director, Office of Policy, Planning and Research

Virginia Jackson

Subject: FW: MWAA: Terminal B/C Redevelopment at Reagan National Airport- Scoping Request

---

From: Schwenke, Erik [mailto:Erik.Schwenke@MWAA.com]
Sent: Thursday, April 30, 2015 9:22 AM
To: Stephen Muench
Subject: FW: MWAA: Terminal B/C Redevelopment at Reagan National Airport- Scoping Request

FYI

From: Burstein, Daniel (DEQ) [mailto:Daniel.Burstein@deq.virginia.gov]
Sent: Thursday, April 30, 2015 9:11 AM
To: Environmental Comments
Cc: Fisher, John (DEQ); Fulcher, Valerie (DEQ)
Subject: RE: MWAA: Terminal B/C Redevelopment at Reagan National Airport- Scoping Request

NRO comments regarding the Scoping Request for the MWAA: Terminal B/C Redevelopment at Reagan National Airport, NEPA Scoping Process:

Land Protection Division - The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, that VDOT/contractor would follow applicable federal, state, and county regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should the project install fuel burning equipment (Boilers, Generators, Compressors, etc…), or any other air pollution emitting equipment, the project may be subject to 9 VAC 5-80, Article 6, Permits for New and Modified sources and as such the project manager should contact the Air Permit Manager DEQ-NRO prior to installation or construction, and operation, of fuel burning or other air pollution emitting equipment for a permitting determination. Lastly, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – Based on the information provided, it appears the project will not impact streams or wetlands. Yet, the project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance.

Water Permitting/VPDES Program/Stormwater: The project manager is reminded to follow all applicable regulations.

Respectfully,

Dan

Daniel Burstein
Regional Enforcement Specialist, Senior II
Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193
Phone: (703) 583-3904
Fax: (703) 583-3821
daniel.burstein@deq.virginia.gov

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Monday, May 11, 2015 4:24 PM
To: Stephen Muench; Virginia Jackson
Subject: FW: scoping for EA Terminal B/C redevelopment, Ronald Reagan National Airport (2015-0444)

Scoping comments from VDHR

From: Holma, Marc (DHR) [mailto:Marc.Holma@dhr.virginia.gov]
Sent: Monday, May 11, 2015 4:19 PM
To: Schwenke, Erik
Subject: scoping for EA Terminal B/C redevelopment, Ronald Reagan National Airport (2015-0444)

Mr. Schwenke:

This email is in response to your letter of 10 April 2015—received by DHR on 20 April 2015—regarding the above referenced project. The DHR is interested in participating in scoping for this undertaking pursuant to our role in the Section 106 review process. Please continue to keep us informed regarding upcoming agency and public meetings, and the design development. We will comment through opportunities provided during the NEPA/Section 106 review procedures.

Sincerely,

Marc Holma

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Monday, May 11, 2015 11:05 AM
To: Stephen Muench; Virginia Jackson
Subject: FW: Terminal B/C Redevelopment, Ronald Reagan Washington National Airport

Scoping comments from DDOE…

From: Searing, Mary (DDOE) [mailto:mary.searing@dc.gov]
Sent: Monday, May 11, 2015 10:35 AM
To: Environmental Comments
Cc: Burrell, Collin (DDOE); Bullo, Ibrahim (DDOE)
Subject: FW: Terminal B/C Redevelopment, Ronald Reagan Washington National Airport

To: Erik Schwenke, Planning Department, MWAA
From: Mary Searing, Planning and Permitting, Water Quality Division, DDOE

This email is in response to your April 10, 2015 letter requesting input to the scoping process for the subject project. Please find DDOE WQD Planning and Permitting Branch comments below:

1. Project Description, page 2 – Please provide a figure in the Environmental Assessment (EA) showing the location of and limits of disturbance for the structures to be impacted. The legend should indicate which structures will only have internal work and which structures will involve soil or groundwater disturbance.
2. Project Description, page 2 - Please discuss onsite soils and geology and how any impacts to groundwater aquifers can be reduced or prevented.
3. Project Description, page 2 – Please include details in the EA regarding soil and groundwater contamination and remediation within and in proximity to the areas of disturbance. The details should be supported by figures and maps.
4. Project Description, page 2 – Please include details of any proposed sediment erosion control measures and dewatering activities. Also add information about the expected quality of the effluent, effluent disposal management and permitting/TMDL considerations especially if the effluent will be discharged to the Potomac River or its tributaries.
5. Project Description, page 2 – Please note that unlined stormwater infiltration devices should be discouraged if not prevented at contaminated sites.
6. Project Description, page 2 – Please discuss stormwater and general pollution prevention measures that will be implemented during and after construction and revisions to the facility wide plans. The discussion also should cover pesticide applications. Note that DDOE strongly encourages the use of buffer zones for pesticide applications to limit possible impacts to waterbodies.
7. Project Description, page 2 – DDOE strongly encourages the use of environmentally sustainable measures. Please consider the use of green roofs, and water and energy efficient buildings wherever possible.
8. Environmental Resources, page 3 – All resource categories identified in the first two bullets of this section should be included and discussed in detail in the proposed (EA). Possible impacts to submerged aquatic vegetation in the river should be added to the discussion.
9. Environmental Resources, page 3 – Please clarify what Section 6(f) resources are so DDOE may determine if these resource categories are not in proximity to the limits of physical disturbance of the proposed project area.

If you have any questions regarding these comments, please feel free to contact me.

Thank you for the opportunity to provide you with this input.

Mary

Mary L. Searing, PE, DWRE, GISP, CFM
Chief, Planning and Permitting Branch
Water Quality Division
(202) 535-2990
Mary.Searing@dc.gov
Ddoe.dc.gov

From: Bullo, Ibrahim (DDOE)
Sent: Wednesday, April 29, 2015 4:38 PM
To: Besse, Sheila (DDOE); Beall, Cecily (DDOE); Burrell, Collin (DDOE); Jackson, Richard (DDOE)
Cc: Fuller, Yohance (DDOE); McDonnell, Amy (DDOE); Dee, Michelle (DDOE)
Subject: Terminal B/C Redevelopment, Ronald Reagan Washington National Airport

The Metropolitan Washington Airports Authority is planning to redevelop Terminal B/C in order to provide a more efficient and better quality of service to existing air carrier operations. The April 29 invitation to participate in the environmental scoping process arrived late at DDOE. However, the Airports Authority will be scheduling a public scoping workshop in late May or early June to provide information on the proposed improvements and to solicit comments from the public. The Draft EA will most likely be issued by then.

In the meantime, written scoping comments may be submitted to:

Erik Schwenke
Planning Department
Metropolitan Washington Airports Authority
One Aviation Circle
Reagan Washington National Airport
Washington, DC 20001-6000.

Or by email to: environmental.comments@mwaa.com.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

MEMORANDUM

TO: Erik N. Schwenke, MWAA – Lead Environmental Planner
John Fisher, DEQ Office of Environmental Impact Review

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: May 12, 2015

SUBJECT: Terminal B/C Redevelopment at Reagan National Airport, NEPA Scoping Arlington County, Virginia

We have reviewed the Environmental Assessment (EA)/Scoping documentation associated with the Terminal B/C Redevelopment Project at Reagan National Airport in Arlington County and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Arlington County, the areas protected by the Chesapeake Bay Preservation Act, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include tidal wetlands, certain non-tidal wetlands and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. RMAs, which require less stringent performance criteria, include those areas of the County not included in the RPAs.

Under the Federal Consistency Regulations of the *Coastal Zone Management Act of 1972*, federal actions in Virginia must be conducted in a manner "consistent to the maximum extent practicable" with the enforceable policies of the Virginia Coastal Zone Management Program. Those enforceable policies are administered through the Chesapeake Bay Preservation Act and Regulations.

Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated RPAs and RMAs, as provided in §9VAC25-830-130 and 140 of the Regulations, including the requirement to minimize land disturbance (including access and staging areas), retain existing

vegetation and minimize impervious cover as well as including compliance with the requirements of the *Virginia Erosion and Sediment Control Handbook,* and stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*. For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion and Sediment Control Handbook.*

The proposed Terminal B/C Redevelopment project includes construction of a New North Concourse, a Secure National Hall and other projects related to those improvements. The project as described will not result in land disturbance on lands analogous to RPA lands, but will impact lands analogous to RMA lands. Provided adherence to the above requirements, the proposed activity would be consistent with the Regulations and the *Chesapeake Bay Preservation Act.*

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

Joe Elton
Deputy Director of Operations

Rochelle Altholz
Deputy Director of Administration
and Finance

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor
Richmond, Virginia 23219
(804)786-6124

May 22, 2015

Erik Schwenke
Metropolitan Washington Airports Authority
1 Aviation Circle
Reagan Washington National Airport
Washington, DC 20001-6000

Re: Terminal B & C Redevelopment, Reagan Washington National Airport

Dear Mr. Schwenke:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Angela Weller at 804-364-8747 or Angela.Weller@dgif.virginia.gov. This project is located within 2 miles of a documented occurrence of a state listed animal. Therefore, DCR recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Alli Baird

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

Cc: Amy Ewing, VDGIF

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

June 12, 2015

Mr. Erik N. Schwenke
Lead Environmental Planner
Metropolitan Washington Airports Authority
1 Aviation Circle
Washington, DC
20001-6000

RE: Scoping comments for the draft Environmental Assessment (EA), Terminal B/C Redevelopment, Ronald Reagan Washington National Airport (Reagan National)

Mr. Schwenke,

Thank you for the opportunity to offer scoping comments for the planned Environmental Assessment (EA) for the redevelopment of Terminal B/C at Reagan National Airport which includes the New North Concourse, and the Secure National Hall. In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency (EPA) is responding to the request for comments on the referenced project. We have included the following comments for your consideration in the development of the EA.

The Reagan National Airport is located adjacent to the Potomac River, a major river within the Chesapeake Bay watershed. The Potomac River is also is considered a TMDL impaired waterway with numerous efforts to reduce sediments and nutrients from entering into the waterway. The potential project could have a positive effect on stormwater management compared to the current state by reducing run off and its negative effects. During construction of the project, there is potential for short-term sediment runoff from the site and other nutrient contamination into the Potomac River. Due to the sensitivity of the Potomac River, EPA recommends that the draft EA assess stormwater management, sediment and erosion control and potential effects on the river from both construction and operation of the project.

The project has the opportunity to reduce or prevent runoff from its current condition with inclusion of environmental features such as pervious surface or green roofs, to minimize and control runoff. Detention basins or paving with permeable asphalt or crushed stone may be appropriate where applicable. In an effort to conserve water consumption, low-flow toilets and faucets should be considered in the design. Additionally, in order to reduce the sanitary sewer

load generated gray water could be used for irrigation and toilet flushing. Retained stormwater on-site could be used for internal use in the building, such as toilet flushing.

To promote the recycling of refuse generated by employees, recycling receptacles should be provided on the grounds of the terminal buildings and during construction. As described in EO 13423 section 2(d), the acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products should be considered. The procurement of these types of goods helps to stimulate markets. As a consumer and purchaser of goods and services, the Airport Authority is encouraged to make purchasing and design decisions with this in mind.

The March 2015 EO, Planning for Federal Sustainability in the Next Decade (replacing EO 13514) describes the need to be more energy-efficient by reducing energy intensity in agency buildings, increase use of renewable energy, and reducing the use of fossil fuels in its automobile fleets. Energy-efficient heating and cooling systems, proper building insulation, and the use of energy-efficient lighting can be incorporated in the design alternatives to reduce cumulative impacts of energy consumption and encourage energy conservation. The draft EA should describe the new terminal's energy efficient design efforts.

According to FEMA floodplain maps, it seems that that a significant portion Reagan National is located on a Zone X (0.2% chance of annual flooding) including a large portion of the project area. It also seems that a significant portion of the airport is located on Zone AE floodplain zone (1% chance of annual flooding). Since it may be anticipated that climate change will bring an increase in sea level rise and an increase in intense storms surges, there are higher possibilities of flooding on the project site and within Reagan National. It is suggested that all the project alternatives assess the potential for flooding and its effect on the proposed project.

EPA believes the Council on Environmental Quality's December 2014 revised draft guidance for Federal agencies' consideration of Green House Gas (GHG) emissions and climate change impacts in NEPA outlines a reasonable approach, and we recommend that the Metropolitan Washington Airports Authority use that draft guidance to help outline the framework for its analysis of these issues. We recommend that the NEPA analysis consider design proposal to incorporate GHG reduction measures and resilience to foreseeable climate change such as flooding.

There are several endangered species that are located within the project area including the shortnose sturgeon. The shortnose sturgeon can be located in the Potomac River. It is suggested that the draft EA list all the potential threatened or endangered species located near the project area.

The April 10, 2015 request for scoping comments addressed to the EPA indicates that there are certain resources categories in proximity to but not within the limits of physical disturbance of the proposed project area to be assessed in this EA including: the Chesapeake Bay Preservation Areas; fish, wildlife, and plants; floodplains, historical architectural, archeological, and cultural resources; threatened and endangered species; and wetlands and waterways. It seems that some, if not all these categories have the potential of being impacted by the proposed project especially the categories: fish, wildlife, and plants, threatened and endangered species,

and wetlands and waterways. The draft EA should describe why these sections are not being studied. Goals for protection of the Chesapeake Bay stated in Executive Order (EO) should be considered in the assessment.

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. The Council on Environmental Quality in 40 CFR 1508.7 defines cumulative impacts as "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." There are construction effects that have the potential to impact the environment such as runoff, impacts to utilities, or current airport operations. Therefore, a cumulative impacts assessment should be an integral part of the EA for the proposed action and mention all past, present and reasonably foreseeable future projects near terminal expansion that will create a cumulative impact.

As mentioned in the purpose and need of the study, the construction of the terminal is to create a more efficient and better quality of service to the air carrier operations. Though efficiency will improve the airport economically and the passenger experience, it may have secondary effects on the airport such increase usage of the airport transit, increase need for more security, increase in flight volume, and increase in waste from more passengers using the airport. It is suggested that a secondary impacts analysis be performed for each alternative.

Thank you for the opportunity to provide scoping comments for this project. EPA looks forward to receiving the draft EA. If you have questions regarding these comments, the staff contact for this project is Thomas UyBarreta; he can be reached at 215-814-2953.

Sincerely,

Barbara Rudnick,
NEPA Team Leader
Office of Environmental Programs

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

JUN 15 2015

Mr. Erik Schwenke
Lead Environmental Planner
Washington Metropolitan Airports Authority
Ronald Reagan Washington National Airport
1 Aviation Circle
Washington, DC 20001-6000

RE: Environmental Assessment (EA) for Terminal B/C redevelopment at Ronald Reagan Washington National Airport (Reagan National)

Dear Mr. Schwenke:

Thank you for your recent letter to Fairfax County requesting environmental scoping comments relative to the referenced EA. Although Reagan National Airport lies outside the boundaries of Fairfax County, County staff are generally supportive of improvements to the operation and efficiency of this facility. However, County staff does have several questions and comments which are enumerated below:

- Regional Traffic Impacts
  Based on the information provided thus far, it does not appear that the proposed improvements are expected to generate significant increases in regional roadway and transit traffic. If that is the case, Fairfax County staff recommends that the EA iterate this information in the document itself. If an impact is expected, we ask that any information on potential impacts be provided.

- Aircraft Noise Impacts
  The environmental scoping letter that was sent indicates that "*because the proposed projects will not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length, the Airports Authority assumes that aircraft noise and operational emissions will be the same for the Proposed Action and the No Action alternatives.*" This appears to address our concerns in a satisfactory manner, but the EA itself should specifically assert this information.

- Increase in Number or Type of flights
  Based on the statements referenced above (*in italics*) from the scoping letter, the proposed improvements should not result in an increase in the number or type of flights coming to or from the airport. County staff would appreciate clarification on whether this proposal will impact the slot rule (limiting the takeoffs and landing) and the perimeter rule (limiting flights from outside the existing 1,250 mile radius) for Reagan National Airport. If there is not expected to be an effect on either the slot or perimeter rules, we request that this specifically be affirmed in the EA.

Office of the County Executive
12000 Government Center Parkway, Suite 552
Fairfax, VA 22035-0066
703-324-2531, TTY 703-222-5494, Fax 703-324-3956
www.fairfaxcounty.gov

Assuming that the above issues can be addressed in a satisfactory manner during the development of the EA, the proposed projects should not have a significant effect on the facilities or services of Fairfax County.

Thank you, again, for the opportunity to comment. If you have any questions, please contact Douglas Miller, with the Fairfax County Department of Transportation, at douglas.miller3@fairfaxcounty.gov or 703-877-5750.

Sincerely,

Edward L. Long Jr.
County Executive

cc: Catherine A. Chianese, Assistant County Executive
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Fred Selden, Director, Fairfax County Department of Planning and Zoning (DPZ)
Karyn Moreland, Section Chief, Capital Projects, FCDOT
Noelle Dominguez, Legislative Liaison, FCDOT
Noel Kaplan, Senior Environmental Planner, DPZ

Attachment B-6

State Historic Preservation Office Satement Concurrence

A/TTACHMENT 2:

STATEMENT OF CONCURRENCE

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached project documentation for the proposed Terminal B/C Redevelopment Projects at Ronald Reagan Washington National Airport (Reagan National), and concur with the conditional determination of No Adverse Effect outlined below. Concurrence with this conditional determination is contingent on the submittal of detailed design plans for the elements of the project that have the potential for effects on historic properties listed on or eligible for the National Register of Historic Places. The detailed design plans will be submitted for review and comment as they become available, but prior to any construction activities.

Concurrence with this determination demonstrates compliance of the Metropolitan Washington Airports Authority (Airports Authority) with the terms of the 1987 Programmatic Memorandum of Agreement [(as regards the Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138)]. By my signature, the Airports Authority is authorized to proceed with the proposed projects as described.

1. The Airports Authority is conducting preliminary planning studies associated with the proposed redevelopment of Terminal B/C, including a New North Concourse, Secure National Hall and related improvements at DCA.

2. As these undertakings have the potential for effects to historic properties listed on or eligible for the National Register of Historic Places, the Airports Authority has assessed the potential effects of these projects.

3. These assessments are based on preliminary plans for the new facilities since detailed design plans are still being developed. As a result, these determinations are conditional based on existing information, and will require continued assessment and consultation as detailed design plans become available for review.

4. The Airports Authority will continue to develop the facilities design and submit them for continued review and comment, and will take the results of this consultation into account during the development of the detailed design plans.

5. Detailed design plans for all project elements with the potential for effects to historic properties located on or off of airport property will be submitted for review and comment as they are developed, prior to any construction activities.

6. It is not anticipated that these projects will have direct physical effects on any historic properties located on or off of airport property; however, there are potential secondary effects and these have been taken into consideration.

7. Regarding the design and construction of the New North Concourse (NNC):

    a. Construction of the NNC will require the demolition of the existing Hangar 11, Hangar 12 and the Airports Authority Corporate Office Building (COB). Hangar 11 and 12 have been previously determined to be not eligible for the National Register of Historic Places and the COB is a modern structure. As a result, the proposed project will not result in a physical effect on any NRHP-listed or NRHP-eligible historic properties.

    b. The demolition of Hangars 11 & 12 has the potential to modify the visual character of the north airport when viewed from adjacent historic properties (George Washington Memorial Parkway and East Potomac Park). However, as a new hangar is proposed in the approximate location of Hangar 12, it is not anticipated that the final project will result in a permanent Adverse Effect to either the George Washington Memorial Parkway or East Potomac Park. Since detailed design plans have not yet been developed for the proposed new hangar, the potential effect of this project element will require continued assessment and consultation.

    c. The demolition of Hangars 11 & 12 and the COB will require the relocation of personnel and operations to new locations. As a number of these locations represent historic properties listed on or eligible for the NRHP, the potential effects of these relocations on the historic properties will be taken into consideration and will require continued consultation. Properties with potential effects include:

        i. Terminal A (Main Terminal): NRHP-listed
        ii. South Hangar Line: NRHP-listed
        iii. Authority Engineering Complex (Abingdon Station): NRHP-eligible
        iv. Contributing elements of the Dulles Airport Historic District: NRHP- eligible.

8. Regarding the design and construction of the Secure National Hall:

    a. The development of the Secure National Hall will result in physical modifications to the non-historic Terminal B/C; therefore, the project will have no effects to historic properties located on airport property.

    b. The proposed Secure National Hall project would construct two new security screening checkpoints (SSCPS). Given their location between Terminal B/C and the Metrorail platform, these new additions to the terminal complex will have limited visibility from any historic properties located on or off of airport property.

c. The south SSCP will be built in the general vicinity of the NRHP-listed Abingdon Plantation Site. However, since the facility will be built on the opposite side of the elevated Metrorail platform, and the highest element of the new facility will extend only slightly above this platform, the potential visual effects to this historic property are anticipated to be minimal. Since detailed design plans have not yet been developed for this SSCP, the potential effect of this project element will require continued consultation.

Review Staff — 23 Sept 15 Date

2015-0444
VDHR/VASHPO / DHR Project No.

DHR's Concurrence with No Adverse Effect is made on the condition that MWAA continues to Consult with us on the designs of the new facilities.

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

August 11, 2015

Mr. Marc Holma
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

RE: Proposed Terminal B/C Redevelopment Projects
Ronald Reagan Washington National Airport, Arlington County, Virginia

Dear Mr. Holma:

The Metropolitan Washington Airports Authority (Airports Authority) hereby requests your review of the proposed plans for the redevelopment of Terminal B/C at Ronald Reagan Washington National Airport (Reagan National). The Airports Authority makes this request pursuant to the 1987 Programmatic Memorandum of Agreement (PA) among the United States Department of Transportation, the Virginia State Historic Preservation Office (VDHR/VASHPO), and the Advisory Council on Historic Preservation (ACHP). In addition, this consultation document is intended to address the environmental analysis and recordation requirements related to Section 102(c) of the National Environmental Policy Act of 1969 (as amended) and Section 4(f) of the United States Department of Transportation Act.

The Airports Authority is currently preparing an Environmental Assessment (EA) of potential environmental impacts associated with the proposed redevelopment of Terminal B/C, including a Secure National Hall and a New North Concourse (NNC), and other related improvements at Reagan National (Figures 1 & 2). These projects are being designed to increase efficiency, improve quality of service to existing commuter aircraft operations, and facilitate passenger movements between piers within Terminal B/C.

As part of the environmental planning process, the Airports Authority has assessed the potential effects of the proposed projects on airport facilities listed on or eligible for the National Register of Historic Places (NRHP). Although the proposed redevelopment projects will not result in direct physical effects on any of the airport's historic properties, the proposed projects were evaluated for potential secondary effects resulting from the transfer of airport personnel and operations to new locations at the airport. In addition, the potential visual effects of the proposed projects on both on-airport and off-airport historic properties were also evaluated. Additional information about this effect determination can be found in *Attachment 1: Effects Determination.*

After careful consideration of the information presented in *Attachment 1*, the Airports Authority has concluded that the proposed redevelopment of Terminal B/C at Reagan National is unlikely to result in an Adverse Effect to historic resources located on or off of airport property. However, this assessment is based on preliminary plans and continued consultation on the proposed projects will be required when detailed design plans for specific facilities become available. The concurrence statement, included as *Attachment 2*, outlines the Airports Authority's commitment to continued consultation. If the provided project information and consultation procedure meets with the approval of the VDHR/VASHPO review staff, please indicate your concurrence and return a signed copy of the last page of *Attachment 2: Concurrence Determination* to the Airports Authority.

Feel free to contact Erik Schwenke at (703) 572-0268 if you have any questions, or would like any additional information or documentation. Thank you, once again, for assisting the Airports Authority in its continuing efforts to preserve the historic resources of the Metropolitan Washington airports.

Sincerely,

Gregg M. Wollard
Acting Manager, Planning Department

GMW:smm

Attachments: Figures
Attachment 1: Effects Determination
Attachment 2: Concurrence Statement

cc: Mr. Chad Carper, FAA Washington, ADO
Mr. Susan Stafford, FAA Washington, ADO
Ms. Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Mr. Henry Ward, Parsons Brinckerhoff

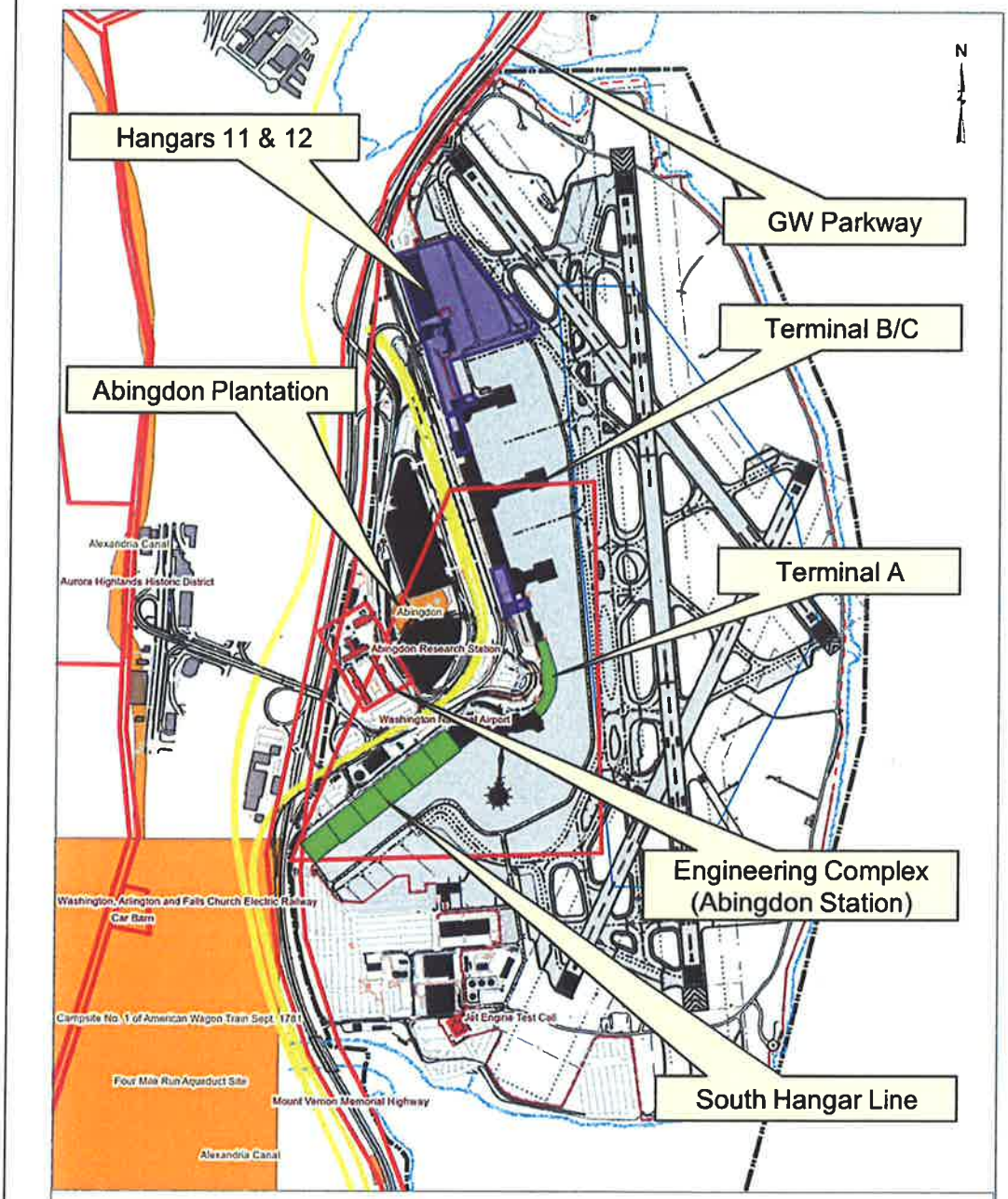
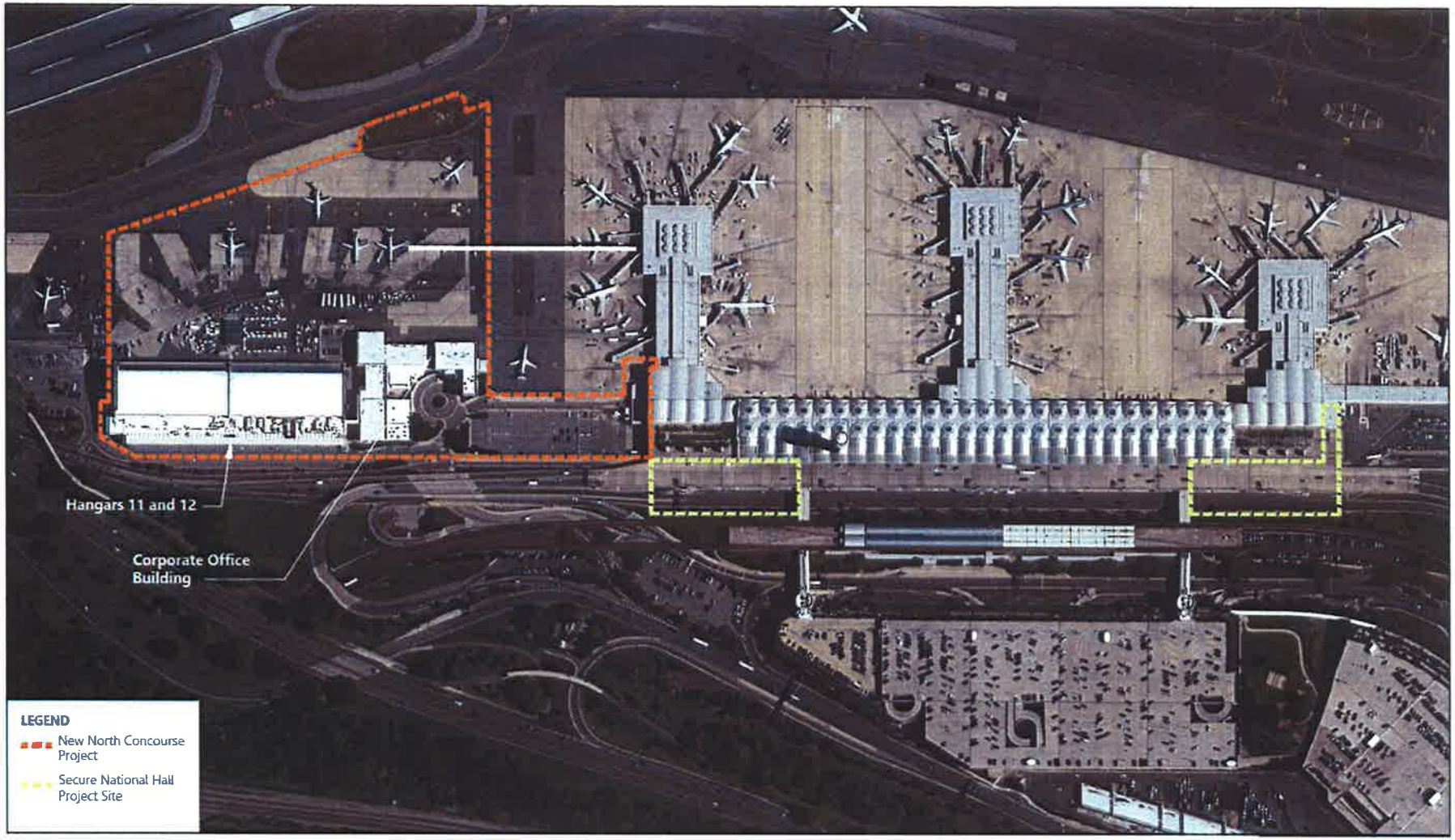


Figure 1: Proposed Redevelopment of Terminal B/C
Existing Facilities and Proposed Project Locations
Ronald Reagan Washington National Airport, Arlington County

DCA ALP with Cultural Resources

- NRHP Eligible Historic Building
- NRHP Listed Building
- Edge of water
- Railroad
- Roads off Airport
- Existing Building off Airport
- Parking off Airport
- Proposed Project Locations
- Historic Area
- Archaeological Site
- Airfield Edge
- Taxi Apron
- Taxi Centerline
- Existing POFZ
- Existing RSA
- Existing OFA
- Existing RVZ
- Security Intrusion Fence
- Existing Fence
- Airport Perimeter Fence
- Existing Building on Airport
- Existing Building off Airport
- Existing Parking on Airport
- Airport Boundary
- Roads on Airport
- Pavement

0 800 1,600 Feet



SOURCE: Ricondo & Associates, Inc., March 2015; AGD Associates, LLC., March 2015
PREPARED BY: Ricondo & Associates, Inc.; March 2015, AGD Associates, LLC., June 2015.

Figure 2: Proposed Redevelopment of Terminal B/C
Existing Facility Locations and Proposed Project Locations
Ronald Reagan Washington National Airport, Arlington County

ATTACHMENT 1:

EFFECTS DETERMINATION

1.0 CONSULTATION BACKGROUND

After the transfer of Reagan National from the Federal Aviation Administration (FAA) to the Airports Authority, a comprehensive architectural/archaeological survey was conducted to identify historic properties eligible for the NRHP. The results of this survey were presented to the VDHR/VASHPO and the ACHP, both of whom concurred with the Determination of Eligibility for the following properties: Main Terminal and South Hanger Line, North Hanger Line (Hangars 8, 9 and 10), Military Passenger Terminal/Fixed Base Operations Building (Old General Aviation Terminal), Jet Engine Test Cell (present Ogden-Allied Equipment Storage and Maintenance Building), the Department of Transportation (DOT) Abingdon Research Station (present Airports Authority Engineering Complex), and the Abingdon Plantation Site (VDHR/VASHPO Letter, January 2, 1990).

Subsequent consultations under the PA resulted in the recordation and removal of Hangar 1 (South Hangar Line), Hangars 8, 9 and 10 (North Hanger Line), and Military Passenger Terminal/Fixed Base Operations Building (Old General Aviation Terminal). The Abingdon Plantation Site, the Main Terminal (Terminal A), and the South Hangar Line (Hangars 2-7) were formally nominated to the NRHP.

2.0 PROJECT DESCRIPTION

Recent changes to the airlines serving Reagan National – including mergers, strategic alliances, and slot reallocations – have resulted in an increased frequency of connecting flights requiring passenger movements between multiple piers at Terminal B/C. The proposed projects include a number of elements, as discussed below.

2.1 NEW NORTH CONCOURSE

A New North Concourse (NNC) is proposed to be added to the northern end of Terminal B/C (Figure 1-1). The NNC will be used for departures and arrivals of regional flights. The NNC will be a two-level structure housing primarily hold rooms, public secure circulation and passenger amenities at the second/concourse level, airline operations space, airport spaces, and non-public secure circulation at the ground/apron level.

In order to construct the NNC, three existing facilities – Hangar 11, Hangar 12 and the Airports Authority Corporate Office Building (COB) – would be demolished and their functions relocated (Figure 1-2). The functions in Hangar 12 would be relocated to a new hangar to be built in approximately the same location (Figure 1-3). At the same time, functions in Hangar 11 would be relocated to portions of the South Hangar Line. Finally, the personnel and functions in the COB would be relocated to other locations at Reagan National (including Terminal A and/or the Airports Authority Engineering Complex) or to Washington Dulles International Airport (Dulles International).

2.2 SECURE NATIONAL HALL

Modifications to Terminal B/C are proposed to more efficiently handle passenger security screenings required by the Transportation Security Administration (TSA), provide interconnectivity between the existing and proposed piers of Terminal B/C, and eliminate an existing busing operation between the center and north piers of Terminal B/C. The proposed Secure National Hall project would construct two new security screening checkpoints (SSCPs) on the landside of Terminal B/C, over the commercial and public vehicle arrivals level roadway, and below the departures level roadway (Figure 1-4). As shown on Figure 5, the roofline of the highest element of the SCCPs will extend slightly above the level of the adjacent Metrorail platform. One SSCP will be constructed on the north side of the northern Metrorail pedestrian bridge, and the other constructed on the south side of the southern Metrorail pedestrian bridge (Figure 1-5).

The entire National Hall level of Terminal B/C would then be converted to a secured area that allows passengers to move freely between piers, without additional security screening requirements (refer to Figure 1-5). Since the secured area would not include the upper Ticketing Level, vertical circulation between the upper Ticketing Level and National Hall Level would require that passengers pass through one of the SSCPs.

3.0 EFFECTS ON HISTORIC ARCHITECTURAL RESOURCES

The following section discusses the potential effects to historic and archaeological resources. Although the Airports Authority has identified general project elements and planning parameters, the detailed design plans are still being developed. As a result, the effect determinations in this letter are preliminary and additional consultation on potential effects will occur when more detailed design plans are available for review. The concurrence page at the end of this letter states the commitment of the Airports Authority to continue consultation on projects with the potential to effect historic properties.

3.1 NEW NORTH CONCOURSE

The NNC will be a two-level pier with a similar layout and visual appearance to the existing three piers of Terminal B/C. Since the NNC represents an "in kind" addition to the non-historic Terminal B/C, it is considered an appropriate and compatible addition to the airport's built environment. Given its location, the NNC will be visible from the historically sensitive viewpoints along the George Washington Memorial Parkway (Virginia) and East Potomac Park (District of Columbia). However, as the new facilities will have a similar scale and appearance as Terminal B/C it is unlikely that there will be any adverse visual effects to these view sheds (Figures 1-6 and 1-7).

As noted above, the construction of the NNC will require demolishing three existing structures – Hangar 11, Hangar 12, and the COB. The South Hangar Line (Hangars 1-7), represented the first phase of hangar development at the airport. Hangar 1 was constructed at the same time as Terminal A (1941), and Hangars 2-7 were completed between 1941 and 1948. Hangar 10 was the first element in the North Hangar Line and it was constructed as part of the development of the Army Transport Command facilities in 1944. The remaining elements of the North Hangar Line (Hangars 8-9 and Hangars 11-12) were constructed after the war and represent a second phase of hangar development.

The Airports Authority evaluated the NRHP eligibility of the North Hangar Line in the 1989 *Historical and Archaeological Survey Report, Washington National Airport*. Following review of the *Survey Report*, the VDHR/VASHPO submitted a letter to the Airports Authority stating a consensus determination that did not include Hangars 11 & 12. VDHR/VASHPO reviewers noted that "The Evaluation Team concluded that the North Hangar Line, an airport expansion resulting from increased civilian air travel, did not have the same significance as the South Hangar Line which was conceived with the Main Terminal as a part of the original airfield."

During the planning for Terminal B/C in the 1980s, it was determined that the construction of the new terminal would require the removal of Hangars 8, 9 and 10. Formal consultation with the VDHR/VASHPO and the ACHP resulted in the negotiation and execution of a 1992 Memorandum of Agreement. Hangars 8-10 were removed after recordation to Historic American Engineering Record standards. With the removal of Hangar 10, it was determined that the remaining hangars did not retain sufficient historical significance or integrity to still be considered eligible for the NRHP. This determination was formalized during consultation for the development of Hangar 11 into an Interim Terminal, and the VDHR/VASHPO concurred with this determination on August 27, 1999. Since the COB was constructed during 1998, and later expanded in 2006, it is not eligible for the NRHP.

Although no longer considered eligible for the NRHP, the demolition of Hangars 11 & 12 may have visual effects from the George Washington Memorial Parkway to the airport. The topographic setting of the hangars allows views from the George Washington Memorial Parkway near the north end of the airport (Figure 1-8). Although the removal of these hangars will alter the visual character of the north end of the airport from this vantage point, the proposed project includes the construction of a new hangar or similar facility in the approximate location of Hangar 12.

Although detailed design plans for the potential new structure have not yet been developed, it will be smaller than the existing hangar facility to provide sufficient clearance for aircraft movements. Therefore, the views of the north airport from the George Washington Memorial Parkway will change; however, this change is unlikely to result in an adverse effect to the parkway. The Airports Authority has agreed to continue consultation regarding the new structure and will assess the potential visual effects. In addition, changes to the views from East Potomac Park, located on the opposite side of the Potomac River, will be assessed during future consultations.

Continued consultation is necessary to assess the potential secondary effects of relocating personnel and operations resulting from the demolition of Hangars 11 & 12 and the COB. The aircraft maintenance operations currently located in Hangar 12 will be relocated into the proposed new hangar; however, the operations in Hangar 11 will be relocated to available space in the South Hangar Line. Since all of the hangars in the South Hangar Line are NRHP-listed historic properties, the potential effects of any modifications to these facilities will need to be carefully considered.

Similarly, personnel and operations from the COB may be relocated into Terminal A (NRHP-listed) or the current Airports Authority Engineering Complex (NRHP-eligible Abingdon Station). Continued consultation will consider potential modifications at these historic structures to accommodate relocated operations once detailed design plans have been developed. Finally, some of the administrative functions of the COB may be relocated to IAD. Continued consultation will be necessary if this relocation requires modification to any contributing elements of the Dulles Airport Historic District.

3.2 SECURE NATIONAL HALL

The proposed Secure National Hall project would construct two new SSCPs – over the arrivals level roadway and below the departures level roadway (Figure 1-9). One SSCP will be constructed on the north side of the northern Metrorail pedestrian bridge, and the other constructed on the south side of the southern Metrorail pedestrian bridge. Given their location between Terminal B/C and the Metrorail platform, these new additions will have limited visibility from any of the historic properties at the airport.

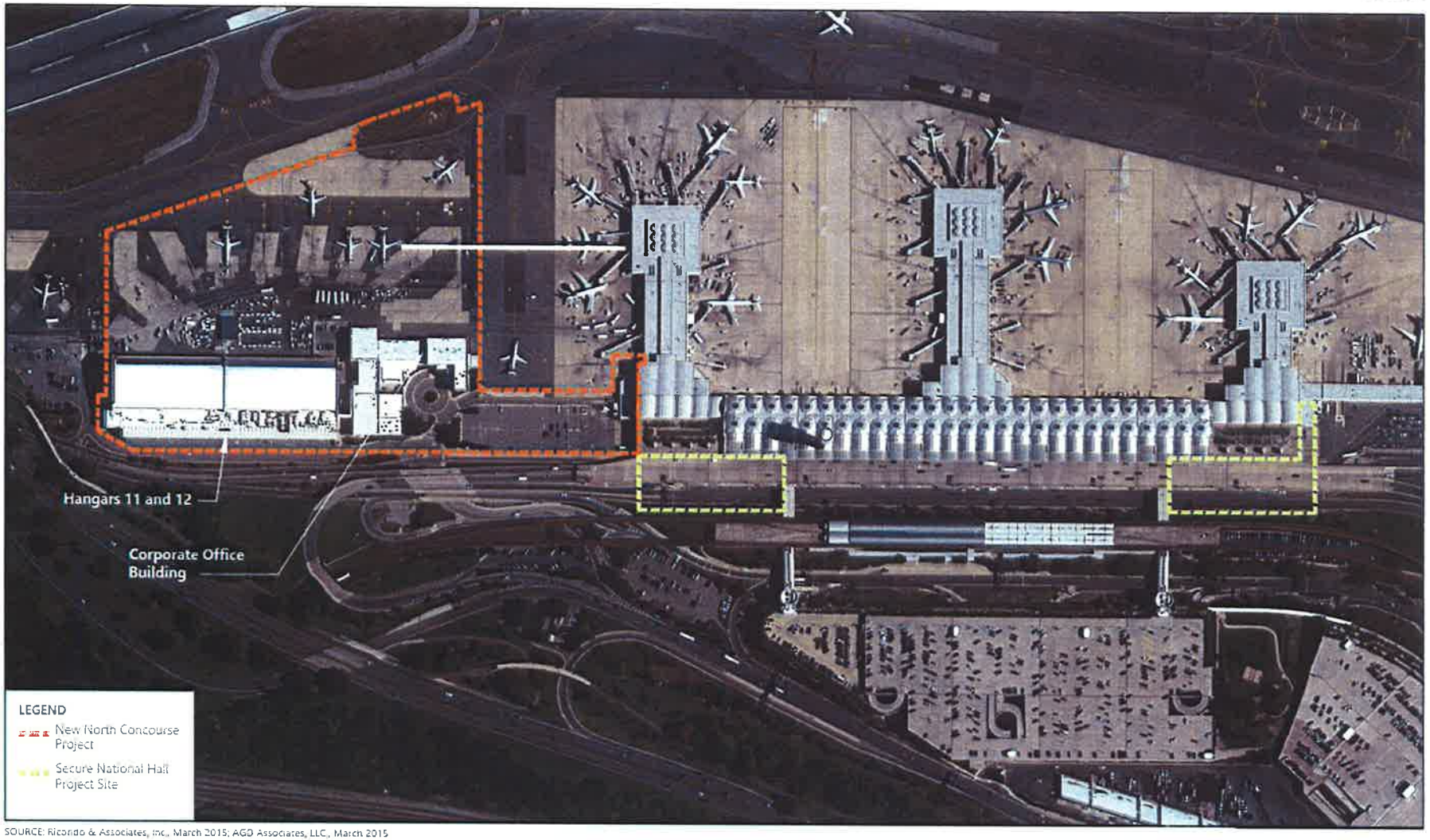
Views of the south SSCP from Terminal A will be obscured by the elevated roadway ramps extending north to Terminal B/C. The south SSCP will be visible from the Abingdon Plantation Site; however, as the roofline of the highest element of the SSCP extends slightly above the height of the intervening Metrorail tracks (Figure 5), the potential visual impact is anticipated to be minimal (Figure 1-10). The potential visual effect to these two historic properties will continue to be assessed during design development and will require continued consultation. The proposed SSCPs will result in changes to the views of Terminal B/C, particularly from the lower level approach roadways (Figure 1-11) but these view sheds are not considered to be historically sensitive.

4.0 POTENTIAL EFFECTS TO ARCHAEOLOGICAL RESOURCES

All of the construction impacts related to this project will be limited to the existing airfield apron. As the land surface of the airfield area was formed by the filling of the Potomac River shallows during the construction of the airport in the late 1930s, the entire airfield has been previously determined to have no potential for intact or significant archaeological deposits. As a result, the proposed projects will have no effect on archaeological resources.

5.0 CONCLUSION

The Airports Authority has assessed the potential effects for the redevelopment of Terminal B/C at Reagan National, and has concluded that the projects are unlikely to result in an Adverse Effect to historic resources located on or off of airport property. However, this assessment is based on preliminary plans and continued consultation on the proposed projects will be required when detailed design plans for specific facilities become available. The concurrence statement, included on the last page of this letter, outlines the Airports Authority's commitment to continued consultation. If the provided project information and consultation procedure meets with the approval of the VDHR/VASHPO review staff, please indicate your concurrence and return a signed copy of the last page of the letter to the Airports Authority.



SOURCE: Ricondo & Associates, Inc., March 2015; AGD Associates, LLC., March 2015
PREPARED BY: Ricondo & Associates, Inc., March 2015, AGD Associates, LLC., June 2015.

Figure 1-1: Proposed Redevelopment of Terminal B/C
Existing Facility Locations and Proposed Project Locations
Ronald Reagan Washington National Airport, Arlington County

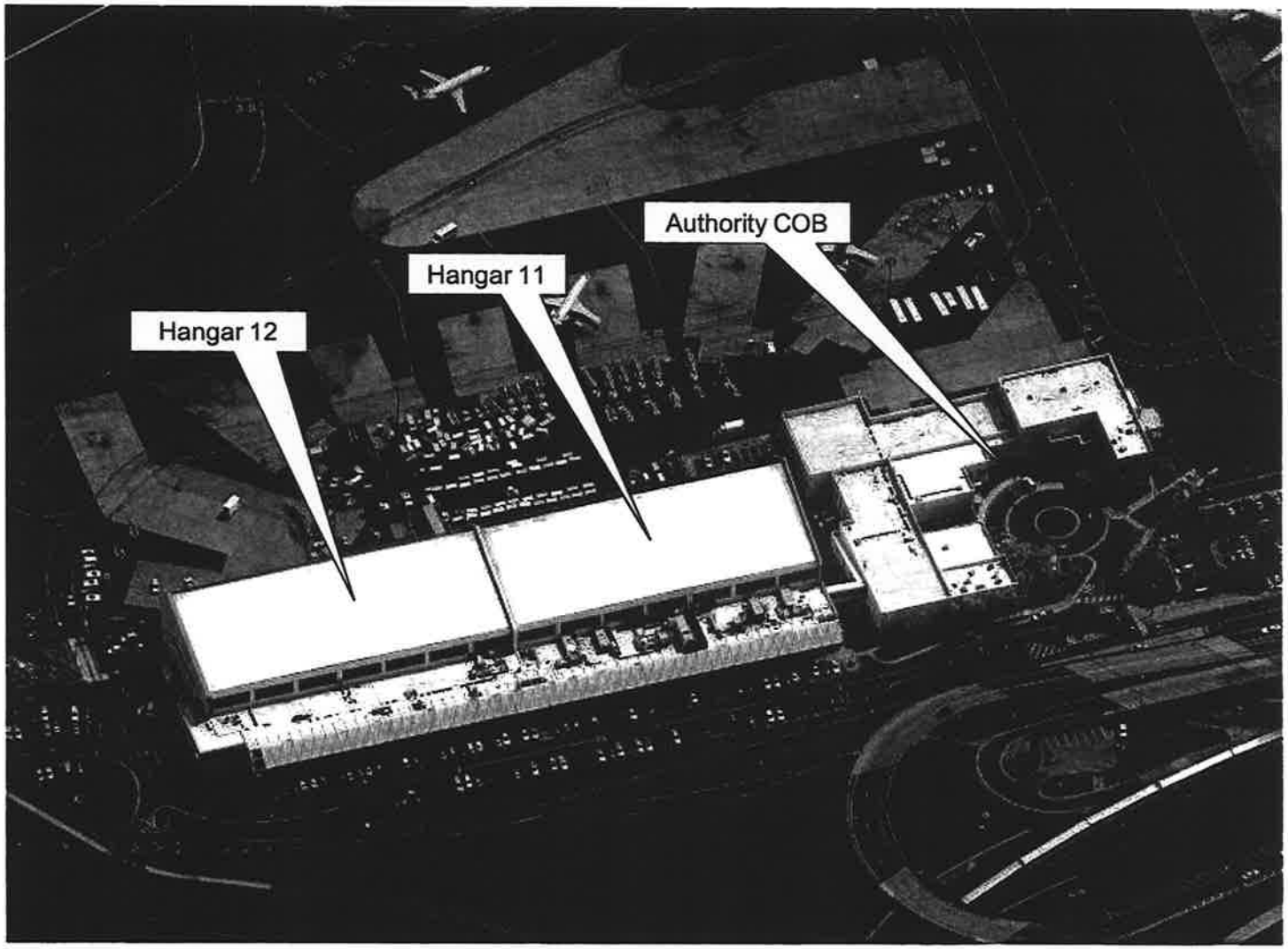
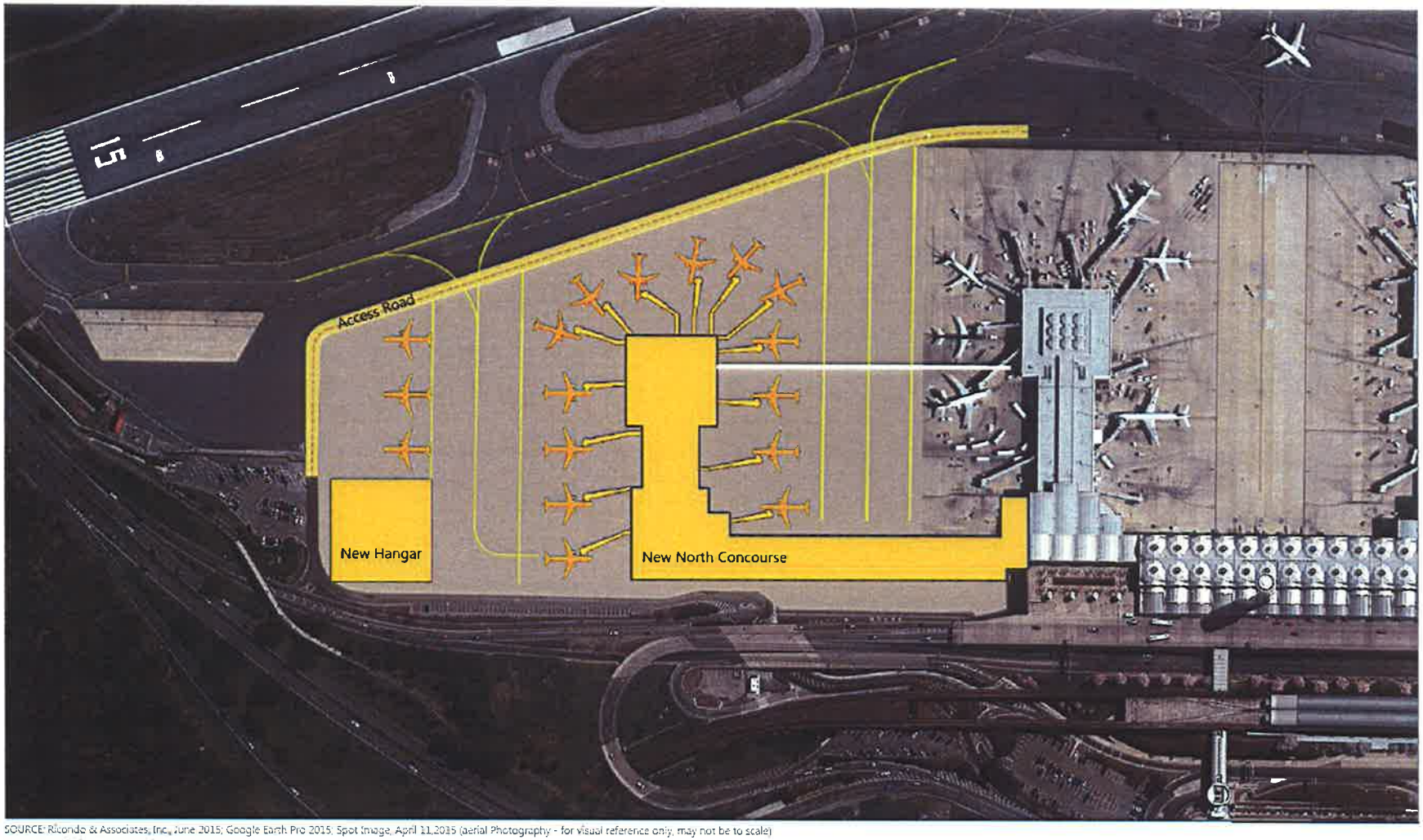


Figure 1-2: Proposed Redevelopment of Terminal B/C
View to east of Hangars 11 & 12 and Authority Central Office Building (COB)
Ronald Reagan Washington National Airport, Arlington County



SOURCE: Ricondo & Associates, Inc., June 2015; Google Earth Pro 2015; Spot Image, April 11,2015 (aerial Photography - for visual reference only, may not be to scale)
PREPARED BY: Ricondo & Associates, Inc., June 2015.

NORTH 0 Not to Scale

Figure 1-3: Proposed Redevelopment of Terminal B/C
Proposed New North Concourse and New Hangar
Ronald Reagan Washington National Airport, Arlington County

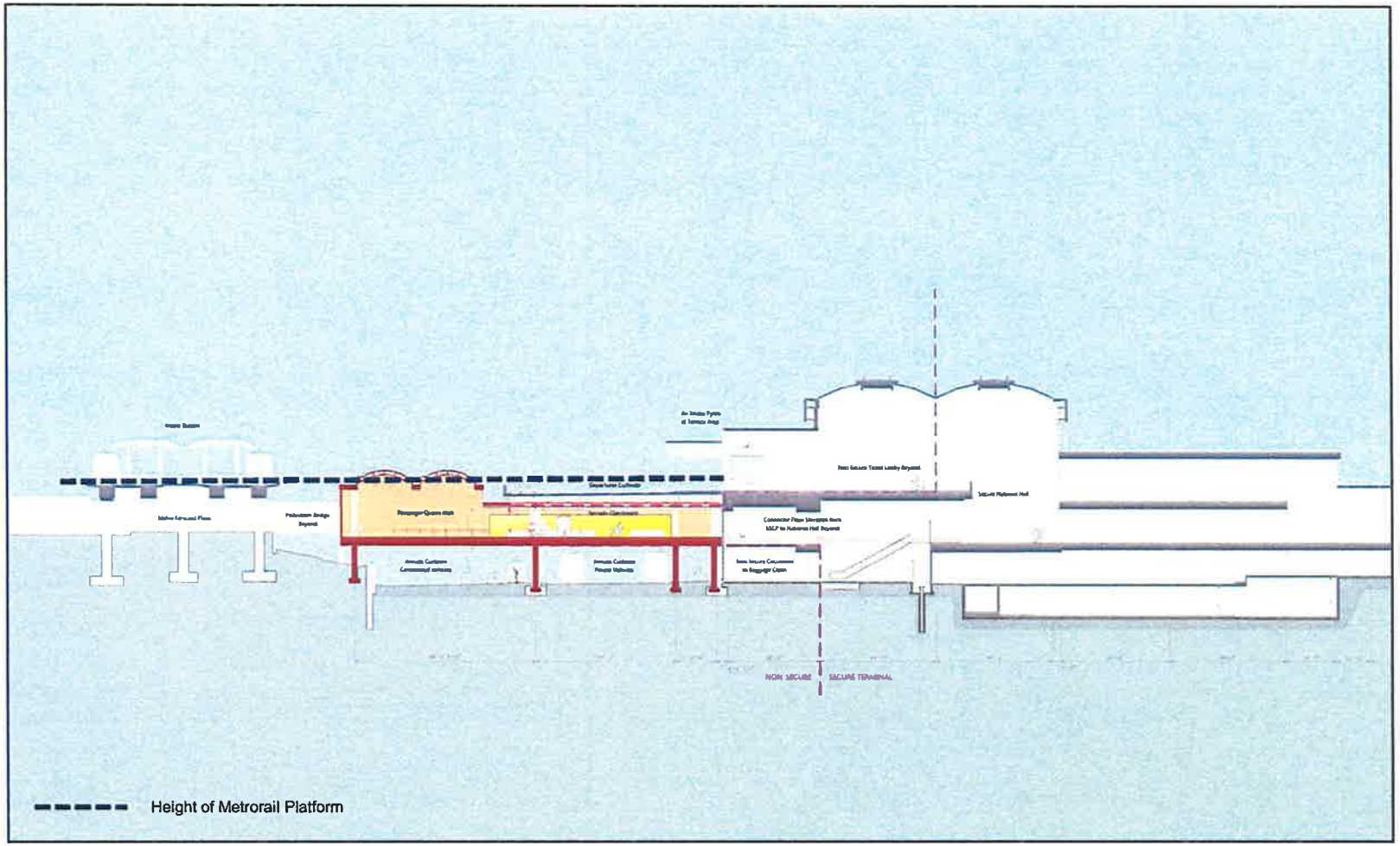


Figure 1-4: Proposed Redevelopment of Terminal B/C
Cross-section of Terminal B/C (East – West) showing proposed Security Screening Checkpoint (SSCP)
Ronald Reagan Washington National Airport, Arlington County

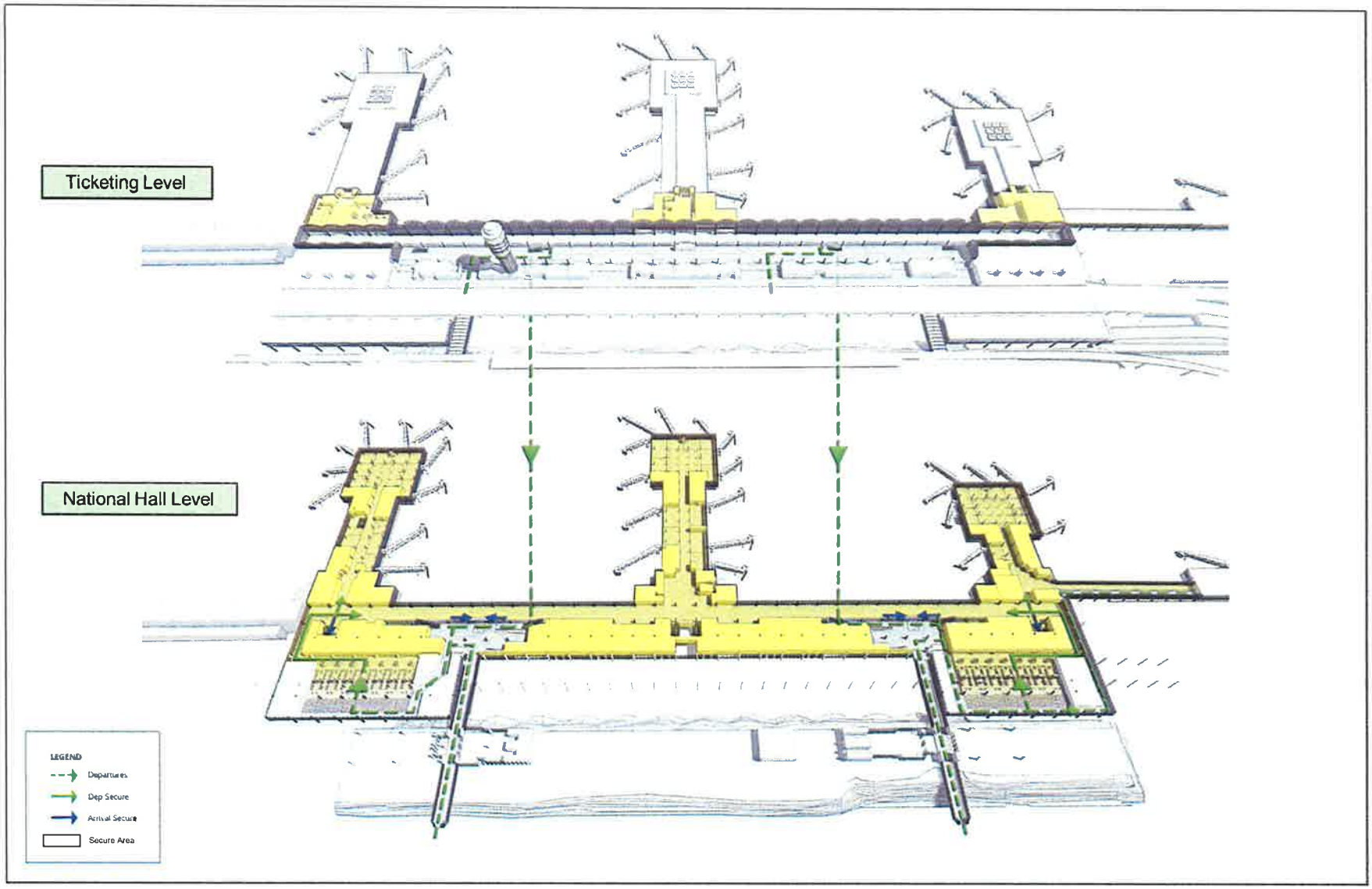


Figure 1-5: Proposed Redevelopment of Terminal B/C
Axonometric view of Terminal B/C showing proposed Security Screening Checkpoints (SSCPs) and passenger circulation routes
Ronald Reagan Washington National Airport, Arlington County

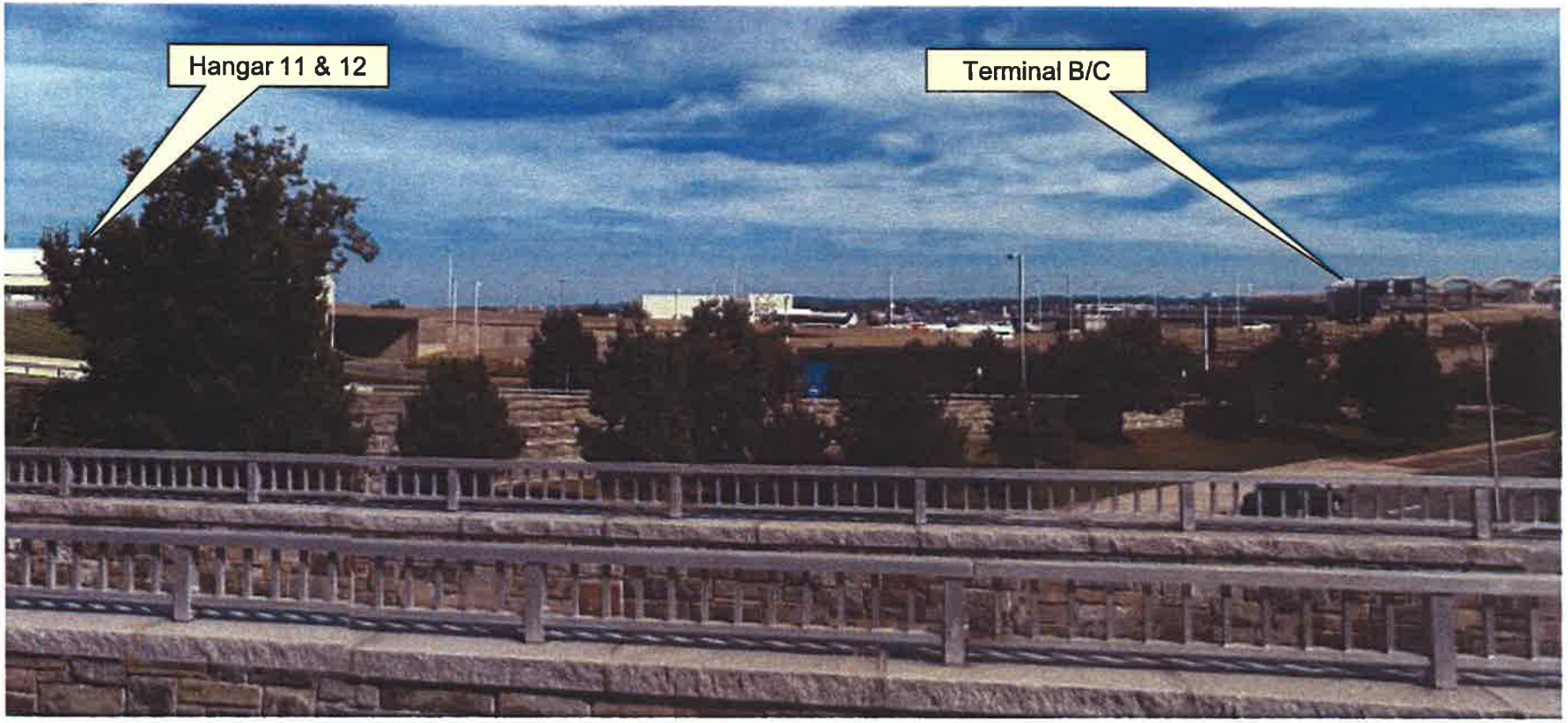


Figure 1-6: Proposed Redevelopment of Terminal B/C
View east from GW Parkway to proposed location of New North Concourse (between current Hangar 11 & 12 and Terminal B/C)
Ronald Reagan Washington National Airport, Arlington County

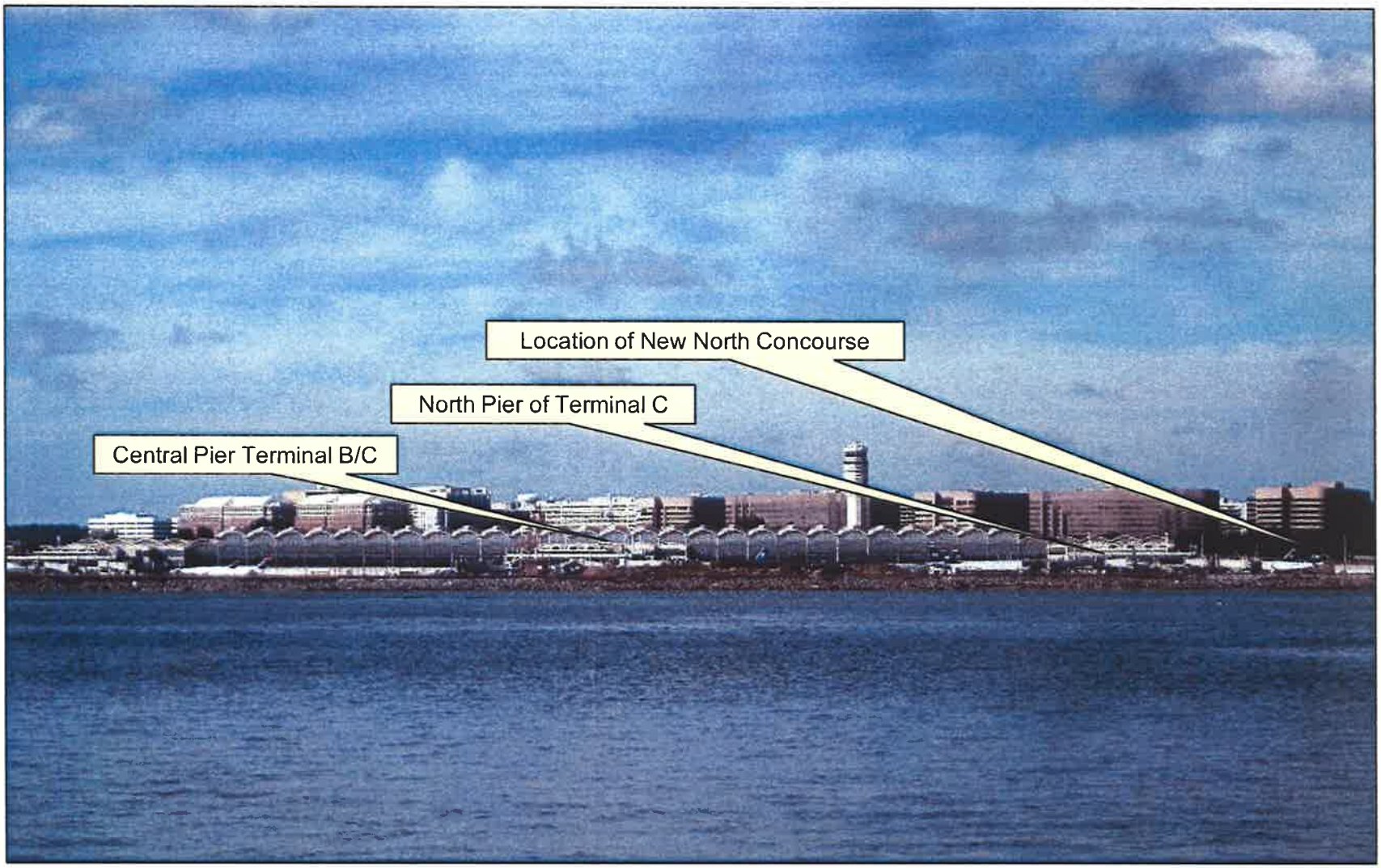


Figure 1-7: Proposed Redevelopment of Terminal B/C
View west from East Potomac Point to proposed location of New North Concourse (adjacent to Terminal C)
Ronald Reagan Washington National Airport, Arlington County

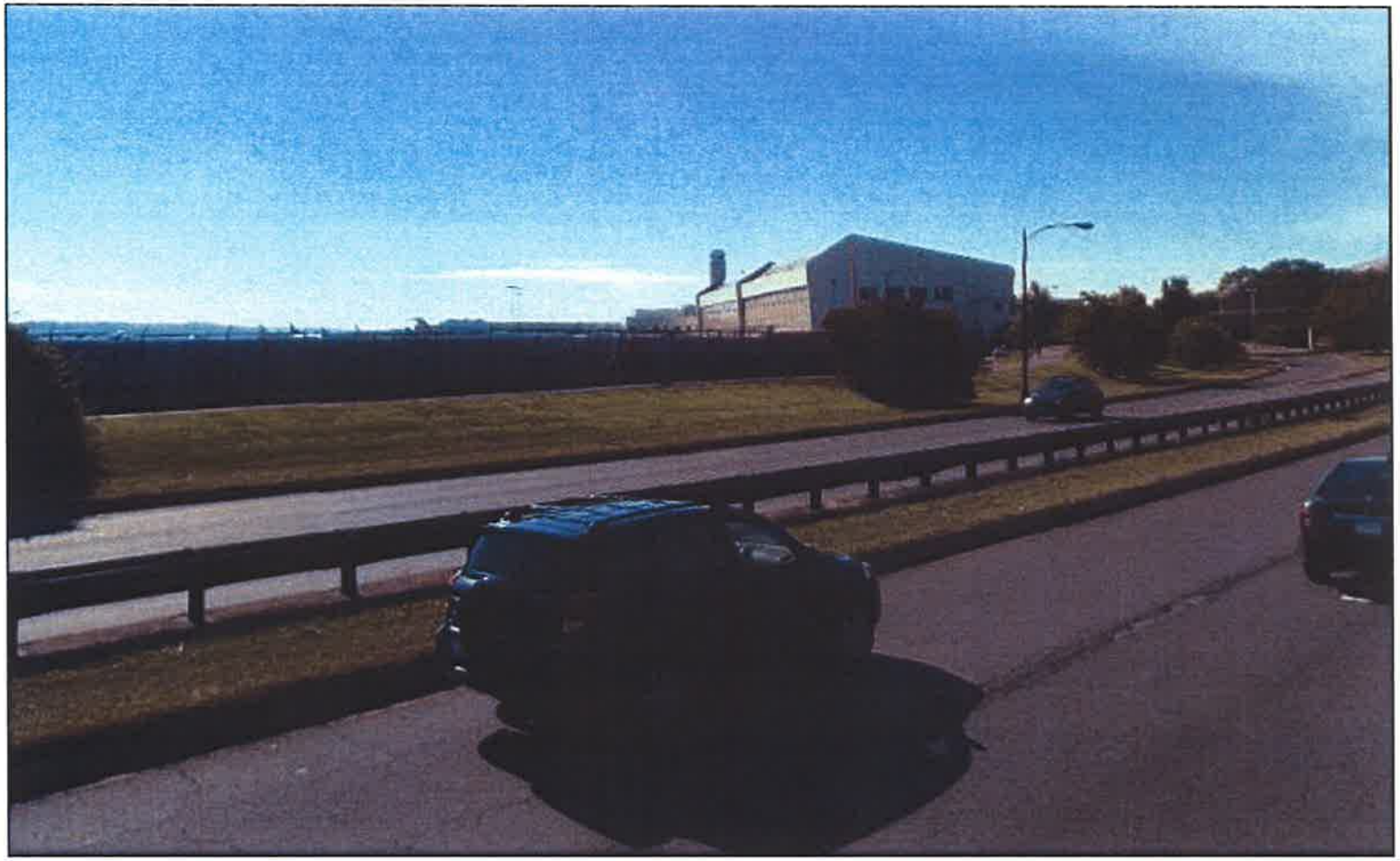


Figure 1-8: Proposed Redevelopment of Terminal B/C
View south from George Washington Memorial Parkway (southbound) towards Hangars 11 & 12
Ronald Reagan Washington National Airport, Arlington County

Figure 1-9: Proposed Redevelopment of Terminal B/C
Axonometric rendering of Terminal B/C (view from south) showing proposed Security Screening Checkpoints (SSCPs)
Ronald Reagan Washington National Airport, Arlington County

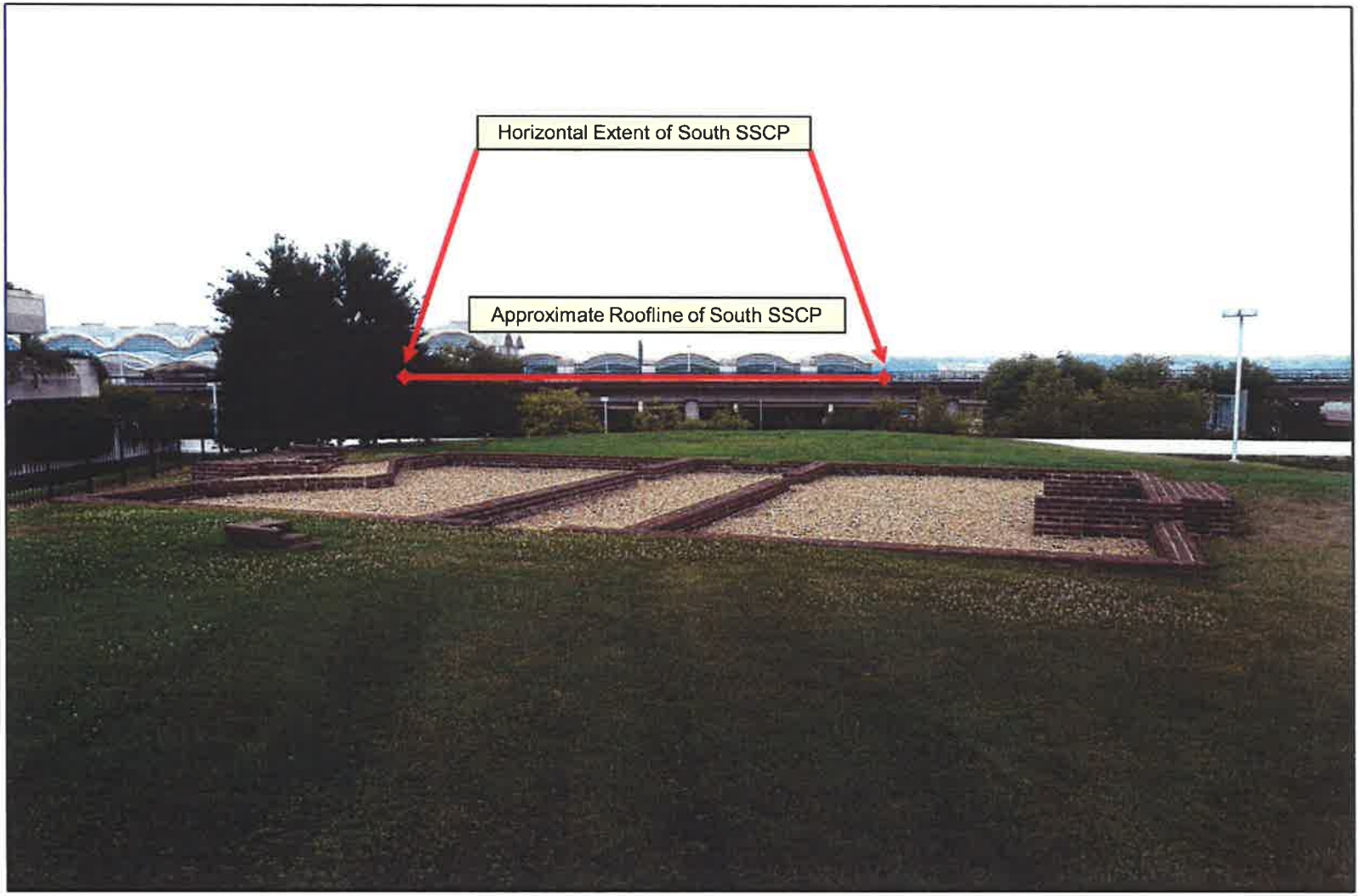


Figure 1-10: Proposed Redevelopment of Terminal B/C
View east from Abingdon Plantation Site to proposed south Security Screening Checkpoint (SSCP)
Ronald Reagan Washington National Airport, Arlington County

Figure 1-11: Proposed Redevelopment of Terminal B/C
View north from South Smith Boulevard: Existing Conditions (above) - proposed Security Screening Checkpoint (below)
Ronald Reagan Washington National Airport, Arlington County

A/TTACHMENT 2:

STATEMENT OF CONCURRENCE

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached project documentation for the proposed Terminal B/C Redevelopment Projects at Ronald Reagan Washington National Airport (Reagan National), and concur with the conditional determination of No Adverse Effect outlined below. Concurrence with this conditional determination is contingent on the submittal of detailed design plans for the elements of the project that have the potential for effects on historic properties listed on or eligible for the National Register of Historic Places. The detailed design plans will be submitted for review and comment as they become available, but prior to any construction activities.

Concurrence with this determination demonstrates compliance of the Metropolitan Washington Airports Authority (Airports Authority) with the terms of the 1987 Programmatic Memorandum of Agreement [(as regards the Section 106 of the National Historic Preservation Act (36 CRF Part 800) and Section 4(f) of the Department of Transportation Act (23 U.S.C. 138)]. By my signature, the Airports Authority is authorized to proceed with the proposed projects as described.

1. The Airports Authority is conducting preliminary planning studies associated with the proposed redevelopment of Terminal B/C, including a New North Concourse, Secure National Hall and related improvements at DCA.

2. As these undertakings have the potential for effects to historic properties listed on or eligible for the National Register of Historic Places, the Airports Authority has assessed the potential effects of these projects.

3. These assessments are based on preliminary plans for the new facilities since detailed design plans are still being developed. As a result, these determinations are conditional based on existing information, and will require continued assessment and consultation as detailed design plans become available for review.

4. The Airports Authority will continue to develop the facilities design and submit them for continued review and comment, and will take the results of this consultation into account during the development of the detailed design plans.

5. Detailed design plans for all project elements with the potential for effects to historic properties located on or off of airport property will be submitted for review and comment as they are developed, prior to any construction activities.

6. It is not anticipated that these projects will have direct physical effects on any historic properties located on or off of airport property; however, there are potential secondary effects and these have been taken into consideration.

7. Regarding the design and construction of the New North Concourse (NNC):

    a. Construction of the NNC will require the demolition of the existing Hangar 11, Hangar 12 and the Airports Authority Corporate Office Building (COB). Hangar 11 and 12 have been previously determined to be not eligible for the National Register of Historic Places and the COB is a modern structure. As a result, the proposed project will not result in a physical effect on any NRHP-listed or NRHP-eligible historic properties.

    b. The demolition of Hangars 11 & 12 has the potential to modify the visual character of the north airport when viewed from adjacent historic properties (George Washington Memorial Parkway and East Potomac Park). However, as a new hangar is proposed in the approximate location of Hangar 12, it is not anticipated that the final project will result in a permanent Adverse Effect to either the George Washington Memorial Parkway or East Potomac Park. Since detailed design plans have not yet been developed for the proposed new hangar, the potential effect of this project element will require continued assessment and consultation.

    c. The demolition of Hangars 11 & 12 and the COB will require the relocation of personnel and operations to new locations. As a number of these locations represent historic properties listed on or eligible for the NRHP, the potential effects of these relocations on the historic properties will be taken into consideration and will require continued consultation. Properties with potential effects include:

        i. Terminal A (Main Terminal): NRHP-listed
        ii. South Hangar Line: NRHP-listed
        iii. Authority Engineering Complex (Abingdon Station): NRHP-eligible
        iv. Contributing elements of the Dulles Airport Historic District: NRHP- eligible.

8. Regarding the design and construction of the Secure National Hall:

    a. The development of the Secure National Hall will result in physical modifications to the non-historic Terminal B/C; therefore, the project will have no effects to historic properties located on airport property.

    b. The proposed Secure National Hall project would construct two new security screening checkpoints (SSCPS). Given their location between Terminal B/C and the Metrorail platform, these new additions to the terminal complex will have limited visibility from any historic properties located on or off of airport property.

Appendix C

Acronyms and Glossary

Appendix C Acronyms and Glossary

C.1 Acronyms

µg/m3	Micrograms per cubic meter
A/Es	Architect/Engineers
AA	American Airlines
AAM	Annual arithmetic mean
AC	Advisory Circular
ACE	Army Corps of Engineers
ACM	Asbestos Containing Material
ACRP	Airport Cooperative Research Program
ADG	Airplane Design Group
AGL	Above ground level
ALP	Airport Layout Plan
AOA	Airport operations area
ARINC	Aeronautical Radio

ATCT	Airport Traffic Control Tower
BTU	British thermal unit
CA	Commuter aircraft
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CBPA	Chesapeake Bay Preservation Act
CEP	Community Energy Plan
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund)
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
COB	Metropolitan Washington Airports Authority's Corporate Office Building
CPPCD	*Ronald Reagan Washington National Airport, New North Concourse Concept Planning and Program Criteria Document*, June 2014
CUP	Central Utility Plant
CW	Crosswind

CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act of 1972
dBA	A-weighted sound pressure level, in decibels
DCA	Ronald Reagan Washington National Airport
DCDOE	District of Columbia's Department of Environment
DCFWD	District of Columbia's Fisheries and Wildlife Division
DNL	Day-night average sound level, expressed in A-weighted decibels
EA	Environmental Assessment
EDMS	Emissions and Dispersion Modeling System
EDR	Environmental Data Resources, Inc.
EMB175	Embraer 175 aircraft
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FR	Federal Register
FWS	Fish and Wildlife Service
GIS	Geographic information system
GHG	Greenhouse gas
GWMP	George Washington Memorial Parkway
HFC	Hydroflourocarbons
HCM	*Highway Capacity Manual*, 2000 Edition
HVAC	Heating, ventilation, and air conditioning
IATA	International Air Transport Association
INM	Integrated Noise Model
Kv	Kilovolt
kVA	Thousand volt-amps
l	Liter

lb.	Pound
LOPD	Limit of physical disturbance
LOS	Level of service
LWCF	Land and Water Conservation Fund
MBh	One thousand BTUs per hour
mph	Miles per hour
MOE	Measures of Effectiveness
MOU	Memorandum of Understanding
MS4	Municipal Separate Stormwater Sewer System
MSGP	Multi-Sector General Permit
MWAA	Metropolitan Washington Airports Authority
MWAQC	Metropolitan Washington Air Quality Committee

N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NB	Narrowbody aircraft
NC	Existing North Concourse of Terminal B/C
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NFRAP	No Further Remedial Action Planned
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NNC	New North Concourse
NO	Nitric oxide
NOAA	National Oceanic and Atmospheric Administration
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRC	National Response Center
NRHP	National Register of Historic Places

NSC	New South Concourse
NWI	National Wetland Inventory
O_2	Atmospheric oxygen
O_3	Ozone
O&D	Origin and destination
OFA	Object Free Area
OSHA	Occupational Safety & Health Administration
P2	Pollution prevention
PAH	Polycyclic aromatic hydrocarbon
Pb	Lead
PCB	Polychlorinated biphenyls
PCE	Passenger car equivalent
PFC	perflourocarbons
PL	Public Law
PLB	Passenger loading bridge
PM_{10}	Particulate matter
$PM_{2.5}$	Fine particulate matter
PTC	Presumed to Conform

RCRA	Resource Conservation and Recovery Act of 1976
RMA	Resource Management Area
ROD	Record of Decision
ROM	Random order of magnitude
RON	Remains overnight
RPA	Resource Protection Area
RSA	Runway Safety Area
RWY	Runway
SARA	Superfund Amendments and Reauthorization Act
SAV	Submerged aquatic vegetation
SC	Existing South Concourse of Terminal B/C
SF_6	Sulphur hexaflouride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SIS	South Investigation Site
SO_2	Sulfur dioxide
SO_X	Sulfur oxides
SSCP	Security screening checkpoint
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Site

TDG	Taxiway Design Group
TPH	Total petroleum hydrocarbons
TSA	Transportation Security Administration
USC	United States Code
USGS	U.S. Geological Survey
U.S.	United States
USDOT	United States Department of Transportation
UST	Underground storage tank
VAC	Virginia Administrative Code
VAPCB	Virginia Air Pollution Control Board
VDACS	Virginia Department of Agriculture and Consumer Services
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDHR	Virginia Department of Historic Resources
VHWMR	Virginia Hazardous Waste Management Regulations
VMRC	Virginia Marine Resources Commission
VMT	Vehicle miles traveled

VOC	Volatile organic compound
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
VSWMR	Virginia Solid Waste Management Regulations
WOTUS	Waters of the United States

C.2 Glossary

Advisory Circular: the Advisory Circular provides a single, uniform, agency-wide system that the FAA uses to deliver advisory material to FAA customers, the industry, the aviation community, and the public. Advisory Circulars do not create or change a regulatory requirement.

Aircraft Fleet Mix: the mix of aircraft types operating at an airport.

Air Traffic Procedure: a predefined set of guidance instructions that define a route for a pilot to follow.

Aircraft Operation: a takeoff or landing by an aircraft. The arrival and subsequent departure of one.

Airplane Design Group: an FAA coding system used to categorize aircraft based on tail height and wingspan. If an aircraft falls into more than one Airplane Design Group (i.e., the aircraft's tail height and wingspan fall in different categories), the more demanding Airplane Design Group is used for design purposes.

Airport Improvement Program: an FAA program providing financial assistance for developing public-use airports.

Airport Layout Plan: a scaled drawing depicting existing and proposed land and facilities necessary for the operation and development of an Airport. The Airport Layout Plan shows boundaries and proposed additions to all areas owned and controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed non-aviation areas and improvements thereon. The Airport Layout Plan requires FAA approval.

Airport Sponsor: any public agency or private owner of a public use airport.

Ancillary Airport Facilities: on-Airport facilities supporting aviation operations.

Arrival (landing): the act of an aircraft approaching and landing at an airport.

Air Cargo: property of any kind that is transported by aircraft (excluding passenger baggage and mail).

Apron: A paved area that provides the connection between the terminal buildings and the airfield. The apron includes aircraft parking areas, called ramps, and aircraft circulation and taxiing areas for access to these ramps. On the ramp, aircraft park in locations typically designated as gate positions or gates.

Blast Fence: a barrier used to divert or dissipate jet blast or propeller wash.

Commercial Service Airport: publicly-owned airports with scheduled passenger service and having 2,500 or more enplaned passengers per year.

Concourse: a passageway for circulation between aircraft gate parking positions and the main terminal building.

Crosswind Runway: a runway oriented to supplement wind coverage offered by the orientation of a primary runway.

Day-Night Average Sound Level (DNL): a noise measure used to describe the average sound level over a 24-hour period, typically an average day over the course of a year. In computing Day-Night Average Sound Level, an extra weight of 10 decibels is assigned to noise occurring between the hours of 10:00 p.m. and 7:00 a.m. in order to account for increased annoyance when ambient noise levels are lower and people are trying to sleep. Day-Night Average Sound Level may be determined for individual locations or expressed in noise contours.

De minimis: so small as to be negligible or insignificant.

Departure (takeoff): the act of an aircraft taking flight and leaving an airport.

Federally Obligated Airport: public airports that have accepted federal assistance, either in the form of grants or property conveyances.

Hold Apron: paved airfield area designated for holding aircraft typically prior to departure.

Holdroom: also known as departure lounges, which consist of pre-boarding areas with seating or standing areas for passengers, airline agent check-in podiums, and queuing spaces and aisles. Other amenities may include concession areas, workstations or counters, charging stations for cell phones or laptops, or play areas for children. Sizing may be based on the average seating capacity of the largest aircraft expected to be used at each gate.

Integrated Noise Model: a computer model developed, updated, and maintained by the FAA to predict the noise exposure generated by aircraft operations at an airport.

Noise Contour: continuous lines of equal noise level usually drawn around a noise source. Noise contours often are drawn in 5-decibel increments and are generally used in depicting the noise exposure around airports, highways, and industrial plants.

Noise Exposure: the cumulative sound energy affecting a person over a specified period of time.

Noise-Sensitive Area: an area where noise interferes with normal activities associated with its use. Normally, noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, as well as recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites.

Runway: a defined rectangular area on an airport prepared for the landing and takeoff run of aircraft along its length.

Runway Safety Area: a defined surface surrounding the runway that is suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

Runway Utilization: runway utilization (or runway use) refers to the frequency (expressed as a percent) with which aircraft utilize each runway during the course of a year, as dictated or permitted by wind, weather, aircraft weight, air traffic control, and according to established, voluntary noise abatement procedures.

Service Road: on-airfield road restricted to maintenance and security vehicles.

Taxiway: a defined path within the airport established for the taxiing of aircraft and intended to provide a link between one part of the airport and another.

Taxiway Connector: a taxiway connecting a runway and its closest parallel taxiway.

Terminal Building: a building that comprises the following functional areas: processing and servicing passengers; handling and processing belly cargo, including passenger baggage; and aircraft servicing. The terminal building is the gateway between the ground transportation vehicles and the airfield.

Appendix D

Corporate Office Building Hazardous Materials Survey

Hazardous Materials Survey

Corporate Office Building (COB)
Ronald Reagan Washington National Airport
Arlington, Virginia

1-13-C052
Task Order Number 15

Prepared for:

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

45045 Aviation Drive
Third Floor East
Dulles, Virginia 20166-7528

August 21, 2015

Prepared by:

applied environmental inc.
200 Fairbrook Drive • Suite 201 •Herndon, Virginia

486-15-DCA-016

Hazardous Materials Survey

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia
1-13-C052
Task Order Number 15

TABLE OF CONTENTS

APPENDICES

Hazardous Materials Survey

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia.
1-13-C052
Task Order Number 15

1.0 EXECUTIVE SUMMARY

Applied Environmental, Inc. conducted an asbestos survey, a limited lead-containing (LC) surface coating screening, and an inventory of Polychlorinated Biphenyls (PCB) ballasts and light tubes of the Corporate Office Building, at the Ronald Reagan Washington National Airport, Arlington, Virginia.

The purpose of the survey was to identify asbestos-containing (bulk material containing greater than 1% asbestos by laboratory analysis) materials (ACM), identify components that contain lead, and inventory PCB ballasts, fluorescent light tubes, and any other miscellaneous oil filled equipment that is necessary for building function (excluding mobile equipment used by tenants). The client contact for this project was Mr. Steve Kirkpatrick.

Asbestos-Survey

168 representative bulk samples were collected from the materials suspected to contain asbestos in the Corporate Office Building.

The laboratory reported all of the samples collected from the Corporate Office Building as "No Asbestos Detected." The fire doors throughout the Corporate Office Building could not be sampled so as not to void the fire rating, and are assumed ACM. With the exception of the fire doors and inaccessible areas, no further action regarding asbestos in this building is required or recommended at this time. The approximate cost of removing a fire door is $ 800 each.

A complete list of all materials sampled is attached as Appendix A, "Homogeneous Material List". Photographs of all homogeneous materials are included in Appendix B, "Photographs of Suspect Asbestos-Containing Materials".

Lead-Containing Surface Coating Screening

Applied Environmental conducted a lead paint screening survey of the Corporate Office Building to generally identify building components coated with lead. The survey consisted of testing the lead concentrations on representative surfaces of each component and substrate.

XRF analysis did not detect any lead readings in excess of the unit detection limit. A complete listing of all items tested is included as Appendix C, "XRF Lead Testing Results".

Inventory of PCB Ballasts, Fluorescent Light Tubes, and Miscellaneous Oil Filled Equipment

All of the visually inspected light ballasts in the Corporate Office Building were marked with labeling indicating "No PCBs". Prior to disposal, all light ballasts need to be visually inspected for "No PCBs" labeling during demolition activities.

Appendix D, "Summary of Estimated Number of PCB Ballasts and Light Tubes", provides a listing of light ballasts and light tubes noted during the survey. There are approximately 2,092 four-foot straight light tubes, 360 two-foot straight light tubes, 374 two-foot U-type light tubes, and 62 six-foot straight light tubes in the Corporate Office Building. All fluorescent light tubes should be properly reused to the extent of their lifespan and/or properly recycled, or disposed of as universal waste.

An inventory of miscellaneous oil filled equipment in the Corporate Office Building necessary for building function (excluding mobile equipment used by tenants) was also performed during the survey.

2.0 INTRODUCTION – SCOPE OF WORK

Applied Environmental, Inc. conducted an asbestos survey, a limited LC surface coating screening, and an inventory of PCB ballasts and light tubes of the Corporate Office Building, at the Ronald Reagan Washington National Airport, Arlington, Virginia. The surveys were conducted by Osman Sharif, Lori Marfoglio, and Gary Lewis who are Environmental Protection Agency (EPA) accredited, and Commonwealth of Virginia licensed asbestos and lead based paint inspectors, on July 28, 29, 30 and August 12, 2015. Ms. Marfoglio's, Mr. Sharif's, and Mr. Lewis' licenses are provided in Appendix E, "Inspector Licenses." The purpose of the survey was to identify asbestos-containing materials (ACM), identify components that contain lead, and inventory PCB ballasts, fluorescent light tubes, and any other miscellaneous oil filled equipment necessary for building function (excluding mobile equipment used by tenants).

This survey did not include significantly destructive inspection techniques such as demolition of small areas of walls or columns to allow access. Reasonable efforts to extrapolate our observations and sampling to uninspected areas have been made. If uncharacterized materials are subsequently discovered, they should be characterized prior to disturbance.

3.0 BUILDING DESCRIPTION

The three story Corporate Office Building contains offices, conference rooms, kitchens, storage closets, restrooms, telecommunication and electrical closets, mechanical and machine rooms. The third story covers a smaller area only in the southeast portion of the building. A two-story addition was constructed in the central portion of the building, and consists of Rooms 101-112 and 201-222. Three hydraulic elevators service the building. The Corporate

Office Building's inner wall systems are made up of precast concrete, concrete masonry unit (CMU), and gypsum board. Floor coverings consist of vinyl floor tile over a concrete sub floor, carpeting over a concrete sub floor, and exposed concrete floor areas. Ceilings consist of suspended ceiling tiles or exposed corrugated metal decking. Restrooms have ceramic wall and floor tile covering. Pipe systems are insulated with fiberglass insulation with plastic vinyl fittings. The duct systems are bare metal, bare metal with seam mastic, or insulated with fiberglass with seam mastic. The Heating, Ventilation, and Air Conditioning (HVAC) units utilized to provide forced air to heat and cool the building are located within the mechanical rooms of the building.

The exterior of the building has CMU lower walls with metal sheet panels on the upper walls; the addition is constructed of precast concrete. The roof of the Corporate Office Building is built up and flat with three construction periods: the north, east and south portions at one time, the southwest portion (for the Vault and Pump Rooms), and the addition portion in the center. The north, east and south portions of the roof consist of rubber membrane, brown compressed board, pink foam, plastic sheeting, and metal decking. The northwest portion of the roof consists of rubber membrane, black felt paper on yellow foam insulation (2 layers), plastic sheeting, and metal decking. The addition portion of the roof consisted of rubber membrane, black felt paper on white foam insulation (3 layers), plastic sheeting, and metal decking. No roof flashing material was observed. White caulking was observed on portions of the metal perimeter wall covering.

4.0 ASBESTOS-CONTAINING MATERIAL SURVEY

The asbestos survey was completed in accordance with EPA Standard 40 CFR 763, Subpart E, Asbestos Hazard Emergency Response Act (AHERA), and OSHA Standard 29 CFR 1926.1101 inspection and sampling protocols. All collected samples were submitted to the Aerobiology Laboratory Associates, Inc. (ALAI) asbestos analytical laboratory for analysis by Polarized Light Microscopy (PLM) in accordance with the EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA 600/R93/116). The ALAI analytical laboratory is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program for bulk asbestos identification by PLM.

168 representative bulk samples were collected from the materials suspected to contain asbestos in the Corporate Office Building. A summary of the materials suspected to contain asbestos and their location, material code, and sample numbers is presented in Appendix A, "Homogeneous Material List". A drawing showing the approximate locations of the sample locations is provided in Appendix F, "Asbestos Sampling Locations." The laboratory reports are presented in Appendix G "Laboratory Reports".

The laboratory reported all of the samples collected from the Corporate Office Building as "No Asbestos Detected."

The fire doors throughout the Corporate Office Building could not be sampled so as not to void the fire rating, and are assumed ACM. The fire doors should be evaluated and sampled prior to demolition activities. The approximate cost to remove a fire door as asbestos-containing material is $ 800.00 each.

During the survey, access was not provided to Rooms 118.21, 248.31 and 266.01 of the Corporate Office Building. However, these rooms should be evaluated for hazardous materials prior to any demolition activities.

In accordance with the scope of work, a photograph was taken of each suspect homogeneous material. These photographs are presented in Appendix B. The caption beneath each photograph identifies the material as an asbestos- or non-asbestos-containing material. The material can also be further identified by the homogeneous material code stated in the caption, and/or the actual sample numbers listed. For example, on the first photo, SM2 is the homogeneous material code which can be cross referenced on the Homogeneous Material List, as well as the sample numbers. The sample numbers will show the approximate sample location on the drawing in Appendix F.

5.0 ASBESTOS-CONTAINING MATERIAL RECOMMENDATIONS

With the exception of the fire doors and inaccessible areas, no further action regarding asbestos in this building is required or recommended at this time.

6.0 LEAD-CONTAINING SURFACE COATING SCREENING SURVEY

Applied Environmental conducted a limited lead paint screening survey of the Corporate Office Building to generally identify building components coated with lead. The survey consisted of testing the lead concentrations on representative surfaces of each component and substrate. These surfaces included door systems, floors, walls, ceilings, window systems, stair systems, and support beams.

The lead survey was performed using a Niton XLp 300A spectrum analyzer, which is a X-Ray Fluorescence (XRF) analyzer unit. The Niton XLp 300A is a hand held, portable lead detector, capable of immediately determining lead concentrations of tested surfaces in a non-destructive manner. The detection level of the Niton XLp 300A XRF is 0.1 milligrams of lead per square centimeter (mg/cm^2) of area tested. Please note that there may be concentrations of lead below this detection limit present throughout the property. Painted surfaces measuring below 0.1 mg/cm^2 should be considered lead-containing paint until chip samples analyzed by a laboratory confirm that lead concentrations are below detectable limits. The XRF calibration was validated in accordance with the manufacturer's instructions.

XRF analysis did not detect any lead readings in excess of the unit detection limit. A complete data table presenting results of the XRF testing is provided for your reference in

Appendix C, "XRF Lead Testing Results". "Floor" and "Room" columns further define the location of the surface that was tested. Individual building components tested are listed under "Component". The substrate on which the paint film is applied is noted under "Substrate." The condition of the tested component paint is noted under "Condition". The color of the topcoat layer of paint is noted under "Color" to assist in determining the location of the building components tested. The actual concentration of lead is recorded in the "PbC" column in the noted units, mg/cm^2. The accuracy of each test is noted in the "PbC" column.

7.0 INVENTORY OF PCB LIGHT BALLASTS, FLUORESCENT LIGHT TUBES, AND MISCELLANEOUS OIL FILLED EQUIPMENT

According to the EPA, all ballasts manufactured prior to July 1978 have a greater than 50% chance of containing Polychlorinated Biphenyls (PCBs) at 50 parts per million (ppm) in their potting material. Ballasts manufactured after July 1978 are required to bear a "No PCBs" label indicating that they do not contain PCBs. Representative fluorescent light fixtures within the building were visually inspected for suspect PCB-containing light ballasts. All visually inspected light ballasts in the Corporate Office Building were marked with labeling indicating "No PCBs". Prior to disposal, all light ballasts need to be visually inspected for "No PCBs" labeling during demolition activities.

Appendix D, "Summary of Estimated Number of PCB Ballasts and Light Tubes", provides a listing of light ballasts and light tubes noted during the survey. There are approximately 2,092 four-foot straight light tubes, 360 two-foot straight light tubes, 374 two-foot U-type light tubes, and 62 six-foot straight light tubes in the Corporate Office Building. All fluorescent light tubes should be properly reused to the extent of their lifespan and/or properly recycled, or disposed of as universal waste.

An inventory of miscellaneous oil filled equipment necessary for building function (excluding mobile equipment used by tenants) was also performed during the survey. At the time of the survey, the following miscellaneous oil filled equipment was observed for the Corporate Office Building:

- Two 250-gallon diesel fuel tanks for generator use are located within Vault 100 (labeling for the diesel fuel tanks was observed on the door to Vault 100),

- Three hydraulic elevators are utilized for the building. Two hydraulic elevator above ground storage tank (AST) systems were observed in the elevator machine rooms of the building which contain hydraulic oil for the necessary function of the elevator systems,

- Several large electrical transformers were observed within Open Area 104 of the Corporate Office Building. No labeling was observed on the transformer units to identify "No PCBs"; therefore, they may contain PCBs in the dielectric fluid but this is unlikely, based on the age of the building,

- A 2" suspect fill port was observed within Open Area 104 of the Corporate Office Building. The utilization of the fill port is unknown; it may be associated with former or abandoned oil filled equipment. Photographs of the suspect fill port are included in Appendix H. The suspect fill port should be evaluated prior to demolition activities.

Appendix A

Homogeneous Material List

applied environmental inc.

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
SM2	Beige seam mastic on metal ducting	No	Above drop ceiling – throughout building	01, 02, 110, 111	No	--
SM1	Beige seam mastic on foil fiberglass duct insulation	No	Above drop ceiling – throughout building, Mechanical Rooms 106 and 313	03, 04, 106, 107	No	--
SM3	Gray seam mastic on metal ducting	No	Above drop ceiling – throughout building and Mechanical Room 313	05, 06	No	--
ECM1	White end cap mastic on fiberglass pipe insulation	No	Above drop ceiling – throughout building, Mechanical Room 176.0 and 313, sprinkler room	07, 08	No	--
SM4	White mastic on white fiberglass duct insulation	No	Mechanical Rooms 263.01 and 313	09, 10	No	--
SM5	White seam mastic on metal ducting	No	Mechanical Rooms 263.01 and 313	11, 12	No	--
ECM2	White end cap mastic on fiberglass chilled pipe insulation	No	Mechanical Rooms 263.01 and 313	13, 14	No	--
SM6	Light gray mastic on metal ducting	No	Mechanical Room 313	15, 16	No	--
FT10	12" x 12" gray floor tile with small square pattern floor tile	No	Vestibule 190.20	17, 18	No	--
FM10	Yellow mastic on 12" x 12" gray floor tile with small square pattern floor tile	No	Vestibule 190.20	19, 20	No	--
CM2	Green mastic beneath 2' x 2' carpet squares	No	Corridor 172.01, hall outside Office 180.14, 164.01, 183.01, Second floor Corridor 200.01, 211.02, and 211.03	21, 22, 102, 103	No	--
CT1	2' x 2' heavy textured ceiling tile	Yes	Throughout building	23, 24, 104, 105	No	--
LV1	Gray leveling compound beneath carpet squares	No	Suites 180, 188, and 190, Corridor 172.01, Lunch Room 169	25, 26	No	--
CK1	Beige interior window frame caulking	No	First floor windows – throughout, Suites 211, 248, 256, and 258	27, 28	No	--
CK2	Brown interior window caulking	No	First, Second, and Third floor windows	29, 30	No	--
FP1	Spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – lower layer)	Yes	Throughout building	31, 32, 33, 56, 57	No	--
BM1	Beige mastic on baseboard	No	Throughout building	34, 35, 116, 117	No	--

applied environmental inc.

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
BM2	Yellow mastic on baseboard	No	Mechanical Rooms 263.01, and 313, Electrical Room 263.03, Stairs 1, 2, and 3, Suites 106, 107, 118, 144, 154, 156, and 158	36, 37	No	--
FP2	Spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – top layer)	Yes	Throughout building	38, 39, 40, 41, 42, 114, 115	No	--
FS1	Red fire stop	No	Mechanical Rooms 106 and 313, Electric Rooms 251.01 and 263.03, and third floor elevator lobby	43, 44, 45	No	--
DJ1	Gypsum wall board with joint compound	No	First floor - throughout	46, 47, 98	No	--
CM1	Yellow mastic beneath 2' x 2' carpet squares	No	Throughout building	48, 49, 99, 100, 101, 143, 144	No	--
DJ2	Gypsum ceiling board with joint compound	No	Restrooms - throughout building, 124.01, and Elevator Machine Rooms	50, 51	No	--
FT1	12" x 12" light green with black pin mark floor tile	No	Rooms 164.00, 169, 213.01, 213.03 and 311	52, 53	No	--
FM1	Yellow mastic beneath 12" x 12" light green with black pin mark floor tile	No	Rooms 164.00, 169, 213.01, 213.03 and 311	54, 55	No	--
FT2	12" x 12" dark green with black pin mark floor tile	No	Room 161	58, 59	No	--
FT3	12" x 12" beige with black pin mark floor tile	No	Rooms 102, 112, 113, 114, 161, and 211	60, 61	No	--
FT4	12" x 12" light gray with black pin mark floor tile	No	Rooms 102, 112, 114, 161 and 222	62, 63	No	--
FT5	12" x 12" dark gray with light gray feathered floor tile	No	Room 161	64, 65	No	--
FT6	12" x 12" black with white feathered floor tile	No	Room 161	66, 67	No	--
FM2-6	Yellow mastic beneath floor tiles FT2, FT3, FT4, FT5, and FT6	No	Rooms 102, 112, 113, 114, 161, 211, and 222	68, 69	No	--
DJ3	Gypsum wall board with joint compound	No	Addition portion - Rooms 101-112, Men's and Women's Restrooms next to 102, and Mechanical Room 106, and 201-221	70, 71, 76, 119	No	--
CT2	2' x 2' white smooth ceiling tile	Yes	Rooms 101-112, 103.00, 201-222, and 301-320	72, 73, 118	No	--

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
DJ4	Gypsum ceiling board with joint compound	No	Addition portion - Men's and Women's Restrooms next to 102	74, 75	No	--
FP3	Spray-on fireproofing on concrete ceiling decking	Yes	Vaults 100 and 105, Pump Room 103	77, 78, 79, 80, 81, 82, 83	No	--
FT7	12" x 12" dark blue with light blue feather floor tile	No	Room 138.39 and 138.40 (beneath FT8/FT9)	84, 85	No	--
FM7	Yellow mastic on 12" x 12" dark blue with light blue feather floor tile	No	Room 138.39 and 138.40 (beneath FT8/FT9)	86, 87	No	--
FT8	12" x 12" off-white with brown streak floor tile	No	Room 138.40	88, 89	No	--
FT9	12" x 12" yellow with dark yellow speck floor tile	No	Room 138.40	90, 91	No	--
FM8/9	Sticky yellow mastic on FT8 and FT9	No	Room 138.40	92, 93	No	--
CT3	2' x 2' pinhole and small gouge ceiling tile	Yes	138.09 Reception and hallway	94, 95	No	--
STR1	Beige mastic on stair tread	No	Stair 1, 2, and 3	96, 97	No	--
DJ5	Gypsum wall board with joint compound	No	Second floor - throughout	108, 109	No	--
CT4	2' x 2' light textured recessed ceiling tile	Yes	Suites 210 and 214	112, 113	No	--
WFL1	Black felt paper on inner wall	No	Suite 201-221	120, 121	No	--
GL1	Exterior window glazing	No	Exterior windows of building	122, 123	No	--
CK3	Tan exterior window caulking	No	Exterior windows of building – north side	124, 125	No	--
CK4	Brown exterior window caulking	No	Exterior windows of building	126, 127	No	--
CK5	White exterior door caulking	No	Exterior doors of building	128, 129	No	--
CK6	Black exterior door caulking	No	Vestibule 190.20	130, 131	No	--
TW1	Exterior textured surfacing wall coating	No	Exterior walls of building	132, 133, 134, 135, 136, 137, 138	No	--
ECM3	End cap mastic on exterior piping	No	Exterior of building – north side	139, 140	No	--

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
CK7	Tan expansion joint caulk at base of building	No	Exterior of building	141, 142	No	--
DJ6	Gypsum wall board with joint compound	No	225.00 bridge to hangar	145, 146	No	--
SM7	White seam mastic on foil fiberglass duct insulation	No	225.00 bridge to hangar	147, 148	No	--
CK8	White interior window caulking	No	225.00 bridge to hangar	149, 150	No	--
CM3	Yellow mastic beneath rolled carpeting	No	Third floor - throughout	151, 152	No	--
DJ7	Gypsum wall board with joint compound	No	Third floor - throughout	153, 154	No	--
LN1	Shiny maroon small square resilient sheet flooring	No	Room 311	155, 156	No	--
LV2	Gray leveling compound	No	Third floor - throughout	157, 158	No	--
RFL1	Felt paper between foam layers	No	Pump room roof	159, 160	No	--
WP1	Roof walking pad	No	Pump room roof	161, 162	No	--
RCK1	White caulking at roof perimeter	No	Roof of building	163, 164	No	--
RCK2	White and black caulking at roof perimeter	No	Roof of building – addition portion	165, 166	No	--
RFL2	Felt paper between foam layers	No	Roof of building – addition portion	167, 168	No	--
Assumed Asbestos-Containing Materials						
FD1	**Fire doors**	**No**	**Stairwells 1 (2 each), 2 (3 each), 3 (3 each), 106.01, 211.08, and Mechanical Rooms 263.01 (5 each) 313 (2 each)**	**No samples**	**Assumed ACM**	**17 each**

[a] ACM = Asbestos-Containing Material.
[b] ea. = each

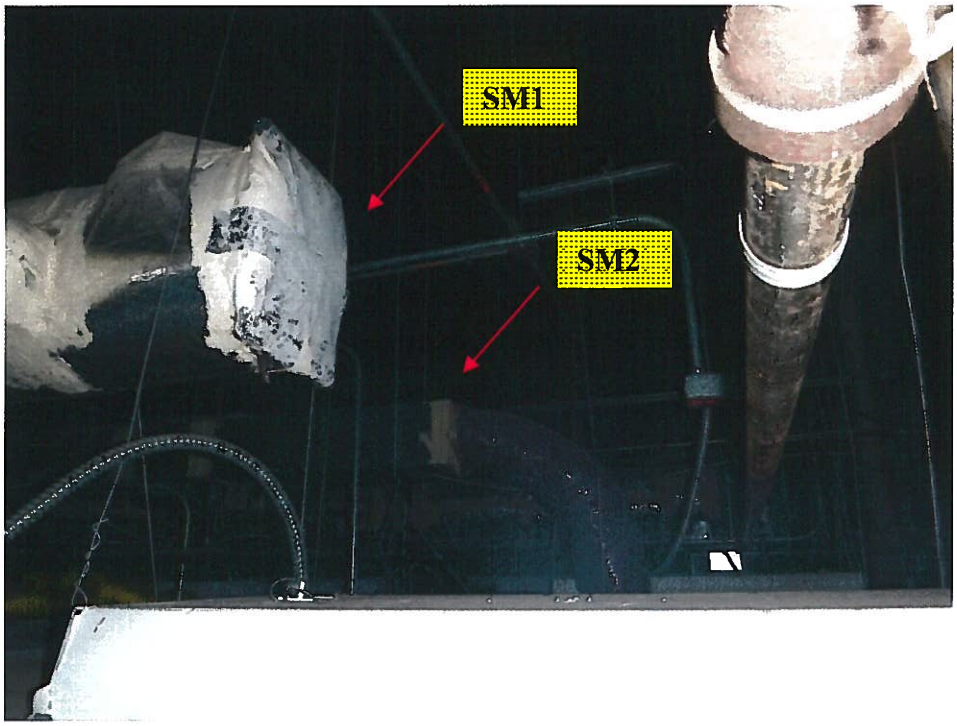
Bolded text = Identified as ACM.

[1]The quantity estimates provided are for information purposes only and shall not be used as the sole basis for bidding. The Contractor shall verify the accuracy of stated measurement or condition prior to submitting bid. Also, the Contractor shall base his bid on his own data and measurement takeoffs and not solely on provided data.

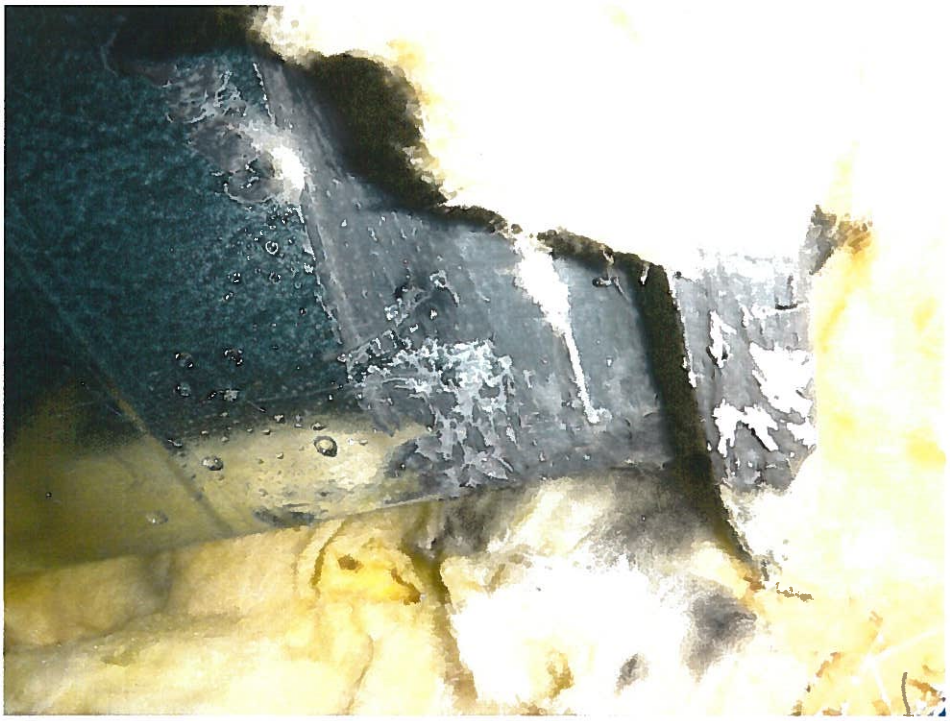
Appendix B

Photographs of Suspect Asbestos-Containing Materials

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

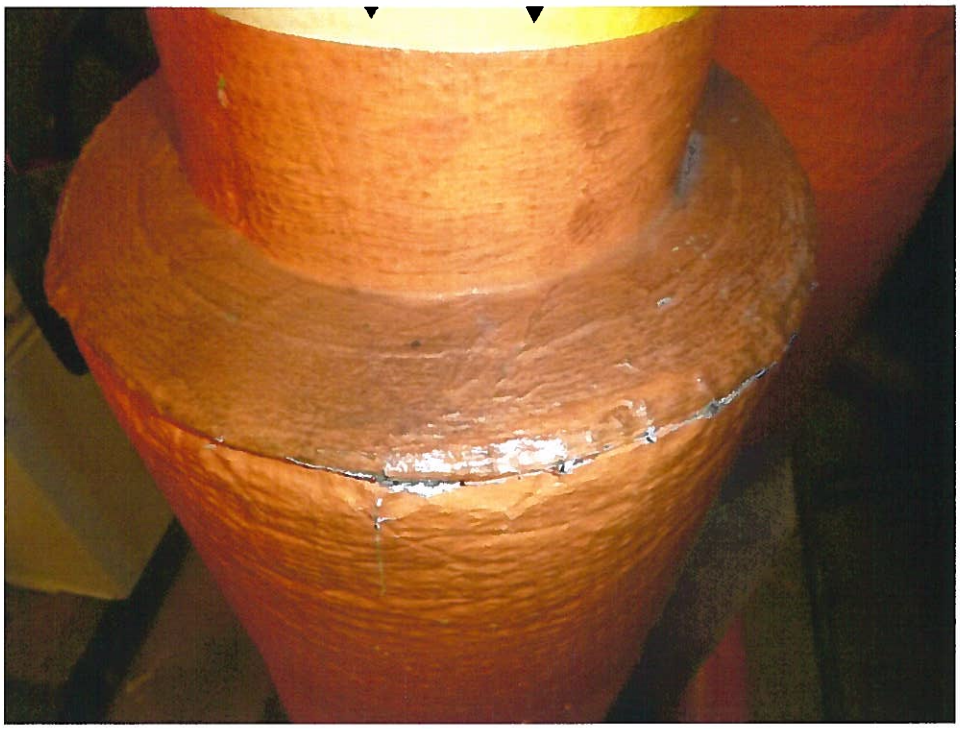


1. Non-ACM beige seam mastic on metal duct (SM2–Samples 01, 02, 110, 111) and non-ACM beige seam mastic on foil fiberglass duct insulation (SM1–Samples 03, 04, 106, 107) above drop ceiling in Room 190.26.



2. Non-ACM gray seam mastic on metal ducting (SM3–Samples 05, 06) above drop ceiling in the hallway outside Office 180.18.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

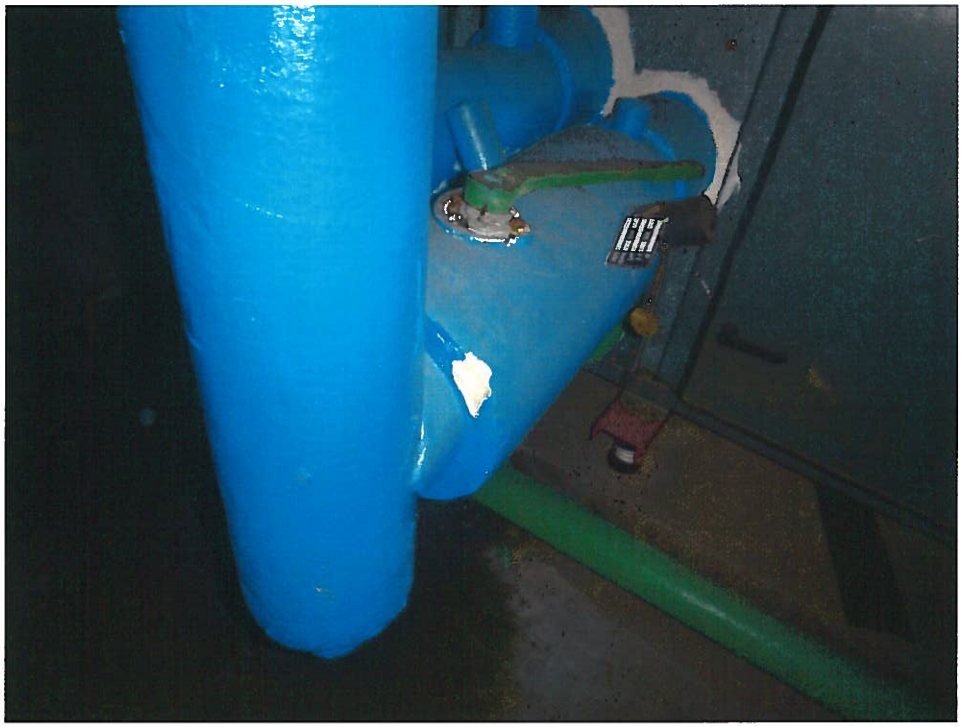


3. Non-ACM white end cap mastic on fiberglass pipe insulation (ECM1-Samples 07, 08) in First Floor Mechanical Room 176.01.

4. Non-ACM white mastic on white fiberglass duct insulation (SM4-Samples 09, 10) in Mechanical Room 263.01.

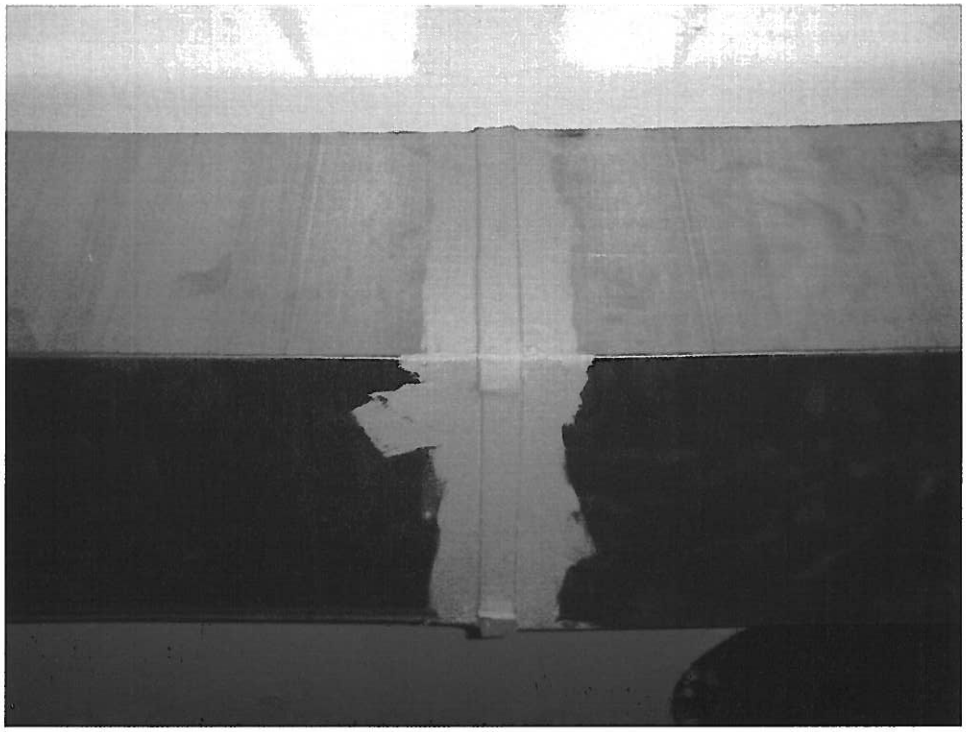
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

5. Non-ACM white seam mastic on metal ducting (SM5-Samples 11, 12) in Mechanical Room 263.01.

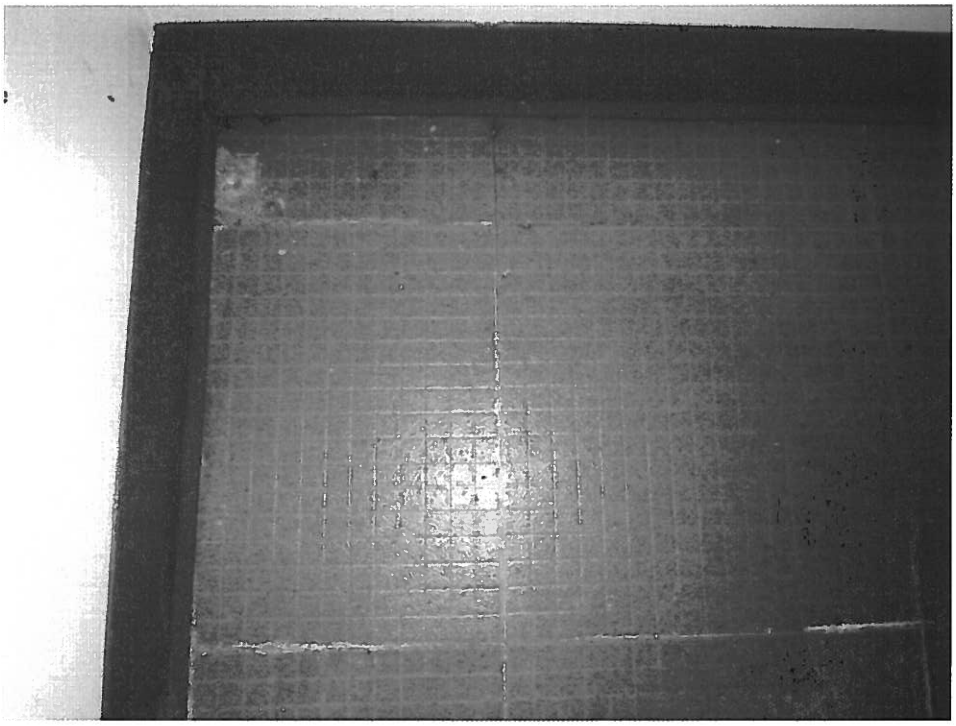


6. Non-ACM white end cap mastic on fiberglass chilled pipe insulation (ECM2-Samples 13, 14) in Mechanical Room 263.01

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



7. Non-ACM light gray mastic on metal ducting (SM6-Samples 15, 16) in Mechanical Room 313.



8. Non-ACM 12" x 12" gray floor tile with small square pattern (FT10-Samples 17, 18) with non-ACM yellow mastic (FM10-Samples 19, 20) beneath the floor tile in Vestibule 190.20.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

9. Non-ACM green mastic beneath 2' x 2' carpet squares (CM2-Samples 21, 22, 102, 103) in Office 164.01.

10. Non-ACM 2' x 2' heavy textured ceiling tile (CT1-Samples 23, 24, 104, 105) in hall outside Office 180.18.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

11. Non-ACM gray leveling compound beneath 2' x 2' carpet squares (LV1-Samples 25, 26) in hall outside Office 180.18.

12. Non-ACM beige interior window frame caulking (CK1-Samples 27, 28) and brown interior window caulking (CK2-Samples 29, 30) in Office 188.20.

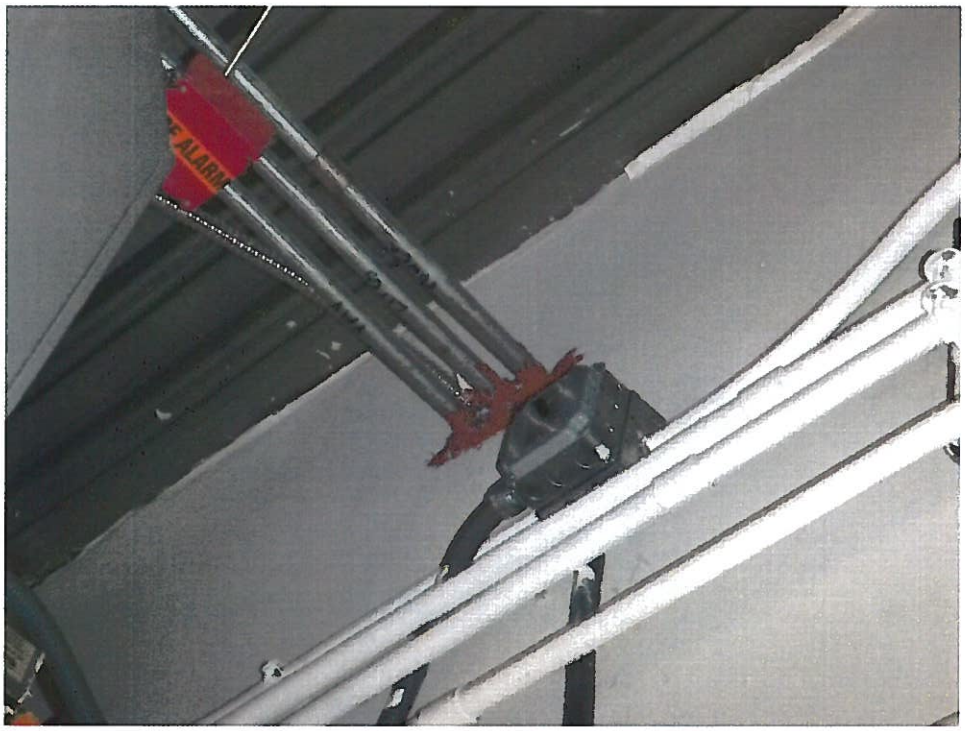
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

13. Non-ACM spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – FP1-Samples 31, 32, 33, 56, 57 and FP2-Samples 38, 39, 40, 41, 42, 114, 115) throughout the building.

14. Non-ACM beige mastic on baseboard (BM1-Samples 34, 35) in Office 174.01.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

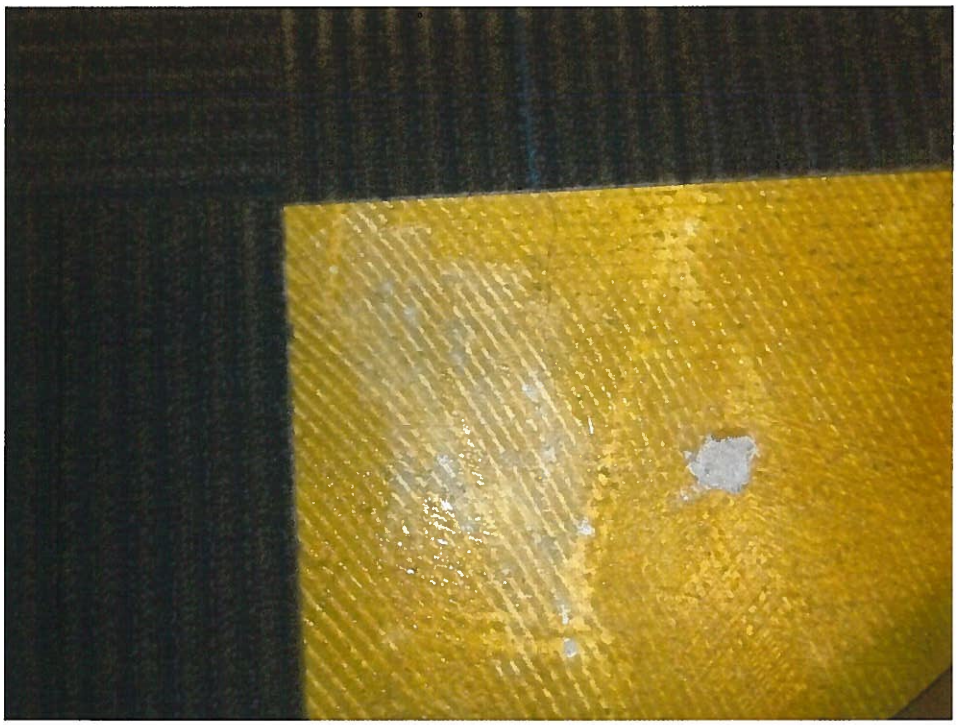
15. Non-ACM yellow mastic on baseboard (BM2-Samples 36, 37) in the hall outside Mechanical Room 172.01.



16. Non-ACM red fire stop (FS1-Samples 43, 44, 45) in Electrical Room 263.03.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

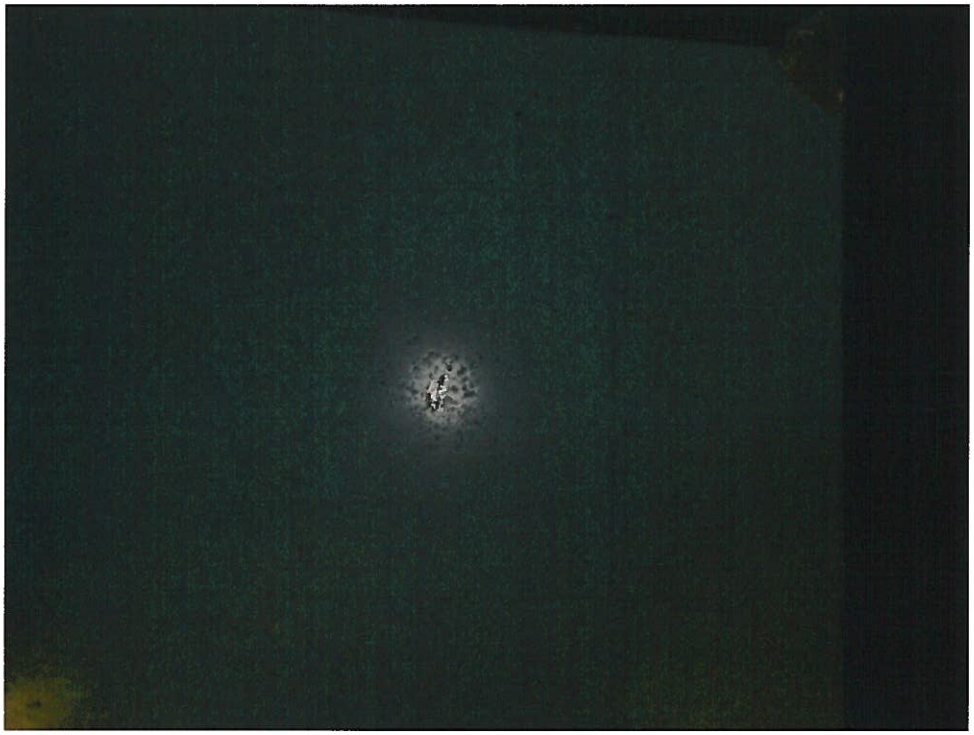
17. Non-ACM gypsum wall board with joint compound (DJ1-Samples 46, 47, 98) in Office 190.23.



18. Non-ACM yellow carpet mastic beneath 2' x 2' carpet squares (CM1-Samples 48, 49, 99, 100, 101, 143, 144) throughout the first and second floors.

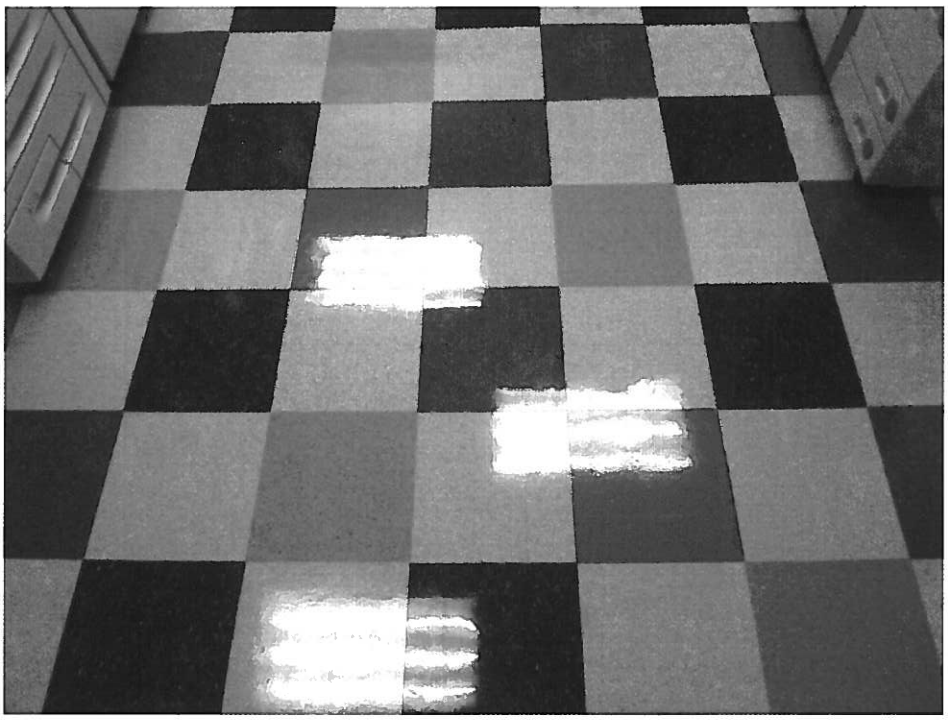
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

19. Non-ACM gypsum ceiling board with joint compound (DJ2-Samples 50, 51) in Restroom 171.01.



20. Non-ACM 12" x 12" light green with black pin mark floor tile (FT1-Samples 52, 53) with non-ACM yellow mastic (FM2-Samples 54, 55) beneath the floor tile in Kitchen 169.

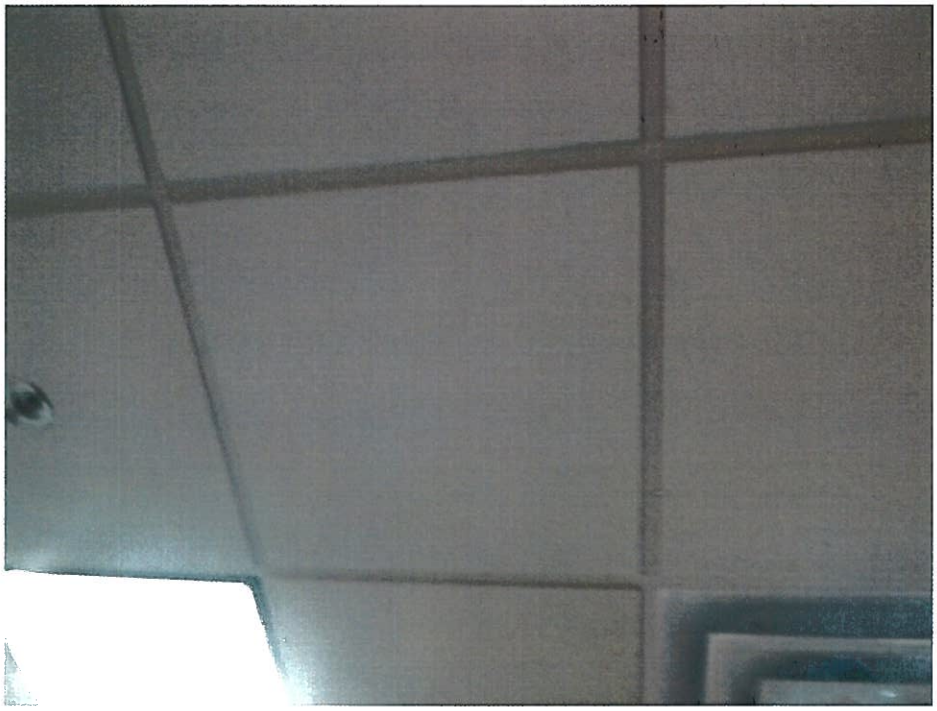
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



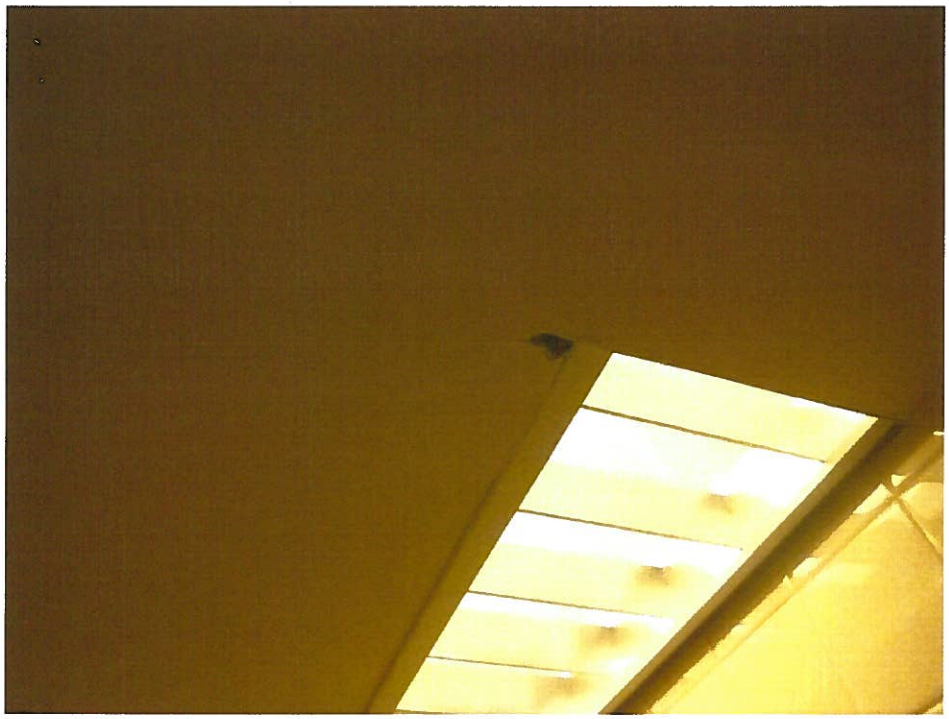
21. Non-ACM 12" x 12" checkerboard pattern floor tile consisting of dark green with black pin mark floor tile (FT2-Samples 58, 59), beige with black pin mark floor tile (FT3-Samples 60, 61), light gray with black pin mark floor tile (FT4-Samples 62, 63), dark gray with light gray feather floor tile (FT5-Samples 64, 65), and black with white feather floor tile (FT6-Samples 66, 67) with non-ACM yellow mastic (FM2-6-Samples 68, 69) beneath the floor tiles in Room 161.

22. Non-ACM gypsum wall board with joint compound (DJ3-Samples 70, 71, 76, 119) in Rooms 101-112 and 201-221.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

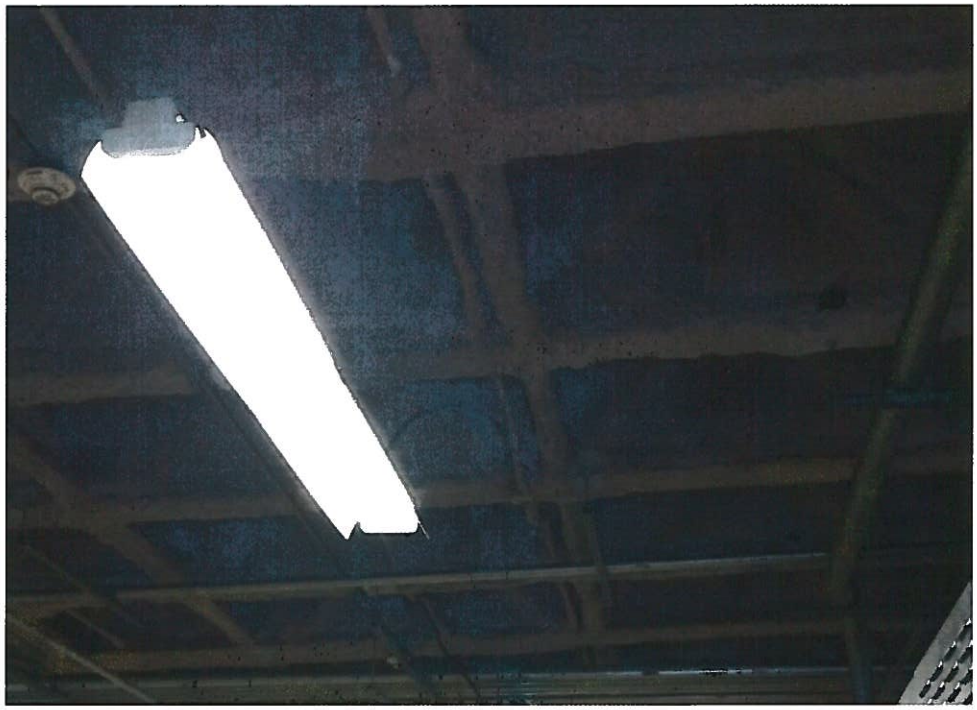


23. Non-ACM 2' x 2' white smooth ceiling tile (CT2-Samples 72, 73, 118) in Rooms 101-112 and 201-221.



24. Non-ACM gypsum ceiling board with joint compound (DJ4-Samples 74, 75) in Men's Restroom next to 102.

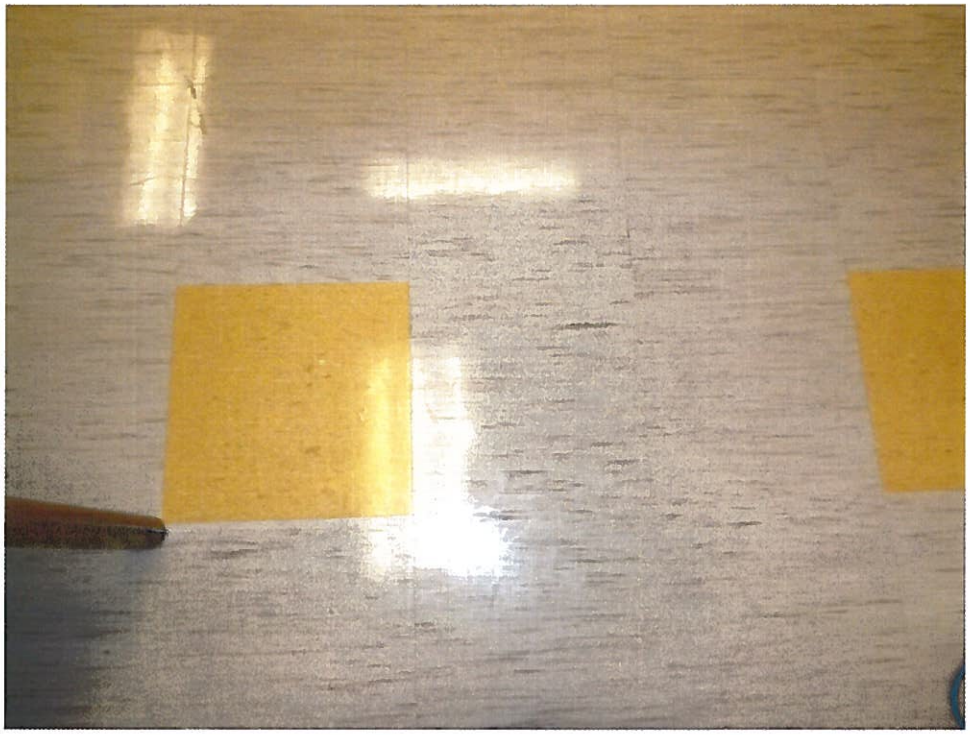
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



25. Non-ACM spray-on fireproofing on concrete ceiling deck (FP3-Samples 77, 78, 79, 80, 81, 82, 83) in Vault 100.

26. Non-ACM 12" x 12" dark blue with light blue feather floor tile (FT7-Samples 84, 85) with non-ACM yellow mastic (FM7-Samples 86, 87) beneath the floor tile in Room 138.39.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



27. Non-ACM 12" x 12" off-white with brown streak floor tile (FT8-Samples 88, 89) and 12" x 12" yellow with dark yellow speck floor tile (FT9-Samples 90, 91) with non-ACM sticky yellow mastic (FM8/9-Samples 92, 93) beneath the floor tile in Room 138.40.

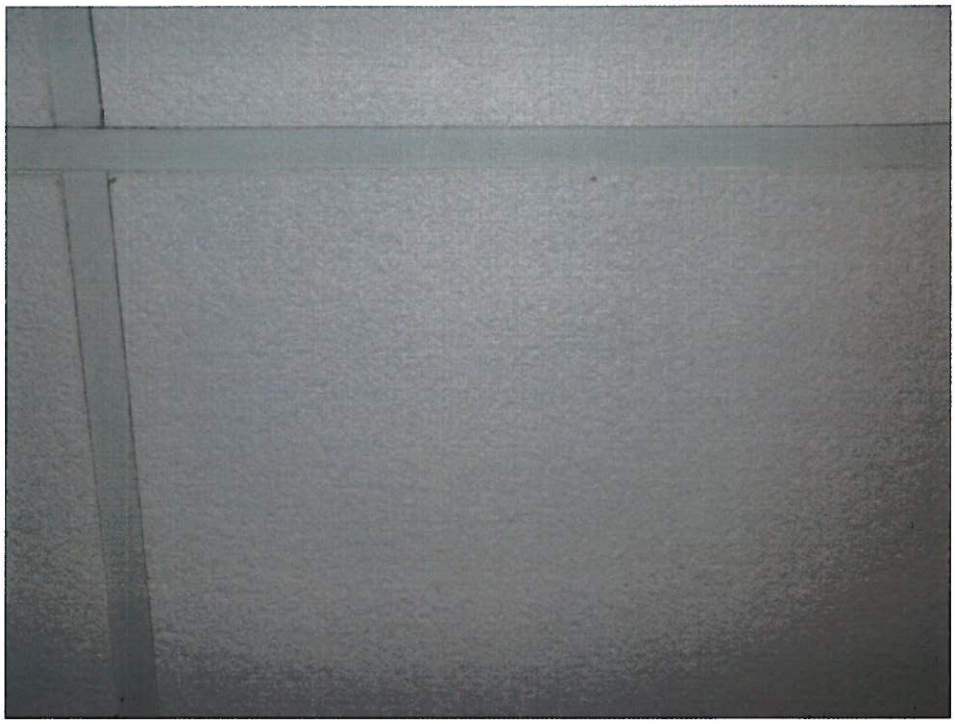
28. Non-ACM 2' x 2' pinhole and small gouge ceiling tile (CT3-Samples 94, 95) in Reception 138.09.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

29. Non-ACM beige mastic on stair tread (STR1-Samples 96, 97) in Stair 1.

30. Non-ACM gypsum wall board with joint compound (DJ5-Samples 108, 109) in Conference Room 206.10.

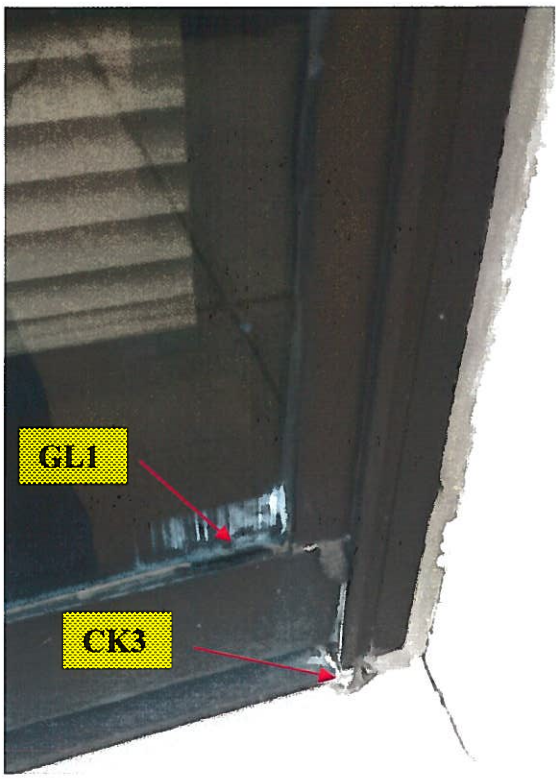
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



31. Non-ACM 2' x 2' light textured recessed ceiling tile (CT4-Samples 112, 113) in Suite 210.

32. Non-ACM black felt paper on inner wall (WFL1-Samples 120, 121) in Reception 212.

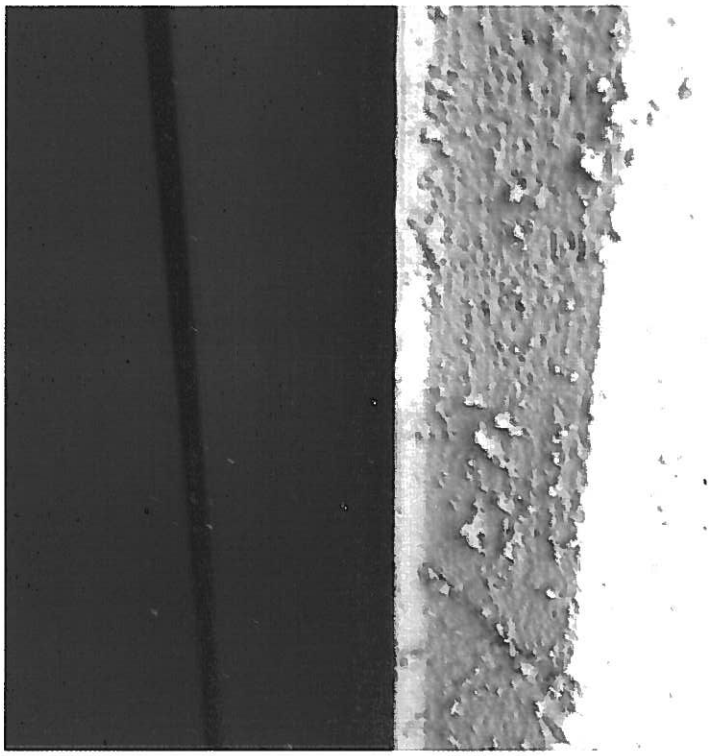
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



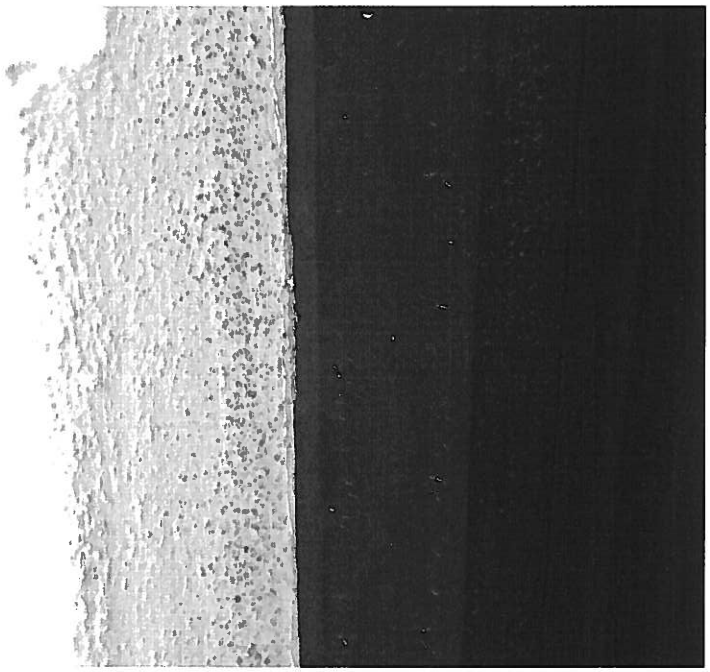
33. Non-ACM exterior window glazing (GL1-Samples 122, 123) and non-ACM tan exterior window caulking (CK3-Samples 124, 125) on the exterior windows of the building.

34. Non-ACM brown exterior window caulking (CK4-Samples 126, 127) on the exterior windows of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



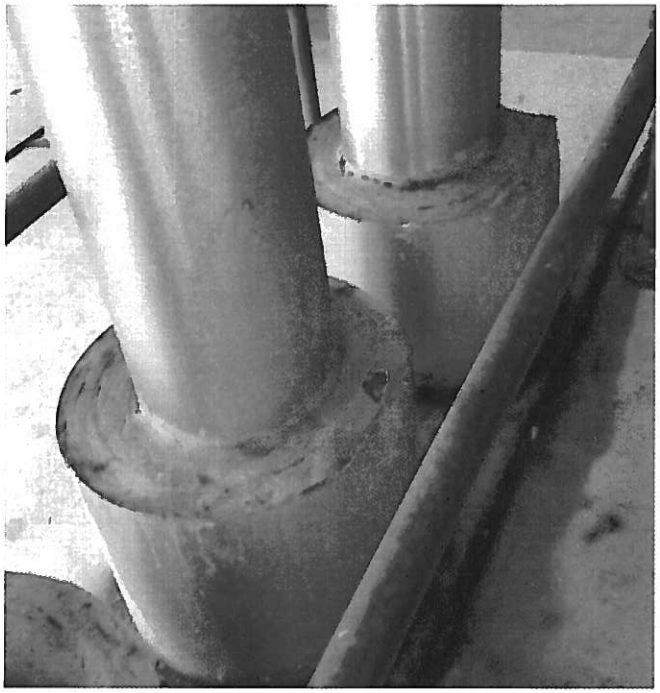
35. Non-ACM white exterior door caulking (CK5-Samples 128, 129) on exterior doors of the building.



36. Non-ACM black exterior door caulking (CK6-Samples 130, 131) on the exterior doors of Vestibule 190.20.

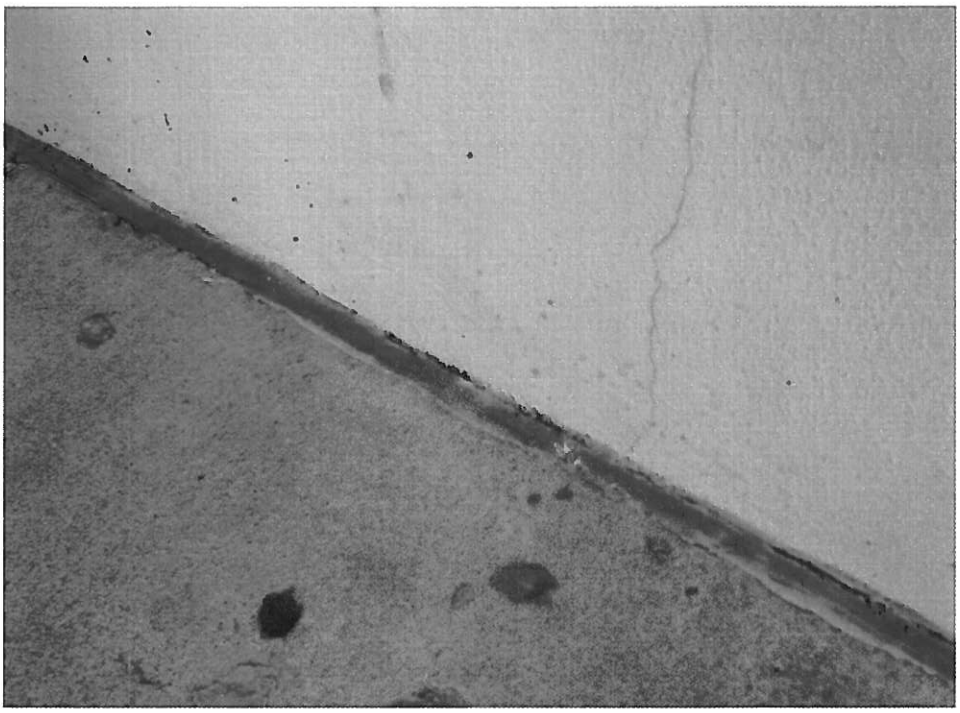
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

37. Non-ACM exterior textured surfacing wall coating (TW1-Samples 132, 133, 134, 135, 136, 137, 138) on the exterior wall of the building.



38. Non-ACM end cap mastic on exterior piping (ECM3-Samples 139, 140) on the exterior north side of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



39. Non-ACM tan expansion joint caulk (CK7-Samples 141, 142) at the base of the exterior of the building.

40. Non-ACM gypsum wall board with joint compound (DJ6-Samples 145, 146) in 225.00 Bridge to hangar.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

41. Non-ACM white seam mastic on foil fiberglass duct insulation (SM7-Samples 147, 148) in 225.00 Bridge to hangar.

42. Non-ACM interior window caulking (CK8-Samples 149, 150) in 225.00 Bridge to hangar.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

43. Non-ACM yellow mastic beneath rolled carpeting (CM3-Samples 151, 152) in Office 310.

44. Non-ACM gypsum wall board with joint compound (DJ7-samples 153, 154) in Office 310.

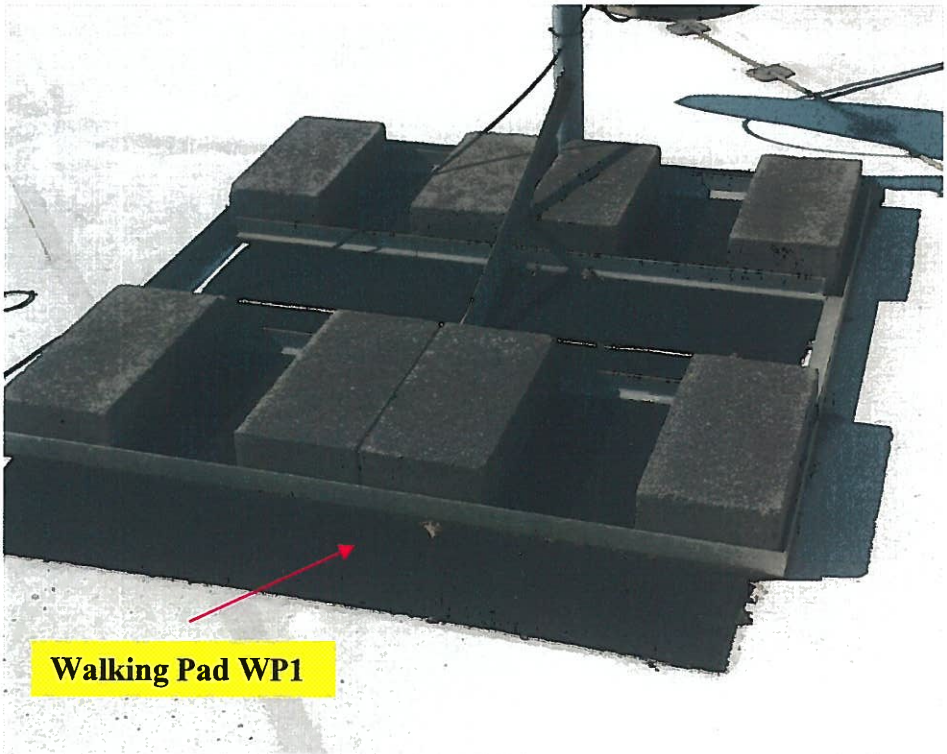
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

45. Non-ACM shiny maroon small square resilient sheet flooring (LN1-Samples 155, 156) in Room 311.

46. Non-ACM gray leveling compound (LV2-Samples 157, 158) beneath carpeting and carpet mastic throughout the third floor.

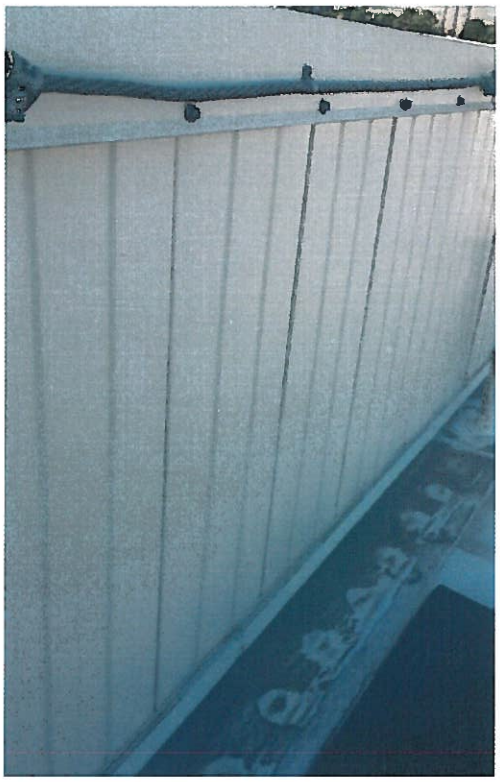
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

47. Non-ACM felt paper between foam roofing layers (RFL1-Samples 159, 160) on the southwest roof of the building.

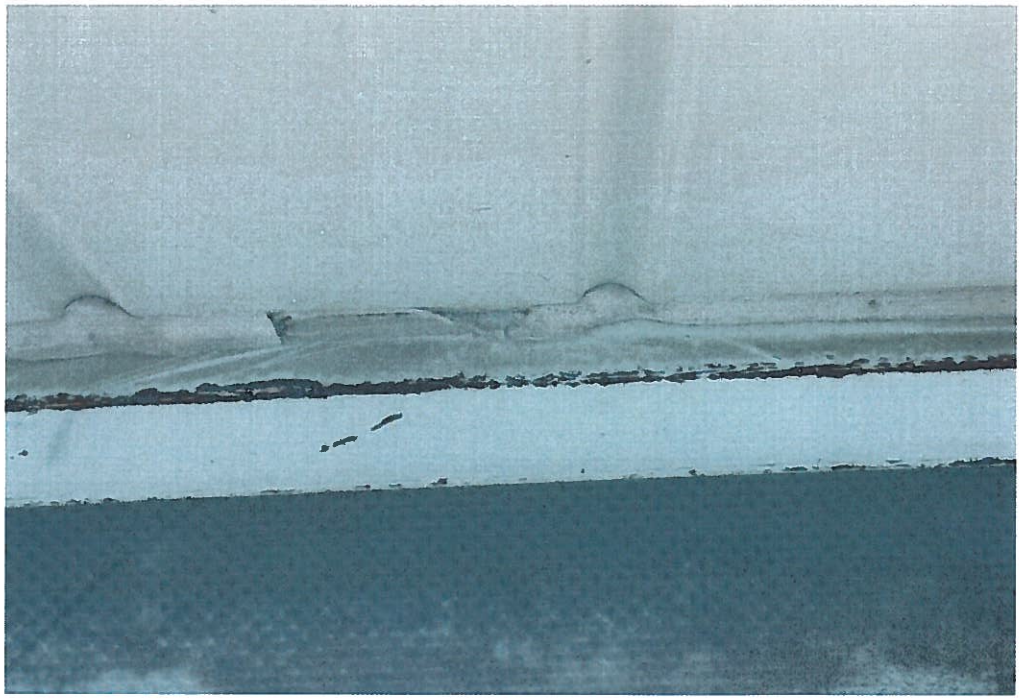


48. Non-ACM roof walking pad (WP1-Samples 161, 162) on the southwest roof of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



49. Non-ACM white caulking at roof perimeter (RCK1-Samples 163, 164) on exterior roof of building.



50. Non-ACM white and black caulking at roof perimeter (RCK2-Samples 165, 166) on exterior roof of building – addition portion.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

51. Non-ACM felt paper between foam roofing layers (RFL2-Samples 167, 168) on the exterior roof of building – addition portion.

52. Assumed ACM fire door (no samples collected) at Mechanical Room 263.01.

Appendix C

XRF Lead Testing Results

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
1	2015-07-28 17:48	CALIBRATION						1.00 ± 0.10	mg / cm ^2
2	2015-07-28 17:49	CALIBRATION						1.00 ± 0.10	mg / cm ^2
3	2015-07-28 17:50	CALIBRATION						1.10 ± 0.10	mg / cm ^2
4	2015-07-28 17:51	CALIBRATION						1.10 ± 0.10	mg / cm ^2
5	2015-07-28 17:58	FIRST	SUITE #180 RECEPTION AREA	WALL	DRYWALL	FAIR	LIGHT YELLOW	0.00 ± 0.02	mg / cm ^2
6	2015-07-28 18:00	FIRST	SUITE #180 RECEPTION AREA	DOOR FRAME	METAL	FAIR	YELLOW	0.00 ± 0.02	mg / cm ^2
7	2015-07-28 18:02	FIRST	SUITE #180 RECEPTION AREA	DOOR	WOOD	FAIR	TAN	0.01 ± 0.02	mg / cm ^2
8	2015-07-28 18:04	FIRST	SUITE #180 RECEPTION AREA	DOOR	WOOD	FAIR	YELLOW	0.00 ± 0.02	mg / cm ^2
9	2015-07-28 18:14	FIRST	188.20	WINDOW FRAME	METAL	FAIR	BROWN	0.00 ± 0.02	mg / cm ^2
10	2015-07-28 18:21	FIRST	MECHANICAL ROOM 176.01	WALL	CONCRETE	FAIR	WHITE	0.00 ± 0.02	mg / cm ^2
11	2015-07-28 18:24	FIRST	MECHANICAL ROOM 176.01	SUPPORT BAR	METAL	FAIR	BURGUNDY	0.00 ± 0.02	mg / cm ^2
12	2015-07-28 19:19	FIRST	CORRIDOR 172.01	DOOR	METAL	POOR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
13	2015-07-28 19:20	FIRST	CORRIDOR 172.01	DOOR FRAME	METAL	POOR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
14	2015-07-28 19:27	VOID						0.00 ± 0.02	mg / cm ^2
15	2015-07-28 19:28	FIRST	174.01	SUPPORT BARS	METAL	FAIR	LIGHT GRAY	0.01 ± 0.02	mg / cm ^2
16	2015-07-28 19:34	VOID						0.00 ± 0.02	mg / cm ^2
17	2015-07-28 19:37	FIRST	174.01	IBEAM	METAL	FAIR	BURGUNDY	0.01 ± 0.02	mg / cm ^2
18	2015-07-28 19:57	VOID						0.00 ± 0.02	mg / cm ^2
19	2015-07-28 19:59	FIRST	CORRIDOR 172.01	WALL	DRYWALL	POOR	WHITE	0.00 ± 0.02	mg / cm ^2
20	2015-07-28 20:16	FIRST	MECHANICAL ROOM 263.03	WALL	DRYWALL	FAIR	WHITE	0.00 ± 0.02	mg / cm ^2
21	2015-07-28 20:18	FIRST	MECHANICAL ROOM 263.03	DOOR	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
22	2015-07-28 20:19	FIRST	MECHANICAL ROOM 263.03	DOOR FRAME	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
23	2015-07-28 20:22	FIRST	MECHANICAL ROOM 263.03	IBEAM	METAL	POOR	BROWN	0.00 ± 0.02	mg / cm ^2
24	2015-07-28 20:45	THIRD	MECHANICAL ROOM 313	LADDER	METAL	FAIR	BROWN	0.00 ± 0.02	mg / cm ^2
25	2015-07-28 20:59	FIRST	106.00	IBEAM	METAL	FAIR	WHITE	0.01 ± 0.02	mg / cm ^2
26	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
27	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
28	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
29	2015-07-28 21:05	FIRST	106.00 EXTERIOR	WALL	DRYWALL	FAIR	WHITE	-0.03 ± 0.23	mg / cm ^2
30	2015-07-28 21:43	FIRST	190.22	DOOR	WOOD	FAIR	DARK GRAY	0.00 ± 0.02	mg / cm ^2
31	2015-07-28 21:45	VOID						0.00 ± 0.02	mg / cm ^2
32	2015-07-28 21:46	FIRST	190.22	DOOR FRAME	WOOD	FAIR	DARK GRAY	0.00 ± 0.02	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
33	2015-07-28 22:20	FIRST	MENS RESTROOM-SHOWER	WALL	CERAMIC	INTACT	OFF-WHITE	0.02 ± 0.02	mg / cm ^2
34	2015-07-28 22:23	FIRST	MENS RESTROOM-SHOWER	FLOOR	CERAMIC	INTACT	TAN	0.00 ± 0.02	mg / cm ^2
35	2015-07-28 22:26	VOID						0.00 ± 0.02	mg / cm ^2
36	2015-07-28 22:26	VOID						0.00 ± 0.02	mg / cm ^2
37	2015-07-28 22:27	FIRST	MENS RESTROOM-SHOWER	CEILING	DRYWALL	INTACT	WHITE	0.05 ± 0.03	mg / cm ^2
38	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
39	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
40	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
41	2015-07-28 23:13	CALIBRATION						1.10 ± 0.10	mg / cm ^2
43	2015-07-29 17:36	CALIBRATION						1.00 ± 0.10	mg / cm ^2
44	2015-07-29 17:37	CALIBRATION						1.10 ± 0.10	mg / cm ^2
45	2015-07-29 17:38	CALIBRATION						1.00 ± 0.10	mg / cm ^2
46	2015-07-29 17:39	CALIBRATION						1.20 ± 0.10	mg / cm ^2
47	2015-07-29 19:48	VOID						0.28 ± 0.25	mg / cm ^2
48	2015-07-29 19:53	FIRST	STAIRWELL #2	STAIR STRINGER	METAL	FAIR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
49	2015-07-29 21:20	SECOND	SUITE 211.00	DOOR FRAME	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
50	2015-07-29 23:11	CALIBRATION						1.00 ± 0.10	mg / cm ^2
51	2015-07-29 23:12	CALIBRATION						0.90 ± 0.10	mg / cm ^2
52	2015-07-29 23:12	CALIBRATION						1.10 ± 0.10	mg / cm ^2
53	2015-07-29 23:12	CALIBRATION						1.10 ± 0.20	mg / cm ^2
55	2015-07-30 17:09	CALIBRATION						1.00 ± 0.10	mg / cm ^2
56	2015-07-30 17:10	CALIBRATION						1.00 ± 0.10	mg / cm ^2
57	2015-07-30 17:11	CALIBRATION						1.00 ± 0.10	mg / cm ^2
58	2015-07-30 17:12	CALIBRATION						1.10 ± 0.10	mg / cm ^2
59	2015-07-30 17:29	VOID						0.80 ± 0.30	mg / cm ^2
60	2015-07-30 17:33	FIRST	PUMP ROOM 103 EXTERIOR	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
61	2015-07-30 17:34	VOID						0.80 ± 0.30	mg / cm ^2
62	2015-07-30 17:37	FIRST	PUMP ROOM 103 EXTERIOR	DOOR	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
63	2015-07-30 17:39	FIRST	PUMP ROOM 103 EXTERIOR	DOOR FRAME	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
64	2015-07-30 17:43	VOID						0.90 ± 0.30	mg / cm ^2
65	2015-07-30 17:48	VOID						0.90 ± 0.30	mg / cm ^2
66	2015-07-30 17:50	VOID						0.80 ± 0.30	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
67	2015-07-30 17:56	FIRST	EXTERIOR ELECTRICAL VAULT	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
68	2015-07-30 17:59	FIRST	EXTERIOR FRONT	WALL	CONCRETE	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
69	2015-07-30 18:03	FIRST	EXTERIOR WEST SIDE	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
70	2015-07-30 18:06	FIRST	EXTERIOR NORTH SIDE	IBEAM	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
71	2015-07-30 18:09	FIRST	EXTERIOR NORTH SIDE	WALL	CONCRETE	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
72	2015-07-30 20:30	CALIBRATION						1.00 ± 0.10	mg / cm ^2
73	2015-07-30 20:31	CALIBRATION						1.10 ± 0.10	mg / cm ^2
74	2015-07-30 20:32	CALIBRATION						1.00 ± 0.10	mg / cm ^2
75	2015-07-30 20:34	CALIBRATION						1.10 ± 0.10	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Reading No	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
1	104	2015-08-19 07:25	CALIBRATION						1.00 ± 0.10	mg/cm^2
2	105	2015-08-19 07:26	CALIBRATION						1.10 ± 0.10	mg/cm^2
3	106	2015-08-19 07:27	CALIBRATION						1.00 ± 0.10	mg/cm^2
4	107	2015-08-19 07:28	CALIBRATION						1.00 ± 0.10	mg/cm^2
5	108	2015-08-19 07:29	CALIBRATION						0.60 ± 0.10	mg/cm^2
6	109	2015-08-19 07:36	FIRST	MACHINE ROOM	FLOOR	CONCRETE	POOR	RED	0.00 ± 0.02	mg/cm^2
7	110	2015-08-19 07:37	FIRST	MACHINE ROOM	FLOOR	CONCRETE	POOR	RED	0.01 ± 0.02	mg/cm^2
8	111	2015-08-19 07:40	CALIBRATION						1.00 ± 0.10	mg/cm^2
9	112	2015-08-19 07:42	CALIBRATION						1.10 ± 0.10	mg/cm^2
10	113	2015-08-19 07:42	CALIBRATION						1.00 ± 0.10	mg/cm^2
11	114	2015-08-19 07:43	CALIBRATION						1.20 ± 0.10	mg/cm^2

Appendix D

Summary of Estimated Number of PCB Ballasts and Light Tubes

applied environmental inc.

Summary of Estimated Number of PCB Ballasts and Light Tubes
Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Location	# of light fixtures	Estimated # of ballasts	Estimated # of light tubes	Size of light fixtures
Suites 180, 188, 190	69 fixtures	69	207	4' x 2'
Mechanical Room 106	8 fixtures	8	16	4' x 1'
Corridor 100.85, 190.20, 171, 173	51 fixtures	51	102 U-type	2' x 2'
Rooms 161.00, 163, 164, 164.01, 169,	26 fixtures	26	78	4' x 2'
Suites 144, 154, 156, 158	11 fixtures	11	22 U-type	2' x 2'
	120 fixtures	120	360	4' x 2'
Rooms 101-114	60 fixtures	60	180	2' x 2'
Suites 106, 107, 118, 138	120 fixtures	120	360	4' x 2'
	14 fixtures	14	28 U-type	2' x 2'
1st floor restrooms, 2nd floor restrooms	25 fixtures	25	50	6' x 1'
	28 fixtures	28	84	2' x 2'
Lobby 100.09	20 fixtures	20	40 U-type	2' x 2'
Suites 210, 211, and 214, 206.10, 213.01, 213.03	67 fixtures	67	201	4' x 2'
	21 fixtures	21	42 U-type	2' x 2'
Suites 230, 244, and 201-222	142 fixtures	142	426	4' x 2'
	4 fixtures	4	8 U-type	2' x 2'
	22 fixtures	22	66	2' x 2'
2nd floor corridor 200.01	58 fixtures	58	116 U-type	2' x 2'
Pump Room 103, Vault Room 100	48 fixtures	48	96	4' x 1'
Electrical Rooms 153.01, 103.00, 103.01, 104.01, 124.01, and Exterior Machine Room	8 fixtures	8	24	4' x 2'
Suites 248, 256, 258, 271.01	77 fixtures	77	231	4' x 2'
	6 fixtures	6	12 U-type	2' x 2'
225.00 Bridge to hangar	10 fixtures	10	30	2' x 2'
3rd Floor 301-320 and restrooms	31 fixtures	31	93	4' x 2'
	2 fixtures	2	4 U-type	2' x 2'
	6 fixtures	6	12	6' x 1'
Estimated # of Light Tubes and Ballasts		1,012	374	2' U-type bulbs
			360	2' straight bulbs
			2,092	4' straight bulbs
			62	6' straight bulbs

Appendix E

Inspector Licenses

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	MARFOGLIO, LORI ELIZABETH
License Number	3303003565
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ASHBURN, VA 20147
Initial Certification Date	2010-06-18
Expiration Date	2016-06-30

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	MARFOGLIO, LORI ELIZABETH
License Number	3355000739
License Description	Lead Inspector License
Rank	Lead Abatement Inspector
Address	ASHBURN, VA 20147-0000
Initial Certification Date	2011-04-21
Expiration Date	2016-03-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	SHARIF, OSMAN AHMED
License Number	3303001632
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ASHBURN, VA 20147-0000
Initial Certification Date	1993-06-24
Expiration Date	2015-07-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	LEWIS, GARY JAMES
License Number	3303002808
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	DISTRICT HEIGHTS, MD 20747-0000
Initial Certification Date	2004-04-12
Expiration Date	2016-02-29

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	LEWIS, GARY JAMES
License Number	3356000751
License Description	Lead Risk Assessor License
Rank	Lead Abatement Risk Assessor
Address	DISTRICT HEIGHTS, MD 20747-0000
Initial Certification Date	2007-04-12
Expiration Date	2015-08-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

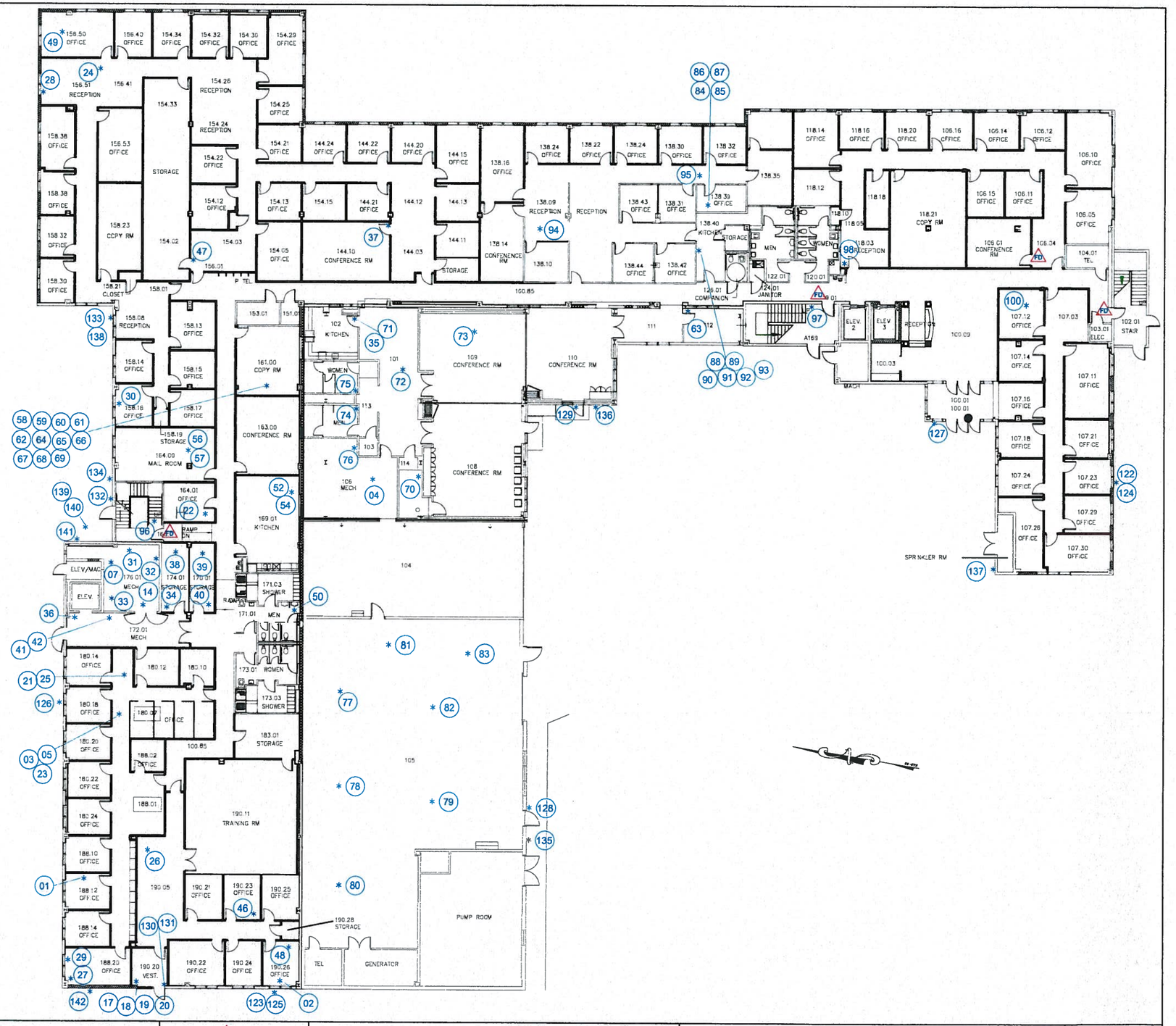
Appendix F

Asbestos Sampling Locations

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND	
00	SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD	ASSUMED ASBESTOS-CONTAINING FIRE DOOR

NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE.



applied environmental inc.
200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

FIGURE 1

ASBESTOS SURVEY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

COB BUILDING - FIRST FLOOR

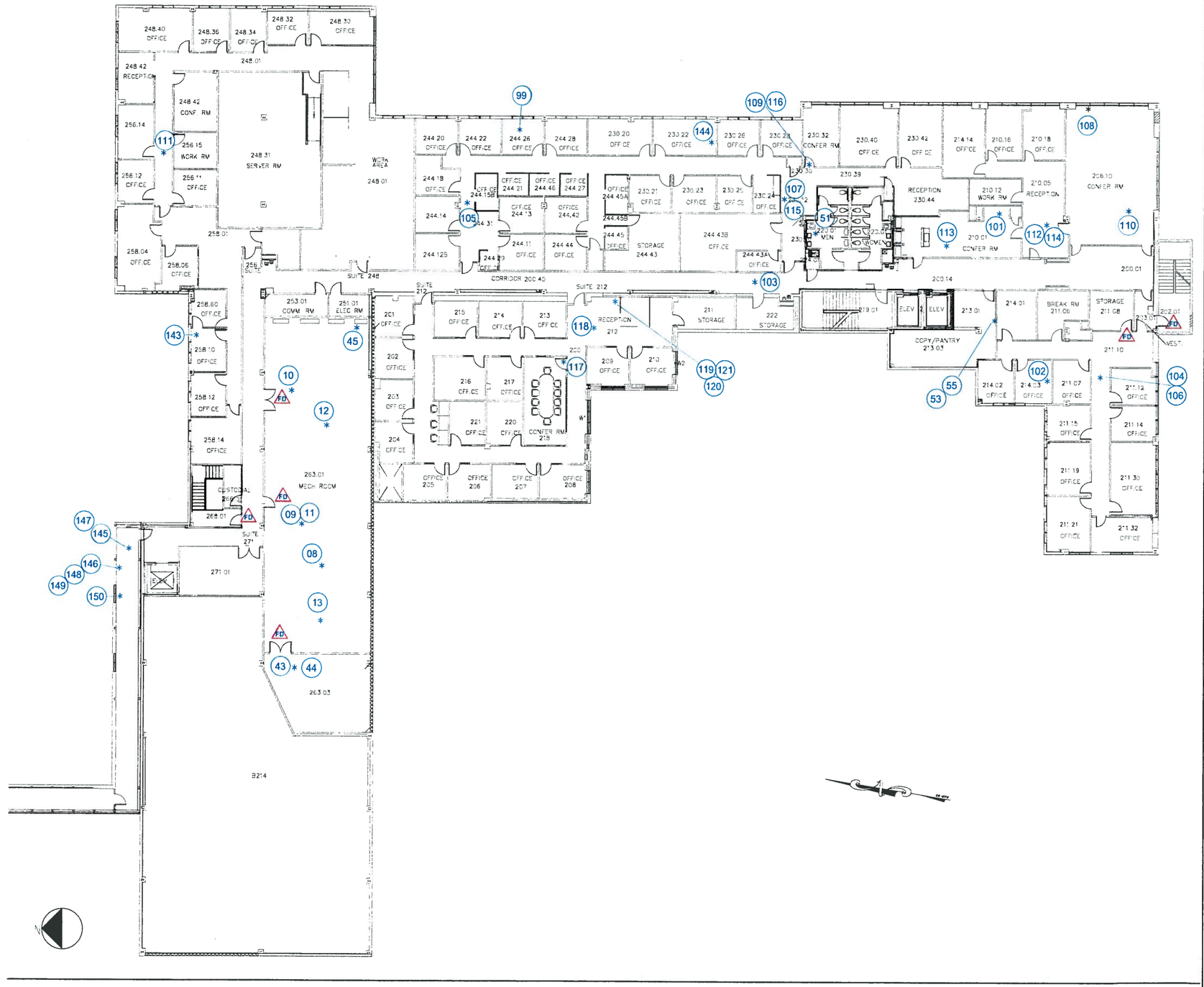
RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE 07/28-30/2015	DRAWN BY OAS	CONTRACT No. 1-13-C052 Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND
(00) SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD ASSUMED ASBESTOS-CONTAINING FIRE DOOR

NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE



applied environmental inc.	FIGURE 1	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

ASBESTOS SURVEY

COB BUILDING - SECOND FLOOR

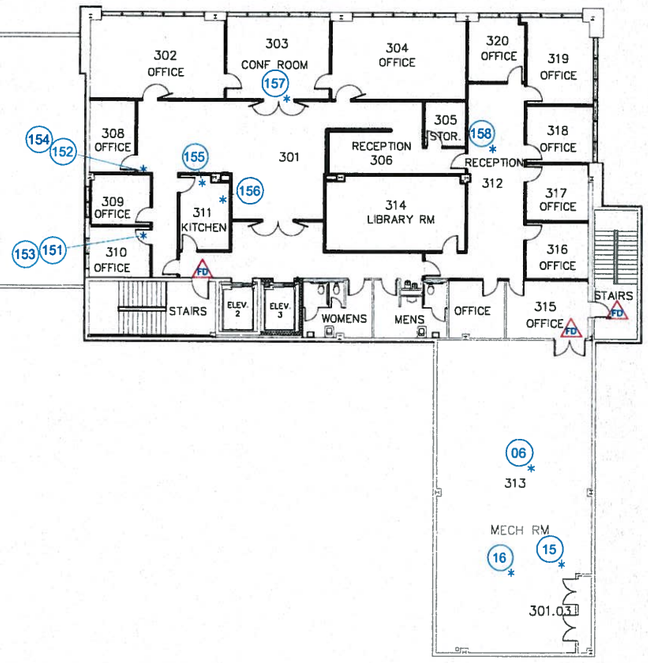
RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE	DRAWN BY	CONTRACT No. 1-13-C052
07/28-30/2015	OAS	Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND	
00	SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD	ASSUMED ASBESTOS-CONTAINING FIRE DOOR

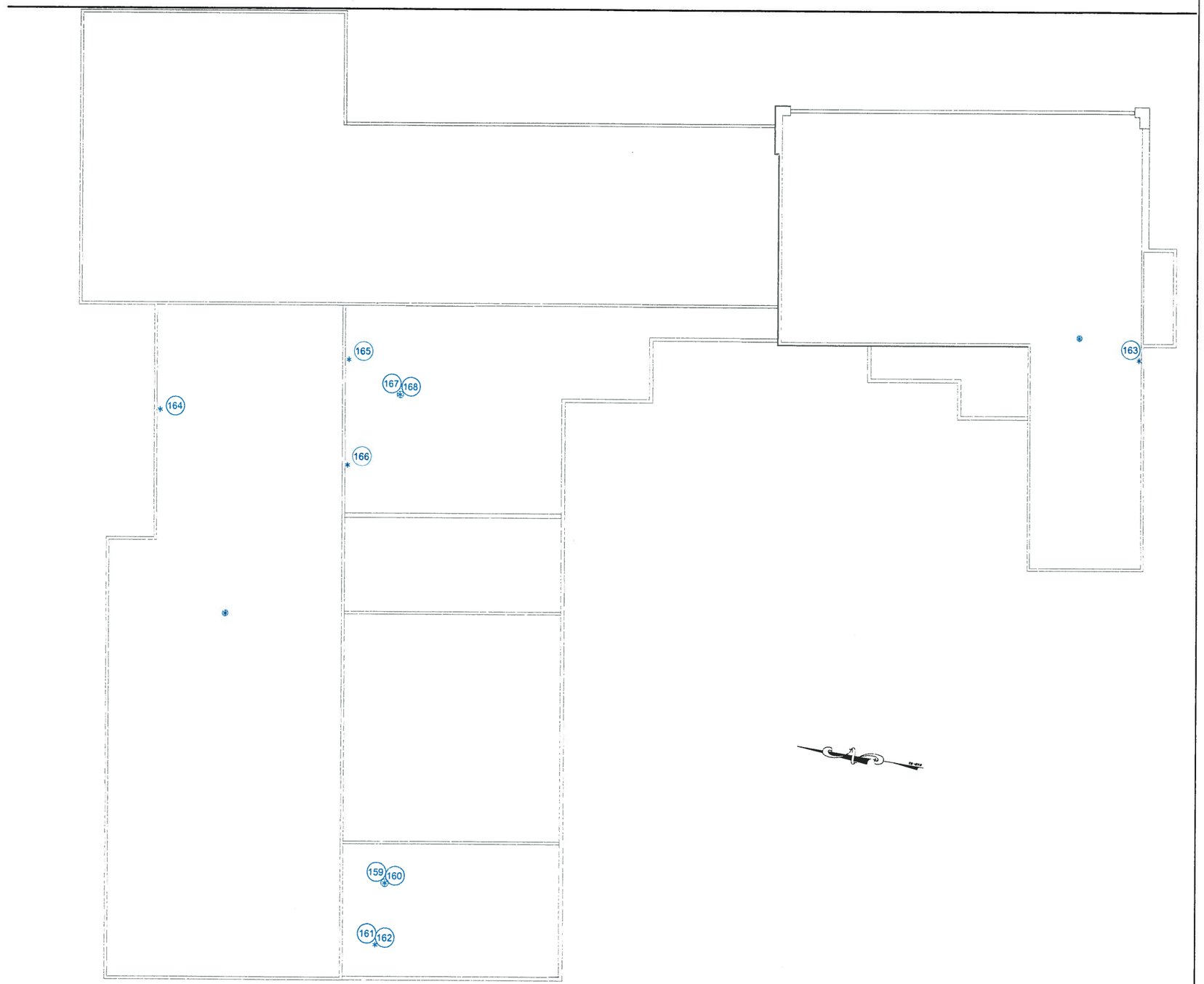
NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE.



applied environmental inc. 200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170	FIGURE 1 ASBESTOS SURVEY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	COB BUILDING - THIRD FLOOR RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA SURVEY DATE 07/28-30/2015 · DRAWN BY OAS · CONTRACT No. 1-13-C052 Task Order #15 JOB NO. 486-15-DCA-016 · DATE: 08-21-2015

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND
(00) SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
⊛ SURVEYED LOCATION



applied environmental inc.
200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

FIGURE 1

ASBESTOS SURVEY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

COB BUILDING - ROOF

RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE	DRAWN BY	CONTRACT No. 1-13-C052
08/12/2015	OAS	Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

Appendix G

Asbestos Laboratory Results

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA, Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/29/15
Date Received: 07/29/15
Date Analyzed: 07/29/15
Date Reported: 07/29/15
Project ID: 15015973

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
01	15015973-001	Beige Seam Mastic on Metal Ductwork 1st Floor-Office 188.12	Yes	1	100	ND1	ND1	SYN (3)	97	C, B, OP
02	15015973-002	Beige Seam Mastic on Metal Ductwork 1st Floor-Office 190.24	Yes	1	100	ND1	ND1	SYN (3)	97	C, B, OP
03	15015973-003	Beige Seam Mastic on Foil Fiberglass Duct Insulation 1st Floor-Hallway Outside Office 180.18	Yes	1	100	ND1	ND1	CELL (2)	98	C, B, OP
04	15015973-004	Beige Seam Mastic on Foil Fiberglass Duct Insulation 1st Floor-Mechanical Room 106	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP
05	15015973-005	Gray Seam Mastic on Metal Ductwork 1st Floor-Hallway Outside Office 180.18	Yes	1	100	ND1	ND1	CELL (7)	93	C, B, OP
06	15015973-006	Gray Seam Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (7)	93	C, B, OP
07	15015973-007	White End Cap Mastic on Fiberglass Heating Pipe Insulation 1st Floor Mechanical Room 176.01	Yes	1	100	ND1	ND1	WO (5)	95	C, B, OP
08	15015973-008	White End Cap Mastic on Fiberglass Heating Pipe Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (3) MW (2)	95	C, B, OP
09	15015973-009	White Mastic on White Fiberglass Duct Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP
10	15015973-010	White Mastic on White Fiberglass Duct Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Cathleen Piccione
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA, Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/29/15
Date Received: 07/29/15
Date Analyzed: 07/29/15
Date Reported: 07/29/15
Project ID: 15015973

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
11	15015973-011	White Seam Mastic on Metal Duct Work 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	CELL (3)	97	C, B, OP
12	15015973-012	White Seam Mastic on Metal Duct Work 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	CELL (4)	96	C, B, OP
13	15015973-013	White End Cap Mastic on Fiberglass Chilled Pipe Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (3) FBG (7)	90	C, B, OP
14	15015973-014	White End Cap Mastic on Fiberglass Chilled Pipe Insulation 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	WO (6) CELL (4)	90	C, B, OP
15	15015973-015	Light Gray Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (3)	97	C, B, OP
16	15015973-016	Light Gray Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (4)	96	C, B, OP

Cathleen Piccione
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
17	15016419-001	12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
18	15016419-002	12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
19	15016419-003	Yellow Mastic on 12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
20	15016419-004	Yellow Mastic on 12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
21	15016419-005	Green Mastic Beneath 2'x2' Carpet Squares 1st Floor-Hall Outside Office 180.14	Yes	1	100	ND1	ND1		>99	C, B, OP
22	15016419-006	Green Mastic Beneath 2'x2' Carpet Squares 1st Floor-Office 164.01	Yes	1	100	ND1	ND1		>99	C, B, OP
23	15016419-007	2'x2' Heavy Textured Ceiling Tile 1st Floor-Hall Outside Office 180.18	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
24	15016419-008	2'x2' Heavy Textured Ceiling Tile 1st Floor-Reception 156.51	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
25	15016419-009	Gray Leveling Compound Beneath Carpet Square 1st Floor-Hall Outside Office 180.14	Yes	1	100	ND1	ND1		>99	Q, C, OP, G
26	15016419-010	Gray Leveling Compound Beneath Carpet Square 1st Floor-Open Area 190.05	Yes	1	100	ND1	ND1		>99	Q, C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
27	15016419-011	Beige Interior Window Frame Caulking 1st Floor-Office 188.20	Yes	1	100	ND1	ND1		>99	C, B, OP
28	15016419-012	Beige Interior Window Frame Caulking 1st Floor-Reception 156.51	Yes	1	100	ND1	ND1		>99	C, B, OP
29	15016419-013	Beige Interior Window Frame Caulking 1st Floor-Office 188.20	Yes	1	100	ND1	ND1		>99	C, B, OP
30	15016419-014	Beige Interior Window Frame Caulking 1st Floor-Office 158.16	Yes	1	100	ND1	ND1		>99	C, B, OP
31	15016419-015	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
32	15016419-016	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
33	15016419-017	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
34	15016419-018	Beige Mastic on Baseboard 1st Floor-Office 174.01	Yes	1	100	ND1	ND1		>99	C, B, OP
35	15016419-019	Beige Mastic on Baseboard 1st Floor-Office 102	Yes	1	100	ND1	ND1		>99	C, B, OP
36	15016419-020	Yellow Mastic on Baseboard 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
37	15016419-021	Yellow Mastic On Baseboard 1st Floor-Conference Room 144.10	Yes	1	100	ND1	ND1		>99	C, B, OP
38	15016419-022	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 174.01	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
39	15016419-023	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 170.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
40	15016419-024	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 170.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
41	15016419-025	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
42	15016419-026	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
43	15016419-027	Red Fire Stop 2nd Floor-Electrical Room 263.03	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
44	15016419-028	Red Fire Stop 2nd Floor-Electrical Room 263.03	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
45	15016419-029	Red Fire Stop 2nd Floor-Electrical Room 251.01	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
46	15016419-030	Gypsum Wall Board with Joint Compound 1st Floor-Office 190.23	No	2	100	ND1	ND1	CELL (11) FBG (1)	88	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
47	15016419-031	Gypsum Wall Board with Joint Compound 1st Floor-Office 156.01	No	2	100	ND1	ND1	CELL (Trace) FBG (1)	99	C, OP, G, M
48	15016419-032	Yellow Mastic on 2'x2' Carpet Squares 1st Floor-Office 190.26	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
49	15016419-033	Yellow Mastic on 2'x2' Carpet Squares 1st Floor-Office 156.50	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
50	15016419-034	Gypsum Wall Board with Joint Compound 1st Floor-Restroom 171.01	Yes	1	100	ND1	ND1		>99	P, C, OP, M
51	15016419-035	Gypsum Wall Board with Joint Compound 2nd Floor-2nd Floor Men's Restroom Across From Stair 2	Yes	1	100	ND1	ND1	CELL (15) FBG (Trace)	85	C, OP, G
52	15016419-036	12"x12" Light Green with Black Pin Floor Tile 1st Floor-Kitchen 169	Yes	1	100	ND1	ND1		>99	C, B, OP
53	15016419-037	12"x12" Light Green with Black Pin Floor Tile 2nd Floor-Office 213	Yes	1	100	ND1	ND1		>99	C, B, OP
54	15016419-038	Yellow Mastic on 12"x12" Light Green with Black Pin Floor Tile 1st Floor-Kitchen 169	Yes	1	100	ND1	ND1		>99	C, B, OP
55	15016419-039	Yellow Mastic on 12"x12" Light Green with Black Pin Floor Tile 2nd Floor-Office 213	Yes	1	100	ND1	ND1		>99	C, B, OP
56	15016419-040	Spray-On Fireproofing Insulation on Metal Decking 1st Floor-Mail Room 164	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
57	15016419-041	Spray-On Fireproofing Insulation on Metal Decking 1st Floor-Mail Room 164	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
58	15016419-042	12"x12" Dark Blue/Green with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
59	15016419-043	12"x12" Dark Blue/Green with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
60	15016419-044	12"x12" Beige with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
61	15016419-045	12"x12" Beige with Black Pin Floor Tile 1st Floor-Office 114	Yes	1	100	ND1	ND1		>99	C, B, OP
62	15016419-046	12"x12" Light Gray with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
63	15016419-047	12"x12" Light Gray with Black Pin Floor Tile 1st Floor-Office 112	Yes	1	100	ND1	ND1		>99	C, B, OP
64	15016419-048	12"x12" Dark Gray with Light Gray Feathered Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
65	15016419-049	12"x12" Dark Gray with Light Gray Feathered Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
66	15016419-050	12"x12" Black with White Feather Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
67	15016419-051	12"x12" Black with White Feather Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
68	15016419-052	Yellow Mastic on Multi Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
69	15016419-053	Yellow Mastic on Multi Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
70	15016419-054	Gypsum Wall Board with Joint Compound 1st Floor-Closet 114	No	4	100	ND1	ND1	CELL (15) FBG (Trace)	85	C, OP, G, M
71	15016419-055	Gypsum Wall Board with Joint Compound 1st Floor-Kitchen 102	Yes	1	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G, M
72	15016419-056	2'x2' White Smooth Ceiling Tile 1st Floor-Open Area 101	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
73	15016419-057	2'x2' White Smooth Ceiling Tile 1st Floor-Conference Room 109	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
74	15016419-058	Gypsum Wall Board with Joint Compound 1st Floor-Men's Restroom Next to 113	Yes	1	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G
75	15016419-059	Gypsum Wall Board with Joint Compound 1st Floor-Women's Restroom Next to 113	No	2	100	ND1	ND1	CELL (Trace)	>99	C, OP, G, M
76	15016419-060	Gypsum Wall Board with Joint Compound 1st Floor-Mechanical Room 106	No	2	100	ND1	ND1		>99	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
77	15016419-061	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
78	15016419-062	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
79	15016419-063	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
80	15016419-064	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
81	15016419-065	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
82	15016419-066	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
83	15016419-067	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
84	15016419-068	12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
85	15016419-069	12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
86	15016419-070	Yellow Mastic on 12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
87	15016419-071	Yellow Mastic on 12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
88	15016419-072	12" X 12" Off-White with Brown Streak Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
89	15016419-073	12" X 12" Off-White with Brown Streak Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C,B , OP
90	15016419-074	12" X 12" Light Yellow with Dark Yellow Speck Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
91	15016419-075	12" X 12" Light Yellow with Dark Yellow Speck Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
92	15016419-076	Sticky Yellow Mastic on FT8/FT9 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
93	15016419-077	Sticky Yellow Mastic on FT8/FT9 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1	SYN (Trace)	>99	C, B, OP
94	15016419-078	2' X 2' Pinhole + Small Gouge Ceiling Tile 1st Floor-Reception 138.09	Yes	1	100	ND1	ND1	CELL (50) MW (10)	40	P, C, OP
95	15016419-079	2' X 2' Pinhole + Small Gouge Ceiling Tile 1st Floor-Hall Outside 138.31	Yes	1	100	ND1	ND1	CELL (50) MW (10)	40	P, C, OP
96	15016419-080	Beige Mastic on Stair Tread 1st Floor-Stair 1	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
97	15016419-081	Beige Mastic on Stair Tread 1st Floor-Stair 2	Yes	1	100	ND1	ND1		>99	C, B, OP
98	15016419-082	Gypsum Wallboard with Joint Compound 1st Floor-Office 118.03	No	2	100	ND1	ND1	CELL (1) FBG (1)	98	C, OP, G, M
99	15016419-083	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 244.26	Yes	1	100	ND1	ND1		>99	C, B, OP
100	15016419-084	Yellow Mastic Beneath 2' X 2' Carpet Squares 1st Floor-Office 107.12	Yes	1	100	ND1	ND1		>99	C, B, OP
101	15016419-085	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 210.05	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
102	15016419-086	Green Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 214.03	Yes	1	100	ND1	ND1		>99	C, B, OP
103	15016419-087	Green Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Corridor in Front of Office 224.01	Yes	1	100	ND1	ND1		>99	C, B, OP
104	15016419-088	2' X 2' Heavy Textured Ceiling Tile 2nd Floor-Hall 211.10	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
105	15016419-089	2' X 2' Heavy Textured Ceiling Tile 2nd Floor-Hall 244.31	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
106	15016419-090	Beige Seam Mastic on Foil Fiberglass Duct Insulation 2nd Floor-Hall 211.10	Yes	1	100	ND1	ND1	WO (7)	93	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
107	15016419-091	Beige Seam Mastic on Foil Fiberglass Duct Insulation 2nd Floor-Hall Outside Office 244.43B	Yes	1	100	ND1	ND1		>99	C, B, OP
108	15016419-092	Gypsum Wallboard with Joint Compound 2nd Floor-Conference Room 206.10	Yes	1	100	ND1	ND1	CELL (8) FBG (1)	91	C, OP, G, M
109	15016419-093	Gypsum Wallboard with Joint Compound 2nd Floor-Conference Room 230.32	Yes	1	100	ND1	ND1	CELL (8)	92	C, OP, G, M
110	15016419-094	Beige Seam Mastic on Metal Duct 2nd Floor-Conference Room 206.10	Yes	1	100	ND1	ND1		>99	C, B, OP
111	15016419-095	Beige Seam Mastic on Metal Duct 2nd Floor-Hall Outside 256.15	Yes	1	100	ND1	ND1		>99	C, B, OP
112	15016419-096	2' X 2' Light Textured Recessed Ceiling Tile 2nd Floor-Reception 210.05	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
113	15016419-097	2' X 2' Light Textured Recessed Ceiling Tile 2nd Floor-Conference Room 210.01	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
114	15016419-098	Spray-On Insulation on Metal Ceiling Deck 2nd Floor-Reception 210.05	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
115	15016419-099	Spray-On Insulation on Metal Ceiling Deck 2nd Floor-Hall Outside 244.43B	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
116	15016419-100	Beige Mastic on Baseboard 2nd Floor-Conference Room 230.32	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
117	15016419-101	Beige Mastic on Baseboard 2nd Floor-Conference 218	Yes	1	100	ND1	ND1		>99	C, B, OP
118	15016419-102	2' X 2' White Smooth Ceiling Tile 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
119	15016419-103	Gypsum Wallboard with Joint Compound 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (15) FBG (5)	80	C, OP, G
120	15016419-104	Black Felt Paper on Inner Wall (Hallway Side) 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (70)	30	T, B, OP
121	15016419-105	Black Felt Paper on Inner Wall (Hallway Side) 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (70)	30	T, B, OP
122	15016419-106	Black Exterior Window Glazing Exterior-Exterior Windows of Building-107.23	Yes	1	100	ND1	ND1		>99	C, B, OP
123	15016419-107	Black Exterior Window Glazing Exterior-Exterior Windows of Building-190.24	Yes	1	100	ND1	ND1		>99	C, B, OP
124	15016419-108	Tan Exterior Window Caulking Exterior-Exterior Windows of Building-107.23	Yes	1	100	ND1	ND1		>99	C, B, OP
125	15016419-109	Tan Exterior Window Caulking Exterior-Exterior Windows of Building-190.24	Yes	1	100	ND1	ND1		>99	C, B, OP
126	15016419-110	Brown Exterior Wndow Caulking Exterior-Exterior Windows of Building-180.18	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
127	15016419-111	Brown Exterior Window Caulking Exterior Windows of Main Entrance	Yes	1	100	ND1	ND1		>99	C, B, OP
128	15016419-112	White Exterior Door Caulking Exterior Doors-100 Vault Room	Yes	1	100	ND1	ND1		>99	C, B, OP
129	15016419-113	White Exterior Door Caulking Exterior Doors-Conference Rm 110	Yes	1	100	ND1	ND1		>99	C, B, OP
130	15016419-114	Black Exterior Door Caulking Exterior Doors Vestible 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
131	15016419-115	Black Exterior Door Caulking Exterior Doors-Vestible 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
132	15016419-116	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
133	15016419-117	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
134	15016419-118	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
135	15016419-119	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP, B
136	15016419-120	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP, B

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
137	15016419-121	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, B, OP
138	15016419-122	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, B, OP
139	15016419-123	End Cap Mastic on Exterior Piping Exterior-North Side of Building	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
140	15016419-124	End Cap Mastic on Exterior Piping Exterior-North Side of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
141	15016419-125	Tan Expansion Joint Caulking Exterior-Base of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
142	15016419-126	Tan Expansion Joint Caulking Exterior-Base of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
143	15016419-127	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 258.10	Yes	1	100	ND1	ND1		>99	C, B, OP
144	15016419-128	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 230.22	Yes	1	100	ND1	ND1		>99	C, B, OP
145	15016419-129	Gypsum Wallboard with Joint Compound 225.00 Bridge	No	2	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G, M
146	15016419-130	Gypsum Wallboard with Joint Compound 225.00 Bridge	No	2	100	ND1	ND1	CELL (15)	85	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
147	15016419-131	White Seam Mastic on Foil-Fiberglass Pipe Insulation 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
148	15016419-132	White Seam Mastic on Foil-Fiberglass Pipe Insulation 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
149	15016419-133	White Interior Window Caulking 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
150	15016419-134	White Interior Window Caulking 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
151	15016419-135	Yellow Mastic Beneath Rolled Carpeting 3rd Floor-Office 310	Yes	1	100	ND1	ND1	SYN (Trace) CELL (Trace)	98	C, B, OP
152	15016419-136	Yellow Mastic Beneath Rolled Carpeting 3rd Floor-Office 308	Yes	1	100	ND1	ND1	SYN (2) CELL (Trace)	98	C, B, OP
153	15016419-137	Gypsum Wallboard with Joint Compound 3rd Floor-310	No	2	100	ND1	ND1	CELL (14)	86	C, OP, G, M
154	15016419-138	Gypsum Wallboard with Joint Compound 3rd Floor-Office 308	No	2	100	ND1	ND1	CELL (14) FBG (2)	84	C, OP, G, M
155	15016419-139a	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Purple Sheet Flooring	Yes	1	90	ND1	ND1		>99	C, B, OP
	15016419-139b	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Grey Fibrous Backing	Yes	1	10	ND1	ND1	CELL (70) SYN (15) FBG (5)	10	C, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
156	15016419-140a	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Purple Sheet Flooring	Yes	1	90	ND1	ND1		>99	C, B, OP
	15016419-140b	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Grey Fibrous Backing	Yes	1	10	ND1	ND1	CELL (70) SYN (15) FBG (5)	10	C, OP
157	15016419-141	Gray Leveling Compound 3rd Floor-Conference Room 303	Yes	1	100	ND1	ND1		>99	Q, C, OP, G
158	15016419-142	Gray Leveling Compound 3rd Floor-Reception 312	Yes	1	100	ND1	ND1		>99	Q, C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA
Clint Project Location: Central Office Building-Roof Samples

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 08/12/15
Date Received: 08/12/15
Date Analyzed: 08/13/15
Date Reported: 08/13/15
Project ID: 15017581

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
159	15017581-001	Felt Paper Between Foam Layers Southwest Roof	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
160	15017581-002	Felt Paper Between Foam Layers Southwest Roof	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
161	15017581-003	Roofing Walk Pod Southwest Roof	Yes	1	100	ND1	ND1		>99	B, OP
162	15017581-004	Roofing Walk Pod Southwest Roof	Yes	1	100	ND1	ND1		>99	B, OP
163	15017581-005	White Caulking at Roof Perimeter South Roof	Yes	1	100	ND1	ND1		>99	C, B, OP
164	15017581-006	White Caulking at Roof Perimeter North Roof	Yes	1	100	ND1	ND1		>99	C, B, OP
165	15017581-007	White + Black Caulking at Roof Perimeter Addition Roof-Center	Yes	1	100	ND1	ND1		>99	C, B, OP
166	15017581-008	White + Black Caulking at Roof Perimeter Addition Roof-Center	Yes	1	100	ND1	ND1		>99	C, B, OP
167	15017581-009	Felt Paper Between Foam Layers Addition Roof-Center	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
168	15017581-010	Felt Paper Between Foam Layers Addition Roof-Center	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA
Clint Project Location: Central Office Building-Roof Samples

NVLAP LAB CODE 200829-0

Date Collected:	08/12/15
Date Received:	08/12/15
Date Analyzed:	08/13/15
Date Reported:	08/13/15
Project ID:	15017581

General Notes

- **ND1** indicates no asbestos was detected; the method detection limit is 1%.
- **Trace or "<1"** indicates asbestos was identified in the sample, but the concentration is less than the method detection limit of 1%.
- All regulated asbestos minerals (i.e. chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite) were sought in every layer of each sample, but only those asbestos minerals detected are listed. Amosite is the common name for the asbestiform variety of the minerals cummingtonite and grunerite. Crocidolite is the common name used for the asbestiform variety of the mineral riebeckite.
- Tile, vinyl, foam, plastic, and fine powder samples may contain asbestos fibers of such small diameter (< 0.25 microns in diameter) that these fibers cannot be detected by PLM. For such samples, more sensitive analytical methods (e.g. TEM, SEM, and XRD) are recommended if greater certainty about asbestos content is required. Semi-quantitative bulk TEM floor tile analysis is accepted under the NESHAPS regulations.
- Samples identified as inhomogeneous (containing more that one layer) shall be divided into individual layers and each layer tested separately. The results for each individual layer shall be listed separately on the report.
- These results are submitted pursuant to Aerobiology's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted.
- Unless notified in writing to return the samples covered by this report, Aerobiology Laboratory will store the samples for a minimum period of 3 months before discarding. A shipping and handling charge will be assessed for the return of any samples.
- This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
- This test report relates only to the items tested or calibrated.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must include the entire document in order for the report to be valid.

150159 73 15 015973

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

* Please have results by close of business 7/29/15

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address: Email: Lmarfoglio@appenv.com
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☒ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM2	01		Beige seam mastic on metal ductwork	1st floor - office 188.12 ~~190.24~~	
	SM2	02		" "	1st floor - office 190.24 ~~188.12~~	
	SM1	03		Beige seam mastic on foil fiberglass duct insulation	~~1st floor~~ hallway outside 1st floor - office 180.18	
	SM1	04		" "	1st floor - mechanical Room 106	
	SM3	05		Gray seam mastic on metal ductwork	hallway outside 1st floor - office 180.18	
	SM3	06		" "	3rd floor - mechanical room 313	
	ECM1	07		white end cap mastic on fiberglass heating pipe insulation	1st floor - mechanical room 176.01	
	ECM1	08		" "	2nd floor - mechanical room 263.01	
	SM4	09		white mastic on white fiberglass duct insulation	↓ - ↓	
	SM4	10		" "	-	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/29/15
Received by: Name) Manju Pradeep (Signature) Manju (Date/Time) 7/29/15 @ 8:25am
Analyzed by: Name) (Signature) (Date/Time)

Lab Tracking #:

15015973

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: PCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM5	11		white seam mastic on metal duct work	2nd floor - mechanical room 263.01	
	SM5	12		" "	" "	
	ECM2	13		white end cap mastic on fiberglass chilled Pipe insulation	" "	
	ECM2	14		" "	1st floor - mechanical room 176.01	
	SM6	15		Light gray mastic on metal duct work	3rd floor - mechanical room 313	
	SM6	16		" "	" "	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/29/15
Received by: Name) Mayji Pradeep (Signature) Mayji (Date/Time) 7/29/15 8:25 am
Analyzed by: Name) (Signature) (Date/Time)

Lab Tracking #:

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 1501641

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____ Email: Lmarfoglio@appenv.com
Phone #: _____ Cell #: _____ Fax #: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate _____ (QTY) Pos. Stop ☐ N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FT10	17		12"x12" gray floor tile with small square pattern	1st Floor – Vestibule 190.20	
	FT10	18		" "	–	
	FM10	19		yellow mastic on 12"x12" gray floor tile w/ small square pattern	–	
	FM10	20		" "	–	
	CM2	21		Green mastic beneath 2'x2' carpet squares	– hall outside office 180.14	
	CM2	22		" "	– Office 164.01	
	CT1	23		2'x2' heavy textured ceiling tile	– hall outside office 180.18	
	CT1	24		" "	– reception 156.51	
	LV1	25		Gray leveling compound beneath carpet squares	– hall outside office 180.14	
	LV1	26		" "	– open area 190.05	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #: 150164119

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y)N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	CK1	27		Beige interior window frame caulking	1st floor – office 188.20	
	CK1	28		" "	– Reception 156.51	
	CK2	29			– office 188.20	
	CK2	30			– office 158.16	
	FP1	31		Spray-on fireproofing on metal rolled ceiling deck	– mechanical Room 176.01	
	FP1	32		↓ ↓	– ↓ ↓	
	FP1	33		↓ ↓	– ↓ ↓	
	BM1	34		Beige mastic on baseboard	– office 174.01	
	BM1	35		" "	– office 102	
	BM2	36		Yellow mastic on baseboard	– hall outside mechanical room 172.01	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 726419

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate____ (QTY) Pos. Stop (Y)N ☐ EPA Point Count____ (QTY) ☐ Vacuum Wipe (Qualitative)____ (QTY) ☐ Particle ID____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	BM2	37		Yellow mastic on baseboard	1st floor – Conference Room 144.10	
	FP2	38		Spray-on fireproofing on metal rollet ceiling	– Storage 174.01	
	FP2	39			– Storage 170.01	
	FP2	40			– "	
	FP2	41			– hall outside mechanical room 172.01	
	FP2	42			– " "	
	FS1	43		Red fire stop	2nd floor – Electrical room 263.03	
	FS1	44			– " "	
	FS1	45			– Electrical room 251.01	
	DS1	46		Gypsum wall board with joint compound	1st floor – Office 190.23	

Sampled by (Name) Lori Maffeo (Signature) Lori Maffeo (Date/Time) 7/31/15 Lab Tracking:
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	DD1	47		Gypsum wall board with joint compound	1st floor – office 156.01	
	CM1	48		Yellow mastic on 2'x2' carpet squares	– office 190.2a	
	CM1	49		" "	– office 156.50	
	DD2	50		Gypsum ceiling board with joint compound	– restroom ~~office~~ 171.01	
	DD2	51		" "	2nd floor – 2nd floor men's restroom across from stair 2	
	FT1	52		12"x12" light green with black pin floor tile	1st floor – kitchen 169	
	FT1	53		" "	2nd floor – office 213	
	FM1	54		Yellow mastic on 12"x12" light green w/ black pin floor tile	1st floor – kitchen 169	
	FM1	55		" "	2nd floor – office 213	
	FP1	56		Spray-on fireproofing insulation on metal decking	1st floor – mail room 164	

Sampled by (Name) Lori Maffeglio (Signature) Lori Maffeglio (Date/Time) 7/31/15 Lab Tracking #
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FP1	57		Spray-on fireproofing insulation on metal decking	1st floor - Mail Room 164	
	FT2	58		12"x12" dark blue/green with black pin floor tile	- Copy Room 161	
	FT2	59		" "	-	
	FT3	60		12"x12" beige with black pin floor tile	-	
	FT3	61		" "	- office 114	
	FT4	62		12"x12" light gray with black pin floor tile	- Copy Room 161	
	FT4	63		" "	- office 112	
	FT5	64		12"x12" dark gray with light gray feathered floor tile	- Copy Room 161	
	FT5	65		" "	-	
	FT6	66		12"x12" black with white feather floor tile	-	

Sampled by: (Name) Lori Maffoglio (Signature) Lori Maffoglio (Date/Time) 7/31/15 Lab Tracking #
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y)N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FT6	67		12"x12" black with white feather floor tile	1st floor - Copy Room 161	
	FM26	68		Yellow mastic on multi floor tile	-	
	FM26	69		" "	-	
	DJ3	70		Gypsum wall board with joint compound	- Closet ~~office~~ 114 (new) kitchen	
	DJ3	71		" "	- ~~office~~ 102	
	CT2	72		2'x2' white smooth ceiling tile	- open area 101	
	CT2	73		" "	- conference room 109	
	DJ4	74		Gypsum ceiling board with joint compound	- mens restroom next to 113	
	DJ4	75		" "	- womens restroom next to 113	
	DJ3	76		Gypsum wall board with joint compound	- mechanical room 106	

Sampled by (Name) Lori Marfoglio (Signature) Lori marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 150419

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FP3	77		Spray-on fireproofing on metal roll ceiling deck	1st floor - Vault 105	
	FP3	78			-	
	FP3	79			-	
	FP3	80			-	
	FP3	81			-	
	FP3	82			-	
	FP3	83			-	
	FT7	84		12"x12" dark blue with light blue feather floor tile	- Office 138.39	
	FT7	85			-	
	FM7	86		Yellow mastic on 12"x12" dark blue w/ light blue feather floor tile	-	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by (Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by (Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # Bulgari

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FM7	87		Yellow mastic on 12"x12" dark blue with light blue feather floor tile	1st floor - Office 138.39	
	FT8	88		12"x12" off-white with brown streak floor tile	- Kitchen 138.40	
	FT8	89		" "	-	
	FT9	90		12"x12" light yellow with dark yellow speck floor tile	-	
	FT9	91		" "	-	
	FM8/9	92		Sticky yellow mastic on FT8/FT9	-	
	FM8/9	93		" "	-	
	CT3	94		2'x2' pinhole + small gage ceiling tile	- Reception 138.09 Hall outside	
	CT3	95		" "	- office 138.31	
	STR1	96		Beige mastic on stair tread	- Stair 1	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	STR1	97		Beige mastic on stair tread	1st floor - Stair 2	
	DSI	98		Gypsum wall board with joint compound	" - office 118.03	
	CM1	99		Yellow mastic beneath 2'x2' carpet squares	2nd floor - Office 244.26	
	CM1	100		↓ ↓	1st floor - Office 107.12	
	CM1	101		↓ ↓	2nd floor - Office 210.05	
	CM2	102		Green mastic beneath 2'x2' carpet squares	- Office 214.03	
	CM2	103		" "	corridor in front of - office 224.01	
	CT1	104		2'x2' heavy textured ceiling tile	- hall 211.10	
	CT1	105		" "	- hall 244.31	
	SM1	106		Beige seam mastic on foil fiberglass duct insulation	- hall 211.10	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by: Name) (Signature) (Date/Time)
Analyzed by: Name) (Signature) (Date/Time)

applied environmental inc

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM1	107		Beige seam mastic on foil fiberglass duct insulation	2nd floor – hall outside office 244.43B	
	DJ5	108		Gypsum wall board with joint compound	– Conference room 206.10	
	DJ5	109		" "	– Conference room 230.32	
	SM2	110		Beige seam mastic on metal duct	– Conference room 206.10	
	SM2	111		" "	– hall outside 256.15	
	CT4	112		2'x2' light textured recessed ceiling tile	– reception 210.05	
	CT4	113		" "	– Conference room 210.01	
	FP2	114		Spray-on insulation on metal ceiling deck	– reception 210.05	
	FP2	115		" "	– hall outside 244.43B	
	BM1	116		Beige mastic on baseboard	– conference room 230.32	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by: (Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by: (Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Page 11 of 15

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	BM1	117		Beige mastic on baseboard	2nd floor – Conference Room 218	
	CT2	118		2'x2' white smooth ceiling tile	– Reception 212	
	DW3	119		Gypsum wall board with joint compound	–	
	WFL1	120		black felt paper on inner wall (hallway side)	–	
	WFL1	121		" "	–	
	GL1	122		black Exterior window glazing	Exterior – Exterior windows of building	– 107.23
	GL1	123		" "	–	– 190.24
	CK3	124		tan exterior window caulking	–	– 107.23
	CK3	125		" "	–	– 190.24
	CK4	126		brown exterior window caulking	–	– 180.18

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop ☐ ON ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	CK4	127		Brown exterior window caulking	Exterior windows of main entrance	
	CK5	128		white exterior door caulking	Exterior doors - 100 vault room	
	CK5	129		" "	- Conference Rm 110	
	CK6	130		black exterior door caulking	- Vestibule 190.20	
	CK6	131		" "	- " "	
	TR1	132		Exterior textured surfacing material	Exterior of building	
	TR1	133				
	TR1	134				
	TR1	135				
	TR1	136				

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____

Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____

Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)

Analysis PLM Bulk ☑ EPA 600 Visual Estimate ____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count ____ (QTY) ☐ Vacuum Wipe (Qualitative) ____ (QTY) ☐ Particle ID ____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	TR1	137		Exterior textured surfacing material	Exterior of building	
	TR1	138		" "	" "	
	ECM3	139		End cap mastic on exterior piping	Exterior - North side of building	
	ECM3	140		" "	" "	
	CK7	141		Tan expansion joint caulking	Exterior - base of building	
	CK7	142		" "	" "	
	CM1	143		Yellow mastic beneath 2'x2' carpet squares	2nd floor - office 258.10	
	CM1	144		" "	" - office 230.22	
	DJ6	145		Gypsum wall board with joint compound	225.00 Bridge	
	DJ6	146		" "	" "	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # (Sabella)

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM7	147		White Seam mastic on foil-fiberglass pipe insulation	225.00 Bridge	
	SM7	148		" "		
	CK8	149		White interior window caulking		
	CK8	150		" "		
	CM3	151		Yellow mastic beneath rolled carpeting	3rd floor – Office 310	
	CM3	152		" "	– 308	
	DJ7	153		Gypsum wall board with joint compound	– 310	
	DJ7	154		" "	– 308	
	LN1	155		Shiny maroon small square resilient sheet flooring	– kitchen 311	
	LN1	156		" "	– " 311	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # Folio19

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop ☐ Y ☐ N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	LV2	157		Gray leveling compound	3rd floor - Conference room 303	
	LV2	158		" "	" - reception 312	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

15 017581

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 486-15-DCA-011

15017581

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Page 1 of

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building - Roof Samples
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☑ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y/N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	RFL1	159		Felt paper between foam layers	Southwest roof	
	RFL1	160		" "	" "	
	WP1	161		Rooting walk pad		
	WP1	162		" "		
	RCK1	163		white Caulking at roof perimeter	South roof	
	RCK1	164		" "	North roof	
	RCK2	165		white + black Caulking at roof perimeter	Addition roof - center	
	RCK2	166		" "		
	RFL2	167		Felt paper between foam layers		
	RFL2	168		" "		

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 8/12/15
Received by: (Name) PJ (Signature) (Date/Time) 8/12/15 @ 11:15 am
Analyzed by: (Name) (Signature) (Date/Time)

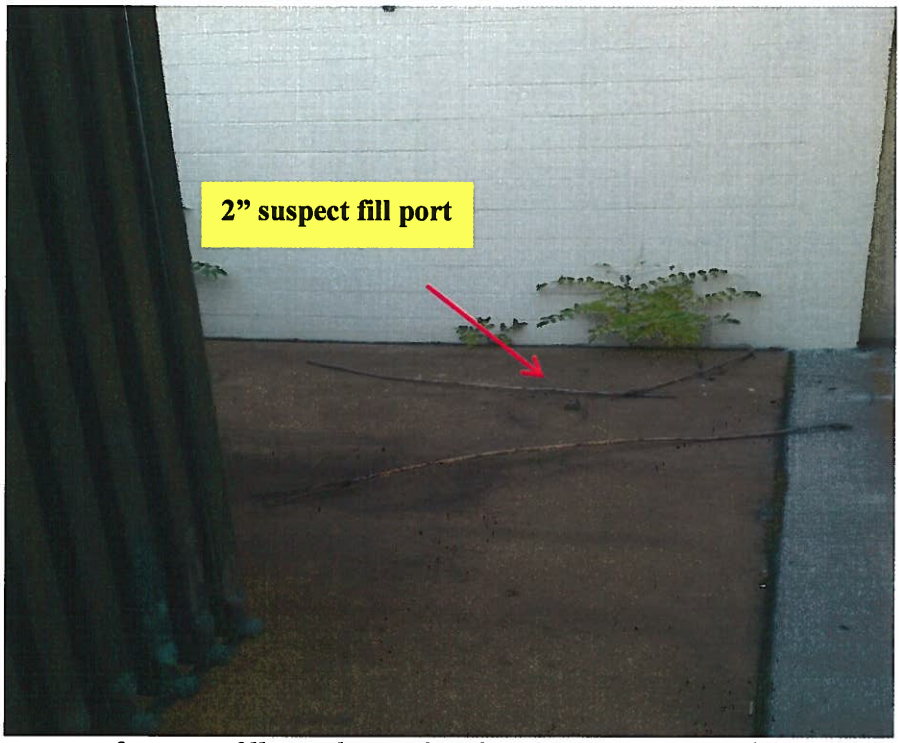
Lab Tracking #

Appendix H

Photographs of Suspect Fill Port

Photographs of Suspect Fill Port
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

Photograph of 2" suspect fill port located within Open Area 104 of the Corporate Office Building. Use of the fill port is unknown; may be associated with former or abandoned oil filled equipment.



View facing east of suspect fill port located within Open Area 104 of the Corporate Office Building.

Appendix E

Traffic Analysis

Appendix E Traffic Analysis

E.1 Affected Environment

E.1.1 OFF-AIRPORT SURFACE TRAFFIC

The affected environment for the analysis of off-airport traffic includes the local off-airport roadways and intersections that may experience an increased level of activity directly resulting from the construction-related traffic of the Proposed Action. Based on the likely routes that soil-hauling dump trucks and construction employee vehicles would use to access and egress Ronald Reagan Washington National Airport (the Airport), the following study area was identified:

- Roadways
  - U.S. Route 1 Jefferson Davis Highway—U.S. Route 1 is a six-lane, median-separated roadway that is functionally classified as an "Other Principal Arterial" by the Virginia Department of Transportation (VDOT). Grade-separated ramps connect U.S. Route 1 and Route 233. At its intersections with 23rd Street S. and with 20th Street S., U.S. Route 1 has left and right turn lanes. North of 20th Street S., U.S. Route 1 is elevated and grade-separated over 18th, 15th, and 12th Streets S. Northbound out of the study area, U.S. Route 1 splits into a two-lane off-ramp to I-395, and the remaining northbound lanes become Route 110 towards north Arlington. Southbound out of the study area, U.S. Route 1 continues through Alexandria and Fairfax as a parallel alternative to Interstate 95. The speed limit along U.S. Route 1 is 35 miles per hour in each direction. The annual average bidirectional daily traffic for U.S. Route 1 is approximately 45,000 vehicles per day.
  - Route 233/Airport Access Road—For the purpose of this analysis, Route 233 is considered an on-airport facility and is thus not part of the off-airport affected environment. For context, Route 233 is a four-lane roadway that is functionally classified as a "Minor Arterial" by VDOT. Route 233 is the primary airport access roadway for trips originating to the north and south of U.S. Route 1. The speed limit along Route 233 is 35 miles per hour. The annual average bidirectional daily traffic for Route 233 is 26,462 vehicles per day.
  - Route 233 Ramps—The Route 233 ramps are functionally classified as "Other Principal Arterial Ramps" or "Minor Arterial Ramps" by VDOT. Route 233 has four ramp connections to U.S. Route 1 (one ramp connects northbound U.S. Route 1 to Route 233 eastbound; one ramp connects Route 233 westbound to U.S. Route 1 northbound; one ramp connects U.S. Route 1 southbound to Route 233 eastbound; and the final ramp connects Route 233 westbound to U.S. Route 1

southbound). A ramp advisory speed is only posted for the ramp connection between Route 233 westbound and U.S. Route 1 southbound (15 miles per hour).

- Interstate 395 Ramps—The I-395 ramps in the study are located where southbound I-395 connects to southbound U.S. Route 1 and where northbound U.S. Route 1 connects to northbound I-395 via two-lane ramps.

- Intersections
  - U.S. Route 1 Jefferson Davis Highway and 23rd Street S.—Signalized intersection
  - U.S. Route 1 Jefferson Davis Highway and 20th Street S.—Signalized intersection with offset eastbound and westbound approaches

The study area for the off-street traffic analysis is shown on **Exhibit E-1**. This area is based on the routes that construction-related traffic would take to arrive at and depart from the airport. For the purposes of the analysis presented in the Environmental Consequences section of this Environmental Assessment (EA), only the two signalized intersections, U.S. Route 1 and the Route 233 ramps, were considered part of the affected environment and analyzed for off-airport operational performance impacts. Based on an engineering judgement, the I-395 ramps were determined to not specifically reflect local traffic concerns and, as such, are not considered part of the local affected environment. The Route 233 airport access road was analyzed as part of the on-airport analysis.

Traffic counts were collected on June 16, 2015 to establish existing conditions of traffic volumes at the subject intersections (20th Street S. and 23rd Street S.) and along the relevant subject roadways (U.S. Route 1 and Route 233). The 2015 traffic data represent the No Action Alternative traffic levels during construction (2016–2022). Existing traffic conditions are representative of the future traffic based on the findings of a previous analysis of historical traffic trends along U.S. Route 1 that show negligible year-to-year traffic growth.[1] Existing traffic counts along the study area roadways are shown on **Exhibit E-2**. Existing traffic counts at the study area intersections are shown on **Exhibits E-3** and **E-4**. The existing intersection and road operations are described in **Table E-1** for the hours of 9:30 a.m. to 10:30 a.m. and for the hours of 3:00 p.m. to 4:00 p.m. These hours represent the off-peak hours with the highest traffic volumes. Measures of effectiveness (MOEs) include vehicle delay for intersection operations, travel speed for U.S. Route 1 arterial, and link volume to capacity ratio for the Route 233 ramps. These MOEs are related to a level of service (LOS) score that qualitatively ranks a user's perception of operation (LOS A is the best, and LOS F is the worst). The baseline, or No Action Alternative, results will be compared against the results with the Proposed Action to determine if a significant impact has occurred to off-airport surface traffic.

[1] Kimley-Horn and Associates, Inc., *Oakville Triangle and Route 1 Corridor Planning Study Area Multimodal Transportation Study*, 2015.

SOURCE: Kimley-Horn & Associates, December 2015.
PREPARED BY: Kimley-Horn & Associates, June 2016.

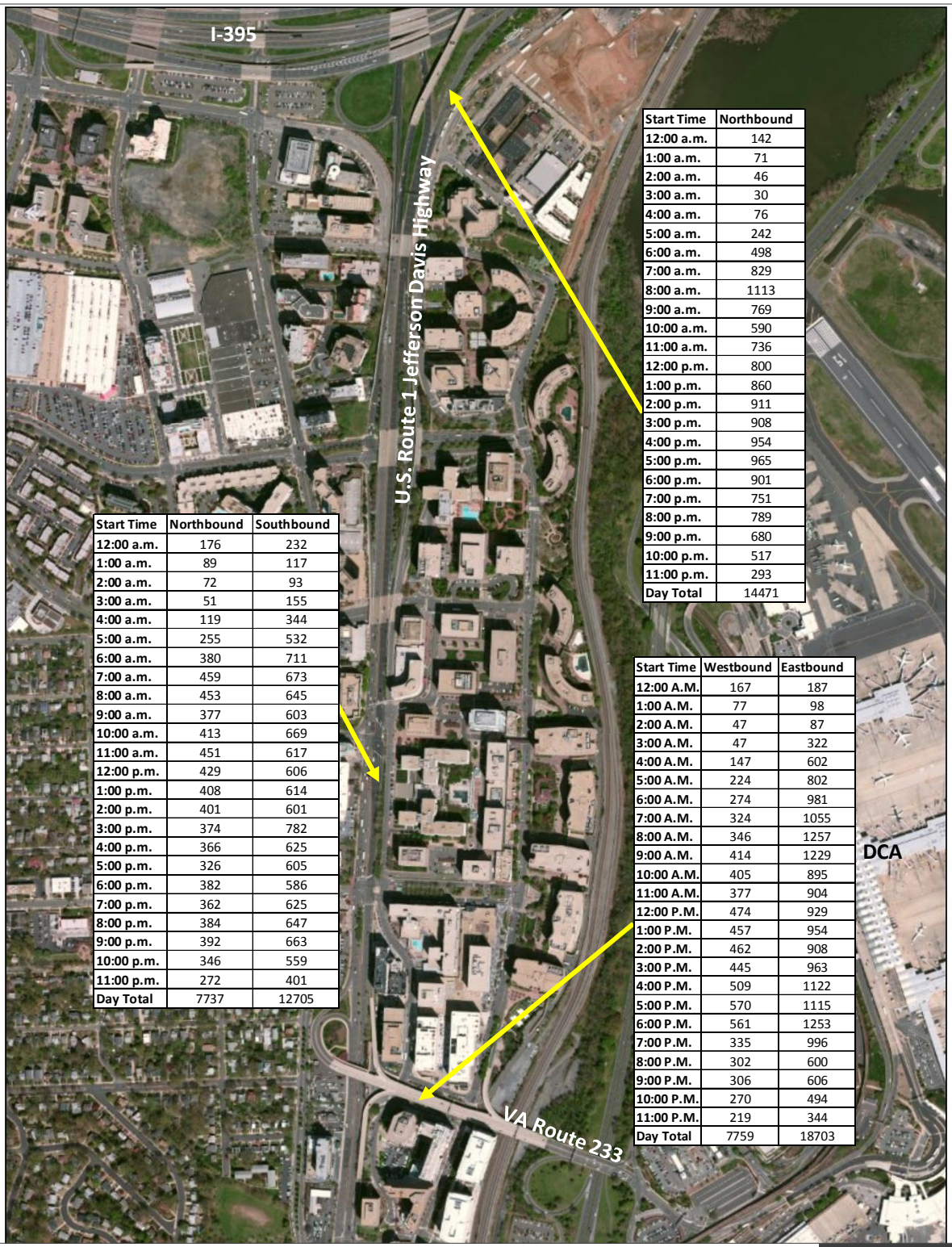
EXHIBIT E-1

NORTH 0 Not To Scale

Construction Vehicle Route and Potentially Affected Surface Roadways

Z:\MWAA\DCA\Graphics\DCA Terminal B-C EA Exhibits\AUGUST 2016\Appendix E Exhibits.indd

THIS PAGE INTENTIONALLY LEFT BLANK



Start Time	Northbound	Southbound
12:00 a.m.	176	232
1:00 a.m.	89	117
2:00 a.m.	72	93
3:00 a.m.	51	155
4:00 a.m.	119	344
5:00 a.m.	255	532
6:00 a.m.	380	711
7:00 a.m.	459	673
8:00 a.m.	453	645
9:00 a.m.	377	603
10:00 a.m.	413	669
11:00 a.m.	451	617
12:00 p.m.	429	606
1:00 p.m.	408	614
2:00 p.m.	401	601
3:00 p.m.	374	782
4:00 p.m.	366	625
5:00 p.m.	326	605
6:00 p.m.	382	586
7:00 p.m.	362	625
8:00 p.m.	384	647
9:00 p.m.	392	663
10:00 p.m.	346	559
11:00 p.m.	272	401
Day Total	7737	12705

Start Time	Northbound
12:00 a.m.	142
1:00 a.m.	71
2:00 a.m.	46
3:00 a.m.	30
4:00 a.m.	76
5:00 a.m.	242
6:00 a.m.	498
7:00 a.m.	829
8:00 a.m.	1113
9:00 a.m.	769
10:00 a.m.	590
11:00 a.m.	736
12:00 p.m.	800
1:00 p.m.	860
2:00 p.m.	911
3:00 p.m.	908
4:00 p.m.	954
5:00 p.m.	965
6:00 p.m.	901
7:00 p.m.	751
8:00 p.m.	789
9:00 p.m.	680
10:00 p.m.	517
11:00 p.m.	293
Day Total	14471

Start Time	Westbound	Eastbound
12:00 A.M.	167	187
1:00 A.M.	77	98
2:00 A.M.	47	87
3:00 A.M.	47	322
4:00 A.M.	147	602
5:00 A.M.	224	802
6:00 A.M.	274	981
7:00 A.M.	324	1055
8:00 A.M.	346	1257
9:00 A.M.	414	1229
10:00 A.M.	405	895
11:00 A.M.	377	904
12:00 P.M.	474	929
1:00 P.M.	457	954
2:00 P.M.	462	908
3:00 P.M.	445	963
4:00 P.M.	509	1122
5:00 P.M.	570	1115
6:00 P.M.	561	1253
7:00 P.M.	335	996
8:00 P.M.	302	600
9:00 P.M.	306	606
10:00 P.M.	270	494
11:00 P.M.	219	344
Day Total	7759	18703

SOURCE: Kimley-Horn & Associates, December 2015.
PREPARED BY: Kimley-Horn & Associates, June 2016.

EXHIBIT E-2

NORTH 0 Not To Scale

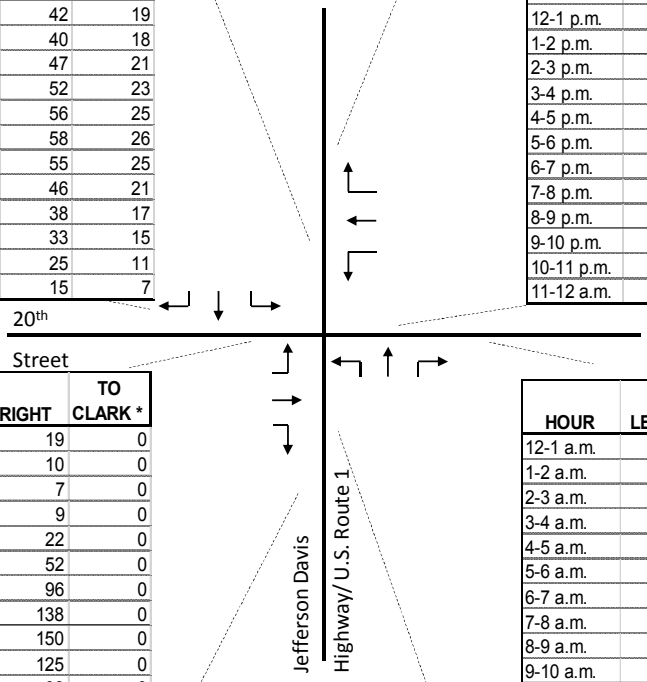
Exisiting Traffic Counts
Along Study Area Roadways

Z:\MWAA\DCA\Graphics\DCA Terminal B-C EA Exhibits\AUGUST 2016\Appendix E Exhibits.indd

THIS PAGE INTENTIONALLY LEFT BLANK

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	15	197	8	4
1-2 a.m.	7	100	4	2
2-3 a.m.	6	77	3	1
3-4 a.m.	7	97	4	2
4-5 a.m.	17	227	9	4
5-6 a.m.	40	538	22	10
6-7 a.m.	74	996	41	18
7-8 a.m.	107	1437	59	26
8-9 a.m.	116	1556	64	29
9-10 a.m.	96	1294	53	24
10-11 a.m.	72	965	40	18
11-N	73	978	40	18
12-1 p.m.	76	1029	42	19
1-2 p.m.	73	981	40	18
2-3 p.m.	86	1154	47	21
3-4 p.m.	94	1267	52	23
4-5 p.m.	101	1362	56	25
5-6 p.m.	105	1413	58	26
6-7 p.m.	100	1343	55	25
7-8 p.m.	83	1119	46	21
8-9 p.m.	68	915	38	17
9-10 p.m.	59	797	33	15
10-11 p.m.	45	606	25	11
11-12 a.m.	27	367	15	7

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	28	9	39	32
1-2 a.m.	14	5	20	16
2-3 a.m.	11	4	15	12
3-4 a.m.	14	5	19	16
4-5 a.m.	32	11	45	37
5-6 a.m.	77	25	107	87
6-7 a.m.	142	47	197	161
7-8 a.m.	205	68	285	232
8-9 a.m.	222	74	308	251
9-10 a.m.	185	61	256	209
10-11 a.m.	138	46	191	156
11-N	140	46	194	158
12-1 p.m.	147	49	204	166
1-2 p.m.	140	47	194	158
2-3 p.m.	165	55	229	186
3-4 p.m.	181	60	251	204
4-5 p.m.	195	65	270	220
5-6 p.m.	202	67	280	228
6-7 p.m.	192	64	266	217
7-8 p.m.	160	53	222	181
8-9 p.m.	131	43	181	148
9-10 p.m.	114	38	158	129
10-11 p.m.	87	29	120	98
11-12 a.m.	52	17	73	59



HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	9	1	19	0
1-2 a.m.	5	1	10	0
2-3 a.m.	4	0	7	0
3-4 a.m.	4	1	9	0
4-5 a.m.	10	1	22	0
5-6 a.m.	25	3	52	0
6-7 a.m.	46	6	96	0
7-8 a.m.	66	9	138	0
8-9 a.m.	72	10	150	0
9-10 a.m.	60	8	125	0
10-11 a.m.	44	6	93	0
11-N	45	6	94	0
12-1 p.m.	47	7	99	0
1-2 p.m.	45	6	94	0
2-3 p.m.	53	7	111	0
3-4 p.m.	58	8	122	0
4-5 p.m.	63	9	131	0
5-6 p.m.	65	9	136	0
6-7 p.m.	62	9	129	0
7-8 p.m.	51	7	108	0
8-9 p.m.	42	6	88	0
9-10 p.m.	37	5	77	0
10-11 p.m.	28	4	58	0
11-12 a.m.	17	2	35	0

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	9	198	4	0
1-2 a.m.	5	100	2	0
2-3 a.m.	4	77	2	0
3-4 a.m.	4	97	2	0
4-5 a.m.	10	227	5	0
5-6 a.m.	25	540	11	0
6-7 a.m.	46	1000	20	0
7-8 a.m.	66	1442	29	0
8-9 a.m.	72	1562	32	0
9-10 a.m.	60	1298	27	0
10-11 a.m.	44	968	20	0
11-N	45	982	20	0
12-1 p.m.	47	1033	21	0
1-2 p.m.	45	984	20	0
2-3 p.m.	53	1158	24	0
3-4 p.m.	58	1271	26	0
4-5 p.m.	63	1367	28	0
5-6 p.m.	65	1418	29	0
6-7 p.m.	62	1348	28	0
7-8 p.m.	51	1123	23	0
8-9 p.m.	42	918	19	0
9-10 p.m.	37	800	16	0
10-11 p.m.	28	609	12	0
11-12 a.m.	17	368	8	0

*** Indicates Movement Onto Clark Street**

SOURCE: Kimley-Horn & Associates, December 2015.
PREPARED BY: Kimley-Horn & Associates, June 2016.

EXHIBIT E-3

NORTH 0 Not To Scale

Existing Traffic Volume Counts at U.S. Route 1 and 20th Street

Z:\MWAA\DCA\Graphics\DCA Terminal B-C EA Exhibits\AUGUST 2016\Appendix E Exhibits.indd

THIS PAGE INTENTIONALLY LEFT BLANK

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	4	247	7	10
1-2 a.m.	2	125	3	5
2-3 a.m.	2	96	3	4
3-4 a.m.	2	121	3	5
4-5 a.m.	5	284	8	12
5-6 a.m.	11	674	18	28
6-7 a.m.	21	1248	34	52
7-8 a.m.	30	1800	49	74
8-9 a.m.	32	1950	53	81
9-10 a.m.	29	1739	47	72
10-11 a.m.	21	1278	35	53
11-N	22	1296	35	54
12-1 p.m.	23	1363	37	56
1-2 p.m.	22	1299	35	54
2-3 p.m.	26	1551	42	64
3-4 p.m.	30	1780	48	74
4-5 p.m.	32	1913	52	79
5-6 p.m.	33	1985	54	82
6-7 p.m.	31	1887	51	78
7-8 p.m.	26	1572	43	65
8-9 p.m.	21	1286	35	53
9-10 p.m.	19	1120	30	46
10-11 p.m.	14	852	23	35
11-12 a.m.	9	515	14	21

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	24	27	32	17
1-2 a.m.	12	14	16	9
2-3 a.m.	9	11	12	7
3-4 a.m.	12	13	16	8
4-5 a.m.	27	31	36	20
5-6 a.m.	65	73	86	47
6-7 a.m.	120	136	160	87
7-8 a.m.	173	196	231	125
8-9 a.m.	187	213	250	135
9-10 a.m.	156	177	208	113
10-11 a.m.	116	132	155	84
11-N	118	134	157	85
12-1 p.m.	124	141	165	90
1-2 p.m.	118	134	158	85
2-3 p.m.	139	158	185	100
3-4 p.m.	152	173	204	110
4-5 p.m.	164	186	219	119
5-6 p.m.	170	193	227	123
6-7 p.m.	162	184	216	117
7-8 p.m.	135	153	180	97
8-9 p.m.	110	125	147	80
9-10 p.m.	96	109	128	69
10-11 p.m.	73	83	97	53
11-12 a.m.	44	50	59	32

23rd Street

Jefferson Davis Highway/ U.S. Route 1

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	11	11	42	8
1-2 a.m.	6	6	22	4
2-3 a.m.	4	4	17	3
3-4 a.m.	5	5	21	4
4-5 a.m.	13	13	49	9
5-6 a.m.	30	30	116	22
6-7 a.m.	56	56	214	41
7-8 a.m.	81	81	309	59
8-9 a.m.	88	88	335	64
9-10 a.m.	73	73	278	53
10-11 a.m.	55	55	208	40
11-N	55	55	210	40
12-1 p.m.	58	58	221	42
1-2 p.m.	56	56	211	40
2-3 p.m.	65	65	248	47
3-4 p.m.	72	72	273	52
4-5 p.m.	77	77	293	56
5-6 p.m.	80	80	304	58
6-7 p.m.	76	76	289	55
7-8 p.m.	63	63	241	46
8-9 p.m.	52	52	197	38
9-10 p.m.	45	45	172	33
10-11 p.m.	34	34	130	25
11-12 a.m.	21	21	79	15

HOUR	LEFT	THRU	RIGHT	TO CLARK *
12-1 a.m.	23	173	4	9
1-2 a.m.	12	88	2	5
2-3 a.m.	9	68	2	4
3-4 a.m.	11	85	2	5
4-5 a.m.	26	199	5	11
5-6 a.m.	63	472	12	25
6-7 a.m.	116	875	22	47
7-8 a.m.	168	1262	32	68
8-9 a.m.	182	1367	34	74
9-10 a.m.	151	1136	28	61
10-11 a.m.	113	847	21	46
11-N	114	859	21	46
12-1 p.m.	120	904	23	49
1-2 p.m.	115	862	22	47
2-3 p.m.	135	1013	25	55
3-4 p.m.	148	1113	28	60
4-5 p.m.	159	1196	30	65
5-6 p.m.	165	1241	31	67
6-7 p.m.	157	1180	29	64
7-8 p.m.	131	982	25	53
8-9 p.m.	107	804	20	43
9-10 p.m.	93	700	17	38
10-11 p.m.	71	533	13	29
11-12 a.m.	43	322	8	17

*** Indicates Movement Onto Clark Street**

SOURCE: Kimley-Horn & Associates, December 2015.
PREPARED BY: Kimley-Horn & Associates, June 2016.

EXHIBIT E-4

NORTH 0 Not To Scale

Existing Traffic Volume Counts at U.S. Route 1 and 23rd Street"

Z:\MWAA\DCA\Graphics\DCA Terminal B-C EA Exhibits\AUGUST 2016\Appendix E Exhibits.indd

THIS PAGE INTENTIONALLY LEFT BLANK

Table E-1: Existing Traffic Conditions

	EXISTING OFF-PEAK[1/] HOUR INTERSECTION DELAY (SECONDS)		EXISTING LOS BASED ON OFF-PEAK HOUR INTERSECTION DELAY[2/]	
INTERSECTION	**A.M.**	**P.M.**	**A.M.**	**P.M.**
U.S. Route 1 & 20th Street (north offset)	31.6	29.4	C	C
U.S. Route 1 & 20th Street (south offset)	10.2	10.8	B	B
U.S. Route 1 & 23rd Street	42.4	37.6	D	D

	EXISTING OFF-PEAK HOUR ARTERIAL TRAVEL SPEED (MPH)		EXISTING LOS BASED ON OFF-PEAK HOUR TRAVEL SPEED DELAY[3/] (MPH)	
ROADWAY	**A.M.** (NB / SB)	**P.M.** (NB / SB)	**A.M.** (NB / SB)	**P.M.** (NB / SB)
U.S. Route 1 Jefferson Davis Highway	13.6 / 10.9	14.1 / 10.9	E / E	D / D

	EXISTING OFF-PEAK HOUR LINK VOLUME TO CAPACTIY RATIO		EXISTING LOS BASED ON OFF-PEAK HOUR LINK VOLUME TO CAPACTIY RATIO[4/]	
ROADWAY	**A.M.**	**P.M.**	**A.M.**	**P.M.**
Route 233 WB ramp to NB U.S. Route 1	.18	.19	A	A
SB U.S. Route 1 ramp to EB Route 233	.72	.52	D	C

NOTES:

SB = southbound NB = northbound WB = westbound EB = eastbound

1/ A.M. off-peak highest volume hour = 9:30 a.m. to 10:30 a.m.; P.M. off-peak highest traffic volume hour = 3:00 p.m. to 4:00 p.m.

2/ LOS as a function of intersection delay is based on the findings of the *2000 Highway Capacity Manual*.

3/ LOS as a function of arterial travel speed is based on the findings of the *2000 Highway Capacity Manual*.

4/ LOS as a function of airport access roadways' volume to capacity ratio is based on information presented in (1) Transportation Research Board, National Research Council, *Highway Capacity Manual*, Exhibit 2, "LOS Criteria for Multilane Highways," December 2000; and (b) Airport Cooperative Research Program, ACRP Report 40, *Airport Curbside and Terminal Area Roadway Operations*, Table 4-1, "Levels of Service for Airport Terminal Area Access and Circulation Roadways," July 2010.

SOURCE: Kimley-Horn and Associates, Inc., December 2015.
PREPARED BY: Kimley-Horn and Associates, Inc., December 2015.

E.1.1.1 On-Airport Surface Traffic

The on-airport traffic study area is depicted on **Exhibit E-5**. Traffic data from June 2015, collected as part of the *DCA Roadway Network Study and Short-Term Roadway Improvements Project*, was reviewed to identify busy-day and peak-hour traffic conditions at the Airport, along the Terminal B/C Arrivals Level curbside and on-airport terminal roadways and intersections. Based on a review of the data, the peak hour along the Terminal B/C Arrivals Level curbside roadway was estimated to occur from 8:45 p.m. to 9:45 p.m. The traffic data also showed that the peak hour for the terminal area roadways and intersections was estimated to occur from 3:45 p.m. to 4:45 p.m., when a considerable amount of both arrivals-related traffic and departures-related traffic are accessing/egressing the Airport. Additionally, to account for seasonality, traffic data collected in June were adjusted to peak month conditions based on 2014 monthly commercial passenger activity at the Airport. As shown in **Table E-2**, the peak month of commercial passenger activity in 2014 was May, approximately 5 percent greater than the commercial passenger activity in June 2014. Consequently, the June 2015 traffic volumes were increased by a factor of 1.05 to represent peak-month traffic conditions. The resulting existing (2015) traffic volumes for the Terminal B/C Arrivals Level curbside, roadway segments, and intersections are depicted in **Table E-3**, **Table E-4**, and **Table E-5**, respectively.

E.2 Environmental Consequences

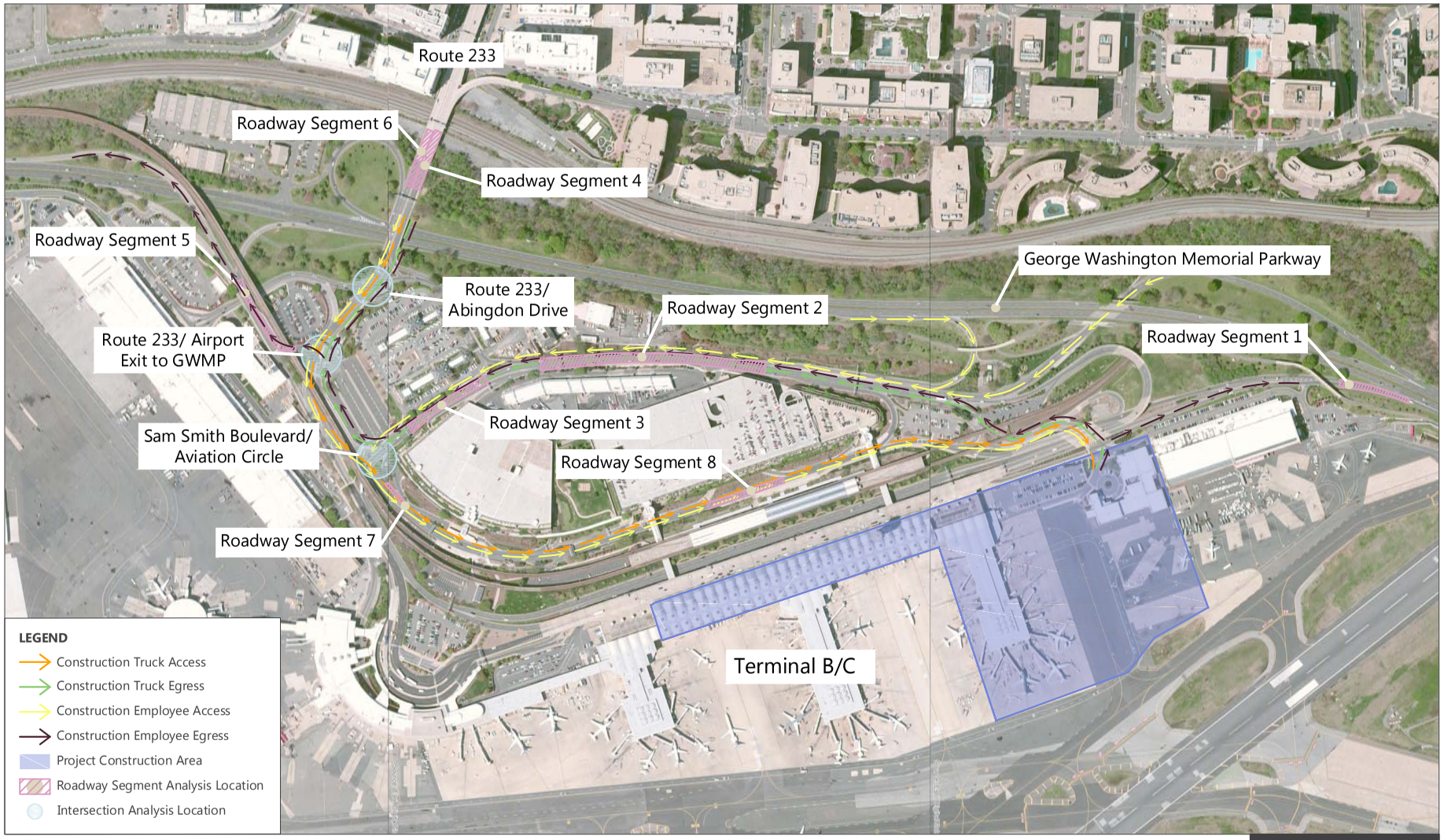
E.2.1 OFF-AIRPORT SURFACE TRAFFIC

Increased traffic on local roads as a result of construction-related vehicles is expected as a result of the Proposed Action. The construction-related vehicles include soil-hauling trucks and construction employee vehicles. The traffic impacts associated with these vehicles would be temporary (i.e., last only as long as the phases of construction that necessitate the vehicles). No other traffic is expected to be generated by the Proposed Action. As such, the lasting impacts to off-airport surface traffic are insignificant.

E.2.1.1 Methodology

The methodology used to evaluate off-airport surface traffic impacts to the local roads within the study area included the following major steps:

- Determine affected environment based on likely route of soil-hauling trucks and employee construction vehicles to and from the construction site.
- Identify the quantity of soil-hauling trucks and construction employee vehicles that would access the site during the peak day of the peak phase of construction activity. This represents a conservative assessment of traffic that could be added to the study area as a result of the Proposed Action.
- Estimate the hourly construction-related traffic volumes for the peak day of the peak phase of construction.
- Establish the highest a.m. and p.m. traffic volumes that occur outside the peak commuter travel periods but within the Authority's established off-peak soil-hauling hours at the relevant study area roadways and intersections.



SOURCES: ESRI Database (Aerial Imagery), ESRI, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, obtained: January 2016; Ricondo & Associates, Inc., January 2016.
PREPARED BY: Ricondo & Associates, Inc., January 2016.

EXHIBIT E-5

NORTH 0 Not to Scale

On-Airport Traffic Study Area

Drawing: N:\MWAA\MWAA On-Call (14-08-0868)\Task 03 - DCA New North Concourse EA\04 CAD\Construction outes.dwg_Layout: Construction outes_Aug 04, 2016, 10:08am

THIS PAGE INTENTIONALLY LEFT BLANK

Table E-2: Monthly Airport O&D Passengers, 2014

MONTH [1/]	PASSENGERS [2/]
January	1,485,762
February	1,382,839
March	1,697,105
April	1,832,177
May	1,918,581
June	1,823,100
July	1,799,769
August	1,819,784
September	1,675,676
October	1,901,805
November	1,693,931
December	1,753,855

NOTES:

O&D = Origin and Destination

1/ Monthly data shown for 2014.

2/ Commercial passengers only (i.e., general aviation and military not included).

SOURCES: http://www.mwaa.com/about/reagan-2014-air-traffic-statistics, accessed June 2015; Ricondo & Associates, Inc., June 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-3: Existing (2015) Terminal B/C Arrivals Level Curbside Peak Hour Volumes

	PEAK HOUR VOLUME [1/]
Inner Roadway	
Taxicabs	316
Shared Ride Vans	6
Parking/RAC Shuttles	31
Hotel/Motel Shuttles	34
Employee Parking Shuttles	11
Service Vehicles/Other	6
Total	404
Outer Roadway	
Private Vehicles/Limousines	1,227

NOTE:

RAC = Rent-A-Car

1/ Volumes represent peak month, busy day: 8:45 p.m. to 9:45 p.m.

SOURCES: Peggy Malone & Associates, June 2015; Ricondo & Associates, Inc., June 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-4: Existing (2015) Roadway Segment Peak Hour Volumes

ROAD SEGMENT 1/	DESCRIPTION	LINK SPEED	NUMBER OF LANES	PEAK HOUR VOLUME 2/
1	Terminal Access Roadway	30	1	1,413
2	Terminal Access Roadway	25	3	2,882
3	Terminal Access Roadway	25	2	1,865
4	Terminal Loop Roadway	35	2	855
5	Terminal Access Roadway	25	1	668
6	Terminal Access Roadway	35	2	1,146
7	Terminal Access Roadway	25	1	204
8	Terminal Access Roadway	25	2	459

NOTES:

1/ Refer to Exhibit E-5 for roadway segment locations.

2/ Volumes represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

SOURCES: Peggy Malone & Associates, June 2015; Ricondo & Associates, Inc., June 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-5: Existing (2015) Intersection Peak Hour Volumes

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
INTERSECTION [1/]	LEFT TURN	THROUGH	RIGHT TURN	LEFT TURN	THROUGH	RIGHT TURN	LEFT TURN	THROUGH	RIGHT TURN	LEFT TURN	THROUGH	RIGHT TURN
Route 233/Abingdon Drive [2/]	111	16	179	41	135	720	3	995	419	5	32	3
Route 233/Airport Exit to GWMP [3/]	-	-	-	219	40	-	-	768	447	219	40	-
Sam Smith Boulevard/Aviation Circle [2/]	-	-	-	254	1,644	259	-	204	-	-	-	-

NOTES:

Volumes represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

GWMP = George Washington Memorial Parkway

1/ Refer to Exhibit E-5 for intersection locations.

2/ Signalized intersection

3/ Unsignalized intersection

SOURCES: Peggy Malone & Associates, June 2015; Ricondo & Associates, Inc., June 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

- Demonstrate the off-airport surface traffic impacts during the highest volume a.m. and p.m. hours that occur outside the commuter peak travel periods (i.e., the a.m. and p.m. off-peak hours).
  - Analyze the No Action Alternative operations of the relevant study area roadways and intersections using the appropriate MOEs for each study area component (intersection delay for intersections, travel speed for U.S. Route 1, and link volume to capacity ratio for the Route 233 ramps).
  - Analyze the operations of the relevant study area roadways and intersections with peak day, peak month, and peak phase of construction traffic using the appropriate MOEs for each study area component.

The following assumptions were used as part of this analysis:

- Based on information provided by the Authority, the phase of construction in which traffic generated by construction-related vehicles would be at its peak would occur over a 24-month period starting September 2016 and ending August 2018.
- Based on the Authority's commitment to minimize construction impacts and avoid the commuter peak hours of travel, soil-hauling trucks would be regulated to access/egress the construction site via Route 233 between the hours of 9:30 a.m. and 4:00 p.m. This time period falls between the typical peak periods of commuter traffic, but it includes the typical work hours for construction employees and soil haulers.
- Based on direction from the Authority, the soil-hauling trucks were assumed to pick up clean fill and deposit excavated soil at SoilSafe located in Brandywine, Maryland. Accordingly, all soil-hauling trucks were assumed to enter and exit the Airport from Virginia Route 233 and travel to and from the north along U.S. Route 1 to I-395, rather than to and from the south along U.S. Route 1 through the City of Alexandria. U.S. Route 1, its intersections with 20th Street S. and 23rd Street S., Route 233, and the Route 233 ramps constitute the affected environment based on the route described above, as well as engineering judgment on the roadways that are most representative of local surface off-airport features. The affected environment is shown in Figure D-1.
- Based on previously completed traffic studies in Arlington County, the peak periods of commuter travel are generally understood to be 6:00 a.m. to 9:30 a.m. and 4:00 p.m. to 7:00 p.m.
- Traffic data was collected on a typical weekday in June 2015 to establish No Action Alternative hourly traffic conditions. This data includes hourly road tube counts and intersection turning movement counts.
- Existing traffic conditions are representative of the future traffic that would travel through the study area in the future construction years. This is based on the findings of a previous analysis of historical traffic trends along U.S. Route 1 that show negligible year-to-year traffic growth.[2]

[2] Kimley-Horn and Associates, Inc., *Oakville Triangle and Route 1 Corridor Planning Study Area Multimodal Transportation Study*, 2015.

Based on the amount of debris, unsuitable material, surcharge material, and suitable materials to be hauled, Kohnen-Starkey estimated that 56,544 loads, or truck trips, would be necessary using 9-cubic-yard capacity trucks.[3] It is noted that the use of 9-cubic-yard trucks was recommended by the Authority. Any increase in the capacity of the soil-hauling trucks would result in fewer trips to the Airport and less traffic impact to the off-airport surface roadway. Kohnen-Starkey's estimate of the number of loads, or truck trips, includes industry-accepted soil compaction and expansion factors.

The Authority directed that the analysis should not assume double utilization of soil-hauling trucks (i.e., soil-hauling trucks removing unsuitable material would be separate from soil-hauling trucks hauling suitable material). Accordingly, the total number of loads/truck trips is double the original Kohnen-Starkey estimate, resulting in 113,088 trips. This value of trips over the peak 24-month construction period is equivalent to 4,712 trips per typical month and 214 trips per typical day.

Based on industry best practices, Kimley-Horn identified a maximum, or peak, combined cut and fill of 2,438 cubic yards that could be achieved in a 6.5-hour work day.[4] Recognizing that there could be external factors that limit the ability to transport this level of production, Kimley-Horn applied a 90-percent efficiency factor to this value based on engineering judgment. The efficiency factor accounts for lost time associated with loading/unloading, site access, and internal circulation. Accordingly, assuming 9-cubic-yard trucks, Kimley-Horn estimated a peak day of approximately 245 (rounded up to the nearest 5) soil-hauling trips to transport the peak cut-and-fill production of 2,438 cubic yards. The peak day volume represents an approximate 15 percent increase over the typical day's soil-hauling trip value of 214 trips.

The Authority provided data that indicated up to five employee pick-up trucks could be used daily during the 24-month construction period.

Based on the estimates of soil-hauling vehicle trips and employees' pick-up trucks, an hourly breakdown of construction trips was estimated. The breakdown, shown in **Table E-6**, is an estimate and intended to demonstrate how the construction-related traffic could be distributed over the work day, recognizing the Authority's commitment to prevent soil-hauling movements during the peak commuter travel hours.

Based on the hourly breakdown estimate, the highest hourly construction-related traffic in the a.m. off-peak period is 45 vehicles traveling in each direction, to and from the site. The highest hourly construction-related traffic in the p.m. off-peak period is 40 vehicles traveling in each direction, to and from the site.

---

[3] Stephen Muench, Ricondo & Associates, Inc., "DCA EA Traffic Comments", email to Virginia Jackson, Ricondo & Associates, Inc., September 16, 2015.

[4] David Samba, Kimley Horn & Associates, Inc., "DCA New Concourse EA and Secure National Hall", email to Stephen Muench, Ricondo & Associates, Inc., December 7, 2015.

Existing conditions traffic data was collected for the relevant intersections and roadways in June 2015. Morning and afternoon vehicular turning-movement count data was collected at the two local surface intersections between 5:30 a.m. and 9:30 a.m. and between 3:00 p.m. and 7:00 p.m., and 24-hour traffic-volume tube counts were performed along Route 233 and along U.S. Route 1 between 20th Street and 23rd Street to establish the hourly variation in traffic along the local roadways over the course of a typical weekday. Hourly turning-movement counts at the intersection were estimated by assuming the same hourly variation of U.S. Route 1.

Table E-6: Proposed Action-Related Construction Traffic

	EMPLOYEE VEHICLES		HAULING TRUCKS		
HOUR	**IN**	**OUT**	**IN**	**OUT**	**TOTAL**
7:00 a.m. to 8:00 a.m.	2	0	0	0	2
8:00 a.m. to 9:00 a.m.	3	0	0	0	3
9:00 a.m. to 10:00 a.m.	0	0	30	10	40
10:00 a.m. to 11:00 a.m.	0	0	40	40	80
11:00 a.m. to 12:00 p.m.	0	0	45	45	90
12:00 p.m. to 1:00 p.m.	5	5	20	40	70
1:00 p.m. to 2:00 p.m.	0	0	40	40	80
2:00 p.m. to 3:00 p.m.	0	0	40	40	80
3:00 p.m. to 4:00 p.m.	0	0	30	30	60
4:00 p.m. to 5:00 p.m.	0	3	0	0	3
5:00 p.m. to 6:00 p.m.	0	2	0	0	2
Total	**10**	**10**	**245**	**245**	**510**

SOURCE: Kimley-Horn and Associates, Inc., December 2015.
PREPARED BY: Kimley-Horn and Associates, Inc., July 2015.

The operational analysis of local roads was performed using SYNCHRO 9 software, and the analysis considered traffic that occurred during the following time periods: (1) morning highest-traffic-volume hour along U.S. Route 1 outside the commuter peak travel period (9:30 a.m. to 10:30 a.m.) and (2) afternoon highest-traffic-volume hour along U.S. Route 1 outside the commuter peak travel period (3:00 p.m. to 4:00 p.m.). The analysis considered both the No Action Alternative conditions and conditions with the Proposed Action. For the analysis of the Proposed Action, the highest hourly volumes of construction-related traffic identified in Table E-6 were added to the traffic volumes from the hours identified above. This results in the most conservative analysis of the impacts of construction-related traffic by analyzing the impacts under the assumption that the largest amount of construction-related traffic occurs during the heaviest traffic hours of the typical day outside of the commuter peak periods.

Capacity analyses were conducted for the signalized intersections, the U.S. Route 1 arterial and the Route 233 ramps. The Transportation Research Board, National Research Council, *Highway Capacity Manual*, 2000 edition (HCM), defines capacity as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a fixed duration. Capacity is linked to LOS, which is a qualitative measure that describes the operational conditions of an intersection or road segment and is an

indicator of motorist perceptions within a traffic stream. The HCM defines six levels of service, LOS A through F, with A as the best and F as the worst. LOS D or better is generally considered indicative of acceptable operations. For the purposes of this analysis, a significant impact to arterial traffic operations is defined as one that causes a reduction in intersection LOS from one service grade to another (i.e., A to B, B to C, C to D, D to E, or E to F).

Table E-7 shows the intersection LOS as measured by delay per vehicle for signalized intersections.

Table E-7: Level of Service and Ranges of Delay

LOS	SIGNALIZED INTERSECTION DELAY PER VEHICLE (SECONDS) AT INDICATED LEVELS OF SERVICE
A	≤10
B	>10 - ≤20
C	>20 - ≤35
D	>35 - ≤55
E	>55 - ≤80
F	>80

NOTES:

≤ Equal to or less than

> Greater than

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000 edition.
PREPARED BY: Kimley-Horn and Associates, Inc., December 2015

Table E-8 shows the arterial LOS as measured by travel speed, which is a function of running time along the arterial and control delay of through movements at signalized intersections.

Table E-8: Level of Service and Ranges of Delay

LOS	AVERAGE TRAVEL SPEED (MILES PER HOUR) AT INDICATED LEVELS OF SERVICE
A	>30
B	>24 - 30
C	>18 - 24
D	>14 - 18
E	>10 - 14
F	≤10

NOTES:

≤ Equal to or less than

> Greater than

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000 edition.
PREPARED BY: Kimley-Horn and Associates, Inc., December 2015

Table E-9 shows LOS for the airport access ramps as measured by directional volume to capacity ratios.

Table E-9: Roadway Levels of Service and Maximum Volume to Capacity Ratio

ROADWAYS	MAXIMUM FREE-FLOW SPEED (MPH) 2/	MAXIMUM VOLUME TO CAPACITY RATIO AT INDICATED LEVELS OF SERVICE 1/				
		A	B	C	D	E
Route 233 Ramps	25	0.25	0.40	0.59	0.79	1.00

NOTES:

MPH = miles per hour

1/ Volume to capacity ratios were adjusted to account for heavy vehicles and the effects of unfamiliar drivers.

2/ Maximum free-flow speed is estimated by posted speed limit.

SOURCES: Ricondo & Associates, Inc., December 2015, based on information presented in (1) Transportation Research Board, National Research Council, *Highway Capacity Manual*, Exhibit 2, "LOS Criteria for Multilane Highways," December 2000; and (2) Airport Cooperative Research Program, ACRP Report 40, *Airport Curbside and Terminal Area Roadway Operations*, Table 4-1, "Levels of Service for Airport Terminal Area Access and Circulation Roadways," July 2010.

PREPARED BY: Kimley-Horn and Associates, Inc., December 2015.

E.2.1.2 Construction Years 2016 – 2022 Impact Potential

The traffic analysis of the Proposed Action traffic conditions is shown in **Table E-10**. The No Action Alternative traffic conditions are also included for comparative purposes. The analysis is representative of the peak day of activity during the 24-month construction period. The results indicate that there would be only one significant impact to off-airport surface traffic as a result of the Proposed Action. Based on the definition of significant impacts, as used in this analysis, the results indicate the northbound approach of U.S. Route 1 would operate at LOS E during the p.m. off-peak hour with the addition of construction-related traffic compared to the No Action Alternative operation of LOS D.

The change in LOS from D to E is due to a decrease in northbound travel speed of 0.2 miles per hour. Such a small reduction in travel speed would not be perceptible to motorists or greatly affect the perceived serviceability of travel. Furthermore, because this analysis considered a conservative, worse-case scenario (i.e., a peak day of construction activity where the highest volume of construction-related traffic is applied to the highest off-airport surface street traffic volumes during the off-peak period), the typical impacts within the study area would be similarly negligible. The impact would also be temporary in nature and last only as long as the phases of construction that necessitate the vehicles. Any potential construction-related traffic impacts would be further mitigated with time-of-day restrictions (to avoid peak hours of travel) and maintenance of traffic plans as agreed to and prepared by the Authority during the pre-construction process. The lasting impact to off-airport surface traffic would be insignificant.

Table E-10: Proposed Action Traffic Conditions

	NO ACTION ALTERNATIVE CONDITIONS				PROPOSED ACTION CONDITIONS			
	OFF-PEAK[1/] HOUR INTERSECTION DELAY (SECONDS)		LOS BASED ON OFF-PEAK HOUR INTERSECTION DELAY[2]		OFF-PEAK[1/] HOUR INTERSECTION DELAY (SECONDS)		LOS BASED ON OFF-PEAK HOUR INTERSECTION DELAY[2]	
INTERSECTION	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
U.S. Route 1 & 20th Street (north offset)	31.6	29.4	C	C	32.6	29.3	C	C
U.S. Route 1 & 20th Street (south offset)	10.2	10.8	B	B	10.1	10.6	B	B
U.S. Route 1 & 23rd Street	42.4	37.6	D	D	44.6	38.4	D	D

	NO ACTION ALTERNATIVE CONDITIONS				PROPOSED ACTION CONDITIONS			
	OFF-PEAK HOUR ARTERIAL TRAVEL SPEED (MPH)		LOS BASED ON OFF-PEAK HOUR TRAVEL SPEED DELAY[3/] (MPH)		OFF-PEAK HOUR ARTERIAL TRAVEL SPEED (MPH)		LOS BASED ON OFF-PEAK HOUR TRAVEL SPEED DELAY[3/] (MPH)	
ROADWAY	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
U.S. Route 1 Jefferson Davis Highway (NB / SB)	13.6 / 10.9	14.1 / 10.9	E / E	D / D	13.4/ 10.3	13.9/ 10.6	E / E	E / D

	NO ACTION ALTERNATIVE CONDITIONS				PROPOSED ACTION CONDITIONS			
	OFF-PEAK HOUR LINK VOLUME TO CAPACITY RATIO		LOS BASED ON OFF-PEAK HOUR LINK VOLUME TO CAPACITY RATIO[4/]		OFF-PEAK HOUR LINK VOLUME TO CAPACITY RATIO		LOS BASED ON OFF-PEAK HOUR LINK VOLUME TO CAPACITY RATIO[4/]	
ROADWAY	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Route 233 WB ramp to NB U.S. Route 1	.18	.19	A	A	.23	.23	A	A
SB U.S. Route 1 ramp to EB Route 233	.72	.52	D	C	.77	.56	D	C

NOTES:

NB- Northbound

SB = Southbound

EB = Eastbound

WB = Westbound

1/ A.M. off-peak highest volume hour = 9:30 a.m. to 10:30 a.m.; P.M. off-peak highest traffic volume hour = 3:00 p.m. to 4:00 p.m.

2/ LOS as a function of intersection delay is based on the findings of the *Highway Capacity Manual,* 2000 edition.

3/ LOS as a function of arterial travel speed is based on the findings of the *Highway Capacity Manual,* 2000 edition.

4/ LOS as a function of airport access roadways' volume to capacity ratio is based on information presented in (1) Transportation Research Board, National Research Council, *Highway Capacity Manual*, Exhibit 2, "LOS Criteria for Multilane Highways," December 2000; and (2) Airport Cooperative Research Program, ACRP Report 40, Airport Curbside and Terminal Area Roadway Operations, Table 4-1, "Levels of Service for Airport Terminal Area Access and Circulation Roadways," July 2010.

SOURCE: Kimley-Horn and Associates, Inc., December 2015.

PREPARED BY: Kimley-Horn and Associates, Inc., December 2015.

E.2.1.3 No Action Alternative

None of the improvements included in the Proposed Action would be constructed under the No Action Alternative. As a result, no construction-related surface traffic impacts would occur under the No Action Alternative.

E.2.2 ON-AIRPORT SURFACE TRAFFIC

E.2.2.1 Methodology

This section describes the assumptions and methodology used to estimate potential on-airport traffic impacts associated with construction-related employee vehicles and hauling-truck activity. To analyze the potential impacts to on-airport landside facilities as a result of construction-related traffic, a curbside, roadway, and intersection analysis was performed.

A Proposed Action impact would be considered significant if the curbside segment, roadway segment, or intersection operating under the future Proposed Action condition is: (1) anticipated to operate at an unacceptable LOS (LOS E or F) and (2) the Proposed Action's contribution to the curbside utilization, roadway volume/capacity, or intersection delay ratio, as measured by the difference between the Proposed Action and No Action Alternative, is five percent or greater.[5]

The following assumptions were used as part of the analyses:

- The analysis assesses the potential on-airport impacts of construction-related traffic over the course of the construction of the Proposed Action. The construction-related traffic is also accessing the off-airport roadway system as documented in Section D.2.1.
- The analyses documented in this section consists of:
  - A Terminal B/C Arrivals Level curbside analysis to assess the potential impacts resulting from the phased closure of the Arrivals Level curbside roadways to allow for the construction of the Secure National Hall.
  - An on-airport roadway segment/intersection analysis to assess the potential impacts of construction-related employee and hauling-truck traffic circulating through the Airport to access/egress the Proposed Action site.
- The curbside closures associated with the Secure National Hall Proposed Action were estimated to occur over a total of four phases, as shown in Section D.2.2.2, with each phase continuing for approximately three months.
- Construction of the Proposed Action was estimated to begin in 2016 and end in 2022.

[5] Ricondo & Associates, Inc., January 2013, based on criteria used in *Hotel Environmental Review: Traffic Study,* http://www.marylandaviation.com/_media/client/environmental/Attachment_C_Traffic_Study_%282013%29%28Draft%29.pdf (accessed December 7, 2015).

- Estimated construction-related traffic by hour was used to determine the volume of traffic accessing the Proposed Action site. Soil-hauling trucks would be regulated to access/egress the construction site via Route 233 between the hours of 9:30 a.m. and 4:00 p.m. to avoid the commuter peak hours.
- The on-Airport traffic study area was defined to include the vehicle travel paths that would be used by construction-related traffic (employee vehicles, soil-hauling trucks, and other motorized construction equipment) to access/egress the Proposed Action site, and it includes the Arrivals Level curbsides, roadways, and intersections anticipated to be directly or indirectly affected by construction of the Proposed Action. The on-airport study area is depicted on Exhibit E-5.
- Construction employee parking and material staging/deliveries for the Proposed Action would be located on the New Concourse construction site near the existing North Hangars area.
- Traffic data collected on a typical busy day in June 2015, grown to peak-month conditions, was used to establish existing (2015) peak-hour traffic conditions.[6] This data includes on-airport roadway volumes, curbside vehicle classifications, curbside dwell times, and intersection turning-movement counts.
- Future conditions represent the final full year of construction (2021). Based on the latest passenger forecasts, it is anticipated that Airport-related passenger and traffic volumes will increase each year throughout the duration of construction. The Airport-related traffic in 2021, along with the estimated full year of construction-related traffic, represents a worse-case scenario for the analysis.

Terminal B/C Arrivals Level Curbside Analysis Methodology

In order to assess the impacts of the Proposed Action, the future background traffic was determined, and the projected Proposed Action construction-related traffic was added to it. Future Airport-related traffic volumes were based on the latest origin and destination (O&D) passenger forecast developed for the Airport as part of the *DCA Public/Employee Parking and Rental Car Planning Study*, dated February 2015. This model uses the number of vehicles at curbside during the peak hour combined with the average dwell times by vehicle mode to estimate the number of vehicles requiring curbside frontage during the peak hour. To account for non-uniform arrival rates during the peak hour, the model applies a statistical "surge" factor. The estimated space requirements are then multiplied by the average length of one vehicle (including a five-foot buffer to represent the empty space between two parked vehicles and lost spaces resulting from parking inefficiencies) to determine the demand for curbside frontage in linear feet.[7]

Curbside frontage demand is a theoretical measurement of the peak accumulation of vehicles waiting at the curbside if they were aligned nose-to-tail in a single queue. A "utilization" factor is then derived, which is the calculated ratio of curbside demand in linear feet divided by the available curbside length. The utilization

---

[6] Traffic data collected as part of the Ricondo & Associates, Inc., *DCA Roadway Network Study and Short Term Roadway Improvements*, June 2015.

[7] Buffers are estimated based on engineering judgment and provide a conservative estimate for the curbside length consumed by each vehicle.

factor provides an indication of the amount of double and triple parking that would result for a given space demand, and the LOS associated with a given utilization rate recognizes that vehicles do not park uniformly along the curbside.

The curbside utilization factor indicates the amount of congestion at the curbside, as well as the resulting level of service provided. For example, a very low utilization factor indicates that vehicles are easily accommodated along the inner lane without the need to double park. The very low utilization factor equates to an excellent level of service (i.e., LOS A). Conversely, a very high utilization factor equates to double and triple parking along the entire curbside, restricting vehicle movements and resulting in a poor level of service.

In this analysis, the commercial vehicle arrival level roadway was analyzed based on the assumption that passenger loading would occur only in the lane directly adjacent to the curbside (i.e., single loading). Although taxicabs queue in multiple lanes along the commercial vehicle arrival level roadway, it is a controlled section of curbside, and it was analyzed using single loading criteria. The public vehicle arrival level roadway curbside was analyzed with an allowance for activity in the two lanes directly adjacent to the curbside (i.e., double loading). Curbsides with multiple-lane loading are not considered to be operating at a poor level of service when all available curbside length is being used (100 percent utilization). When a single lane is fully utilized, parked vehicles are still able to depart and access the curbside, and they are not generally blocked by vehicles in a second parking lane. For curbsides with multiple-lane passenger loading, double or triple parking or queuing along 100 percent of both lanes adjacent to the curbside constitutes a failed level of service (i.e., 200-percent utilization; LOS F). The curbside utilization ranges for single- and double-lane passenger loading are presented in **Table E-11**.

Table E-11: Curbside Level of Service and Utilization Ranges

LEVEL OF SERVICE	SINGLE LOADING UTILIZATION (PERCENT)	DOUBLE-LOADING UTILIZATION (PERCENT)	DESCRIPTION
A	0 - 70	0 - 90	Excellent: Drivers experience no interference from pedestrians or other motorists.
B	71 - 85	91 - 110	Very Good: Relatively free flow conditions with limited double parking.
C	86 - 100	111 - 130	Good: Double parking near doors is common with some intermittent triple parking.
D	101 - 115	131 - 170	Fair: Vehicle maneuverability restricted due to frequent double/triple parking.
E	116 - 130	171 - 200	Poor: Significant delays and queues; double/triple parking throughout curbside.
F	> 131	> 201	Failure: Motorists unable to access/depart curbside; significant queuing along entry road.

NOTE:

> Greater than

SOURCE: Ricondo & Associates, Inc., December 2015, based on information published in Airport Cooperative Research Program, ACRP Report 40, *Airport Curbside and Terminal Area Roadway Operations*, July 2010.

PREPARED BY: Ricondo & Associates, Inc., December 2015.

On-Airport Roadway Segment Analysis Methodology

A spreadsheet-based model was developed to estimate the LOS of the on-airport roadway segments that would be affected by Proposed Action-related construction traffic during the Airport's peak hour of 3:45 p.m. to 4:45 p.m.[8] Similar to the Terminal B/C Arrivals Level curbside analysis, a condition representing the worst-case scenario for the duration of the construction period was chosen for the analysis. The final year of construction (2021) was estimated to be the worst case as it would have the highest level of background passenger traffic in addition to the Proposed Action construction-related traffic. The model represents the physical attributes of the key on-airport roadway segments, including geometry and speed, anticipated to be utilized by construction-related traffic.

To estimate the LOS along key segments of the on-airport roadway system, peak-hour vehicle volumes were compared with the capacity of the individual segments. The capacities of the roadway segments are determined based on the characteristics of the roadway segment, including free-flow speed and the number of travel lanes provided. LOS A represents the optimal operating condition, characterized by uninterrupted free-flow operations. At the other end of the scale, LOS F represents the worst operating condition, characterized by severe roadway congestion and delay. LOS C is generally considered to be a desirable operation condition; however, LOS D conditions may be acceptable at some larger airports during peak periods. To assess the LOS of the on-airport roadway segments, the maximum flow rates presented in **Table E-12** were used.

On-Airport Intersection Analysis Methodology

The on-airport intersections anticipated to be affected by construction-related traffic were analyzed using SYNCHRO during the Airport's peak hour of 3:45 p.m. to 4:45 p.m., under the same conditions analyzed for the roadway segment analysis. LOS definitions for both signalized and unsignalized intersections were based on total delay and range from LOS A (i.e., excellent conditions with little or no vehicle delay) to LOS F (i.e., excessive vehicle delays and queue lengths). **Table E-13** presents the LOS criteria used for intersections. The intersections of Route 233 and Abingdon Drive and Sam Smith Boulevard and Aviation Circle were analyzed as signalized intersections, while the intersection of Route 233 and Airport Exit to George Washington Parkway was analyzed as an unsignalized intersection.

[8] Airport peak hour was determined based on review of traffic data collected as part of the Ricondo & Associates, Inc., *DCA Roadway Network Study and Short Term Roadway Improvements*, June 2015.

Table E-12: Roadway Levels of Service and Maximum Flow Rates

TYPICAL ROADWAY CLASSIFICATIONS [2/]	MAXIMUM FREE-FLOW SPEED (MPH) [2/]	MAXIMUM FLOW RATES (VEHICLES/HOUR/LANE) AT INDICATED LEVELS OF SERVICE [1/]				
		A	B	C	D	E
Airport Access Highway	60	630	1,030	1,460	1,880	2,090
	55	520	850	1,220	1,580	1,800
Entry/Exit Roadway	50	450	730	1,050	1,390	1,620
	45	400	660	950	1,260	1,530
Terminal Loop Roadway	40	370	600	860	1,130	1,410
	35	340	540	790	1,030	1,290
Terminal Access Roadway	30	310	480	700	930	1,170
	25	250	400	600	800	1,010
Ramps (25 MPH or less)	15	250	400	600	800	1,010

NOTES:

MPH = miles per hour

1/ Flow rates were adjusted to account for heavy vehicles and the effects of unfamiliar drivers.

2/ The roadway classifications and associated speeds represent typical ranges that vary by airport.

SOURCES: Ricondo & Associates, Inc., December 2015, based on information presented in (1) Transportation Research Board, National Research Council, *Highway Capacity Manual*, Exhibit V-41-2, "LOS Criteria for Multilane Highways," December 2000; and (2) Airport Cooperative Research Program, ACRP Report 40, *Airport Curbside and Terminal Area Roadway Operations*, Table 4-1, "Levels of Service for Airport Terminal Area Access and Circulation Roadways," July 2010.

PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-13: Intersection LOS Criteria

LEVEL OF SERVICE	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION	CONDITIONS
A	< 10	< 10	Excellent
B	11 - 20	11 - 15	Very Good
C	21 - 35	16 - 25	Good
D	36 - 55	26 - 35	Fair
E	56 - 80	36 - 50	Poor
F	> 80	> 50	Failure

SOURCE: Trafficware, Ltd., *SYNCHRO Studio 7 User Guide*; Transportation Research Board, *Highway Capacity Manual,* 2000 version, July 2015.

PREPARED BY: Ricondo & Associates, Inc., December 2015.

E.2.2.2 Construction Years 2016 – 2022 Impact Potential

This section describes the Proposed Action-related construction traffic and potential impacts to the Terminal B/C Arrivals Level curbside, on-airport roadway segments, and on-airport intersections during the construction period (2016–2022). As described above, the Proposed Action analysis was based on the final full year of construction (2021) to represent the highest traffic volume potential of the construction period.

The existing (2015) traffic volumes representing peak-month busy day conditions were grown to future 2021 levels in proportion to the latest O&D passenger forecast developed as part of the *DCA Public/Employee Parking and Rental Car Planning Study*, September 2015. As presented in the forecast, O&D passenger activity in 2021 was estimated to be 10,142,400 compared to approximately 9,213,800 in 2015, for an increase of approximately 10 percent (10,142,400 / 9,213,800 = 1.10).[9] It should be noted that all private vehicle, taxicab, and limousine traffic numbers were grown directly in proportion to the O&D passenger forecast, while all shuttles and shared-ride vehicles were assumed to increase at approximately half the rate (5 percent), as these vehicles tend to be higher occupancy vehicles, which are able to handle more growth prior to introducing a new vehicle to their fleet.

Based on the estimated project schedule and the assumptions regarding cut-and-fill rates on a typical construction day, an hourly breakdown of construction-related vehicles was developed. These volumes are shown in Table E-6. Construction truck trips were anticipated to occur from 9:30 a.m. to 4:00 p.m. to avoid commuter peak hours. Construction employees were anticipated to access the Proposed Action site between 7:00 a.m. and 9:00 a.m. and egress the Proposed Action site between 4:00 p.m. and 6:00 p.m. For conservative purposes, the hourly breakdown of construction-related traffic was assumed to occur for each day of the Proposed Action, until completion.

Construction Years 2016–2022 Impact Potential - Terminal B/C Arrivals Level Curbside Analysis

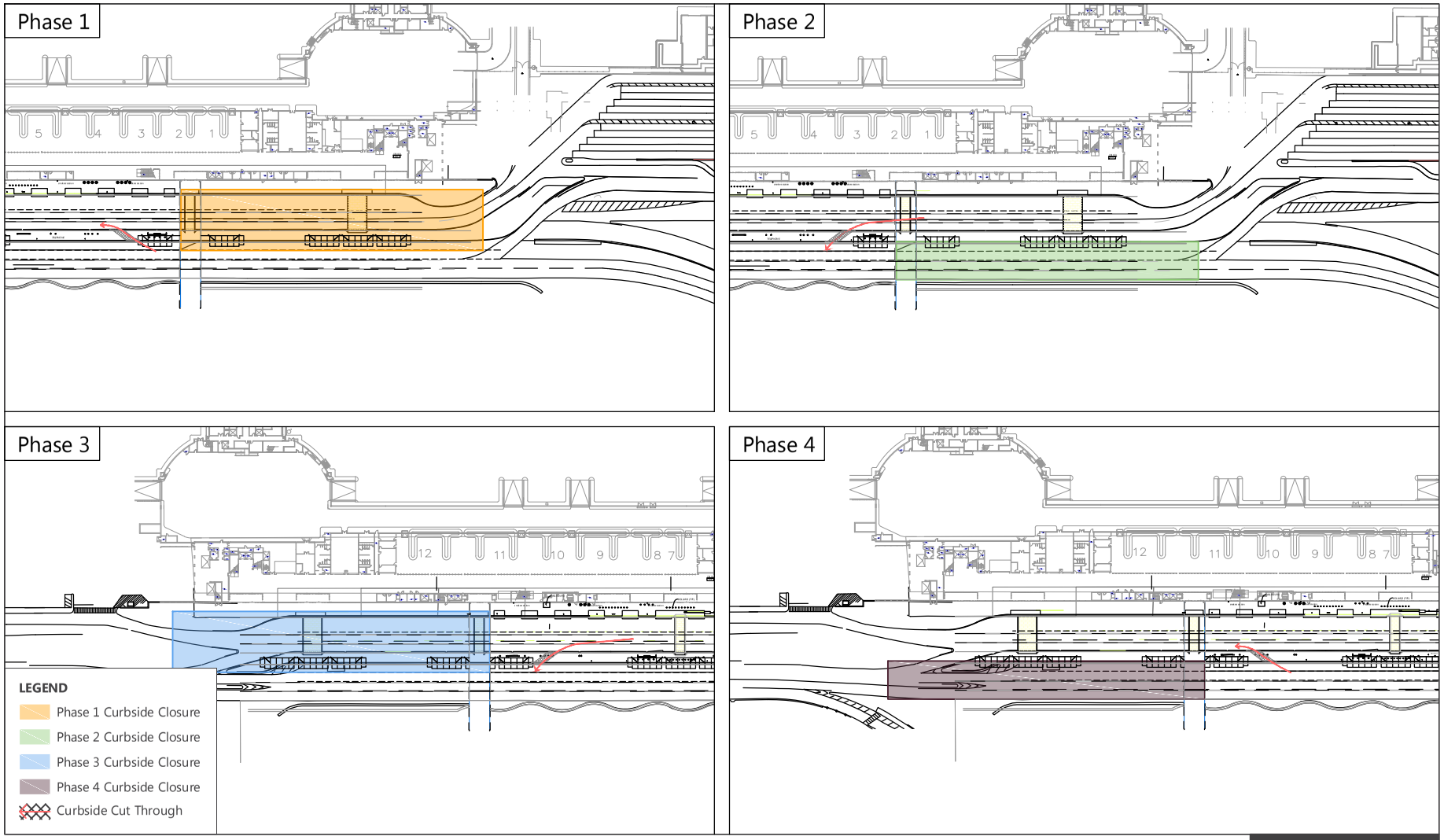
In order to construct the Secure National Hall, portions of the Terminal B/C Arrivals Level curbside would need to be closed while construction takes place. The assumed phasing plan accounted for in the Terminal B/C Arrivals Level curbside analysis is detailed on **Exhibit E-6**.

As shown on the exhibit, it was assumed that the following four phases would occur, with the duration of each phase estimated to be three months each:

- Phase 1—south commercial vehicle arrival level roadway closure of approximately 400 feet with construction spanning the commercial vehicle arrival level roadway plus a single lane closure of the public vehicle arrival level roadway. It was assumed that the section of public vehicle arrival level roadway would be unavailable to private vehicle loading. This would require access to the commercial vehicle arrival level roadway via the public vehicle arrival level roadway.

[9] Metropolitan Washington Airports Authority, September 2015; Ricondo & Associates, Inc., June 2015.

THIS PAGE INTENTIONALLY LEFT BLANK



SOURCE: Ricondo & Associates, Inc., July 2015.
PREPARED BY: Ricondo & Associates, Inc., January 2016.

EXHIBIT E-6

NORTH 0 200 ft.

Terminal B/C Arrivals Level Curbside Phasing Plan Assumptions

Drawing: N:\MWAA\MWAA On-Call (14-08-0868)\Task 03 - DCA New North Concourse EA\04 CAD\Curbv3.dwg_Layout: Construction-All (2)_Aug 04, 2016, 11:29am

THIS PAGE INTENTIONALLY LEFT BLANK

- Phase 2—south public vehicle arrival level roadway closure of approximately 400 feet with construction spanning the public vehicle arrival level roadway. The commercial vehicle arrival level roadway was assumed to be fully operational under this phase. This phase would require access to the public vehicle arrival level roadway via the commercial vehicle arrival level roadway.
- Phase 3—north commercial vehicle arrival level roadway closure of approximately 420 feet with construction spanning the commercial vehicle arrival level roadway plus a single lane closure of the public vehicle arrival level roadway. It was assumed that the section of public vehicle arrival level roadway would be unavailable to private vehicle loading. This would require access to the public vehicle arrival level roadway via the commercial vehicle arrival level roadway.
- Phase 4—north public vehicle arrival level roadway closure of approximately 420 feet with construction spanning the public vehicle arrival level roadway. The commercial vehicle arrival level roadway was assumed to be fully operational under this phase. This phase would require access to the commercial vehicle arrival level roadway via the public vehicle arrival level roadway.

The analysis assumed that no construction-related traffic would use the curbside roadways to access the Proposed Action site; therefore, the 2021 Proposed Action Terminal B/C Arrivals Level curbside volumes are equivalent to the 2021 No Action Alternative traffic volumes only, and the analysis is based on the curbside closures (Phase 1 through Phase 4) described above. The volumes used for the Proposed Action Terminal B/C Arrivals Level curbside analysis are presented in **Table E-14**.

Table E-14: Proposed Action Terminal B/C Arrivals Level Curbside Peak Hour Volumes

	2021 PEAK HOUR VOLUME [1/]
Commercial vehicle arrival level roadway	
Taxicabs	348
Shared Ride Vans	7
Parking/RAC Shuttles	32
Hotel/Motel Shuttles	35
Employee Parking Shuttles	12
Service Vehicles/Other	7
Total	**441**
Public vehicle arrival level roadway	
Private Vehicles/Limousines	1,351

NOTES:
RAC = Rent-A-Car
1/ Volumes represent peak month, busy day: 3:45 p.m. to 4:45 p.m.
SOURCE: Ricondo & Associates, Inc., July 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The results of the Terminal B/C Arrivals Level curbside analysis, under the Proposed Action condition, are presented below in **Table E-15**. There are no construction-related impacts to the Arrivals Level curbside. Even though the curbside utilization increases, the LOS remains in the acceptable range and is not reduced to LOS E or LOS F.

Table E-15: Proposed Action Terminal B/C Arrivals Level Curbside Analysis Results and Impact Analysis

	2021 NO ACTION ALTERNATIVE			2021 PROPOSED ACTION				
	CURBSIDE LENGTH AVAILABLE (FEET)	CURBSIDE UTILIZATION (PERCENT)	LOS	CURBSIDE LENGTH AVAILABLE (FEET)	CURBSIDE UTILIZATION (PERCENT)	LOS	CURBSIDE UTILIZATION INCREASE (PERCENT)	IMPACT?
Phase 1								
Commercial vehicle arrival level roadway	1,450	35	A	1,050	53	A	52	No
Private vehicle arrival level roadway	1,450	105	B	1,050	157	D	49	No
Phase 2								
Commercial vehicle arrival level roadway	1,450	35	A	1,450	38	A	10	No
Private vehicle arrival level roadway	1,450	105	B	1,050	157	D	49	No
Phase 3								
Commercial vehicle arrival level roadway	1,450	35	A	1,030	54	A	55	No
Private vehicle arrival level roadway	1,450	105	B	1,030	160	D	52	No
Phase 4								
Commercial vehicle arrival level roadway	1,450	35	A	1,450	38	A	10	No
Private vehicle arrival level roadway	1,450	105	B	1,030	160	D	52	No

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Construction Years 2016–2022 Impact Potential - On-Airport Roadway Segment and On-Airport Intersection Analysis

With respect to roadway and intersection traffic, the construction-related traffic presented in Table E-6 was added to the 2021 Airport-related traffic volumes for the roadway and intersection analyses for the corresponding peak hour (3:45 p.m. to 4:45 p.m.). The peak hour contains a portion of both the 3:00 p.m. to 4:00 p.m. hour and the 4:00 p.m. to 5:00 p.m. hour. For conservative purposes, traffic volumes representing the worst-case scenario were used in the analysis. For example, it was estimated that 3 outbound employee trips would occur in the 4:00 p.m. to 5:00 p.m. hour, versus 0 outbound employee trips in the 3:00 p.m. to 4:00 p.m. hour. Additionally, a total of 30 inbound/outbound hauling-truck trips were estimated between 3:00 p.m. and 4:00 p.m., versus 0 hauling truck trips between 4:00 p.m. and 5:00 p.m. Consequently, the worst-case scenario is represented by using the 4:00 p.m. to 5:00 p.m. hour for employee trips and the 3:00 p.m. to 4:00 p.m. hour for hauling-truck trips, resulting in a peak-hour total of 3 outbound employee trips (one trip each to the north, south, west) and 30 inbound/outbound hauling-truck trips. For purposes of this analysis, all trips presented in Table E-6 were converted to a passenger car equivalent (PCE) to account for additional impact that larger vehicles, such as hauling trucks, would have on roadway traffic operations. As such, the number of construction-related vehicle trips were multiplied by the following PCE factors: employee vehicles, 1.0; hauling trucks, 1.5.[10] The Proposed Action traffic volumes (in PCEs) for roadway and intersection analyses are presented in **Table E-16** and **Table E-17**, respectively.

Table E-16: Proposed Action Roadway Segment Details and Peak Hour Volumes

SEGMENT ID 1/	DESCRIPTION	SEGMENT SPEED	NUMBER OF LANES	2021 PEAK HOUR VOLUME 2/
1	Terminal Access Roadway	30	1	1,557
2	Terminal Access Roadway	25	3	3,221
3	Terminal Access Roadway	25	2	2,100
4	Terminal Loop Roadway	35	2	987
5	Terminal Access Roadway	25	1	737
6	Terminal Access Roadway	35	2	1,307
7	Terminal Access Roadway	25	1	270
8	Terminal Access Roadway	25	2	550

NOTES:

1/ Refer to Exhibit E-5 for roadway segment locations.

2/ Volumes represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

SOURCE: Ricondo & Associates, Inc., December 2015.

PREPARED BY: Ricondo & Associates, Inc., December 2015.

[10] Transportation Research Board, *Highway Capacity Manual: Volume 2*, Exhibit 11-11, December 2010.

Table E-17: Proposed Action Intersection Peak-Hour Volumes

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
INTERSECTION [1/]	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**
Route 233 and Abingdon Drive [2/]	122	17	196	45	149	792	3	1,145	461	6	81	3
Route 233 and Airport Exit to GWMP [3/]	-	-	-	241	44	-	-	893	492	244	90	-
Sam Smith Boulevard and Aviation Circle [2/]	-	-	-	280	1,817	334	-	224	-	-	-	-

NOTES:

GWMP = George Washington Memorial Parkway

Volumes (PCEs) represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

1/ Refer to Exhibit E-5 for intersection locations.

2/ Signalized intersection

3/ Unsignalized intersection

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The results of the roadway segment analysis, under the Proposed Action, are presented below in **Table E-18**. There would be no significant impacts to the roadway segments as a result of the Proposed Action. Three segments are at LOS F under the No Action Alternative. Adding the construction-related traffic does not increase the volume/capacity ratio by more than five percent. Therefore, based on the significance criteria for this analysis, the impact is less than significant.

Table E-18: Proposed Action Roadway Segment Analysis Results and Impact Analysis

		2021 NO ACTION ALTERNATIVE			2021 PROPOSED ACTION				
SEGMENT ID [1/]	SEGMENT CAPACITY [2/]	PEAK HOUR VOLUME [3/]	VOLUME/ CAPACITY	LOS	PEAK HOUR VOLUME [3/]	VOLUME/ CAPACITY	LOS	INCREASE (PERCENT)	IMPACT?
1	1,170	1,556	1.33	F	1,557	1.33	F	0.0%	No
2	3,030	3,174	1.05	F	3,221	1.06	F	0.9%	No
3	2,020	2,053	1.02	F	2,100	1.04	F	2.0%	No
4	2,580	941	0.36	B	987	0.38	B	5.6%	No
5	1,010	736	0.73	D	737	0.73	D	0.0%	No
6	2,580	1,262	0.49	C	1,307	0.51	C	4.1%	No
7	1,010	225	0.22	A	270	0.27	B	22.7%	No
8	2,020	505	0.25	B	550	0.27	B	8.0%	No

NOTES:

1/ Refer to Exhibit E-5 for roadway segment locations.

2/ Based on criteria presented in Table E-4 (i.e., roadway classification, free-flow speed, and number of lanes).

3/ Volumes (PCEs) represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The results of the intersection analysis, under the Proposed Action, are presented below in **Table E-19**. The analysis shows that traffic related to the construction of the Proposed Action would cause a significant impact at the intersection of Route 233 and Abingdon Drive. It is estimated that the intersection would operate at LOS F in the No Action Alternative, and the additional traffic caused by construction-related traffic accessing/egressing the site would cause an increase in delay greater than five percent. As this impact is related to construction employee vehicles and hauling-truck trips, the impact would be temporary. The Proposed Action would not cause an increase in forecast passenger levels and would not effect on-airport traffic after construction activities are complete.

Table E-19: Proposed Action Intersection Analysis Results and Impact Analysis

	2021 NO ACTION ALTERNATIVE		2021 PROPOSED ACTION			
INTERSECTION [1/]	DELAY	LOS	DELAY	LOS	INCREASE	IMPACT?
Route 233 and Abingdon Drive [2/]	112.4	F	131.5	F	17.0%	Yes
Route 233 and Airport Exit to GWMP [3/]	12.5	B	12.5	B	0.0%	No
Sam Smith Boulevard and Aviation Circle [2/]	13.0	B	14.6	B	12.3%	No

NOTES:

GWMP = George Washington Memorial Parkway

1/ Refer to Exhibit E-5 for intersection locations.

2/ Signalized intersection

3/ Unsignalized intersection

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

E.2.2.3 2023 Operational Impact Potential

Upon completion of the Proposed Action, employees currently parking near the Corporate Office Building (COB) and Hangar 11 would be displaced and relocated to a yet-to-be determined location either on- or off-airport, possibly in nearby Crystal City. This would result in a change to current traffic patterns as these employees would be accessing/egressing a new lot location. This change would not significantly impact on-airport traffic as the number of employees on-airport would likely decrease. The relocation of employees off-airport would not affect regional roadways, as many of the same roadways used to access the Airport would be used to access office space in Crystal City. There would be no effect on how passengers utilize the on-airport roadway network.

E.2.2.4 No Action Alternative

The No Action Alternative represents future (2021) conditions with no Proposed Action-related construction activity. The analysis assumed that no construction-related traffic would use the curbside roadways to access the Proposed Action site; therefore, the 2021 Proposed Action Terminal B/C Arrivals Level curbside volumes are equivalent to the 2021 No Action Alternative traffic volumes.

Table E-20 presents the No Action Alternative Arrivals Level curbside peak-hour volumes.

Table E-20: No Action Terminal B/C Arrivals Level Curbside Peak-Hour Volumes

	2021 PEAK HOUR VOLUME [1/]
Commercial vehicle arrival level roadway	
Taxicabs	348
Shared Ride Vans	7
Parking/RAC Shuttles	32
Hotel/Motel Shuttles	35
Employee Parking Shuttles	12
Service Vehicles/Other	7
Total	**441**
Public vehicle arrival level roadway	
Private Vehicles/Limousines	1,351

NOTES:

RAC = Rent-A-Car

1/ Volumes represent peak month, busy day: 8:45 p.m. to 9:45 p.m.

SOURCE: Peggy Malone & Associates, June 2015; Ricondo & Associates, Inc., June 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The traffic volumes presented in Table E-20 were input into the curbside model, along with curbside dwell times and vehicle lengths. The results of the No Action Alternative curbside analysis are presented in **Table E-21**.

Table E-21: No Action Alternative Terminal B/C Arrivals Level Curbside Analysis Results

	CURBSIDE LENGTH AVAILABLE (FEET)	CURBSIDE UTILIZATION	LOS
Commercial vehicle arrival level roadway	1,450	35%	A
Outer Roadway	1,450	105%	B

SOURCE: Ricondo & Associates, Inc., July 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-22 presents the No Action Alternative roadway segment volumes in the peak hour.

Table E-22: No Action Alternative Roadway Segment Details and Peak Hour Volumes

SEGMENT ID 1/	DESCRIPTION	SEGMENT SPEED	NUMBER OF LANES	2021 PEAK-HOUR VOLUME 2/
1	Terminal Access Roadway	30	1	1,556
2	Terminal Access Roadway	25	3	3,174
3	Terminal Access Roadway	25	2	2,053
4	Terminal Loop Roadway	35	2	941
5	Terminal Access Roadway	25	1	736
6	Terminal Access Roadway	35	2	1,262
7	Terminal Access Roadway	25	1	225
8	Terminal Access Roadway	25	2	505

NOTES:

1/ Refer to Exhibit E-5 for roadway segment locations.

2/ Represents peak month, busy day: 3:45 p.m. to 4:45 p.m.

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The traffic volumes presented in Table E-22 were input into the roadway segment model, along with geometries and segment speed. The results of the No Action Alternative analysis are presented in **Table E-23**.

Table E-23: No Action Alternative Roadway Segment Analysis Results

SEGMENT ID 1/	SEGMENT CAPACITY 2/	PEAK-HOUR VOLUME	VOLUME/ CAPACITY	LOS
1	1,170	1,556	1.33	F
2	3,030	3,174	1.05	F
3	2,020	2,053	1.02	F
4	2,580	941	0.36	B
5	1,010	736	0.73	D
6	2,580	1,262	0.49	C
7	1,010	225	0.22	A
8	2,020	505	0.25	B

NOTES:

1/ Refer to Exhibit E-5 for roadway segment locations.

2/ Based on criteria presented in Table E-4 (i.e., roadway classification, free-flow speed, and number of lanes).

SOURCE: Ricondo & Associates, Inc., December 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Table E-24 presents the No Action Alternative intersection analysis results.

Table E-24: No Action Alternative Intersection Peak-Hour Volumes

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
INTERSECTION [1/]	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**	**LEFT**	**THROUGH**	**RIGHT**
Route 233 and Abingdon Drive [2/]	122	17	196	45	149	792	3	1,095	461	6	35	3
Route 233 and Airport Exit to GWMP [3/]	-	-	-	241	44	-	-	844	492	241	44	-
Sam Smith Boulevard and Aviation Circle [2/]	-	-	-	280	1,809	285	-	224	-	-	-	-

NOTES:

GWMP = George Washington Memorial Parkway

Volumes represent peak month, busy day: 3:45 p.m. to 4:45 p.m.

1/ Refer to Exhibit E-5 for intersection locations.

2/ Signalized intersection

3/ Unsignalized intersection

SOURCE: Ricondo & Associates, Inc., July 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

The traffic volumes presented in Table E-24 were input into SYNCHRO, and the results of the No Action Alternative analysis are presented in **Table E-25**.

Table E-25: No Action Alternative Intersection Analysis Results

INTERSECTION	DELAY (SECONDS)	LOS
Route 233 and Abingdon Drive	112.4	F
Route 233 and Airport Exit to GWMP	12.5	B
Sam Smith Boulevard and Aviation Circle	13.0	B

SOURCE: Ricondo & Associates, Inc., July 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2015.

Of the three intersections analyzed, two are estimated to operate at an acceptable LOS under the 2021 No Action Alternative conditions. The intersection of Route 233 and Abingdon Drive, with the projected growth in passenger traffic unrelated to the Proposed Action, would operate at LOS F, with severe roadway congestion and delay in the peak hour.

Hazardous Materials Survey

Corporate Office Building (COB)
Ronald Reagan Washington National Airport
Arlington, Virginia

1-13-C052
Task Order Number 15

Prepared for:

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

45045 Aviation Drive
Third Floor East
Dulles, Virginia 20166-7528

August 21, 2015

Prepared by:

applied environmental inc.
200 Fairbrook Drive • Suite 201 •Herndon, Virginia

486-15-DCA-016

Hazardous Materials Survey

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia
1-13-C052
Task Order Number 15

TABLE OF CONTENTS

APPENDICES

Hazardous Materials Survey

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia.
1-13-C052
Task Order Number 15

1.0 EXECUTIVE SUMMARY

Applied Environmental, Inc. conducted an asbestos survey, a limited lead-containing (LC) surface coating screening, and an inventory of Polychlorinated Biphenyls (PCB) ballasts and light tubes of the Corporate Office Building, at the Ronald Reagan Washington National Airport, Arlington, Virginia.

The purpose of the survey was to identify asbestos-containing (bulk material containing greater than 1% asbestos by laboratory analysis) materials (ACM), identify components that contain lead, and inventory PCB ballasts, fluorescent light tubes, and any other miscellaneous oil filled equipment that is necessary for building function (excluding mobile equipment used by tenants). The client contact for this project was Mr. Steve Kirkpatrick.

Asbestos-Survey

168 representative bulk samples were collected from the materials suspected to contain asbestos in the Corporate Office Building.

The laboratory reported all of the samples collected from the Corporate Office Building as "No Asbestos Detected." The fire doors throughout the Corporate Office Building could not be sampled so as not to void the fire rating, and are assumed ACM. With the exception of the fire doors and inaccessible areas, no further action regarding asbestos in this building is required or recommended at this time. The approximate cost of removing a fire door is $ 800 each.

A complete list of all materials sampled is attached as Appendix A, "Homogeneous Material List". Photographs of all homogeneous materials are included in Appendix B, "Photographs of Suspect Asbestos-Containing Materials".

Lead-Containing Surface Coating Screening

Applied Environmental conducted a lead paint screening survey of the Corporate Office Building to generally identify building components coated with lead. The survey consisted of testing the lead concentrations on representative surfaces of each component and substrate.

XRF analysis did not detect any lead readings in excess of the unit detection limit. A complete listing of all items tested is included as Appendix C, "XRF Lead Testing Results".

Inventory of PCB Ballasts, Fluorescent Light Tubes, and Miscellaneous Oil Filled Equipment

All of the visually inspected light ballasts in the Corporate Office Building were marked with labeling indicating "No PCBs". Prior to disposal, all light ballasts need to be visually inspected for "No PCBs" labeling during demolition activities.

Appendix D, "Summary of Estimated Number of PCB Ballasts and Light Tubes", provides a listing of light ballasts and light tubes noted during the survey. There are approximately 2,092 four-foot straight light tubes, 360 two-foot straight light tubes, 374 two-foot U-type light tubes, and 62 six-foot straight light tubes in the Corporate Office Building. All fluorescent light tubes should be properly reused to the extent of their lifespan and/or properly recycled, or disposed of as universal waste.

An inventory of miscellaneous oil filled equipment in the Corporate Office Building necessary for building function (excluding mobile equipment used by tenants) was also performed during the survey.

2.0 INTRODUCTION – SCOPE OF WORK

Applied Environmental, Inc. conducted an asbestos survey, a limited LC surface coating screening, and an inventory of PCB ballasts and light tubes of the Corporate Office Building, at the Ronald Reagan Washington National Airport, Arlington, Virginia. The surveys were conducted by Osman Sharif, Lori Marfoglio, and Gary Lewis who are Environmental Protection Agency (EPA) accredited, and Commonwealth of Virginia licensed asbestos and lead based paint inspectors, on July 28, 29, 30 and August 12, 2015. Ms. Marfoglio's, Mr. Sharif's, and Mr. Lewis' licenses are provided in Appendix E, "Inspector Licenses." The purpose of the survey was to identify asbestos-containing materials (ACM), identify components that contain lead, and inventory PCB ballasts, fluorescent light tubes, and any other miscellaneous oil filled equipment necessary for building function (excluding mobile equipment used by tenants).

This survey did not include significantly destructive inspection techniques such as demolition of small areas of walls or columns to allow access. Reasonable efforts to extrapolate our observations and sampling to uninspected areas have been made. If uncharacterized materials are subsequently discovered, they should be characterized prior to disturbance.

3.0 BUILDING DESCRIPTION

The three story Corporate Office Building contains offices, conference rooms, kitchens, storage closets, restrooms, telecommunication and electrical closets, mechanical and machine rooms. The third story covers a smaller area only in the southeast portion of the building. A two-story addition was constructed in the central portion of the building, and consists of Rooms 101-112 and 201-222. Three hydraulic elevators service the building. The Corporate

Office Building's inner wall systems are made up of precast concrete, concrete masonry unit (CMU), and gypsum board. Floor coverings consist of vinyl floor tile over a concrete sub floor, carpeting over a concrete sub floor, and exposed concrete floor areas. Ceilings consist of suspended ceiling tiles or exposed corrugated metal decking. Restrooms have ceramic wall and floor tile covering. Pipe systems are insulated with fiberglass insulation with plastic vinyl fittings. The duct systems are bare metal, bare metal with seam mastic, or insulated with fiberglass with seam mastic. The Heating, Ventilation, and Air Conditioning (HVAC) units utilized to provide forced air to heat and cool the building are located within the mechanical rooms of the building.

The exterior of the building has CMU lower walls with metal sheet panels on the upper walls; the addition is constructed of precast concrete. The roof of the Corporate Office Building is built up and flat with three construction periods: the north, east and south portions at one time, the southwest portion (for the Vault and Pump Rooms), and the addition portion in the center. The north, east and south portions of the roof consist of rubber membrane, brown compressed board, pink foam, plastic sheeting, and metal decking. The northwest portion of the roof consists of rubber membrane, black felt paper on yellow foam insulation (2 layers), plastic sheeting, and metal decking. The addition portion of the roof consisted of rubber membrane, black felt paper on white foam insulation (3 layers), plastic sheeting, and metal decking. No roof flashing material was observed. White caulking was observed on portions of the metal perimeter wall covering.

4.0 ASBESTOS-CONTAINING MATERIAL SURVEY

The asbestos survey was completed in accordance with EPA Standard 40 CFR 763, Subpart E, Asbestos Hazard Emergency Response Act (AHERA), and OSHA Standard 29 CFR 1926.1101 inspection and sampling protocols. All collected samples were submitted to the Aerobiology Laboratory Associates, Inc. (ALAI) asbestos analytical laboratory for analysis by Polarized Light Microscopy (PLM) in accordance with the EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA 600/R93/116). The ALAI analytical laboratory is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program for bulk asbestos identification by PLM.

168 representative bulk samples were collected from the materials suspected to contain asbestos in the Corporate Office Building. A summary of the materials suspected to contain asbestos and their location, material code, and sample numbers is presented in Appendix A, "Homogeneous Material List". A drawing showing the approximate locations of the sample locations is provided in Appendix F, "Asbestos Sampling Locations." The laboratory reports are presented in Appendix G "Laboratory Reports".

The laboratory reported all of the samples collected from the Corporate Office Building as "No Asbestos Detected."

The fire doors throughout the Corporate Office Building could not be sampled so as not to void the fire rating, and are assumed ACM. The fire doors should be evaluated and sampled prior to demolition activities. The approximate cost to remove a fire door as asbestos-containing material is $ 800.00 each.

During the survey, access was not provided to Rooms 118.21, 248.31 and 266.01 of the Corporate Office Building. However, these rooms should be evaluated for hazardous materials prior to any demolition activities.

In accordance with the scope of work, a photograph was taken of each suspect homogeneous material. These photographs are presented in Appendix B. The caption beneath each photograph identifies the material as an asbestos- or non-asbestos-containing material. The material can also be further identified by the homogeneous material code stated in the caption, and/or the actual sample numbers listed. For example, on the first photo, SM2 is the homogeneous material code which can be cross referenced on the Homogeneous Material List, as well as the sample numbers. The sample numbers will show the approximate sample location on the drawing in Appendix F.

5.0 ASBESTOS-CONTAINING MATERIAL RECOMMENDATIONS

With the exception of the fire doors and inaccessible areas, no further action regarding asbestos in this building is required or recommended at this time.

6.0 LEAD-CONTAINING SURFACE COATING SCREENING SURVEY

Applied Environmental conducted a limited lead paint screening survey of the Corporate Office Building to generally identify building components coated with lead. The survey consisted of testing the lead concentrations on representative surfaces of each component and substrate. These surfaces included door systems, floors, walls, ceilings, window systems, stair systems, and support beams.

The lead survey was performed using a Niton XLp 300A spectrum analyzer, which is a X-Ray Fluorescence (XRF) analyzer unit. The Niton XLp 300A is a hand held, portable lead detector, capable of immediately determining lead concentrations of tested surfaces in a non-destructive manner. The detection level of the Niton XLp 300A XRF is 0.1 milligrams of lead per square centimeter (mg/cm^2) of area tested. Please note that there may be concentrations of lead below this detection limit present throughout the property. Painted surfaces measuring below 0.1 mg/cm^2 should be considered lead-containing paint until chip samples analyzed by a laboratory confirm that lead concentrations are below detectable limits. The XRF calibration was validated in accordance with the manufacturer's instructions.

XRF analysis did not detect any lead readings in excess of the unit detection limit. A complete data table presenting results of the XRF testing is provided for your reference in

Appendix C, "XRF Lead Testing Results". "Floor" and "Room" columns further define the location of the surface that was tested. Individual building components tested are listed under "Component". The substrate on which the paint film is applied is noted under "Substrate." The condition of the tested component paint is noted under "Condition". The color of the topcoat layer of paint is noted under "Color" to assist in determining the location of the building components tested. The actual concentration of lead is recorded in the "PbC" column in the noted units, mg/cm^2. The accuracy of each test is noted in the "PbC" column.

7.0 INVENTORY OF PCB LIGHT BALLASTS, FLUORESCENT LIGHT TUBES, AND MISCELLANEOUS OIL FILLED EQUIPMENT

According to the EPA, all ballasts manufactured prior to July 1978 have a greater than 50% chance of containing Polychlorinated Biphenyls (PCBs) at 50 parts per million (ppm) in their potting material. Ballasts manufactured after July 1978 are required to bear a "No PCBs" label indicating that they do not contain PCBs. Representative fluorescent light fixtures within the building were visually inspected for suspect PCB-containing light ballasts. All visually inspected light ballasts in the Corporate Office Building were marked with labeling indicating "No PCBs". Prior to disposal, all light ballasts need to be visually inspected for "No PCBs" labeling during demolition activities.

Appendix D, "Summary of Estimated Number of PCB Ballasts and Light Tubes", provides a listing of light ballasts and light tubes noted during the survey. There are approximately 2,092 four-foot straight light tubes, 360 two-foot straight light tubes, 374 two-foot U-type light tubes, and 62 six-foot straight light tubes in the Corporate Office Building. All fluorescent light tubes should be properly reused to the extent of their lifespan and/or properly recycled, or disposed of as universal waste.

An inventory of miscellaneous oil filled equipment necessary for building function (excluding mobile equipment used by tenants) was also performed during the survey. At the time of the survey, the following miscellaneous oil filled equipment was observed for the Corporate Office Building:

- Two 250-gallon diesel fuel tanks for generator use are located within Vault 100 (labeling for the diesel fuel tanks was observed on the door to Vault 100),

- Three hydraulic elevators are utilized for the building. Two hydraulic elevator above ground storage tank (AST) systems were observed in the elevator machine rooms of the building which contain hydraulic oil for the necessary function of the elevator systems,

- Several large electrical transformers were observed within Open Area 104 of the Corporate Office Building. No labeling was observed on the transformer units to identify "No PCBs"; therefore, they may contain PCBs in the dielectric fluid but this is unlikely, based on the age of the building,

- A 2" suspect fill port was observed within Open Area 104 of the Corporate Office Building. The utilization of the fill port is unknown; it may be associated with former or abandoned oil filled equipment. Photographs of the suspect fill port are included in Appendix H. The suspect fill port should be evaluated prior to demolition activities.

Appendix A

Homogeneous Material List

applied environmental inc.

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
SM2	Beige seam mastic on metal ducting	No	Above drop ceiling – throughout building	01, 02, 110, 111	No	--
SM1	Beige seam mastic on foil fiberglass duct insulation	No	Above drop ceiling – throughout building, Mechanical Rooms 106 and 313	03, 04, 106, 107	No	--
SM3	Gray seam mastic on metal ducting	No	Above drop ceiling – throughout building and Mechanical Room 313	05, 06	No	--
ECM1	White end cap mastic on fiberglass pipe insulation	No	Above drop ceiling – throughout building, Mechanical Room 176.0 and 313, sprinkler room	07, 08	No	--
SM4	White mastic on white fiberglass duct insulation	No	Mechanical Rooms 263.01 and 313	09, 10	No	--
SM5	White seam mastic on metal ducting	No	Mechanical Rooms 263.01 and 313	11, 12	No	--
ECM2	White end cap mastic on fiberglass chilled pipe insulation	No	Mechanical Rooms 263.01 and 313	13, 14	No	--
SM6	Light gray mastic on metal ducting	No	Mechanical Room 313	15, 16	No	--
FT10	12" x 12" gray floor tile with small square pattern floor tile	No	Vestibule 190.20	17, 18	No	--
FM10	Yellow mastic on 12" x 12" gray floor tile with small square pattern floor tile	No	Vestibule 190.20	19, 20	No	--
CM2	Green mastic beneath 2' x 2' carpet squares	No	Corridor 172.01, hall outside Office 180.14, 164.01, 183.01, Second floor Corridor 200.01, 211.02, and 211.03	21, 22, 102, 103	No	--
CT1	2' x 2' heavy textured ceiling tile	Yes	Throughout building	23, 24, 104, 105	No	--
LV1	Gray leveling compound beneath carpet squares	No	Suites 180, 188, and 190, Corridor 172.01, Lunch Room 169	25, 26	No	--
CK1	Beige interior window frame caulking	No	First floor windows – throughout, Suites 211, 248, 256, and 258	27, 28	No	--
CK2	Brown interior window caulking	No	First, Second, and Third floor windows	29, 30	No	--
FP1	Spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – lower layer)	Yes	Throughout building	31, 32, 33, 56, 57	No	--
BM1	Beige mastic on baseboard	No	Throughout building	34, 35, 116, 117	No	--

applied environmental inc.

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
BM2	Yellow mastic on baseboard	No	Mechanical Rooms 263.01, and 313, Electrical Room 263.03, Stairs 1, 2, and 3, Suites 106, 107, 118, 144, 154, 156, and 158	36, 37	No	--
FP2	Spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – top layer)	Yes	Throughout building	38, 39, 40, 41, 42, 114, 115	No	--
FS1	Red fire stop	No	Mechanical Rooms 106 and 313, Electric Rooms 251.01 and 263.03, and third floor elevator lobby	43, 44, 45	No	--
DJ1	Gypsum wall board with joint compound	No	First floor - throughout	46, 47, 98	No	--
CM1	Yellow mastic beneath 2' x 2' carpet squares	No	Throughout building	48, 49, 99, 100, 101, 143, 144	No	--
DJ2	Gypsum ceiling board with joint compound	No	Restrooms - throughout building, 124.01, and Elevator Machine Rooms	50, 51	No	--
FT1	12" x 12" light green with black pin mark floor tile	No	Rooms 164.00, 169, 213.01, 213.03 and 311	52, 53	No	--
FM1	Yellow mastic beneath 12" x 12" light green with black pin mark floor tile	No	Rooms 164.00, 169, 213.01, 213.03 and 311	54, 55	No	--
FT2	12" x 12" dark green with black pin mark floor tile	No	Room 161	58, 59	No	--
FT3	12" x 12" beige with black pin mark floor tile	No	Rooms 102, 112, 113, 114, 161, and 211	60, 61	No	--
FT4	12" x 12" light gray with black pin mark floor tile	No	Rooms 102, 112, 114, 161 and 222	62, 63	No	--
FT5	12" x 12" dark gray with light gray feathered floor tile	No	Room 161	64, 65	No	--
FT6	12" x 12" black with white feathered floor tile	No	Room 161	66, 67	No	--
FM2-6	Yellow mastic beneath floor tiles FT2, FT3, FT4, FT5, and FT6	No	Rooms 102, 112, 113, 114, 161, 211, and 222	68, 69	No	--
DJ3	Gypsum wall board with joint compound	No	Addition portion - Rooms 101-112, Men's and Women's Restrooms next to 102, and Mechanical Room 106, and 201-221	70, 71, 76, 119	No	--
CT2	2' x 2' white smooth ceiling tile	Yes	Rooms 101-112, 103.00, 201-222, and 301-320	72, 73, 118	No	--

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
DJ4	Gypsum ceiling board with joint compound	No	Addition portion - Men's and Women's Restrooms next to 102	74, 75	No	--
FP3	Spray-on fireproofing on concrete ceiling decking	Yes	Vaults 100 and 105, Pump Room 103	77, 78, 79, 80, 81, 82, 83	No	--
FT7	12" x 12" dark blue with light blue feather floor tile	No	Room 138.39 and 138.40 (beneath FT8/FT9)	84, 85	No	--
FM7	Yellow mastic on 12" x 12" dark blue with light blue feather floor tile	No	Room 138.39 and 138.40 (beneath FT8/FT9)	86, 87	No	--
FT8	12" x 12" off-white with brown streak floor tile	No	Room 138.40	88, 89	No	--
FT9	12" x 12" yellow with dark yellow speck floor tile	No	Room 138.40	90, 91	No	--
FM8/9	Sticky yellow mastic on FT8 and FT9	No	Room 138.40	92, 93	No	--
CT3	2' x 2' pinhole and small gouge ceiling tile	Yes	138.09 Reception and hallway	94, 95	No	--
STR1	Beige mastic on stair tread	No	Stair 1, 2, and 3	96, 97	No	--
DJ5	Gypsum wall board with joint compound	No	Second floor - throughout	108, 109	No	--
CT4	2' x 2' light textured recessed ceiling tile	Yes	Suites 210 and 214	112, 113	No	--
WFL1	Black felt paper on inner wall	No	Suite 201-221	120, 121	No	--
GL1	Exterior window glazing	No	Exterior windows of building	122, 123	No	--
CK3	Tan exterior window caulking	No	Exterior windows of building – north side	124, 125	No	--
CK4	Brown exterior window caulking	No	Exterior windows of building	126, 127	No	--
CK5	White exterior door caulking	No	Exterior doors of building	128, 129	No	--
CK6	Black exterior door caulking	No	Vestibule 190.20	130, 131	No	--
TW1	Exterior textured surfacing wall coating	No	Exterior walls of building	132, 133, 134, 135, 136, 137, 138	No	--
ECM3	End cap mastic on exterior piping	No	Exterior of building – north side	139, 140	No	--

Homogeneous Material List

Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Mat. Code	Material Description	Friable (yes/no)	Location	Sample Numbers	ACM[a] (yes/no)	Approx. Quantity [1]
CK7	Tan expansion joint caulk at base of building	No	Exterior of building	141, 142	No	--
DJ6	Gypsum wall board with joint compound	No	225.00 bridge to hangar	145, 146	No	--
SM7	White seam mastic on foil fiberglass duct insulation	No	225.00 bridge to hangar	147, 148	No	--
CK8	White interior window caulking	No	225.00 bridge to hangar	149, 150	No	--
CM3	Yellow mastic beneath rolled carpeting	No	Third floor - throughout	151, 152	No	--
DJ7	Gypsum wall board with joint compound	No	Third floor - throughout	153, 154	No	--
LN1	Shiny maroon small square resilient sheet flooring	No	Room 311	155, 156	No	--
LV2	Gray leveling compound	No	Third floor - throughout	157, 158	No	--
RFL1	Felt paper between foam layers	No	Pump room roof	159, 160	No	--
WP1	Roof walking pad	No	Pump room roof	161, 162	No	--
RCK1	White caulking at roof perimeter	No	Roof of building	163, 164	No	--
RCK2	White and black caulking at roof perimeter	No	Roof of building – addition portion	165, 166	No	--
RFL2	Felt paper between foam layers	No	Roof of building – addition portion	167, 168	No	--
Assumed Asbestos-Containing Materials						
FD1	**Fire doors**	**No**	**Stairwells 1 (2 each), 2 (3 each), 3 (3 each), 106.01, 211.08, and Mechanical Rooms 263.01 (5 each) 313 (2 each)**	**No samples**	**Assumed ACM**	**17 each**

[a] ACM = Asbestos-Containing Material.
[b] ea. = each

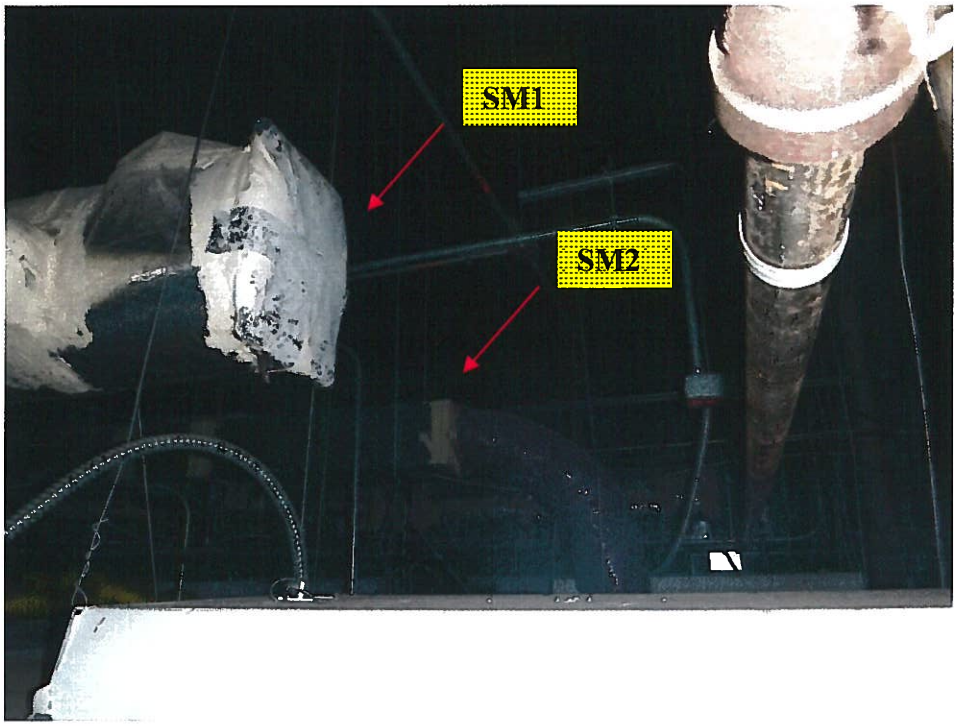
Bolded text = Identified as ACM.

[1]The quantity estimates provided are for information purposes only and shall not be used as the sole basis for bidding. The Contractor shall verify the accuracy of stated measurement or condition prior to submitting bid. Also, the Contractor shall base his bid on his own data and measurement takeoffs and not solely on provided data.

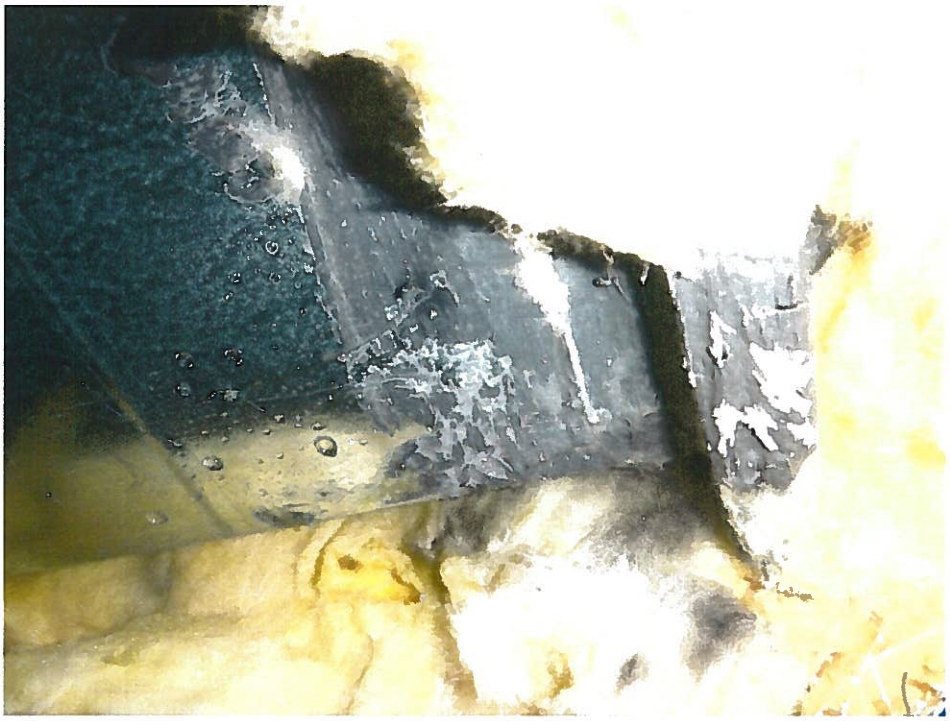
Appendix B

Photographs of Suspect Asbestos-Containing Materials

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

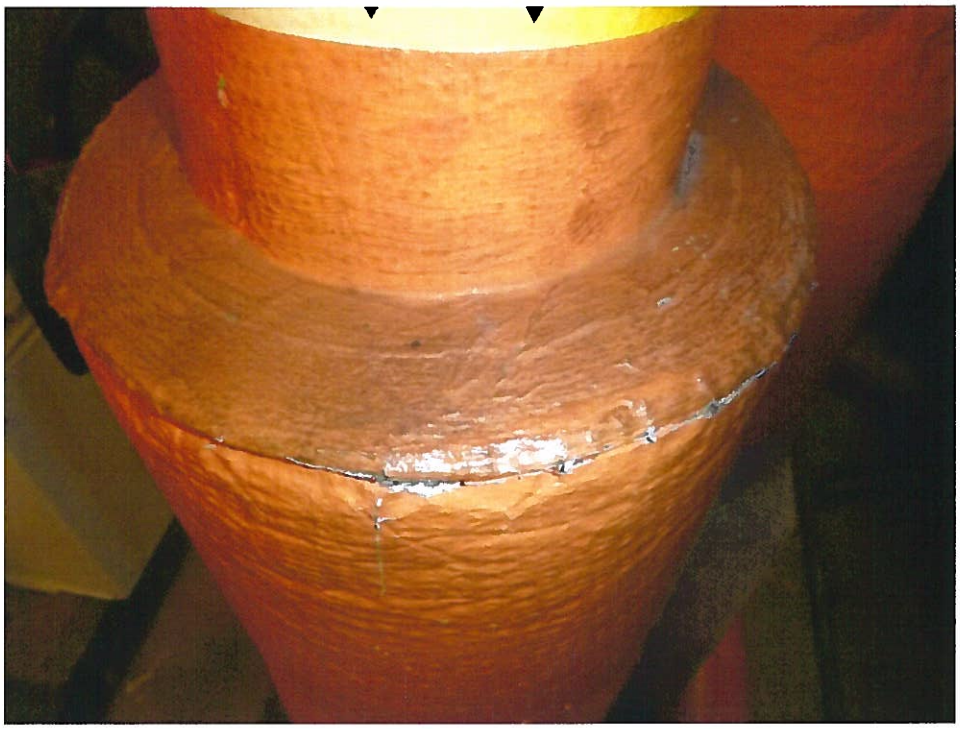


1. Non-ACM beige seam mastic on metal duct (SM2–Samples 01, 02, 110, 111) and non-ACM beige seam mastic on foil fiberglass duct insulation (SM1–Samples 03, 04, 106, 107) above drop ceiling in Room 190.26.



2. Non-ACM gray seam mastic on metal ducting (SM3–Samples 05, 06) above drop ceiling in the hallway outside Office 180.18.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

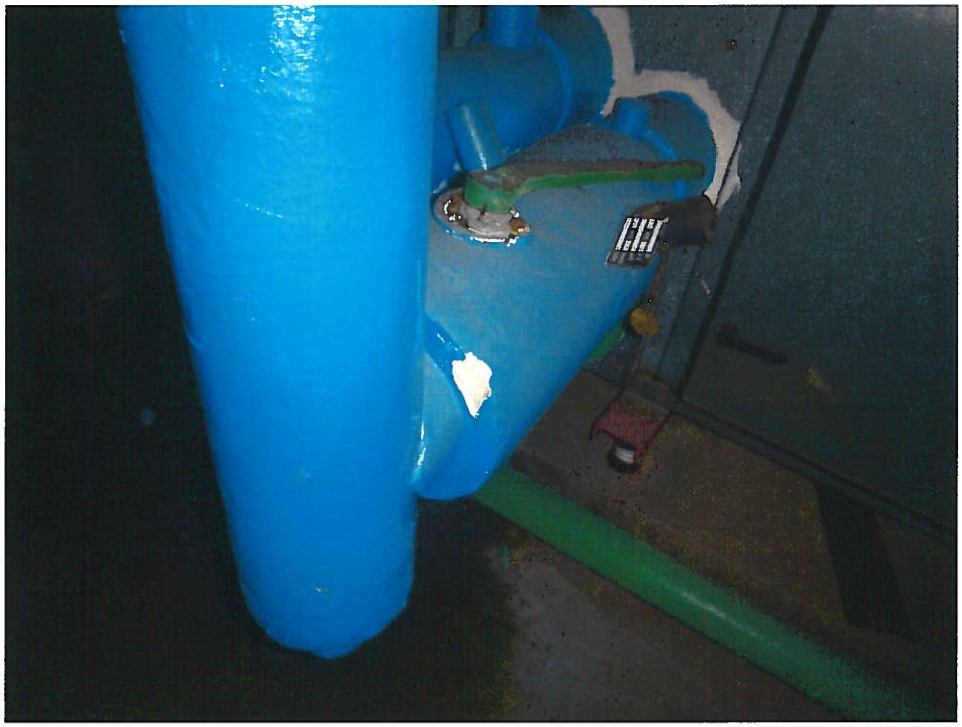


3. Non-ACM white end cap mastic on fiberglass pipe insulation (ECM1-Samples 07, 08) in First Floor Mechanical Room 176.01.

4. Non-ACM white mastic on white fiberglass duct insulation (SM4-Samples 09, 10) in Mechanical Room 263.01.

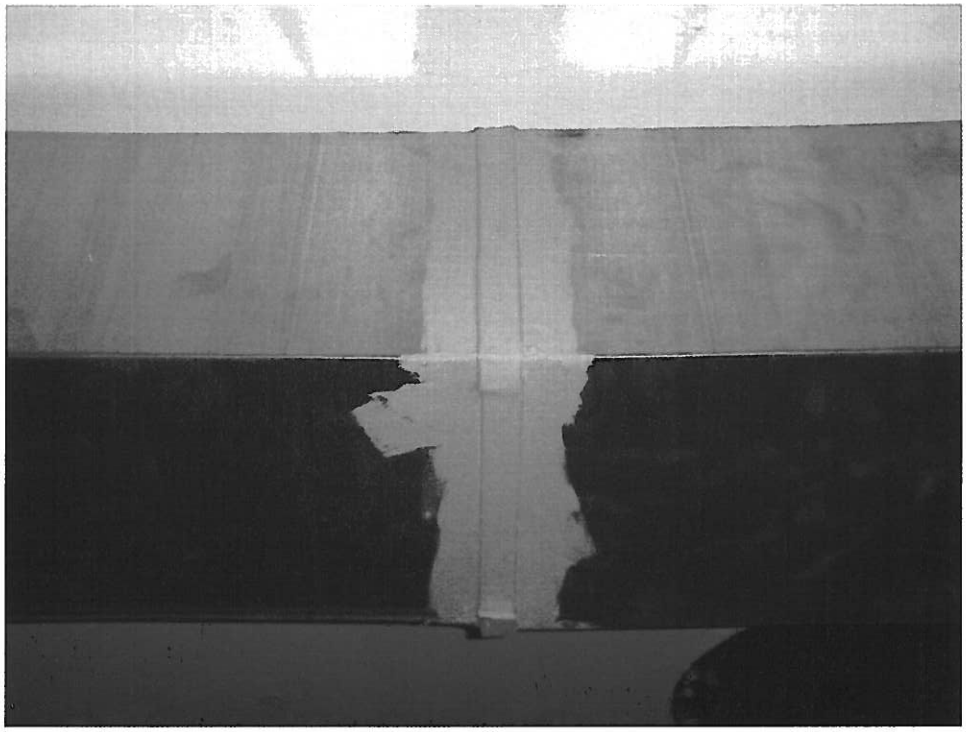
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

5. Non-ACM white seam mastic on metal ducting (SM5-Samples 11, 12) in Mechanical Room 263.01.

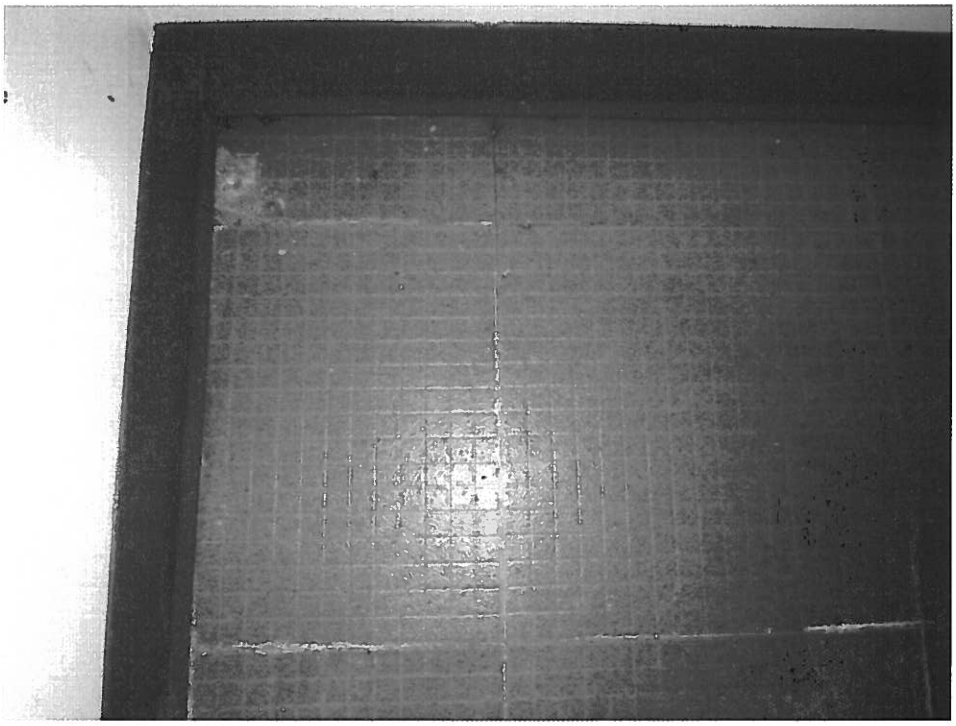


6. Non-ACM white end cap mastic on fiberglass chilled pipe insulation (ECM2-Samples 13, 14) in Mechanical Room 263.01

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



7. Non-ACM light gray mastic on metal ducting (SM6-Samples 15, 16) in Mechanical Room 313.



8. Non-ACM 12" x 12" gray floor tile with small square pattern (FT10-Samples 17, 18) with non-ACM yellow mastic (FM10-Samples 19, 20) beneath the floor tile in Vestibule 190.20.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

9. Non-ACM green mastic beneath 2' x 2' carpet squares (CM2-Samples 21, 22, 102, 103) in Office 164.01.

10. Non-ACM 2' x 2' heavy textured ceiling tile (CT1-Samples 23, 24, 104, 105) in hall outside Office 180.18.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

11. Non-ACM gray leveling compound beneath 2' x 2' carpet squares (LV1-Samples 25, 26) in hall outside Office 180.18.

12. Non-ACM beige interior window frame caulking (CK1-Samples 27, 28) and brown interior window caulking (CK2-Samples 29, 30) in Office 188.20.

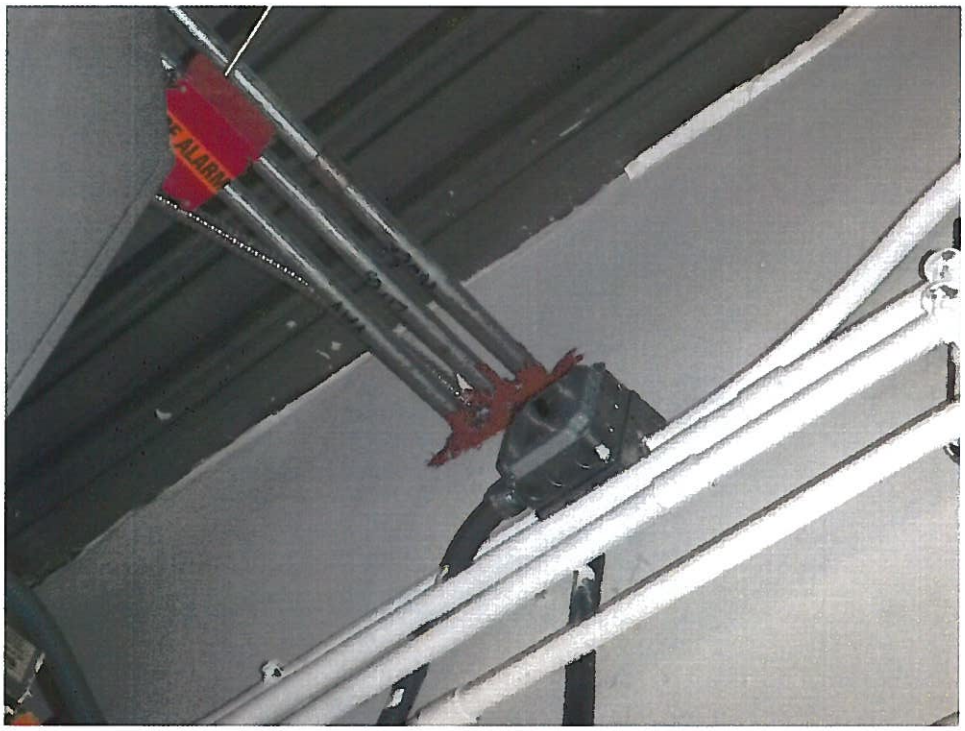
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

13. Non-ACM spray-on fireproofing on metal rolled ceiling deck and columns (2 layers – FP1-Samples 31, 32, 33, 56, 57 and FP2-Samples 38, 39, 40, 41, 42, 114, 115) throughout the building.

14. Non-ACM beige mastic on baseboard (BM1-Samples 34, 35) in Office 174.01.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

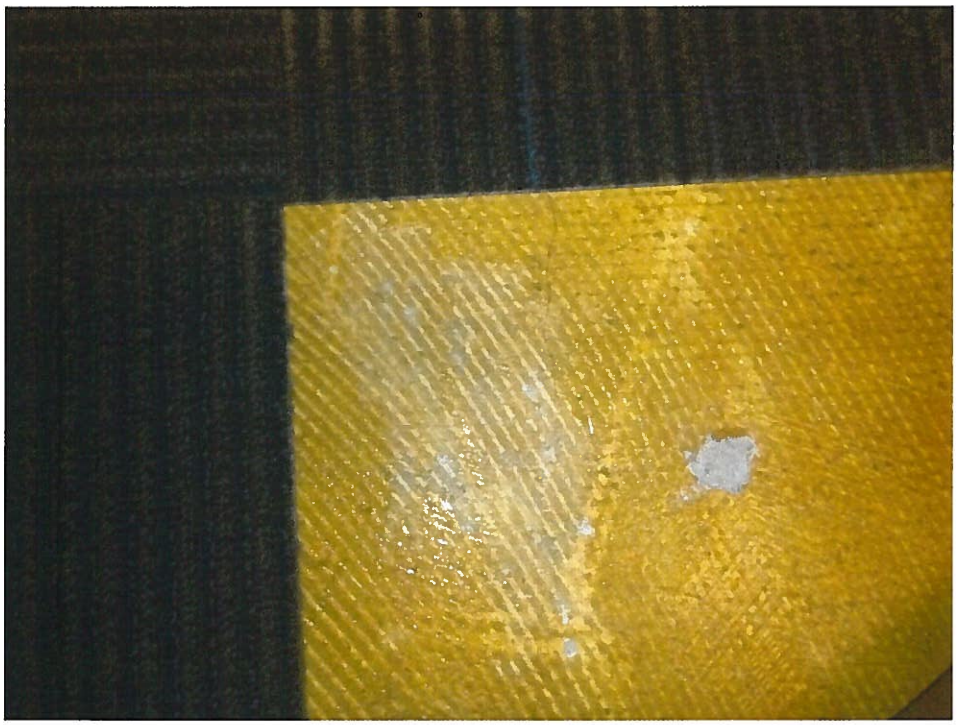
15. Non-ACM yellow mastic on baseboard (BM2-Samples 36, 37) in the hall outside Mechanical Room 172.01.



16. Non-ACM red fire stop (FS1-Samples 43, 44, 45) in Electrical Room 263.03.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

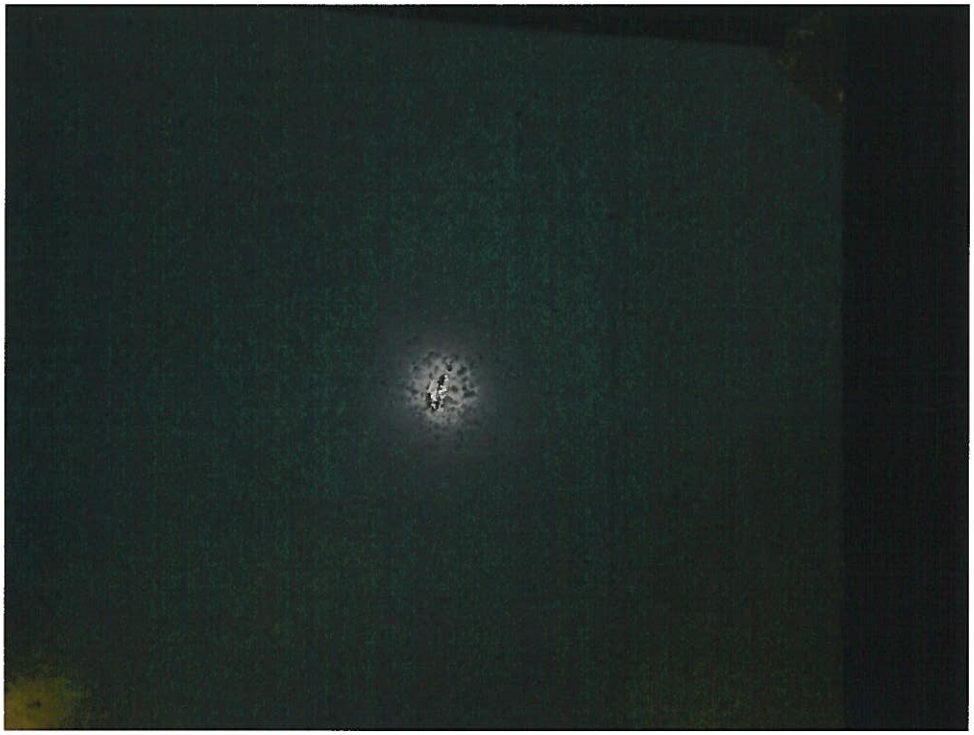
17. Non-ACM gypsum wall board with joint compound (DJ1-Samples 46, 47, 98) in Office 190.23.



18. Non-ACM yellow carpet mastic beneath 2' x 2' carpet squares (CM1-Samples 48, 49, 99, 100, 101, 143, 144) throughout the first and second floors.

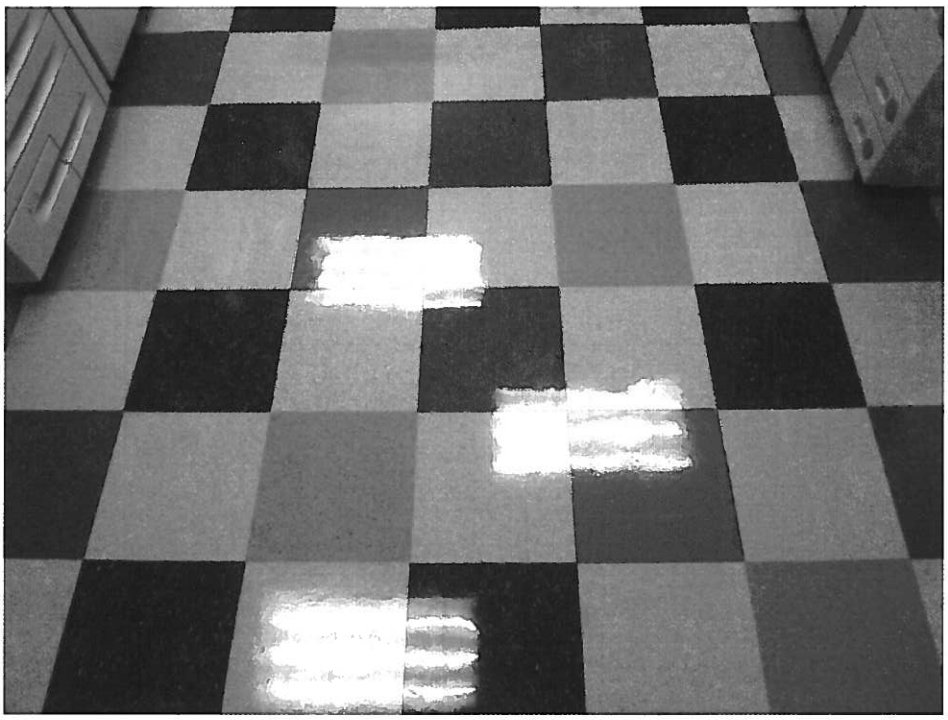
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

19. Non-ACM gypsum ceiling board with joint compound (DJ2-Samples 50, 51) in Restroom 171.01.



20. Non-ACM 12" x 12" light green with black pin mark floor tile (FT1-Samples 52, 53) with non-ACM yellow mastic (FM2-Samples 54, 55) beneath the floor tile in Kitchen 169.

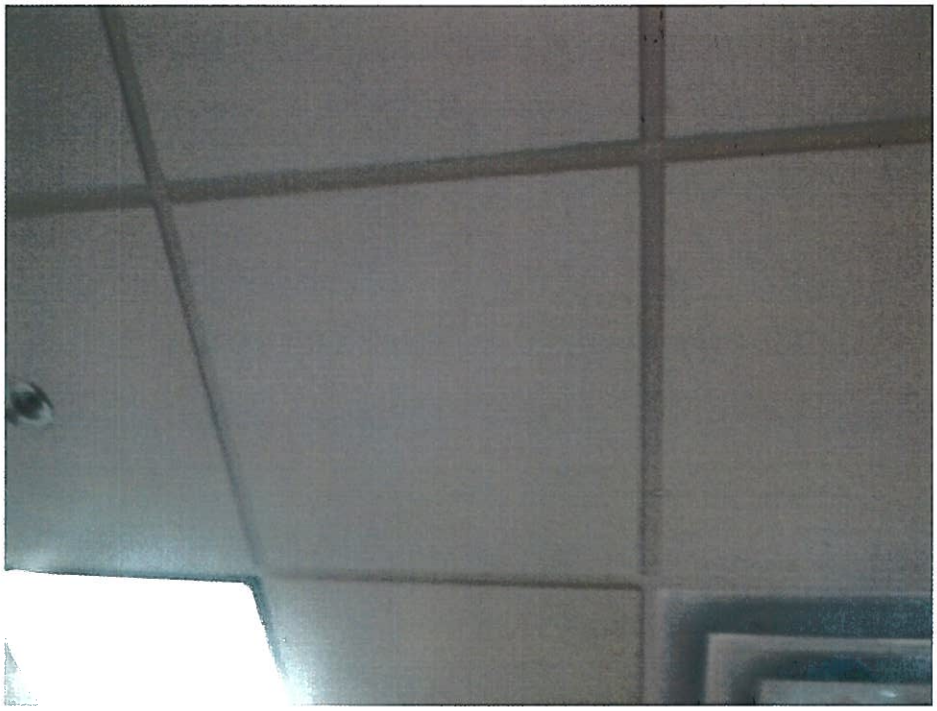
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



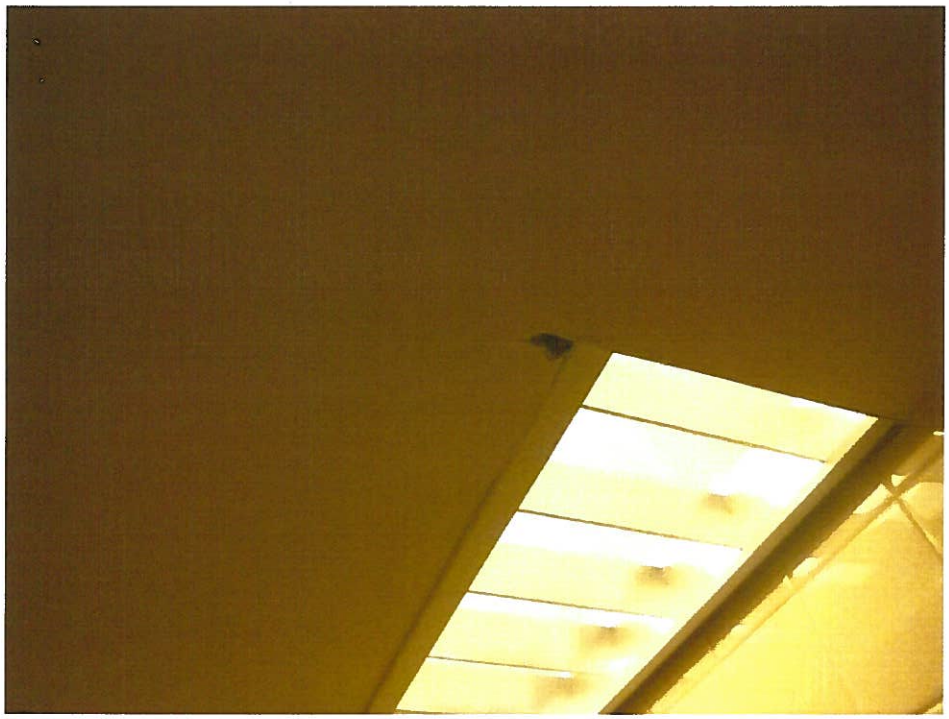
21. Non-ACM 12" x 12" checkerboard pattern floor tile consisting of dark green with black pin mark floor tile (FT2-Samples 58, 59), beige with black pin mark floor tile (FT3-Samples 60, 61), light gray with black pin mark floor tile (FT4-Samples 62, 63), dark gray with light gray feather floor tile (FT5-Samples 64, 65), and black with white feather floor tile (FT6-Samples 66, 67) with non-ACM yellow mastic (FM2-6-Samples 68, 69) beneath the floor tiles in Room 161.

22. Non-ACM gypsum wall board with joint compound (DJ3-Samples 70, 71, 76, 119) in Rooms 101-112 and 201-221.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

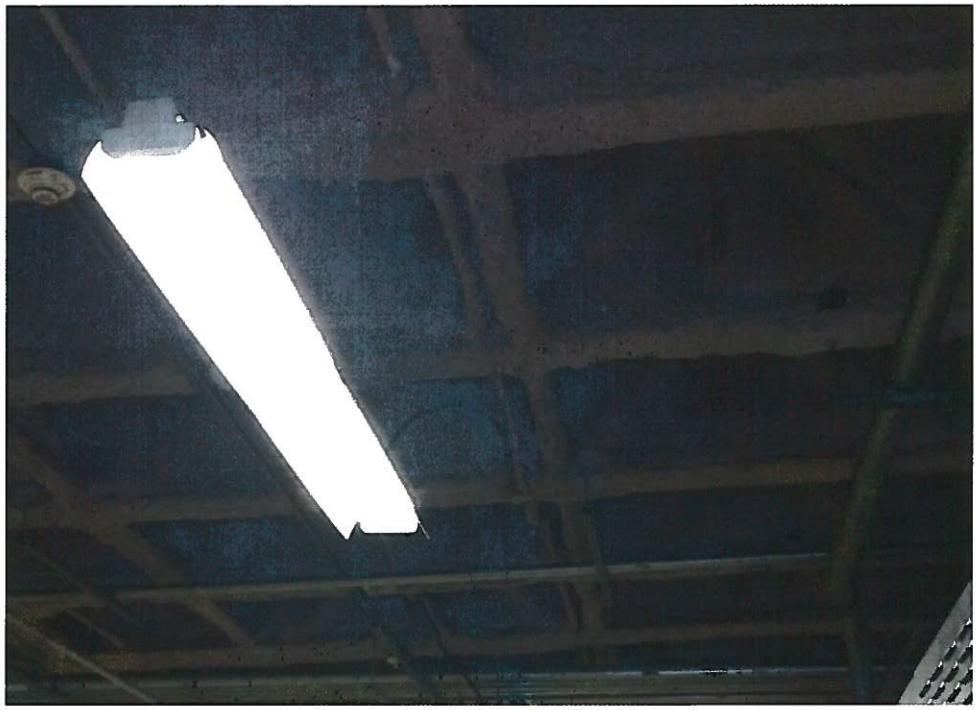


23. Non-ACM 2' x 2' white smooth ceiling tile (CT2-Samples 72, 73, 118) in Rooms 101-112 and 201-221.



24. Non-ACM gypsum ceiling board with joint compound (DJ4-Samples 74, 75) in Men's Restroom next to 102.

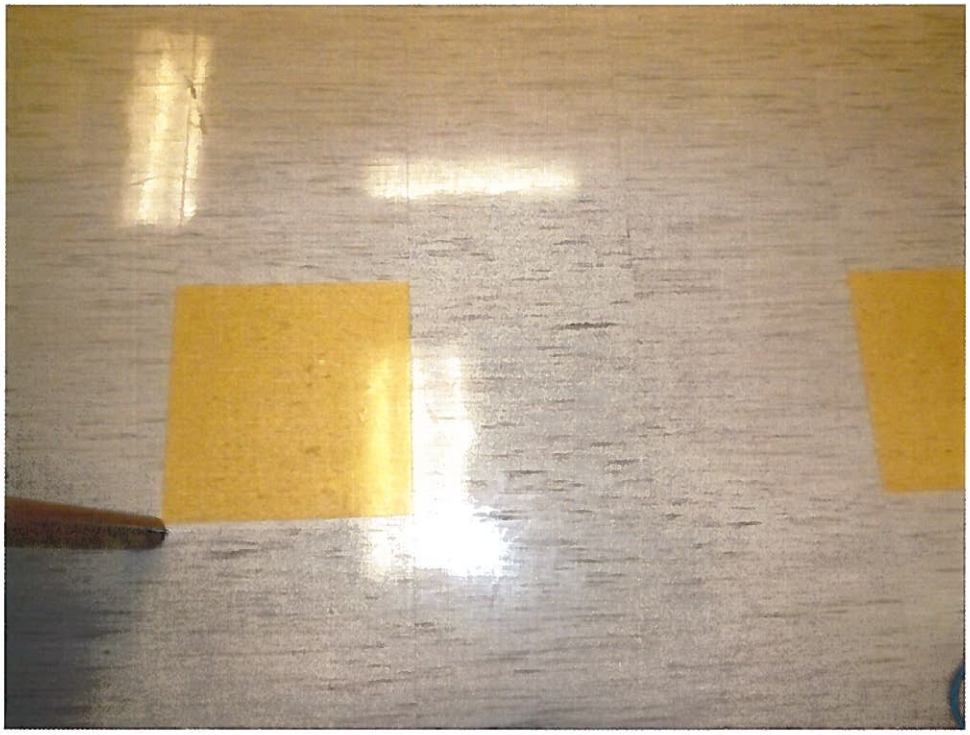
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



25. Non-ACM spray-on fireproofing on concrete ceiling deck (FP3-Samples 77, 78, 79, 80, 81, 82, 83) in Vault 100.

26. Non-ACM 12" x 12" dark blue with light blue feather floor tile (FT7-Samples 84, 85) with non-ACM yellow mastic (FM7-Samples 86, 87) beneath the floor tile in Room 138.39.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



27. Non-ACM 12" x 12" off-white with brown streak floor tile (FT8-Samples 88, 89) and 12" x 12" yellow with dark yellow speck floor tile (FT9-Samples 90, 91) with non-ACM sticky yellow mastic (FM8/9-Samples 92, 93) beneath the floor tile in Room 138.40.

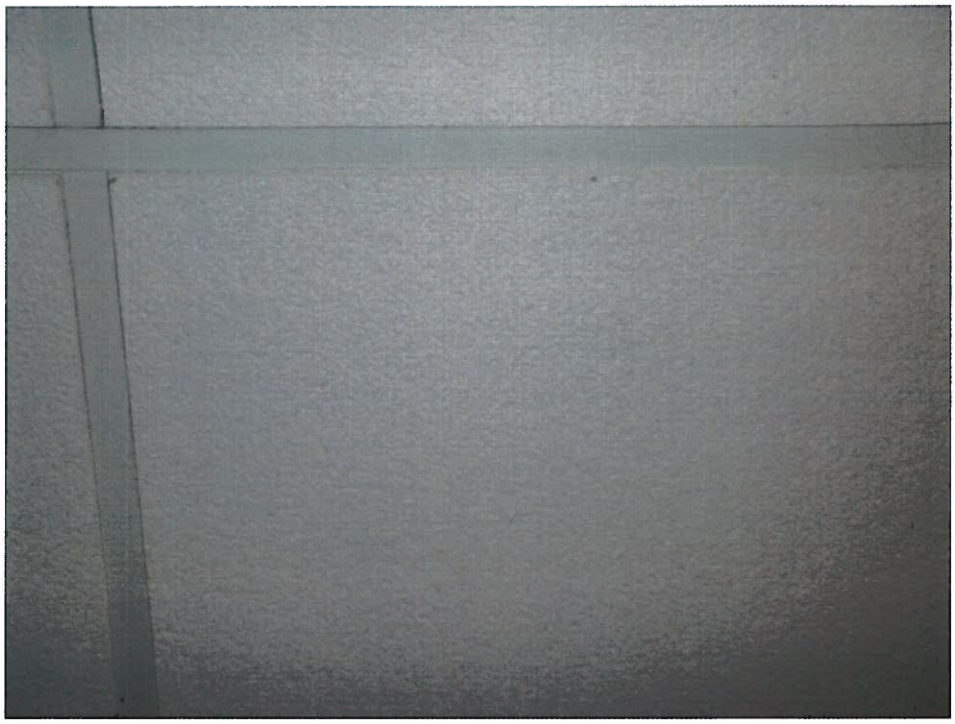
28. Non-ACM 2' x 2' pinhole and small gouge ceiling tile (CT3-Samples 94, 95) in Reception 138.09.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

29. Non-ACM beige mastic on stair tread (STR1-Samples 96, 97) in Stair 1.

30. Non-ACM gypsum wall board with joint compound (DJ5-Samples 108, 109) in Conference Room 206.10.

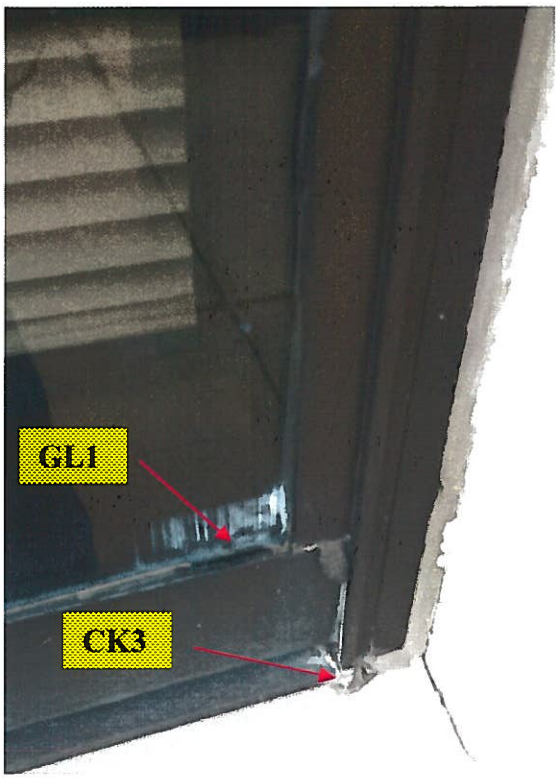
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



31. Non-ACM 2' x 2' light textured recessed ceiling tile (CT4-Samples 112, 113) in Suite 210.

32. Non-ACM black felt paper on inner wall (WFL1-Samples 120, 121) in Reception 212.

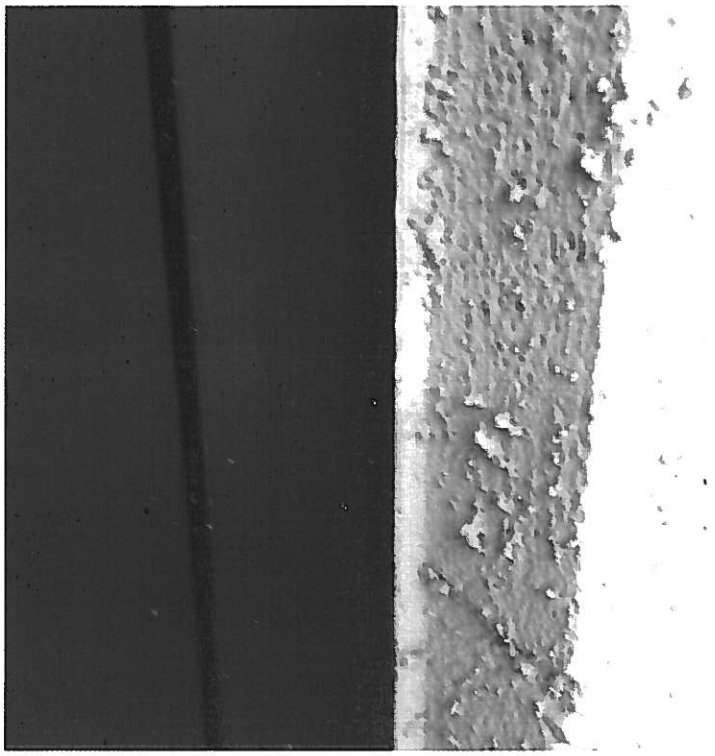
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



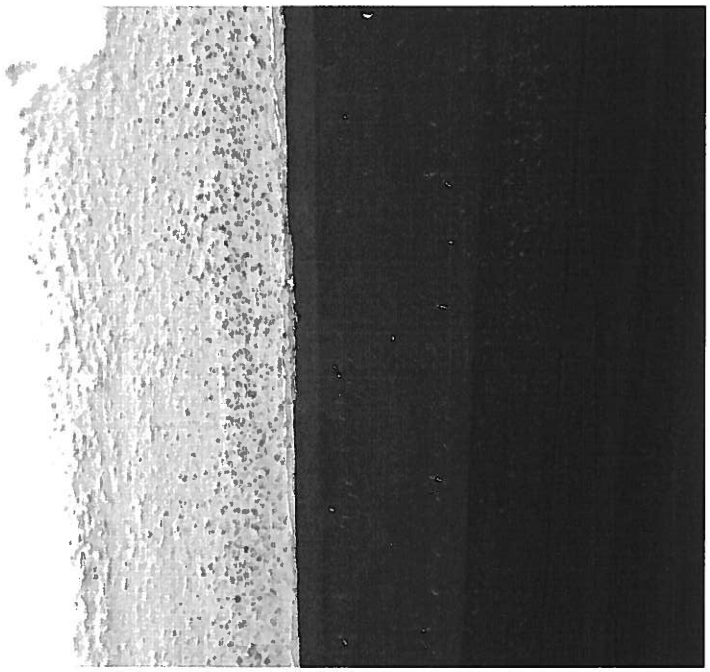
33. Non-ACM exterior window glazing (GL1-Samples 122, 123) and non-ACM tan exterior window caulking (CK3-Samples 124, 125) on the exterior windows of the building.

34. Non-ACM brown exterior window caulking (CK4-Samples 126, 127) on the exterior windows of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



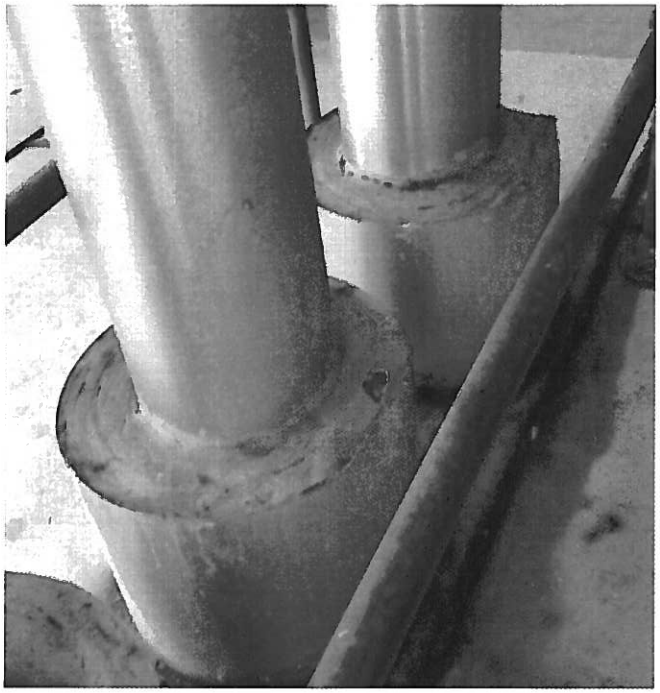
35. Non-ACM white exterior door caulking (CK5-Samples 128, 129) on exterior doors of the building.



36. Non-ACM black exterior door caulking (CK6-Samples 130, 131) on the exterior doors of Vestibule 190.20.

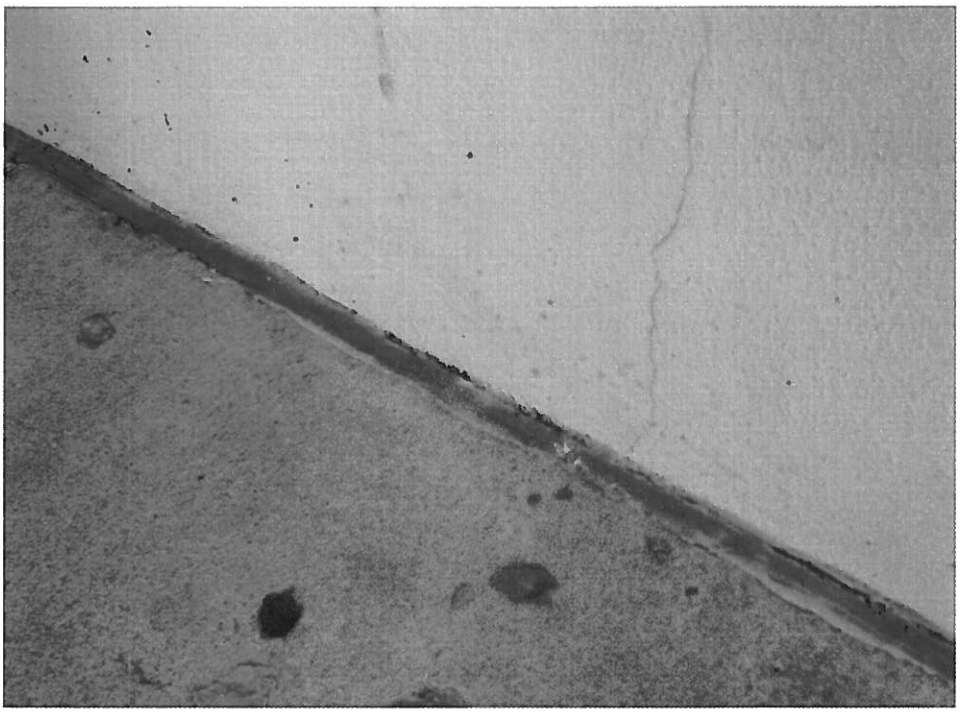
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

37. Non-ACM exterior textured surfacing wall coating (TW1-Samples 132, 133, 134, 135, 136, 137, 138) on the exterior wall of the building.



38. Non-ACM end cap mastic on exterior piping (ECM3-Samples 139, 140) on the exterior north side of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



39. Non-ACM tan expansion joint caulk (CK7-Samples 141, 142) at the base of the exterior of the building.

40. Non-ACM gypsum wall board with joint compound (DJ6-Samples 145, 146) in 225.00 Bridge to hangar.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

41. Non-ACM white seam mastic on foil fiberglass duct insulation (SM7-Samples 147, 148) in 225.00 Bridge to hangar.

42. Non-ACM interior window caulking (CK8-Samples 149, 150) in 225.00 Bridge to hangar.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

43. Non-ACM yellow mastic beneath rolled carpeting (CM3-Samples 151, 152) in Office 310.

44. Non-ACM gypsum wall board with joint compound (DJ7-samples 153, 154) in Office 310.

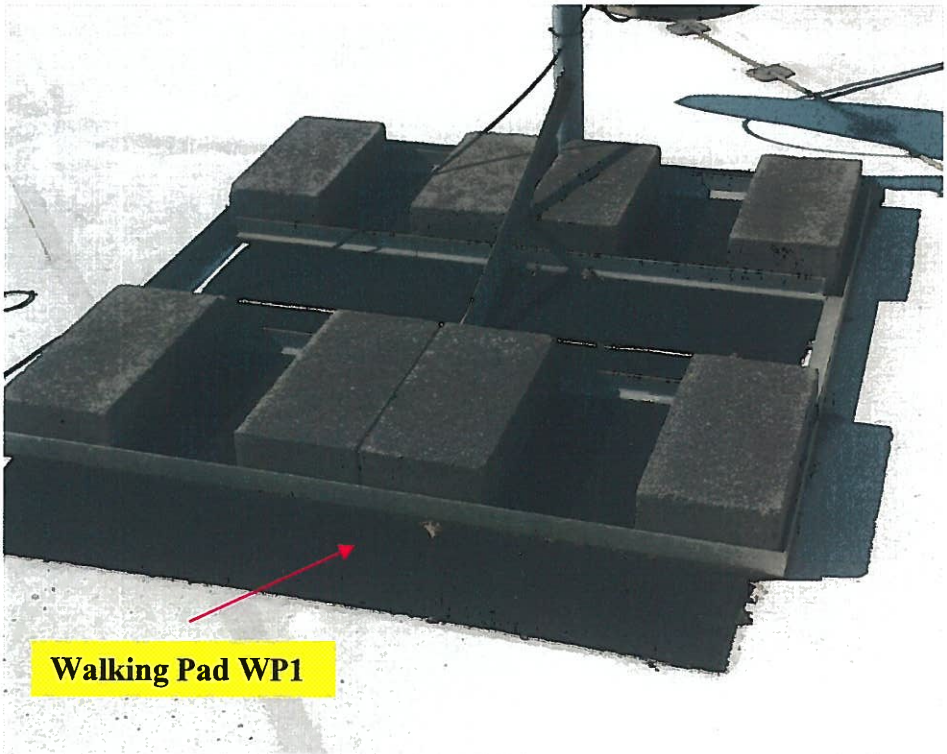
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

45. Non-ACM shiny maroon small square resilient sheet flooring (LN1-Samples 155, 156) in Room 311.

46. Non-ACM gray leveling compound (LV2-Samples 157, 158) beneath carpeting and carpet mastic throughout the third floor.

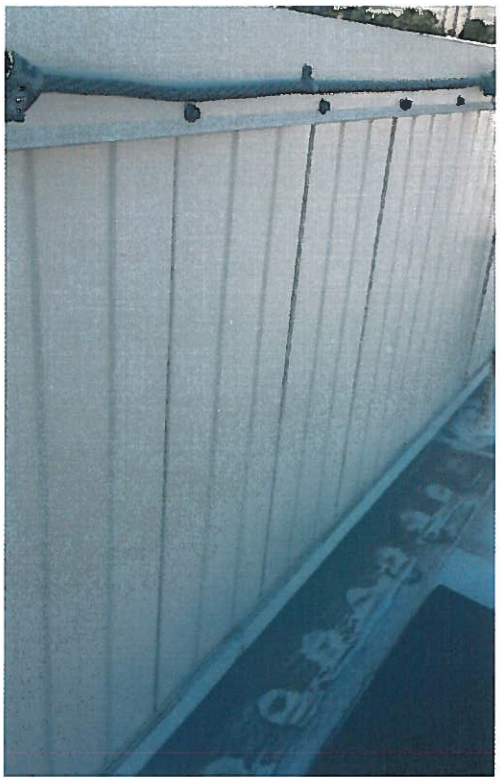
Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

47. Non-ACM felt paper between foam roofing layers (RFL1-Samples 159, 160) on the southwest roof of the building.

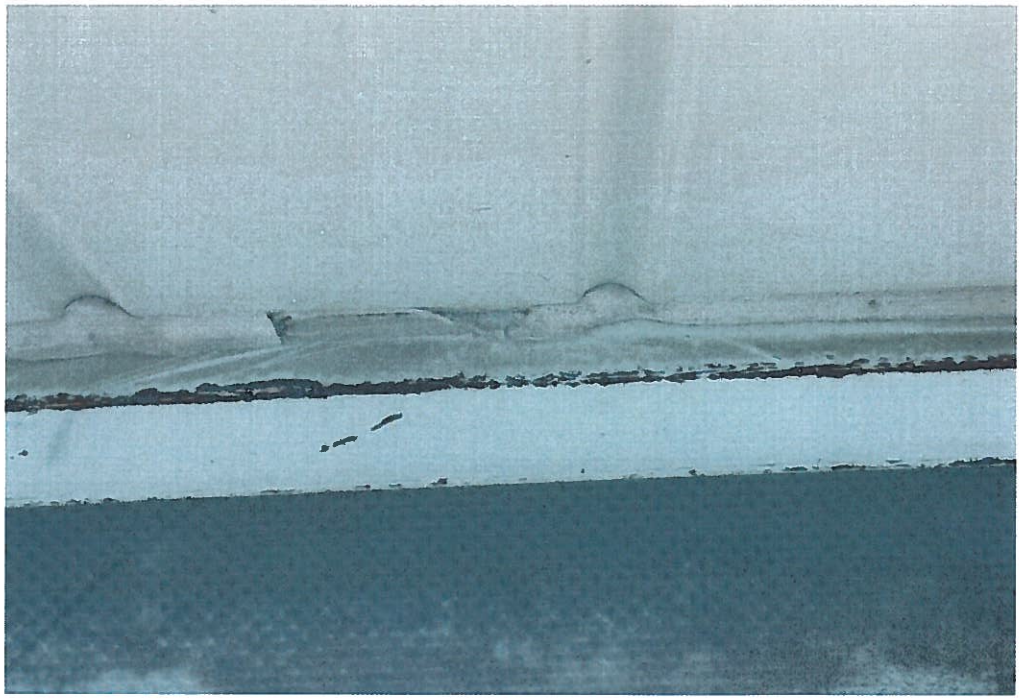


48. Non-ACM roof walking pad (WP1-Samples 161, 162) on the southwest roof of the building.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)



49. Non-ACM white caulking at roof perimeter (RCK1-Samples 163, 164) on exterior roof of building.



50. Non-ACM white and black caulking at roof perimeter (RCK2-Samples 165, 166) on exterior roof of building – addition portion.

Photographs of Suspect ACMs
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

51. Non-ACM felt paper between foam roofing layers (RFL2-Samples 167, 168) on the exterior roof of building – addition portion.

52. Assumed ACM fire door (no samples collected) at Mechanical Room 263.01.

Appendix C

XRF Lead Testing Results

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
1	2015-07-28 17:48	CALIBRATION						1.00 ± 0.10	mg / cm ^2
2	2015-07-28 17:49	CALIBRATION						1.00 ± 0.10	mg / cm ^2
3	2015-07-28 17:50	CALIBRATION						1.10 ± 0.10	mg / cm ^2
4	2015-07-28 17:51	CALIBRATION						1.10 ± 0.10	mg / cm ^2
5	2015-07-28 17:58	FIRST	SUITE #180 RECEPTION AREA	WALL	DRYWALL	FAIR	LIGHT YELLOW	0.00 ± 0.02	mg / cm ^2
6	2015-07-28 18:00	FIRST	SUITE #180 RECEPTION AREA	DOOR FRAME	METAL	FAIR	YELLOW	0.00 ± 0.02	mg / cm ^2
7	2015-07-28 18:02	FIRST	SUITE #180 RECEPTION AREA	DOOR	WOOD	FAIR	TAN	0.01 ± 0.02	mg / cm ^2
8	2015-07-28 18:04	FIRST	SUITE #180 RECEPTION AREA	DOOR	WOOD	FAIR	YELLOW	0.00 ± 0.02	mg / cm ^2
9	2015-07-28 18:14	FIRST	188.20	WINDOW FRAME	METAL	FAIR	BROWN	0.00 ± 0.02	mg / cm ^2
10	2015-07-28 18:21	FIRST	MECHANICAL ROOM 176.01	WALL	CONCRETE	FAIR	WHITE	0.00 ± 0.02	mg / cm ^2
11	2015-07-28 18:24	FIRST	MECHANICAL ROOM 176.01	SUPPORT BAR	METAL	FAIR	BURGUNDY	0.00 ± 0.02	mg / cm ^2
12	2015-07-28 19:19	FIRST	CORRIDOR 172.01	DOOR	METAL	POOR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
13	2015-07-28 19:20	FIRST	CORRIDOR 172.01	DOOR FRAME	METAL	POOR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
14	2015-07-28 19:27	VOID						0.00 ± 0.02	mg / cm ^2
15	2015-07-28 19:28	FIRST	174.01	SUPPORT BARS	METAL	FAIR	LIGHT GRAY	0.01 ± 0.02	mg / cm ^2
16	2015-07-28 19:34	VOID						0.00 ± 0.02	mg / cm ^2
17	2015-07-28 19:37	FIRST	174.01	IBEAM	METAL	FAIR	BURGUNDY	0.01 ± 0.02	mg / cm ^2
18	2015-07-28 19:57	VOID						0.00 ± 0.02	mg / cm ^2
19	2015-07-28 19:59	FIRST	CORRIDOR 172.01	WALL	DRYWALL	POOR	WHITE	0.00 ± 0.02	mg / cm ^2
20	2015-07-28 20:16	FIRST	MECHANICAL ROOM 263.03	WALL	DRYWALL	FAIR	WHITE	0.00 ± 0.02	mg / cm ^2
21	2015-07-28 20:18	FIRST	MECHANICAL ROOM 263.03	DOOR	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
22	2015-07-28 20:19	FIRST	MECHANICAL ROOM 263.03	DOOR FRAME	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
23	2015-07-28 20:22	FIRST	MECHANICAL ROOM 263.03	IBEAM	METAL	POOR	BROWN	0.00 ± 0.02	mg / cm ^2
24	2015-07-28 20:45	THIRD	MECHANICAL ROOM 313	LADDER	METAL	FAIR	BROWN	0.00 ± 0.02	mg / cm ^2
25	2015-07-28 20:59	FIRST	106.00	IBEAM	METAL	FAIR	WHITE	0.01 ± 0.02	mg / cm ^2
26	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
27	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
28	2015-07-28 21:02	VOID						0.00 ± 0.02	mg / cm ^2
29	2015-07-28 21:05	FIRST	106.00 EXTERIOR	WALL	DRYWALL	FAIR	WHITE	-0.03 ± 0.23	mg / cm ^2
30	2015-07-28 21:43	FIRST	190.22	DOOR	WOOD	FAIR	DARK GRAY	0.00 ± 0.02	mg / cm ^2
31	2015-07-28 21:45	VOID						0.00 ± 0.02	mg / cm ^2
32	2015-07-28 21:46	FIRST	190.22	DOOR FRAME	WOOD	FAIR	DARK GRAY	0.00 ± 0.02	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
33	2015-07-28 22:20	FIRST	MENS RESTROOM-SHOWER	WALL	CERAMIC	INTACT	OFF-WHITE	0.02 ± 0.02	mg / cm ^2
34	2015-07-28 22:23	FIRST	MENS RESTROOM-SHOWER	FLOOR	CERAMIC	INTACT	TAN	0.00 ± 0.02	mg / cm ^2
35	2015-07-28 22:26	VOID						0.00 ± 0.02	mg / cm ^2
36	2015-07-28 22:26	VOID						0.00 ± 0.02	mg / cm ^2
37	2015-07-28 22:27	FIRST	MENS RESTROOM-SHOWER	CEILING	DRYWALL	INTACT	WHITE	0.05 ± 0.03	mg / cm ^2
38	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
39	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
40	2015-07-28 23:12	CALIBRATION						1.00 ± 0.10	mg / cm ^2
41	2015-07-28 23:13	CALIBRATION						1.10 ± 0.10	mg / cm ^2
43	2015-07-29 17:36	CALIBRATION						1.00 ± 0.10	mg / cm ^2
44	2015-07-29 17:37	CALIBRATION						1.10 ± 0.10	mg / cm ^2
45	2015-07-29 17:38	CALIBRATION						1.00 ± 0.10	mg / cm ^2
46	2015-07-29 17:39	CALIBRATION						1.20 ± 0.10	mg / cm ^2
47	2015-07-29 19:48	VOID						0.28 ± 0.25	mg / cm ^2
48	2015-07-29 19:53	FIRST	STAIRWELL #2	STAIR STRINGER	METAL	FAIR	LIGHT GRAY	0.00 ± 0.02	mg / cm ^2
49	2015-07-29 21:20	SECOND	SUITE 211.00	DOOR FRAME	METAL	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
50	2015-07-29 23:11	CALIBRATION						1.00 ± 0.10	mg / cm ^2
51	2015-07-29 23:12	CALIBRATION						0.90 ± 0.10	mg / cm ^2
52	2015-07-29 23:12	CALIBRATION						1.10 ± 0.10	mg / cm ^2
53	2015-07-29 23:12	CALIBRATION						1.10 ± 0.20	mg / cm ^2
55	2015-07-30 17:09	CALIBRATION						1.00 ± 0.10	mg / cm ^2
56	2015-07-30 17:10	CALIBRATION						1.00 ± 0.10	mg / cm ^2
57	2015-07-30 17:11	CALIBRATION						1.00 ± 0.10	mg / cm ^2
58	2015-07-30 17:12	CALIBRATION						1.10 ± 0.10	mg / cm ^2
59	2015-07-30 17:29	VOID						0.80 ± 0.30	mg / cm ^2
60	2015-07-30 17:33	FIRST	PUMP ROOM 103 EXTERIOR	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
61	2015-07-30 17:34	VOID						0.80 ± 0.30	mg / cm ^2
62	2015-07-30 17:37	FIRST	PUMP ROOM 103 EXTERIOR	DOOR	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
63	2015-07-30 17:39	FIRST	PUMP ROOM 103 EXTERIOR	DOOR FRAME	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
64	2015-07-30 17:43	VOID						0.90 ± 0.30	mg / cm ^2
65	2015-07-30 17:48	VOID						0.90 ± 0.30	mg / cm ^2
66	2015-07-30 17:50	VOID						0.80 ± 0.30	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
67	2015-07-30 17:56	FIRST	EXTERIOR ELECTRICAL VAULT	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
68	2015-07-30 17:59	FIRST	EXTERIOR FRONT	WALL	CONCRETE	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
69	2015-07-30 18:03	FIRST	EXTERIOR WEST SIDE	WALL	CONCRETE	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
70	2015-07-30 18:06	FIRST	EXTERIOR NORTH SIDE	IBEAM	METAL	FAIR	OFF-WHITE	0.00 ± 0.02	mg / cm ^2
71	2015-07-30 18:09	FIRST	EXTERIOR NORTH SIDE	WALL	CONCRETE	FAIR	BEIGE	0.00 ± 0.02	mg / cm ^2
72	2015-07-30 20:30	CALIBRATION						1.00 ± 0.10	mg / cm ^2
73	2015-07-30 20:31	CALIBRATION						1.10 ± 0.10	mg / cm ^2
74	2015-07-30 20:32	CALIBRATION						1.00 ± 0.10	mg / cm ^2
75	2015-07-30 20:34	CALIBRATION						1.10 ± 0.10	mg / cm ^2

Corporate Office Building
Ronald Reagan Washington National Airport
Arlington, Virginia

XRF Lead Testing Results

Index	Reading No	Time	Floor	Room	Component	Substrate	Condition	Color	PbC	Units
1	104	2015-08-19 07:25	CALIBRATION						1.00 ± 0.10	mg/cm^2
2	105	2015-08-19 07:26	CALIBRATION						1.10 ± 0.10	mg/cm^2
3	106	2015-08-19 07:27	CALIBRATION						1.00 ± 0.10	mg/cm^2
4	107	2015-08-19 07:28	CALIBRATION						1.00 ± 0.10	mg/cm^2
5	108	2015-08-19 07:29	CALIBRATION						0.60 ± 0.10	mg/cm^2
6	109	2015-08-19 07:36	FIRST	MACHINE ROOM	FLOOR	CONCRETE	POOR	RED	0.00 ± 0.02	mg/cm^2
7	110	2015-08-19 07:37	FIRST	MACHINE ROOM	FLOOR	CONCRETE	POOR	RED	0.01 ± 0.02	mg/cm^2
8	111	2015-08-19 07:40	CALIBRATION						1.00 ± 0.10	mg/cm^2
9	112	2015-08-19 07:42	CALIBRATION						1.10 ± 0.10	mg/cm^2
10	113	2015-08-19 07:42	CALIBRATION						1.00 ± 0.10	mg/cm^2
11	114	2015-08-19 07:43	CALIBRATION						1.20 ± 0.10	mg/cm^2

Appendix D

Summary of Estimated Number of PCB Ballasts and Light Tubes

applied environmental inc.

Summary of Estimated Number of PCB Ballasts and Light Tubes
Corporate Office Building

Ronald Reagan Washington National Airport (DCA)
Arlington, Virginia

July 2015

Location	# of light fixtures	Estimated # of ballasts	Estimated # of light tubes	Size of light fixtures
Suites 180, 188, 190	69 fixtures	69	207	4' x 2'
Mechanical Room 106	8 fixtures	8	16	4' x 1'
Corridor 100.85, 190.20, 171, 173	51 fixtures	51	102 U-type	2' x 2'
Rooms 161.00, 163, 164, 164.01, 169,	26 fixtures	26	78	4' x 2'
Suites 144, 154, 156, 158	11 fixtures	11	22 U-type	2' x 2'
	120 fixtures	120	360	4' x 2'
Rooms 101-114	60 fixtures	60	180	2' x 2'
Suites 106, 107, 118, 138	120 fixtures	120	360	4' x 2'
	14 fixtures	14	28 U-type	2' x 2'
1st floor restrooms, 2nd floor restrooms	25 fixtures	25	50	6' x 1'
	28 fixtures	28	84	2' x 2'
Lobby 100.09	20 fixtures	20	40 U-type	2' x 2'
Suites 210, 211, and 214, 206.10, 213.01, 213.03	67 fixtures	67	201	4' x 2'
	21 fixtures	21	42 U-type	2' x 2'
Suites 230, 244, and 201-222	142 fixtures	142	426	4' x 2'
	4 fixtures	4	8 U-type	2' x 2'
	22 fixtures	22	66	2' x 2'
2nd floor corridor 200.01	58 fixtures	58	116 U-type	2' x 2'
Pump Room 103, Vault Room 100	48 fixtures	48	96	4' x 1'
Electrical Rooms 153.01, 103.00, 103.01, 104.01, 124.01, and Exterior Machine Room	8 fixtures	8	24	4' x 2'
Suites 248, 256, 258, 271.01	77 fixtures	77	231	4' x 2'
	6 fixtures	6	12 U-type	2' x 2'
225.00 Bridge to hangar	10 fixtures	10	30	2' x 2'
3rd Floor 301-320 and restrooms	31 fixtures	31	93	4' x 2'
	2 fixtures	2	4 U-type	2' x 2'
	6 fixtures	6	12	6' x 1'
Estimated # of Light Tubes and Ballasts		1,012	374	2' U-type bulbs
			360	2' straight bulbs
			2,092	4' straight bulbs
			62	6' straight bulbs

Appendix E

Inspector Licenses

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	MARFOGLIO, LORI ELIZABETH
License Number	3303003565
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ASHBURN, VA 20147
Initial Certification Date	2010-06-18
Expiration Date	2016-06-30

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	MARFOGLIO, LORI ELIZABETH
License Number	3355000739
License Description	Lead Inspector License
Rank	Lead Abatement Inspector
Address	ASHBURN, VA 20147-0000
Initial Certification Date	2011-04-21
Expiration Date	2016-03-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	SHARIF, OSMAN AHMED
License Number	3303001632
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ASHBURN, VA 20147-0000
Initial Certification Date	1993-06-24
Expiration Date	2015-07-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	LEWIS, GARY JAMES
License Number	3303002808
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	DISTRICT HEIGHTS, MD 20747-0000
Initial Certification Date	2004-04-12
Expiration Date	2016-02-29

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

License Lookup (/LicenseLookup/)
Online Renewal & Services (/OnlineServices/)
Boards (/Boards/)
Professions & Occupations (/ProfessionsAndOccupations/)
Forms & Applications (/FormsAndApplications/)
Fair Housing Office (/FairHousing/)
Community Associations (/CIC-Ombudsman/)
File a Complaint (/Report-Licensee)
Records & Documents (/RecordsandDocuments/)
News & Information (/News/)
About DPOR (/About/)
Contact (/Contact/)

(http://www.facebook.com/VirginiaDPOR)

License Details

Name	LEWIS, GARY JAMES
License Number	3356000751
License Description	Lead Risk Assessor License
Rank	Lead Abatement Risk Assessor
Address	DISTRICT HEIGHTS, MD 20747-0000
Initial Certification Date	2007-04-12
Expiration Date	2015-08-31

The license information in this application was last updated at Wed Aug 19 02:50:18 EDT.

License Lookup legal disclaimer

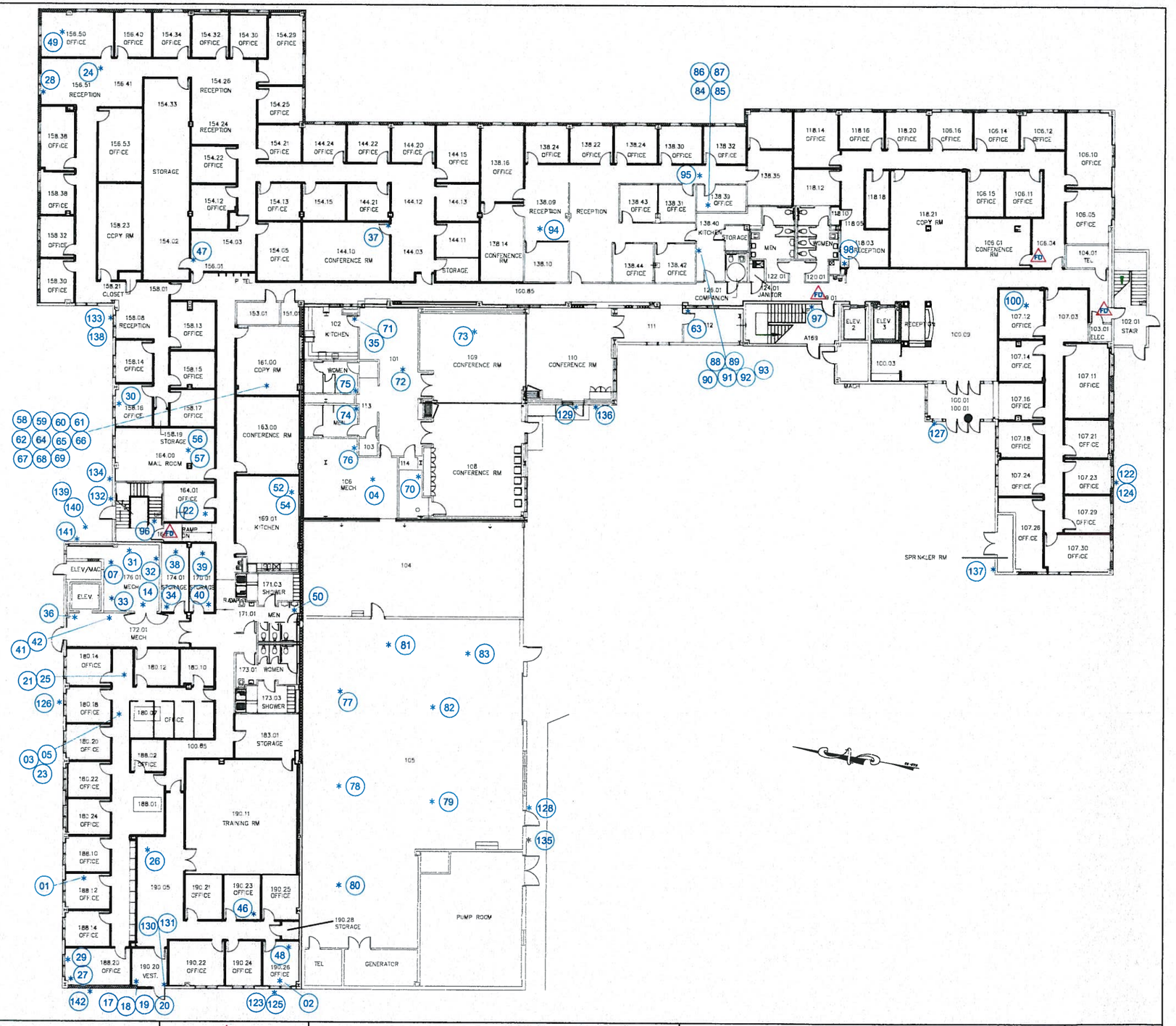
Appendix F

Asbestos Sampling Locations

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND	
00	SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD	ASSUMED ASBESTOS-CONTAINING FIRE DOOR

NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE.



applied environmental inc.
200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

FIGURE 1

ASBESTOS SURVEY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

COB BUILDING - FIRST FLOOR

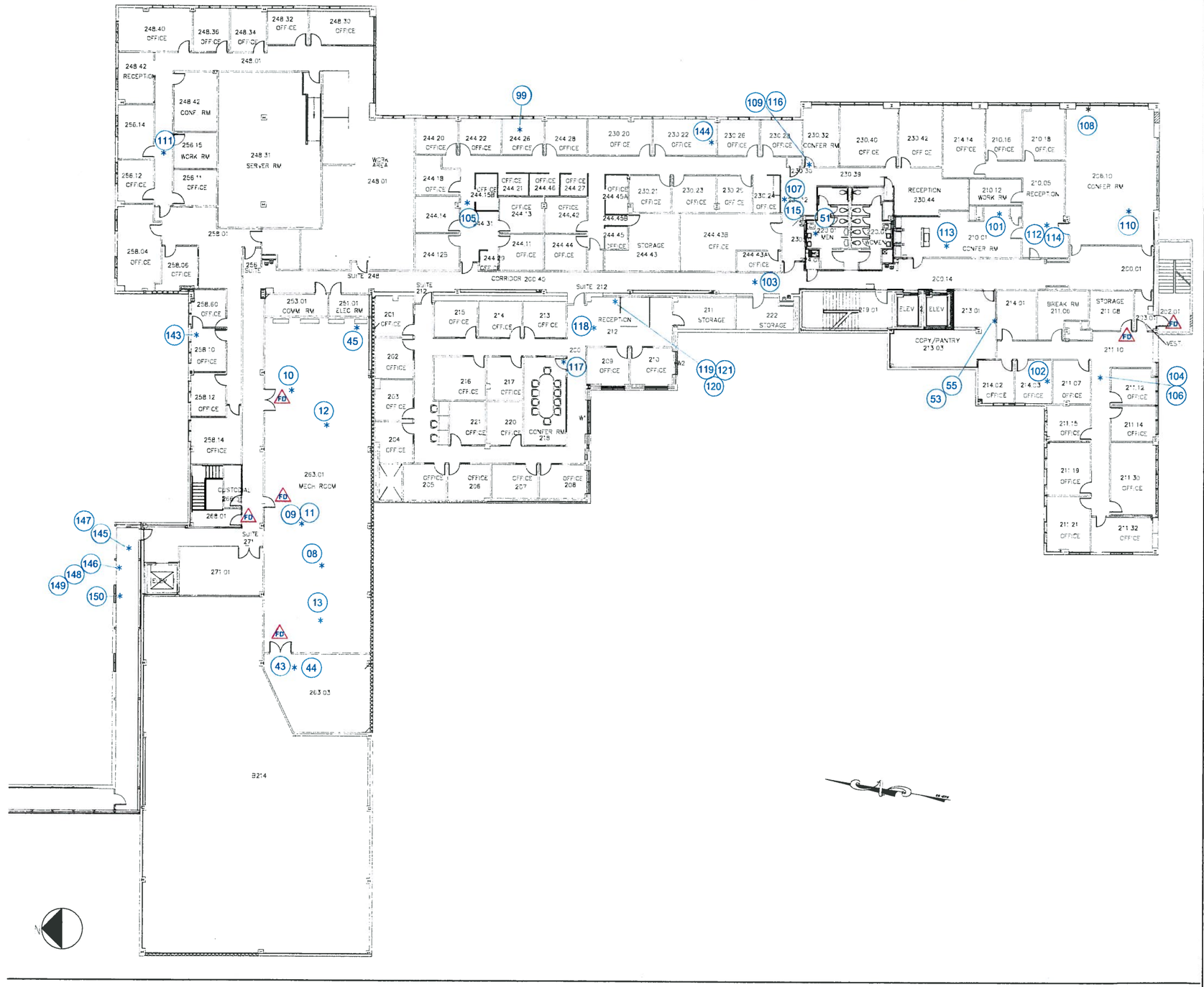
RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE 07/28-30/2015	DRAWN BY OAS	CONTRACT No. 1-13-C052 Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND
(00) SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD ASSUMED ASBESTOS-CONTAINING FIRE DOOR

NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE



applied environmental inc.	FIGURE 1	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

ASBESTOS SURVEY

COB BUILDING - SECOND FLOOR

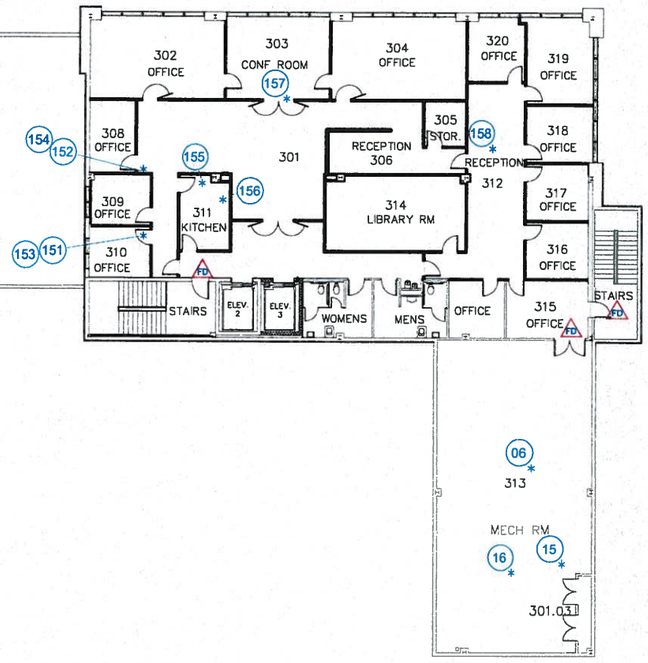
RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE	DRAWN BY	CONTRACT No. 1-13-C052
07/28-30/2015	OAS	Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND	
00	SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
FD	ASSUMED ASBESTOS-CONTAINING FIRE DOOR

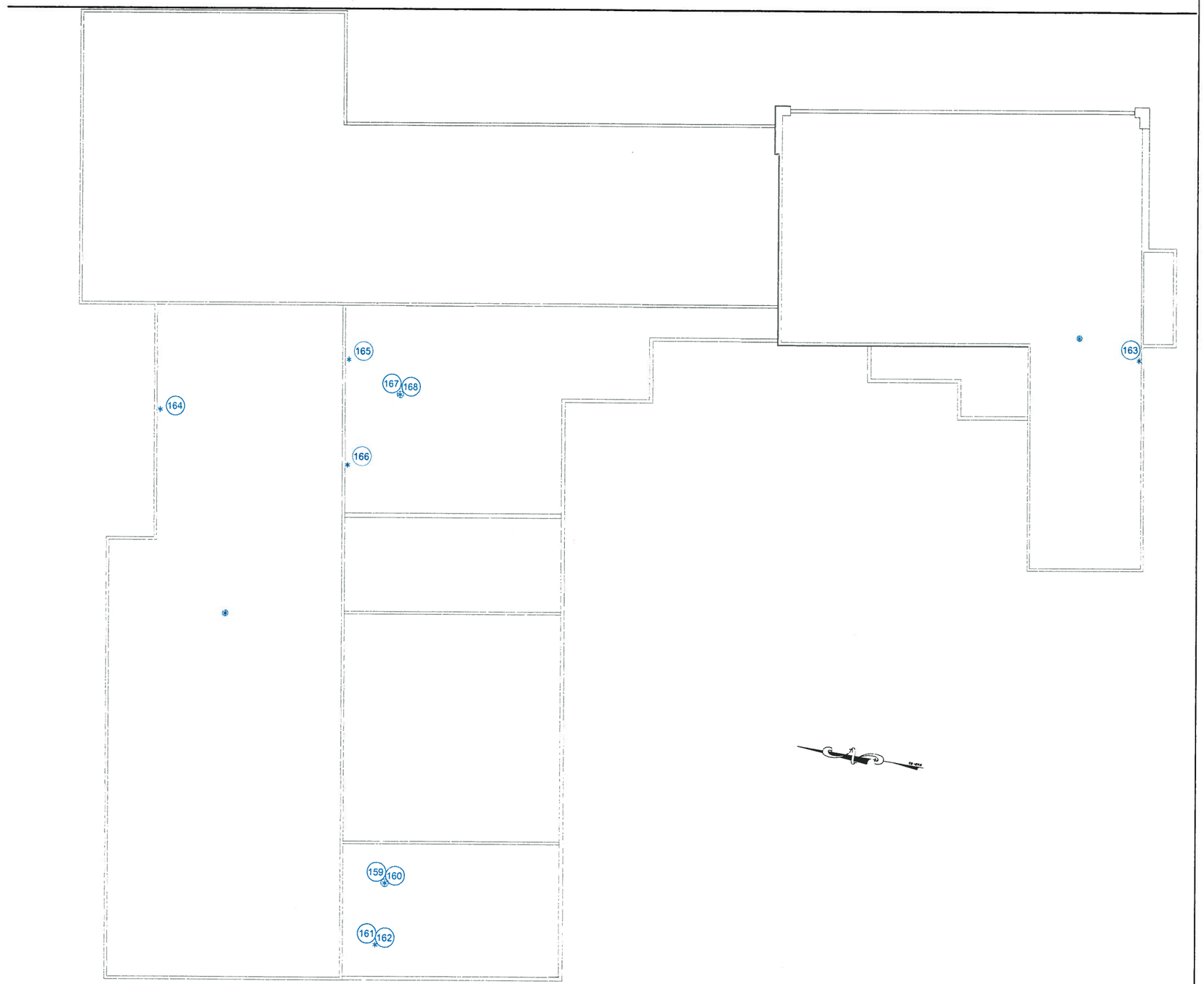
NOTE:
FIRE DOORS WERE ASSUMED TO BE ASBESTOS-CONTAINING AND WERE NOT SAMPLED TO MAINTAIN THE INTEGRITY AND FUNCTION OF THE MATERIAL. THESE FIRE DOORS WERE IDENTIFIED BY UL FIRE RATING PLATES LOCATED ON THE DOORJAMB. THEREFORE, ALL THE FIRE DOORS WITH THE UL FIRE RATING PLATES THROUGHOUT THE FACILITIES SHOULD BE TREATED AS ASBESTOS-CONTAINING UNTIL SAMPLING DETERMINES OTHERWISE.



applied environmental inc. 200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170	FIGURE 1 ASBESTOS SURVEY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	METROPOLITAN WASHINGTON AIRPORTS AUTHORITY	COB BUILDING - THIRD FLOOR RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA SURVEY DATE 07/28-30/2015 · DRAWN BY OAS · CONTRACT No. 1-13-C052 Task Order #15 JOB NO. 486-15-DCA-016 · DATE: 08-21-2015

NOTE:
THE LABORATORY REPORTED ALL THE SAMPLES COLLECTED AS "NONE DETECTED."

LEGEND
(00) SUSPECT ACM SAMPLE NUMBER (NEGATIVE)
⊛ SURVEYED LOCATION



applied environmental inc.
200 FAIRBROOK DRIVE, SUITE 201, HERNDON, VA 20170

FIGURE 1

ASBESTOS SURVEY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

COB BUILDING - ROOF

RONALD REAGAN WASHINGTON NATIONAL AIRPORT, ARLINGTON, VIRGINIA

SURVEY DATE	DRAWN BY	CONTRACT No. 1-13-C052
08/12/2015	OAS	Task Order #15
JOB NO. 486-15-DCA-016	DATE: 08-21-2015	

Appendix G

Asbestos Laboratory Results

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA, Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/29/15
Date Received: 07/29/15
Date Analyzed: 07/29/15
Date Reported: 07/29/15
Project ID: 15015973

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
01	15015973-001	Beige Seam Mastic on Metal Ductwork 1st Floor-Office 188.12	Yes	1	100	ND1	ND1	SYN (3)	97	C, B, OP
02	15015973-002	Beige Seam Mastic on Metal Ductwork 1st Floor-Office 190.24	Yes	1	100	ND1	ND1	SYN (3)	97	C, B, OP
03	15015973-003	Beige Seam Mastic on Foil Fiberglass Duct Insulation 1st Floor-Hallway Outside Office 180.18	Yes	1	100	ND1	ND1	CELL (2)	98	C, B, OP
04	15015973-004	Beige Seam Mastic on Foil Fiberglass Duct Insulation 1st Floor-Mechanical Room 106	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP
05	15015973-005	Gray Seam Mastic on Metal Ductwork 1st Floor-Hallway Outside Office 180.18	Yes	1	100	ND1	ND1	CELL (7)	93	C, B, OP
06	15015973-006	Gray Seam Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (7)	93	C, B, OP
07	15015973-007	White End Cap Mastic on Fiberglass Heating Pipe Insulation 1st Floor Mechanical Room 176.01	Yes	1	100	ND1	ND1	WO (5)	95	C, B, OP
08	15015973-008	White End Cap Mastic on Fiberglass Heating Pipe Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (3) MW (2)	95	C, B, OP
09	15015973-009	White Mastic on White Fiberglass Duct Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP
10	15015973-010	White Mastic on White Fiberglass Duct Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (4)	96	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Cathleen Piccione
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA, Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/29/15
Date Received: 07/29/15
Date Analyzed: 07/29/15
Date Reported: 07/29/15
Project ID: 15015973

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
11	15015973-011	White Seam Mastic on Metal Duct Work 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	CELL (3)	97	C, B, OP
12	15015973-012	White Seam Mastic on Metal Duct Work 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	CELL (4)	96	C, B, OP
13	15015973-013	White End Cap Mastic on Fiberglass Chilled Pipe Insulation 2nd Floor-Mechanical Room 263.01	Yes	1	100	ND1	ND1	WO (3) FBG (7)	90	C, B, OP
14	15015973-014	White End Cap Mastic on Fiberglass Chilled Pipe Insulation 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	WO (6) CELL (4)	90	C, B, OP
15	15015973-015	Light Gray Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (3)	97	C, B, OP
16	15015973-016	Light Gray Mastic on Metal Ductwork 3rd Floor-Mechanical Room 313	Yes	1	100	ND1	ND1	CELL (4)	96	C, B, OP

Cathleen Piccione
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
17	15016419-001	12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
18	15016419-002	12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
19	15016419-003	Yellow Mastic on 12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
20	15016419-004	Yellow Mastic on 12"x12" Gray Floor Tile with Small Square Pattern 1st Floor-Vestibule 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
21	15016419-005	Green Mastic Beneath 2'x2' Carpet Squares 1st Floor-Hall Outside Office 180.14	Yes	1	100	ND1	ND1		>99	C, B, OP
22	15016419-006	Green Mastic Beneath 2'x2' Carpet Squares 1st Floor-Office 164.01	Yes	1	100	ND1	ND1		>99	C, B, OP
23	15016419-007	2'x2' Heavy Textured Ceiling Tile 1st Floor-Hall Outside Office 180.18	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
24	15016419-008	2'x2' Heavy Textured Ceiling Tile 1st Floor-Reception 156.51	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
25	15016419-009	Gray Leveling Compound Beneath Carpet Square 1st Floor-Hall Outside Office 180.14	Yes	1	100	ND1	ND1		>99	Q, C, OP, G
26	15016419-010	Gray Leveling Compound Beneath Carpet Square 1st Floor-Open Area 190.05	Yes	1	100	ND1	ND1		>99	Q, C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
27	15016419-011	Beige Interior Window Frame Caulking 1st Floor-Office 188.20	Yes	1	100	ND1	ND1		>99	C, B, OP
28	15016419-012	Beige Interior Window Frame Caulking 1st Floor-Reception 156.51	Yes	1	100	ND1	ND1		>99	C, B, OP
29	15016419-013	Beige Interior Window Frame Caulking 1st Floor-Office 188.20	Yes	1	100	ND1	ND1		>99	C, B, OP
30	15016419-014	Beige Interior Window Frame Caulking 1st Floor-Office 158.16	Yes	1	100	ND1	ND1		>99	C, B, OP
31	15016419-015	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
32	15016419-016	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
33	15016419-017	Spray-on Fireproofing On Metal Rolled Ceiling Deck 1st Floor-Mechanical Room 176.01	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
34	15016419-018	Beige Mastic on Baseboard 1st Floor-Office 174.01	Yes	1	100	ND1	ND1		>99	C, B, OP
35	15016419-019	Beige Mastic on Baseboard 1st Floor-Office 102	Yes	1	100	ND1	ND1		>99	C, B, OP
36	15016419-020	Yellow Mastic on Baseboard 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
37	15016419-021	Yellow Mastic On Baseboard 1st Floor-Conference Room 144.10	Yes	1	100	ND1	ND1		>99	C, B, OP
38	15016419-022	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 174.01	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
39	15016419-023	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 170.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
40	15016419-024	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Storage 170.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
41	15016419-025	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
42	15016419-026	Spray-On Fireproofing on Metal Rolled Ceiling 1st Floor-Hall Outside Mechanical Room 172.01	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
43	15016419-027	Red Fire Stop 2nd Floor-Electrical Room 263.03	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
44	15016419-028	Red Fire Stop 2nd Floor-Electrical Room 263.03	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
45	15016419-029	Red Fire Stop 2nd Floor-Electrical Room 251.01	Yes	1	100	ND1	ND1	FBG (10)	90	C, B, OP
46	15016419-030	Gypsum Wall Board with Joint Compound 1st Floor-Office 190.23	No	2	100	ND1	ND1	CELL (11) FBG (1)	88	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
47	15016419-031	Gypsum Wall Board with Joint Compound 1st Floor-Office 156.01	No	2	100	ND1	ND1	CELL (Trace) FBG (1)	99	C, OP, G, M
48	15016419-032	Yellow Mastic on 2'x2' Carpet Squares 1st Floor-Office 190.26	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
49	15016419-033	Yellow Mastic on 2'x2' Carpet Squares 1st Floor-Office 156.50	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
50	15016419-034	Gypsum Wall Board with Joint Compound 1st Floor-Restroom 171.01	Yes	1	100	ND1	ND1		>99	P, C, OP, M
51	15016419-035	Gypsum Wall Board with Joint Compound 2nd Floor-2nd Floor Men's Restroom Across From Stair 2	Yes	1	100	ND1	ND1	CELL (15) FBG (Trace)	85	C, OP, G
52	15016419-036	12"x12" Light Green with Black Pin Floor Tile 1st Floor-Kitchen 169	Yes	1	100	ND1	ND1		>99	C, B, OP
53	15016419-037	12"x12" Light Green with Black Pin Floor Tile 2nd Floor-Office 213	Yes	1	100	ND1	ND1		>99	C, B, OP
54	15016419-038	Yellow Mastic on 12"x12" Light Green with Black Pin Floor Tile 1st Floor-Kitchen 169	Yes	1	100	ND1	ND1		>99	C, B, OP
55	15016419-039	Yellow Mastic on 12"x12" Light Green with Black Pin Floor Tile 2nd Floor-Office 213	Yes	1	100	ND1	ND1		>99	C, B, OP
56	15016419-040	Spray-On Fireproofing Insulation on Metal Decking 1st Floor-Mail Room 164	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
57	15016419-041	Spray-On Fireproofing Insulation on Metal Decking 1st Floor-Mail Room 164	Yes	1	100	ND1	ND1	MW (70)	30	C, OP, G
58	15016419-042	12"x12" Dark Blue/Green with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
59	15016419-043	12"x12" Dark Blue/Green with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
60	15016419-044	12"x12" Beige with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
61	15016419-045	12"x12" Beige with Black Pin Floor Tile 1st Floor-Office 114	Yes	1	100	ND1	ND1		>99	C, B, OP
62	15016419-046	12"x12" Light Gray with Black Pin Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
63	15016419-047	12"x12" Light Gray with Black Pin Floor Tile 1st Floor-Office 112	Yes	1	100	ND1	ND1		>99	C, B, OP
64	15016419-048	12"x12" Dark Gray with Light Gray Feathered Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
65	15016419-049	12"x12" Dark Gray with Light Gray Feathered Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
66	15016419-050	12"x12" Black with White Feather Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
67	15016419-051	12"x12" Black with White Feather Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
68	15016419-052	Yellow Mastic on Multi Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
69	15016419-053	Yellow Mastic on Multi Floor Tile 1st Floor-Copy Room 161	Yes	1	100	ND1	ND1		>99	C, B, OP
70	15016419-054	Gypsum Wall Board with Joint Compound 1st Floor-Closet 114	No	4	100	ND1	ND1	CELL (15) FBG (Trace)	85	C, OP, G, M
71	15016419-055	Gypsum Wall Board with Joint Compound 1st Floor-Kitchen 102	Yes	1	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G, M
72	15016419-056	2'x2' White Smooth Ceiling Tile 1st Floor-Open Area 101	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
73	15016419-057	2'x2' White Smooth Ceiling Tile 1st Floor-Conference Room 109	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
74	15016419-058	Gypsum Wall Board with Joint Compound 1st Floor-Men's Restroom Next to 113	Yes	1	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G
75	15016419-059	Gypsum Wall Board with Joint Compound 1st Floor-Women's Restroom Next to 113	No	2	100	ND1	ND1	CELL (Trace)	>99	C, OP, G, M
76	15016419-060	Gypsum Wall Board with Joint Compound 1st Floor-Mechanical Room 106	No	2	100	ND1	ND1		>99	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
77	15016419-061	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
78	15016419-062	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
79	15016419-063	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
80	15016419-064	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
81	15016419-065	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
82	15016419-066	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (35)	65	P, C, OP, G
83	15016419-067	Spray-On Fireproofing on Metal Rolled Ceiling Deck 1st Floor-Vault 105	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
84	15016419-068	12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
85	15016419-069	12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
86	15016419-070	Yellow Mastic on 12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
87	15016419-071	Yellow Mastic on 12"x12" Dark Blue with Light Blue Feather Floor Tile 1st Floor-Office 138.39	Yes	1	100	ND1	ND1		>99	C, B, OP
88	15016419-072	12" X 12" Off-White with Brown Streak Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
89	15016419-073	12" X 12" Off-White with Brown Streak Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C,B , OP
90	15016419-074	12" X 12" Light Yellow with Dark Yellow Speck Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
91	15016419-075	12" X 12" Light Yellow with Dark Yellow Speck Floor Tile 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
92	15016419-076	Sticky Yellow Mastic on FT8/FT9 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1		>99	C, B, OP
93	15016419-077	Sticky Yellow Mastic on FT8/FT9 1st Floor-Kitchen 138.40	Yes	1	100	ND1	ND1	SYN (Trace)	>99	C, B, OP
94	15016419-078	2' X 2' Pinhole + Small Gouge Ceiling Tile 1st Floor-Reception 138.09	Yes	1	100	ND1	ND1	CELL (50) MW (10)	40	P, C, OP
95	15016419-079	2' X 2' Pinhole + Small Gouge Ceiling Tile 1st Floor-Hall Outside 138.31	Yes	1	100	ND1	ND1	CELL (50) MW (10)	40	P, C, OP
96	15016419-080	Beige Mastic on Stair Tread 1st Floor-Stair 1	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
97	15016419-081	Beige Mastic on Stair Tread 1st Floor-Stair 2	Yes	1	100	ND1	ND1		>99	C, B, OP
98	15016419-082	Gypsum Wallboard with Joint Compound 1st Floor-Office 118.03	No	2	100	ND1	ND1	CELL (1) FBG (1)	98	C, OP, G, M
99	15016419-083	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 244.26	Yes	1	100	ND1	ND1		>99	C, B, OP
100	15016419-084	Yellow Mastic Beneath 2' X 2' Carpet Squares 1st Floor-Office 107.12	Yes	1	100	ND1	ND1		>99	C, B, OP
101	15016419-085	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 210.05	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
102	15016419-086	Green Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 214.03	Yes	1	100	ND1	ND1		>99	C, B, OP
103	15016419-087	Green Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Corridor in Front of Office 224.01	Yes	1	100	ND1	ND1		>99	C, B, OP
104	15016419-088	2' X 2' Heavy Textured Ceiling Tile 2nd Floor-Hall 211.10	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
105	15016419-089	2' X 2' Heavy Textured Ceiling Tile 2nd Floor-Hall 244.31	Yes	1	100	ND1	ND1	MW (80)	20	C, OP, G
106	15016419-090	Beige Seam Mastic on Foil Fiberglass Duct Insulation 2nd Floor-Hall 211.10	Yes	1	100	ND1	ND1	WO (7)	93	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
107	15016419-091	Beige Seam Mastic on Foil Fiberglass Duct Insulation 2nd Floor-Hall Outside Office 244.43B	Yes	1	100	ND1	ND1		>99	C, B, OP
108	15016419-092	Gypsum Wallboard with Joint Compound 2nd Floor-Conference Room 206.10	Yes	1	100	ND1	ND1	CELL (8) FBG (1)	91	C, OP, G, M
109	15016419-093	Gypsum Wallboard with Joint Compound 2nd Floor-Conference Room 230.32	Yes	1	100	ND1	ND1	CELL (8)	92	C, OP, G, M
110	15016419-094	Beige Seam Mastic on Metal Duct 2nd Floor-Conference Room 206.10	Yes	1	100	ND1	ND1		>99	C, B, OP
111	15016419-095	Beige Seam Mastic on Metal Duct 2nd Floor-Hall Outside 256.15	Yes	1	100	ND1	ND1		>99	C, B, OP
112	15016419-096	2' X 2' Light Textured Recessed Ceiling Tile 2nd Floor-Reception 210.05	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
113	15016419-097	2' X 2' Light Textured Recessed Ceiling Tile 2nd Floor-Conference Room 210.01	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
114	15016419-098	Spray-On Insulation on Metal Ceiling Deck 2nd Floor-Reception 210.05	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
115	15016419-099	Spray-On Insulation on Metal Ceiling Deck 2nd Floor-Hall Outside 244.43B	Yes	1	100	ND1	ND1	CELL (40)	60	P, C, OP, G
116	15016419-100	Beige Mastic on Baseboard 2nd Floor-Conference Room 230.32	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
117	15016419-101	Beige Mastic on Baseboard 2nd Floor-Conference 218	Yes	1	100	ND1	ND1		>99	C, B, OP
118	15016419-102	2' X 2' White Smooth Ceiling Tile 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	MW (55) CELL (15)	30	P, C, OP
119	15016419-103	Gypsum Wallboard with Joint Compound 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (15) FBG (5)	80	C, OP, G
120	15016419-104	Black Felt Paper on Inner Wall (Hallway Side) 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (70)	30	T, B, OP
121	15016419-105	Black Felt Paper on Inner Wall (Hallway Side) 2nd Floor-Reception 212	Yes	1	100	ND1	ND1	CELL (70)	30	T, B, OP
122	15016419-106	Black Exterior Window Glazing Exterior-Exterior Windows of Building-107.23	Yes	1	100	ND1	ND1		>99	C, B, OP
123	15016419-107	Black Exterior Window Glazing Exterior-Exterior Windows of Building-190.24	Yes	1	100	ND1	ND1		>99	C, B, OP
124	15016419-108	Tan Exterior Window Caulking Exterior-Exterior Windows of Building-107.23	Yes	1	100	ND1	ND1		>99	C, B, OP
125	15016419-109	Tan Exterior Window Caulking Exterior-Exterior Windows of Building-190.24	Yes	1	100	ND1	ND1		>99	C, B, OP
126	15016419-110	Brown Exterior Wndow Caulking Exterior-Exterior Windows of Building-180.18	Yes	1	100	ND1	ND1		>99	C, B, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
127	15016419-111	Brown Exterior Window Caulking Exterior Windows of Main Entrance	Yes	1	100	ND1	ND1		>99	C, B, OP
128	15016419-112	White Exterior Door Caulking Exterior Doors-100 Vault Room	Yes	1	100	ND1	ND1		>99	C, B, OP
129	15016419-113	White Exterior Door Caulking Exterior Doors-Conference Rm 110	Yes	1	100	ND1	ND1		>99	C, B, OP
130	15016419-114	Black Exterior Door Caulking Exterior Doors Vestible 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
131	15016419-115	Black Exterior Door Caulking Exterior Doors-Vestible 190.20	Yes	1	100	ND1	ND1		>99	C, B, OP
132	15016419-116	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
133	15016419-117	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
134	15016419-118	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP
135	15016419-119	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP, B
136	15016419-120	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, OP, B

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
137	15016419-121	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, B, OP
138	15016419-122	Exterior Textured Surfacing Material Exterior of Building	Yes	1	100	ND1	ND1		>99	P, C, B, OP
139	15016419-123	End Cap Mastic on Exterior Piping Exterior-North Side of Building	Yes	1	100	ND1	ND1	CELL (Trace)	>99	C, B, OP
140	15016419-124	End Cap Mastic on Exterior Piping Exterior-North Side of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
141	15016419-125	Tan Expansion Joint Caulking Exterior-Base of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
142	15016419-126	Tan Expansion Joint Caulking Exterior-Base of Building	Yes	1	100	ND1	ND1		>99	C, B, OP
143	15016419-127	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 258.10	Yes	1	100	ND1	ND1		>99	C, B, OP
144	15016419-128	Yellow Mastic Beneath 2' X 2' Carpet Squares 2nd Floor-Office 230.22	Yes	1	100	ND1	ND1		>99	C, B, OP
145	15016419-129	Gypsum Wallboard with Joint Compound 225.00 Bridge	No	2	100	ND1	ND1	CELL (15) FBG (2)	83	C, OP, G, M
146	15016419-130	Gypsum Wallboard with Joint Compound 225.00 Bridge	No	2	100	ND1	ND1	CELL (15)	85	C, OP, G, M

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
147	15016419-131	White Seam Mastic on Foil-Fiberglass Pipe Insulation 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
148	15016419-132	White Seam Mastic on Foil-Fiberglass Pipe Insulation 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
149	15016419-133	White Interior Window Caulking 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
150	15016419-134	White Interior Window Caulking 225.00 Bridge	Yes	1	100	ND1	ND1		>99	C, B, OP
151	15016419-135	Yellow Mastic Beneath Rolled Carpeting 3rd Floor-Office 310	Yes	1	100	ND1	ND1	SYN (Trace) CELL (Trace)	98	C, B, OP
152	15016419-136	Yellow Mastic Beneath Rolled Carpeting 3rd Floor-Office 308	Yes	1	100	ND1	ND1	SYN (2) CELL (Trace)	98	C, B, OP
153	15016419-137	Gypsum Wallboard with Joint Compound 3rd Floor-310	No	2	100	ND1	ND1	CELL (14)	86	C, OP, G, M
154	15016419-138	Gypsum Wallboard with Joint Compound 3rd Floor-Office 308	No	2	100	ND1	ND1	CELL (14) FBG (2)	84	C, OP, G, M
155	15016419-139a	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Purple Sheet Flooring	Yes	1	90	ND1	ND1		>99	C, B, OP
	15016419-139b	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Grey Fibrous Backing	Yes	1	10	ND1	ND1	CELL (70) SYN (15) FBG (5)	10	C, OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA-Central Office Building

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 07/31/15
Date Received: 07/31/15
Date Analyzed: 08/04/15
Date Reported: 08/10/15
Project ID: 15016419

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
156	15016419-140a	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Purple Sheet Flooring	Yes	1	90	ND1	ND1		>99	C, B, OP
	15016419-140b	Shiny Maroon Small Square Resilient Sheet Flooring 3rd Floor-Kitchen 311 Grey Fibrous Backing	Yes	1	10	ND1	ND1	CELL (70) SYN (15) FBG (5)	10	C, OP
157	15016419-141	Gray Leveling Compound 3rd Floor-Conference Room 303	Yes	1	100	ND1	ND1		>99	Q, C, OP, G
158	15016419-142	Gray Leveling Compound 3rd Floor-Reception 312	Yes	1	100	ND1	ND1		>99	Q, C, OP, G

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA
Clint Project Location: Central Office Building-Roof Samples

NVLAP®
NVLAP LAB CODE 200829-0

Date Collected: 08/12/15
Date Received: 08/12/15
Date Analyzed: 08/13/15
Date Reported: 08/13/15
Project ID: 15017581

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA-600/M4-82-20: Interim Method for the Determination of Asbestos in Bulk Insulation Samples - NVLAP Scope of Accreditation

Sample Identification		Client's Physical Description of Sample;	Homo-geneous (yes/no)	Number of Layers	Percent of Sample (%)	Asbestos Detected		Non-Asbestos Fibers (area %)	Non-Fibrous Material (area %)	Matrix Material (composition)
Client	Lab Sample Number					Chrysotile (%)	Amphibole (%)			
159	15017581-001	Felt Paper Between Foam Layers Southwest Roof	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
160	15017581-002	Felt Paper Between Foam Layers Southwest Roof	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
161	15017581-003	Roofing Walk Pod Southwest Roof	Yes	1	100	ND1	ND1		>99	B, OP
162	15017581-004	Roofing Walk Pod Southwest Roof	Yes	1	100	ND1	ND1		>99	B, OP
163	15017581-005	White Caulking at Roof Perimeter South Roof	Yes	1	100	ND1	ND1		>99	C, B, OP
164	15017581-006	White Caulking at Roof Perimeter North Roof	Yes	1	100	ND1	ND1		>99	C, B, OP
165	15017581-007	White + Black Caulking at Roof Perimeter Addition Roof-Center	Yes	1	100	ND1	ND1		>99	C, B, OP
166	15017581-008	White + Black Caulking at Roof Perimeter Addition Roof-Center	Yes	1	100	ND1	ND1		>99	C, B, OP
167	15017581-009	Felt Paper Between Foam Layers Addition Roof-Center	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP
168	15017581-010	Felt Paper Between Foam Layers Addition Roof-Center	Yes	1	100	ND1	ND1	CELL (65) FBG (15)	20	OP

A = Amosite
AC = Actinolite
AN = Anthophyllite
CR = Crocidolite
TR = Tremolite
ND1 = None Detected
Trace = Less Than 1%

CELL = Cellulose
MW = Mineral Wool
FBG = Fiberglass
SYN = Synthetic
WO = Wollastonite
NTR = Non-Asbestiform TR
NAC = Non-Asbestiform AC
FT = Fibrous Talc
AH = Animal Hair

Q = Quartz
C = Carbonates
V = Vermiculite
G = Gypsum
M = Mica
T = Tar
P = Perlite
O = Organic
B = Binder
OP = Opaques
D = Diatoms

Leah Peyton
Laboratory Analyst

Cathleen Piccione
Technical Supervisor

Aerobiology Laboratory Associates, Incorporated
Celebrating 15 Years

43760 Trade Center Place
Suite 100
Dulles, VA 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis

Applied Environmental
200 Fairbrook Dr.Suite 201
Herndon, VA 20170
Attn: Lori Marfoglio
Client Project Name: DCA
Clint Project Location: Central Office Building-Roof Samples

NVLAP LAB CODE 200829-0

Date Collected:	08/12/15
Date Received:	08/12/15
Date Analyzed:	08/13/15
Date Reported:	08/13/15
Project ID:	15017581

General Notes

- **ND1** indicates no asbestos was detected; the method detection limit is 1%.
- **Trace or "<1"** indicates asbestos was identified in the sample, but the concentration is less than the method detection limit of 1%.
- All regulated asbestos minerals (i.e. chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite) were sought in every layer of each sample, but only those asbestos minerals detected are listed. Amosite is the common name for the asbestiform variety of the minerals cummingtonite and grunerite. Crocidolite is the common name used for the asbestiform variety of the mineral riebeckite.
- Tile, vinyl, foam, plastic, and fine powder samples may contain asbestos fibers of such small diameter (< 0.25 microns in diameter) that these fibers cannot be detected by PLM. For such samples, more sensitive analytical methods (e.g. TEM, SEM, and XRD) are recommended if greater certainty about asbestos content is required. Semi-quantitative bulk TEM floor tile analysis is accepted under the NESHAPS regulations.
- Samples identified as inhomogeneous (containing more that one layer) shall be divided into individual layers and each layer tested separately. The results for each individual layer shall be listed separately on the report.
- These results are submitted pursuant to Aerobiology's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted.
- Unless notified in writing to return the samples covered by this report, Aerobiology Laboratory will store the samples for a minimum period of 3 months before discarding. A shipping and handling charge will be assessed for the return of any samples.
- This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
- This test report relates only to the items tested or calibrated.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must include the entire document in order for the report to be valid.

150159 73 15 015973

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

* Please have results by close of business 7/29/15

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address: Email: Lmarfoglio@appenv.com
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☒ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM2	01		Beige seam mastic on metal ductwork	1st floor - office 188.12 ~~190.24~~	
	SM2	02		" "	1st floor - office 190.24 ~~188.12~~	
	SM1	03		Beige seam mastic on foil fiberglass duct insulation	~~1st floor~~ hallway outside 1st floor - office 180.18	
	SM1	04		" "	1st floor - mechanical Room 106	
	SM3	05		Gray seam mastic on metal ductwork	hallway outside 1st floor - office 180.18	
	SM3	06		" "	3rd floor - mechanical room 313	
	ECM1	07		white end cap mastic on fiberglass heating pipe insulation	1st floor - mechanical room 176.01	
	ECM1	08		" "	2nd floor - mechanical room 263.01	
	SM4	09		white mastic on white fiberglass duct insulation	↓ - ↓	
	SM4	10		" "	-	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/29/15
Received by: Name) Manju Pradeep (Signature) Manju (Date/Time) 7/29/15 @ 8:25am
Analyzed by: Name) (Signature) (Date/Time)

Lab Tracking #:

15015973

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: PCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM5	11		white seam mastic on metal duct work	2nd floor - mechanical room 263.01	
	SM5	12		" "	" "	
	ECM2	13		white end cap mastic on fiberglass chilled Pipe insulation	" "	
	ECM2	14		" "	1st floor - mechanical room 176.01	
	SM6	15		Light gray mastic on metal duct work	3rd floor - mechanical room 313	
	SM6	16		" "	" "	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/29/15
Received by: Name) Mayji Pradeep (Signature) Mayji (Date/Time) 7/29/15 8:25 am
Analyzed by: Name) (Signature) (Date/Time)

Lab Tracking #:

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 1501641

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____ Email: Lmarfoglio@appenv.com
Phone #: _____ Cell #: _____ Fax #: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate _____ (QTY) Pos. Stop ☐ N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FT10	17		12"x12" gray floor tile with small square pattern	1st Floor – Vestibule 190.20	
	FT10	18		" "	–	
	FM10	19		yellow mastic on 12"x12" gray floor tile w/ small square pattern	–	
	FM10	20		" "	–	
	CM2	21		Green mastic beneath 2'x2' carpet squares	– hall outside office 180.14	
	CM2	22		" "	– Office 164.01	
	CT1	23		2'x2' heavy textured ceiling tile	– hall outside office 180.18	
	CT1	24		" "	– reception 156.51	
	LV1	25		Gray leveling compound beneath carpet squares	– hall outside office 180.14	
	LV1	26		" "	– open area 190.05	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #: 150164119

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y)N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	CK1	27		Beige interior window frame caulking	1st floor – office 188.20	
	CK1	28		" "	– Reception 156.51	
	CK2	29			– office 188.20	
	CK2	30			– office 158.16	
	FP1	31		Spray-on fireproofing on metal rolled ceiling deck	– mechanical Room 176.01	
	FP1	32		↓ ↓	– ↓ ↓	
	FP1	33		↓ ↓	– ↓ ↓	
	BM1	34		Beige mastic on baseboard	– office 174.01	
	BM1	35		" "	– office 102	
	BM2	36		Yellow mastic on baseboard	– hall outside mechanical room 172.01	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 726419

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate____ (QTY) Pos. Stop (Y)N ☐ EPA Point Count____ (QTY) ☐ Vacuum Wipe (Qualitative)____ (QTY) ☐ Particle ID____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	BM2	37		Yellow mastic on baseboard	1st floor – Conference Room 144.10	
	FP2	38		Spray-on fireproofing on metal rollet ceiling	– Storage 174.01	
	FP2	39			– Storage 170.01	
	FP2	40			– "	
	FP2	41			– hall outside mechanical room 172.01	
	FP2	42			– " "	
	FS1	43		Red fire stop	2nd floor – Electrical room 263.03	
	FS1	44			– " "	
	FS1	45			– Electrical room 251.01	
	DS1	46		Gypsum wall board with joint compound	1st floor – Office 190.23	

Sampled by (Name) Lori Maffeo (Signature) Lori Maffeo (Date/Time) 7/31/15 Lab Tracking:
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	DD1	47		Gypsum wall board with joint compound	1st floor – office 156.01	
	CM1	48		Yellow mastic on 2'x2' carpet squares	– office 190.2a	
	CM1	49		" "	– office 156.50	
	DD2	50		Gypsum ceiling board with joint compound	– restroom ~~office~~ 171.01	
	DD2	51		" "	2nd floor – 2nd floor men's restroom across from stair 2	
	FT1	52		12"x12" light green with black pin floor tile	1st floor – kitchen 169	
	FT1	53		" "	2nd floor – office 213	
	FM1	54		Yellow mastic on 12"x12" light green w/ black pin floor tile	1st floor – kitchen 169	
	FM1	55		" "	2nd floor – office 213	
	FP1	56		Spray-on fireproofing insulation on metal decking	1st floor – mail room 164	

Sampled by (Name) Lori Maffeglio (Signature) Lori Maffeglio (Date/Time) 7/31/15 Lab Tracking #
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FP1	57		Spray-on fireproofing insulation on metal decking	1st floor - Mail Room 164	
	FT2	58		12"x12" dark blue/green with black pin floor tile	- Copy Room 161	
	FT2	59		" "	-	
	FT3	60		12"x12" beige with black pin floor tile	-	
	FT3	61		" "	- office 114	
	FT4	62		12"x12" light gray with black pin floor tile	- Copy Room 161	
	FT4	63		" "	- office 112	
	FT5	64		12"x12" dark gray with light gray feathered floor tile	- Copy Room 161	
	FT5	65		" "	-	
	FT6	66		12"x12" black with white feather floor tile	-	

Sampled by: (Name) Lori Maffoglio (Signature) Lori Maffoglio (Date/Time) 7/31/15 Lab Tracking #
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y)N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FT6	67		12"x12" black with white feather floor tile	1st floor - Copy Room 161	
	FM26	68		Yellow mastic on multi floor tile	-	
	FM26	69		" "	-	
	DJ3	70		Gypsum wall board with joint compound	- Closet ~~office~~ 114 (new) kitchen	
	DJ3	71		" "	- ~~office~~ 102	
	CT2	72		2'x2' white smooth ceiling tile	- open area 101	
	CT2	73		" "	- conference room 109	
	DJ4	74		Gypsum ceiling board with joint compound	- mens restroom next to 113	
	DJ4	75		" "	- womens restroom next to 113	
	DJ3	76		Gypsum wall board with joint compound	- mechanical room 106	

Sampled by (Name) Lori Marfoglio (Signature) Lori marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 150419

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FP3	77		Spray-on fireproofing on metal roll ceiling deck	1st floor - Vault 105	
	FP3	78			-	
	FP3	79			-	
	FP3	80			-	
	FP3	81			-	
	FP3	82			-	
	FP3	83			-	
	FT7	84		12"x12" dark blue with light blue feather floor tile	- Office 138.39	
	FT7	85			-	
	FM7	86		Yellow mastic on 12"x12" dark blue w/ light blue feather floor tile	-	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by (Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by (Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # Bulgari

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	FM7	87		Yellow mastic on 12"x12" dark blue with light blue feather floor tile	1st floor - Office 138.39	
	FT8	88		12"x12" off-white with brown streak floor tile	- Kitchen 138.40	
	FT8	89		" "	-	
	FT9	90		12"x12" light yellow with dark yellow speck floor tile	-	
	FT9	91		" "	-	
	FM8/9	92		Sticky yellow mastic on FT8/FT9	-	
	FM8/9	93		" "	-	
	CT3	94		2'x2' pinhole + small gage ceiling tile	- Reception 138.09 Hall outside	
	CT3	95		" "	- office 138.31	
	STR1	96		Beige mastic on stair tread	- Stair 1	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	STR1	97		Beige mastic on stair tread	1st floor - Stair 2	
	DSI	98		Gypsum wall board with joint compound	" - office 118.03	
	CM1	99		Yellow mastic beneath 2'x2' carpet squares	2nd floor - Office 244.26	
	CM1	100		↓ ↓	1st floor - Office 107.12	
	CM1	101		↓ ↓	2nd floor - Office 210.05	
	CM2	102		Green mastic beneath 2'x2' carpet squares	- Office 214.03	
	CM2	103		" "	corridor in front of - office 224.01	
	CT1	104		2'x2' heavy textured ceiling tile	- hall 211.10	
	CT1	105		" "	- hall 244.31	
	SM1	106		Beige seam mastic on foil fiberglass duct insulation	- hall 211.10	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by: Name) (Signature) (Date/Time)
Analyzed by: Name) (Signature) (Date/Time)

applied environmental inc

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM1	107		Beige seam mastic on foil fiberglass duct insulation	2nd floor – hall outside office 244.43B	
	DJ5	108		Gypsum wall board with joint compound	– Conference room 206.10	
	DJ5	109		" "	– Conference room 230.32	
	SM2	110		Beige seam mastic on metal duct	– Conference room 206.10	
	SM2	111		" "	– hall outside 256.15	
	CT4	112		2'x2' light textured recessed ceiling tile	– reception 210.05	
	CT4	113		" "	– Conference room 210.01	
	FP2	114		Spray-on insulation on metal ceiling deck	– reception 210.05	
	FP2	115		" "	– hall outside 244.43B	
	BM1	116		Beige mastic on baseboard	– conference room 230.32	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by: (Name) _____ (Signature) _____ (Date/Time) _____
Analyzed by: (Name) _____ (Signature) _____ (Date/Time) _____

applied environmental inc

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Page 11 of 15

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop (Y) N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	BM1	117		Beige mastic on baseboard	2nd floor – Conference Room 218	
	CT2	118		2'x2' white smooth ceiling tile	– Reception 212	
	DW3	119		Gypsum wall board with joint compound	–	
	WFL1	120		black felt paper on inner wall (hallway side)	–	
	WFL1	121		" "	–	
	GL1	122		black Exterior window glazing	Exterior – Exterior windows of building	– 107.23
	GL1	123		" "	–	– 190.24
	CK3	124		tan exterior window caulking	–	– 107.23
	CK3	125		" "	–	– 190.24
	CK4	126		brown exterior window caulking	–	– 180.18

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project #

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop ☐ ON ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	CK4	127		Brown exterior window caulking	Exterior windows of main entrance	
	CK5	128		white exterior door caulking	Exterior doors - 100 vault room	
	CK5	129		" "	- Conference Rm 110	
	CK6	130		black exterior door caulking	- Vestibule 190.20	
	CK6	131		" "	- " "	
	TR1	132		Exterior textured surfacing material	Exterior of building	
	TR1	133				
	TR1	134				
	TR1	135				
	TR1	136				

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # [illegible]

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____

Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____

Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)

Analysis PLM Bulk ☑ EPA 600 Visual Estimate ____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count ____ (QTY) ☐ Vacuum Wipe (Qualitative) ____ (QTY) ☐ Particle ID ____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	TR1	137		Exterior textured surfacing material	Exterior of building	
	TR1	138		" "	" "	
	ECM3	139		End cap mastic on exterior piping	Exterior - North side of building	
	ECM3	140		" "	" "	
	CK7	141		Tan expansion joint caulking	Exterior - base of building	
	CK7	142		" "	" "	
	CM1	143		Yellow mastic beneath 2'x2' carpet squares	2nd floor - office 258.10	
	CM1	144		" "	" - office 230.22	
	DJ6	145		Gypsum wall board with joint compound	225.00 Bridge	
	DJ6	146		" "	" "	

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking #:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # (Sabella)

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: _____ Client Address: _____
Phone #: _____ Cell #: _____ Fax #: _____ Email: _____
Job Information
Job #: _____ Job Name: DCA Job Location: Central Office Building
Building Code #: _____ Phone #: _____ Cell #: _____ Fax #: _____
Turn Around Time Needed Date Required: __/__/__ ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate _____ (QTY) Pos. Stop (Y) N ☐ EPA Point Count _____ (QTY) ☐ Vacuum Wipe (Qualitative) _____ (QTY) ☐ Particle ID _____ (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	SM7	147		White Seam mastic on foil-fiberglass pipe insulation	225.00 Bridge	
	SM7	148		" "		
	CK8	149		White interior window caulking		
	CK8	150		" "		
	CM3	151		Yellow mastic beneath rolled carpeting	3rd floor – Office 310	
	CM3	152		" "	– 308	
	DJ7	153		Gypsum wall board with joint compound	– 310	
	DJ7	154		" "	– 308	
	LN1	155		Shiny maroon small square resilient sheet flooring	– kitchen 311	
	LN1	156		" "	– " 311	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking:
Received by (Name) (Signature) (Date/Time)
Analyzed by (Name) (Signature) (Date/Time)

applied environmental inc.
NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # Folio19

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Client/Mailing/Billing Information
Client Name: Client Address:
Phone #: Cell #: Fax #: Email:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☐ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☑ EPA 600 Visual Estimate (QTY) Pos. Stop ☐ Y ☐ N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	LV2	157		Gray leveling compound	3rd floor - Conference room 303	
	LV2	158		" "	" - reception 312	

Sampled by (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 7/31/15 Lab Tracking
Received by Name) (Signature) (Date/Time)
Analyzed by Name) (Signature) (Date/Time)

15 017581

applied environmental inc.

NVLAP (#101611-0)
200 Fairbrook Dr., Suite 201, Herndon, VA 20170
(703) 648-0822 Fax (703) 648-0575
www.appenv.com

AEI Project # 486-15-DCA-011

15017581

PLM BULK SAMPLE TRANSMITTAL/CHAIN OF CUSTODY

Page 1 of

Client/Mailing/Billing Information
Client Name: Client Address: Email:
Phone #: Cell #: Fax #:
Job Information
Job #: Job Name: DCA Job Location: Central Office Building - Roof Samples
Building Code #: Phone #: Cell #: Fax #:
Turn Around Time Needed Date Required: / / ☐ Immediate ☐ Same Day ☑ 24 hr ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day+ ☐ After Hours* (*must be pre-scheduled)
Analysis PLM Bulk ☐ EPA 600 Visual Estimate (QTY) Pos. Stop Y/N ☐ EPA Point Count (QTY) ☐ Vacuum Wipe (Qualitative) (QTY) ☐ Particle ID (QTY)

HSA #	Material Code (See Reverse)	Sample #	Log #	Material Description	Sample Location	Result
	RFL1	159		Felt paper between foam layers	Southwest roof	
	RFL1	160		" "	" "	
	WP1	161		Rooting walk pad		
	WP1	162		" "		
	RCK1	163		white Caulking at roof perimeter	South roof	
	RCK1	164		" "	North roof	
	RCK2	165		white + black Caulking at roof perimeter	Addition roof - center	
	RCK2	166		" "		
	RFL2	167		Felt paper between foam layers		
	RFL2	168		" "		

Sampled by: (Name) Lori Marfoglio (Signature) Lori Marfoglio (Date/Time) 8/12/15
Received by: (Name) PJ (Signature) (Date/Time) 8/12/15 @ 11:15 am
Analyzed by: (Name) (Signature) (Date/Time)

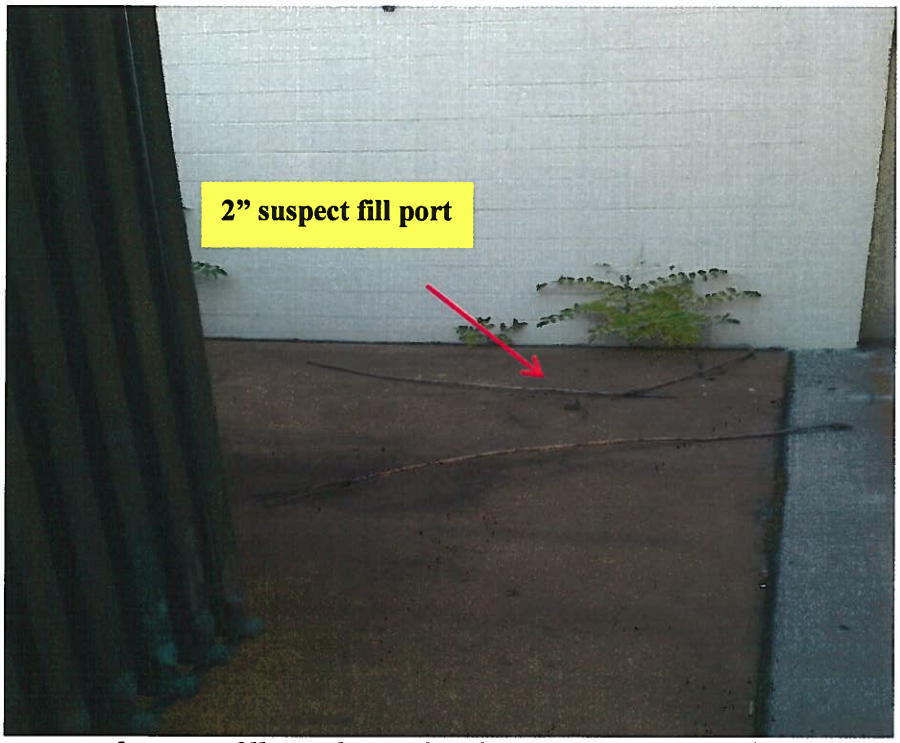
Lab Tracking #

Appendix H

Photographs of Suspect Fill Port

Photographs of Suspect Fill Port
Corporate Office Building
Ronald Reagan Washington National Airport (DCA)

Photograph of 2" suspect fill port located within Open Area 104 of the Corporate Office Building. Use of the fill port is unknown; may be associated with former or abandoned oil filled equipment.



View facing east of suspect fill port located within Open Area 104 of the Corporate Office Building.

Appendix F

Air Quality Analysis

Appendix F Air Quality Analysis

The methods used to calculate emissions of carbon monoxide (CO), volatile organic compounds (VOCs), oxides of nitrogen (NOx), sulfur oxides (SOx), particulate matter less than 10 microns (PM_{10}), and fine particulate matter ($PM_{2.5}$) from construction and demolition-related sources of air pollutant emissions at Ronald Reagan Washington National Airport (the Airport) are documented in this appendix. The emissions analysis was conducted to develop emissions inventories pursuant to the National Environmental Policy Act of 1969 (NEPA), as well as to determine whether emissions associated with the Proposed Action would exceed applicable *de minimis* thresholds as documented in the U.S. Environmental Protection Agency's (EPA's) general conformity regulations.

Estimates of construction and demolition-related emissions were developed for the Proposed Action using standard industry methodologies and techniques. Construction activities associated with the new concourse and secure screening checkpoints (SSCPs) are anticipated to begin in 2016 and be completed in 2022.

Airport operational emissions inventories were not developed for the future years (2016 to 2022) that were evaluated in the Environmental Assessment (EA), because aircraft activity and operating characteristics would be the same under the Proposed Action and the No Action Alternative.

F.1 Construction Emissions

Pollutant emissions resulting from construction and demolition activities associated with the New Concourse and SSCPs at the Airport were estimated using standard industry methodologies and techniques. Construction and demolition emissions were not estimated for the No Action Alternative, because no demolition or construction activity would be associated with the No Action Alternative.

Potential sources of construction emissions include construction vehicles and equipment, demolition, land development activities, and asphalt paving activities. It was assumed that asphalt would be batched offsite at batch plant facilities operating under stationary source permits. As a result, emissions were not estimated separately for batch plants. Construction equipment emissions are generally estimated using two basic methodologies (nonroad and on-road), depending on the type of construction equipment. Nonroad construction equipment (e.g., bulldozers, backhoes, front end loaders) are generally operated off road and on the construction site. On-road construction equipment (e.g., semi-trucks for material hauling), in contrast, can be operated on public roads. Emissions for on-road construction equipment and nonroad construction equipment were estimated separately, following standard industry practices.

Construction emissions were estimated for each proposed construction task or activity in support of the New Concourse and SSCPs. These activities include the demolition of existing structures and hangars, hauling debris off site, utility relocation, installation of security gates, pavement construction, placing surcharge material, and the construction of the Proposed Action. Construction data required to conduct the emissions estimates for demolition, construction, hauling, paving, and relocated utility infrastructure were derived from information supplied by Metropolitan Washington Airports Authority (the Authority).

F.1.1 ON-ROAD CONSTRUCTION EQUIPMENT

Emissions from on-road construction vehicles/equipment were calculated using the methodologies outlined in U.S. EPA AP-42, *Compilation of Air Pollutant Emission Factors Fourth Edition, Volume II: Mobile Sources*. On-road construction vehicle trips include construction employee vehicle round trips to and from the job site, off-site hauling trips, and material delivery trips.

The first step in calculating total on-road construction equipment emissions was to determine total vehicle miles traveled (VMT) during each construction year (2016 to 2022). VMT is calculated by multiplying the total number of vehicle trips by the trip distance. Trip data were estimated by the Authority and HMMH based on the sources previously mentioned. The VMT data were then multiplied by appropriate emissions factors to calculate potential emissions. The emissions factor data were developed using the EPA MOVES model, and they take into account local characteristics such as fuel mixture and vehicle fleet mix. **Table F-1** presents the MOVES emission factors used to calculate emissions for on-road construction equipment at the Airport for the years 2016 to 2022. **Table F-2** presents emissions estimates for on-road construction equipment for the Proposed Action.

F.1.2 NONROAD CONSTRUCTION EQUIPMENT

Nonroad construction equipment includes bulldozers, loaders, sweepers, and other heavy-duty construction equipment that does not travel on roadways. Emissions for nonroad vehicles equipped with diesel-powered engines are regulated under Title 40 Code of Federal Regulations (CFR) 89.112, *Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards*.[1] Emission factors associated with diesel engines vary by engine year and horsepower according to Tier 1, Tier 2, Tier 3, and Tier 4 emissions standards, as presented in Table 1 of the EPA report NR-009c, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition*.[2]

Nonroad construction equipment emissions from 2016 to 2022 under the Proposed Action were calculated based on the engine horsepower, hours of equipment use, load factor, and the average age of the equipment. The EPA recommends the methodology shown in **Equation F-1** for calculating emissions from nonroad construction equipment.

---

1 Title 40 Code of Federal Regulations (CFR) Part 89, Subpart B, Section 89.112, July 1, 2002.

2 EPA, Report No. NR-009c, April 2004.

Table F-1: On-Road Construction Equipment Emission Factors

				EMISSION FACTORS (POUNDS PER MILE)[1/]					
PHASE	**ACTIVITY**	**YEAR**	**SOURCE**	**CO**	**VOC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Phase 1A	Demolition of Hangar	2017	Hauling Trips	0.0025	4.07E-04	0.0104	3.09E-05	4.28E-04	4.15E-04
			Employee Vehicle Trips	0.0038	4.81E-05	0.0003	4.34E-06	1.56E-05	1.43E-05
Phase 1B	Utility Relocation	2017	Employee Vehicle Trips	0.0038	4.81E-05	0.0003	4.34E-06	1.56E-05	1.43E-05
	Security Fence	2017	Employee Vehicle Trips	0.0038	4.81E-05	0.0003	4.34E-06	1.56E-05	1.43E-05
Phase 2	Placing Surcharge Material	2016	Employee Vehicle Trips	0.0039	5.36E-05	0.0003	4.42E-06	1.60E-05	1.47E-05
	Pavement Construction (temp)	2018	Employee Vehicle Trips	0.0037	4.40E-05	0.0003	4.27E-06	1.47E-05	1.35E-05
	New Concourse Construction	2018	Hauling Trips	0.0020	2.97E-04	0.0086	3.06E-05	3.05E-04	2.96E-04
			Employee Vehicle Trips	0.0037	4.40E-05	0.0003	4.27E-06	1.47E-05	1.35E-05
	Grading and Paving	2019	Employee Vehicle Trips	0.0036	4.11E-05	0.0002	4.19E-06	1.44E-05	1.32E-05
		2020	Employee Vehicle Trips	0.0035	3.69E-05	0.0002	4.12E-06	1.44E-05	1.33E-05
		2021	Employee Vehicle Trips	0.0035	3.52E-05	0.0002	4.05E-06	1.39E-05	1.28E-05
		2022[2/]	Employee Vehicle Trips	0.0035	3.52E-05	0.0002	4.05E-06	1.39E-05	1.28E-05
Phase 3	Secure National Hall Construction	2017	Employee Vehicle Trips	0.0038	4.81E-05	0.0003	4.34E-06	1.56E-05	1.43E-05
		2018	Employee Vehicle Trips	0.0037	4.40E-05	0.0003	4.27E-06	1.47E-05	1.35E-05
		2019	Employee Vehicle Trips	0.0036	4.11E-05	0.0002	4.19E-06	1.44E-05	1.32E-05

NOTES:

1/ Assuming an average speed of 45 miles per hour.

2/ Emissions factors for 2022 were assumed to be the same as 2021, since construction operations are expected to be similar. This is a conservative assumption in that EPA vehicle and fuel regulations are expected to result in lower emissions from year to year due to cleaner engine standards and fleet turnover.

SOURCE: HMMH, July 2015, based on output from the EPA MOVES model.
PREPARED BY: HMMH, January 2016.

Table F-2: On-road Construction Equipment Emissions—Proposed Action

YEAR	ACTIVITY	TRIPS PER YEAR	EMISSIONS TONS PER YEAR						
			VMT[1]	VOC	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2
Phase 2 New Concourse—Placing Surcharge Material									
2016									
	Employee Trips	480	24,000	0.0006	0.0466	0.0041	0.0002	0.0002	0.0005
Phase 1A Demolition of Hangar									
2017	Hauling Trips	10,800	432,000	0.0879	0.5333	2.2369	0.0925	0.0897	0.0067
	Employee Trips	3,400	170,000	0.0041	0.3217	0.0254	0.0013	0.0012	0.0004
Phase 1B North Area Utility Relocation									
2017									
	Employee Trips	480	24,000	0.0006	0.0454	0.0036	0.0002	0.0002	0.0005
Phase 1B Security Gate and Fence Modifications									
2017									
	Employee Trips	360	18,000	0.0004	0.0341	0.0027	0.0001	0.0001	0.00003
Phase 3 Secure National Hall Construction									
2017									
	Employee Trips	1,560	104,000	0.0025	0.1968	0.0155	0.0008	0.00075	0.00002
Phase 2 Pavement Construction									
2018									
	Employee Trips	1,080	36,000	0.0008	0.0663	0.0047	0.0003	0.0002	0.0007
Phase 2 New Concourse Construction									
2018	Removal of Soils Hauling Trips	19,800	1,029,600	0.1528	1.013	4.409	0.1569	0.1522	0.0157
	Employee Trips	1,560	130,000	0.0031	0.27409	0.0196	0.0009	0.0009	0.0009
	New Material Hauling Trips	22,200	1,154,400	0.1712	1.1358	4.944	0.1759	0.1707	0.0176
Phase 3 Secure National Hall Construction									
2018									
	Employee Trips	1,560	104,000	0.0023	0.1914	0.0137	0.0007	0.0007	0.0002
Phase 2 New Concourse Construction									
2019									
	Employee Trips	1,560	130,000	0.0029	0.27	0.0177	0.0009	0.0008	0.0009
Phase 3 Secure National Hall Construction									
2019									
	Employee Trips	1,560	104,000	0.0021	0.1883	0.0123	0.0007	0.0007	0.0002
Phase 2 New Concourse Construction									
2020									
	Employee Trips	780	65,000	0.0012	0.152	0.007	0.0005	0.0004	0.0001
Phase 2 New Concourse Construction									
2021									
	Employee Trips	780	65,000	0.0011	0.114	0.0065	0.0005	0.0004	0.0001
Phase 2 New Concourse Construction									
2022[2/]									
	Employee Trips	780	65,000	0.0011	0.114	0.0065	0.0005	0.0004	0.0001

NOTES:

1/ Vehicle miles traveled (VMT) is calculated by multiplying the total number of vehicle trips by the trip distance. The average round-trip length for construction employees is assumed to be 50 miles. The trip length for hauling and deliveries was estimated to be 52 miles roundtrip.

2/ Emissions for 2022 were assumed to be the same as 2021, since construction operations are expected to be similar. This is a conservative assumption in that EPA vehicle and fuel regulations are expected to result in lower emissions from year to year due to cleaner engine standards and fleet turnover.

SOURCE: HMMH, December 2015, based on construction equipment and phasing information provided by the Metropolitan Washington Airports Authority.

PREPARED BY: HMMH, January 2016.

Equation F-1: Nonroad Construction Equipment Emissions Calculation Equation

$M_i = (N)(HRS)(HP)(LF/100)(EF_i)$

where:

M_i = mass of emissions of i^{th} pollutants during the inventory period;

N = source population (units);

HRS = annual hours of use;

HP = average rated horsepower;

LF = typical load factor;

EF_i = average emissions of i^{th} pollutant per unit of use (e.g., pounds per horsepower-hour).

SOURCE: EPA, *Nonroad Engine and Vehicle Emission Study—Report*, November 1991.
PREPARED BY: HMMH, July 2015.

Emissions factors associated with a diesel engine vary by the year the engine was manufactured and by the horsepower. The fleet age of the diesel equipment that would be used for construction of the airfield and landside improvements was estimated to range over eight years—for example, during the 2016 construction year, it was assumed that the oldest piece of equipment on site would have been manufactured in 2009. Through the use of the vehicle age spread, a weighted average of Tier 1, Tier 2, Tier 3, and Tier 4 emissions standards was developed for each equipment type and horsepower range. This methodology is the most representative approach for calculating pollutant emissions for nonroad construction equipment equipped with diesel engines.

The data used to estimate emissions from nonroad construction equipment from 2016 to 2022, as well as total emissions by equipment type, are presented in **Tables F-3** through **F-14**.

F.1.3 LAND DEVELOPMENT

Earth-moving activities during construction and wind erosion are both sources of fugitive dust (PM_{10}) emissions. PM_{10} emissions caused by earth moving and wind erosion were calculated using the methodologies outlined in AP-42 Section 13.2.3, "Heavy Construction Operations,"[3] and Section A6.2.4 of the *Aviation Handbook*[4] on fugitive emissions.

[3] EPA, *Compilation of Air Pollutant Emission Factors* (AP-42), 5th ed., vol. I, *Stationary Point and Area Sources*, Section 13.2.3, "Heavy Construction Operations," January 1995.

[4] Federal Aviation Administration (FAA), *Aviation Emissions and Air Quality Handbook,* Version 3, Update 1, Section A6.2.4, "Fugitive Emissions," January 2015.

Table F-3: 2016 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVG. HOURS PER MONTH	AVG. MONTHS PER YEAR USED	AVG. HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) Placing Surcharge Material																	
Backhoe (1)	Diesel	250	0.21	0.55	160	2	320	0.0003	0.0006	0.0037	0.0001	0.2709	0.0014	0.0028	0.0170	0.0438	0.0425
Bulldozer (1)	Diesel	170	0.59	0.45	160	4	640	0.0003	0.0008	0.0037	0.0002	0.1448	0.0048	0.0121	0.0530	0.0491	0.0477
Compactor (1)	Diesel	80	0.55	0.55	160	2	320	0.0003	0.0023	0.0044	0.0003	0.1448	0.0013	0.0088	0.0169	0.0242	0.0235
Dump Truck (9 CY) (5)	Diesel	360	0.21	0.55	800	4	3,200	0.0003	0.0006	0.0037	0.0001	0.1448	0.0206	0.0401	0.2444	0.2382	0.2310
Excavator (1)	Diesel	222	0.59	0.53	160	2	320	0.0003	0.0005	0.0037	0.0001	0.0435	0.0035	0.0060	0.0408	0.0080	0.0078
Front End Loader (2)	Diesel	400	0.21	0.55	320	4	1,280	0.0003	0.0006	0.0037	0.0001	0.2709	0.0091	0.0178	0.1086	0.1763	0.1710
Misc. Generators (2)	Diesel	500	0.43	0.16	320	4	1,280	0.0003	0.0006	0.0037	0.0001	0.0000	0.0068	0.0133	0.0809	0.0022	0.0021
Motor Grader (1)	Diesel	215	0.59	0.46	160	2	320	0.0003	0.0005	0.0037	0.0001	0.9223	0.0030	0.0050	0.0343	0.1485	0.1440
Track Loader (1)	Diesel	50	0.21	0.55	160	2	320	0.0005	0.0019	0.0085	0.0002	0.2709	0.0004	0.0017	0.0079	0.0436	0.0423
Vibratory Roller (1)	Diesel	99	0.62	0.37	160	2	320	0.0003	0.0023	0.0044	0.0003	0.1448	0.0012	0.0083	0.0158	0.0241	0.0234
Pickup Truck (2)	Diesel	130	0.59	0.59	320	4	1,280	0.0003	0.0008	0.0037	0.0002	0.0252	0.0096	0.0242	0.1064	0.0218	0.0211
						Total Hours:	9,600					Subtotal 2016:	0.0617	0.1401	0.7259	0.7798	0.7564

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

CY = cubic yard, HC = hydrocarbon, PM = particulate matter

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-4: 2017 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) Demolition of Hangars 11, 12, COB Facility																	
Backhoe (3)	Diesel	250	0.21	0.55	480	4	1,920	0.0003	0.0004	0.0031	0.0001	0.2709	0.0084	0.0097	0.0848	0.2617	0.2539
Bulldozer (6)	Diesel	170	0.59	0.45	960	4	3,840	0.0003	0.0006	0.0031	0.0001	0.1448	0.0276	0.0539	0.2652	0.2898	0.2811
Compactor (3)	Diesel	80	0.55	0.37	480	2	960	0.0003	0.0017	0.0036	0.0002	0.1448	0.0025	0.0132	0.0282	0.0709	0.0688
Hydraulic Hammer (3)	Diesel	80	0.55	0.37	480	2	960	0.0003	0.0017	0.0036	0.0002	0.1448	0.0025	0.0132	0.0282	0.0709	0.0688
Excavator (3)	Diesel	222	0.59	0.53	480	4	1,920	0.0003	0.0004	0.0031	0.0001	0.0435	0.0203	0.0234	0.2039	0.0457	0.0443
Front End Loader (3)	Diesel	400	0.21	0.55	480	4	1,920	0.0003	0.0004	0.0031	0.0001	0.2709	0.0133	0.0175	0.1357	0.2627	0.2548
Misc. Generators (6)	Diesel	500	0.43	0.16	960	6	5,760	0.0003	0.0004	0.0031	0.0001	0.0000	0.0297	0.0391	0.3032	0.0059	0.0057
Track Loader (6)	Diesel	50	0.21	0.55	480	4	1,920	0.0004	0.0015	0.0080	0.0002	0.2709	0.0023	0.0082	0.0446	0.2611	0.2533
Vibratory Roller (3)	Diesel	99	0.62	0.37	480	2	960	0.0003	0.0005	0.0036	0.0001	0.1448	0.0032	0.0057	0.0394	0.0709	0.0687
Crane (2)	Diesel	200	0.43	0.48	320	4	1,280	0.0003	0.0004	0.0031	0.0001	0.0435	0.0080	0.0093	0.0808	0.0294	0.0285
Pickup Truck (6)	Diesel	130	0.59	0.59	320	6	1,920	0.0003	0.0006	0.0031	0.0001	0.0252	0.0138	0.0270	0.1329	0.0301	0.0292
					Total Hours:		23,360					Subtotal 2017:	0.1316	0.2202	1.3469	1.3991	1.3571

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-5: 2017 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Phase 1B - North Area Utility Relocation; Security Fence																	
Proposed Action: (1) North Area Utility Relocation																	
Backhoe (1)	Diesel	250	0.21	0.55	160	2	320	0.0003	0.0004	0.0031	0.0001	0.2709	0.0014	0.0016	0.0141	0.0436	0.0423
Compactor (1)	Diesel	80	0.55	0.37	160	2	320	0.0003	0.0017	0.0036	0.0002	0.1448	0.0008	0.0044	0.0094	0.0236	0.0229
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	4	1,280	0.0003	0.0004	0.0031	0.0001	0.1448	0.0080	0.0105	0.0814	0.0942	0.0914
Excavator (1)	Diesel	222	0.59	0.53	160	2	320	0.0003	0.0004	0.0031	0.0001	0.0435	0.0034	0.0039	0.0340	0.0076	0.0074
Front End Loader (1)	Diesel	400	0.21	0.55	160	2	320	0.0003	0.0004	0.0031	0.0001	0.2709	0.0022	0.0029	0.0226	0.0438	0.0425
Misc. Generators (2)	Diesel	500	0.43	0.16	320	4	1,280	0.0003	0.0004	0.0031	0.0001	0.0000	0.0066	0.0087	0.0674	0.0013	0.0013
Mixer (1)	Diesel	250	0.75	0.13	160	2	320	0.0003	0.0004	0.0031	0.0001	0.1448	0.0012	0.0014	0.0119	0.0234	0.0227
Motor Grader (1)	Diesel	215	0.59	0.46	160	1	160	0.0003	0.0004	0.0031	0.0001	0.9223	0.0014	0.0016	0.0143	0.0741	0.0718
Track Loader (1)	Diesel	50	0.21	0.55	160	2	320	0.0004	0.0015	0.0080	0.0002	0.2709	0.0004	0.0014	0.0074	0.0435	0.0422
Hydraulic Hammer (1)	Diesel	150	0.75	0.37	160	1	160	0.0003	0.0006	0.0031	0.0001	0.1448	0.0011	0.0021	0.0102	0.0120	0.0117
Pickup Truck (2)	Diesel	130	0.59	0.59	320	4	1,280	0.0003	0.0006	0.0031	0.0001	0.0252	0.0092	0.0180	0.0886	0.0201	0.0195
					Total Hours:		6,080					Subtotal 2017:	0.0357	0.0565	0.3613	0.3872	0.3757

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-6: 2017 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action: (2) Security Fence & Gate Modifications																	
Backhoe (1)	Diesel	250	0.21	0.55	160	3	480	0.0003	0.0004	0.0031	0.0001	0.2709	0.0021	0.0024	0.0212	0.0654	0.0635
Compactor (1)	Diesel	80	0.55	0.37	160	3	480	0.0003	0.0017	0.0036	0.0002	0.1448	0.0012	0.0066	0.0141	0.0355	0.0344
Crane (1)	Diesel	200	0.43	0.48	160	3	480	0.0003	0.0004	0.0031	0.0001	0.0435	0.0030	0.0035	0.0303	0.0110	0.0107
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0004	0.0031	0.0001	0.1448	0.0031	0.0036	0.0317	0.0354	0.0343
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	3	960	0.0003	0.0004	0.0031	0.0001	0.1448	0.0060	0.0079	0.0611	0.0707	0.0686
Front End Loader (1)	Diesel	400	0.21	0.55	160	3	480	0.0003	0.0004	0.0031	0.0001	0.2709	0.0033	0.0044	0.0339	0.0657	0.0637
Misc. Generators (2)	Diesel	500	0.43	0.16	320	3	960	0.0003	0.0004	0.0031	0.0001	0.0000	0.0049	0.0065	0.0505	0.0010	0.0009
Mixer (2)	Diesel	50	0.43	0.13	320	3	960	0.0004	0.0015	0.0080	0.0002	0.1448	0.0006	0.0020	0.0108	0.0698	0.0677
Track Loader (1)	Diesel	50	0.21	0.55	160	3	480	0.0004	0.0015	0.0080	0.0002	0.2709	0.0006	0.0020	0.0111	0.0653	0.0633
Pickup Truck (2)	Diesel	130	0.59	0.59	320	3	960	0.0003	0.0005	0.0036	0.0001	0.0252	0.0063	0.0113	0.0784	0.0148	0.0144
					Total Hours:		6,720					Subtotal 2017:	0.03111	0.0502	0.3431	0.4346	0.4215

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-7: 2018 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) Pavement Construction (Temporary)																	
Backhoe							0										
Bulldozer (1)	Diesel	170	0.59	0.45	160	6	960	0.0003	0.0002	0.0024	0.0000	0.1448	0.0063	0.0036	0.0530	0.0699	0.0678
Compactor (1)	Diesel	80	0.55	0.55	160	6	960	0.0003	0.0011	0.0029	0.0001	0.1448	0.0035	0.0129	0.0332	0.0707	0.0686
Dump Truck (9 CY) (5)	Diesel	360	0.21	0.55	800	6	4,800	0.0003	0.0002	0.0024	0.0000	0.1448	0.0289	0.0185	0.2442	0.3495	0.3391
Front End Loader (1)	Diesel	400	0.21	0.55	160	6	960	0.0003	0.0002	0.0024	0.0000	0.2709	0.0064	0.0041	0.0543	0.1305	0.1266
Misc. Generators (2)	Diesel	500	0.43	0.16	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.0000	0.0096	0.0061	0.0808	0.0007	0.0006
Motor Grader (1)	Diesel	215	0.59	0.46	160	6	960	0.0003	0.0002	0.0024	0.0000	0.9223	0.0081	0.0046	0.0685	0.4433	0.4300
Vibratory Roller (2)	Diesel	99	0.62	0.37	320	6	1,920	0.0003	0.0011	0.0029	0.0001	0.1448	0.0066	0.0242	0.0624	0.1412	0.1370
Pickup Truck (2)	Diesel	130	0.59	0.59	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.0252	0.0126	0.0072	0.1063	0.0251	0.0243
Paving Equipment (1)	Diesel	99	0.59	0.39	160	6	960	0.0003	0.0011	0.0029	0.0001	0.1448	0.0033	0.0121	0.0313	0.0706	0.0685
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0011	0.0029	0.0001	0.1448	0.0015	0.0053	0.0138	0.0352	0.0342
						Total Hours:	15,840					Subtotal 2018:	0.0868	0.0986	0.7478	1.3367	1.2967

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-8: 2018 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) New Concourse Construction																	
Backhoe (1)	Diesel	250	0.21	0.55	160	6	960	0.0003	0.0002	0.0024	0.0000	0.2709	0.0040	0.0023	0.0339	0.1303	0.1264
Compactor (1)	Diesel	80	0.55	0.55	160	3	480	0.0003	0.0011	0.0029	0.0001	0.1446	0.0018	0.0064	0.0166	0.0353	0.0342
Crane (2)	Diesel	200	0.43	0.48	320	10	3,200	0.0003	0.0002	0.0024	0.0000	0.0435	0.0191	0.0109	0.1616	0.0709	0.0688
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0002	0.0024	0.0000	0.1448	0.0030	0.0017	0.0253	0.0350	0.0339
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.1448	0.0116	0.0074	0.0977	0.1398	0.1356
Excavator (1)	Diesel	222	0.59	0.53	160	3	480	0.0003	0.0002	0.0024	0.0000	0.0435	0.0048	0.0028	0.0408	0.0108	0.0105
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.2709	0.0128	0.0082	0.1085	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	12	3,840	0.0003	0.0002	0.0024	0.0000	0.0000	0.0191	0.0122	0.1616	0.0013	0.0013
Mixer (2)	Diesel	250	0.75	0.13	320	10	3,200	0.0003	0.0002	0.0024	0.0000	0.1448	0.0113	0.0064	0.0954	0.2325	0.2255
Track Loader (2)	Diesel	50	0.21	0.55	320	6	1,920	0.0004	0.0011	0.0076	0.0001	0.2709	0.0021	0.0061	0.0419	0.2608	0.2530
Pickup Truck (2)	Diesel	130	0.59	0.59	320	12	3,840	0.0003	0.0002	0.0024	0.0000	0.0252	0.0252	0.0144	0.2126	0.0501	0.0486
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0011	0.0029	0.0001	0.1448	0.0015	0.0053	0.0138	0.0352	0.0342
						Total Hours:	22,720					Subtotal 2018	0.1163	0.0841	1.0097	1.2631	1.2251

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-9: 2019 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) New Concourse Construction																	
Backhoe (1)	Diesel	250	0.21	0.55	160	6	960	0.0003	0.0002	0.0018	0.0000	0.2709	0.0040	0.0023	0.0254	0.1303	0.1264
Compactor (1)	Diesel	80	0.55	0.55	160	3	480	0.0003	0.0005	0.0021	0.0000	0.1448	0.0017	0.0030	0.0123	0.0349	0.0338
Crane (2)	Diesel	200	0.43	0.48	320	10	3,200	0.0003	0.0002	0.0018	0.0000	0.0435	0.0191	0.0109	0.1211	0.0709	0.0688
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0002	0.0018	0.0000	0.1448	0.0030	0.0017	0.0190	0.0350	0.0339
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0018	0.0000	0.1448	0.0116	0.0074	0.0732	0.1398	0.1356
Excavator (1)	Diesel	222	0.59	0.53	160	3	480	0.0003	0.0002	0.0018	0.0000	0.0435	0.0048	0.0028	0.0306	0.0108	0.0105
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0018	0.0000	0.2709	0.0128	0.0082	0.0814	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	12	3,840	0.0003	0.0002	0.0018	0.0000	0.0000	0.0191	0.0122	0.1211	0.0013	0.0013
Mixer (2)	Diesel	250	0.75	0.13	320	10	3,200	0.0003	0.0002	0.0018	0.0000	0.1448	0.0113	0.0064	0.0715	0.2325	0.2255
Track Loader (2)	Diesel	50	0.21	0.55	320	6	1,920	0.0003	0.0007	0.0071	0.0001	0.2709	0.0018	0.0040	0.0393	0.2606	0.2527
Pickup Truck (2)	Diesel	130	0.59	0.59	320	12	3,840	0.0003	0.0002	0.0018	0.0000	0.0252	0.0252	0.0144	0.1594	0.0501	0.0486
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0002	0.0018	0.0000	0.1448	0.0014	0.0008	0.0088	0.0348	0.0338
					Total Hours:		22,720					Subtotal 2019:	0.1158	0.0741	0.7631	1.2620	1.2242

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-10: 2020 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (4) Grading/Paving Permanent Pavement																	
Backhoe (1)	Diesel	250	0.21	0.55	160	6	960	0.0003	0.0002	0.0012	0.0000	0.2709	0.0040	0.0023	0.0169	0.1303	0.1264
Bulldozer (2)	Diesel	170	0.59	0.45	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.1448	0.0126	0.0072	0.0529	0.1399	0.1357
Compactor (2)	Diesel	80	0.55	0.55	320	6	1,920	0.0003	0.0005	0.0014	0.0000	0.1448	0.0067	0.0121	0.0316	0.1395	0.1353
Dump Truck (9 CY) (5)	Diesel	360	0.21	0.55	800	6	4,800	0.0003	0.0002	0.0012	0.0000	0.1448	0.0289	0.0185	0.1219	0.3495	0.3391
Excavator (1)	Diesel	222	0.59	0.53	160	6	960	0.0003	0.0002	0.0012	0.0000	0.0435	0.0097	0.0055	0.0407	0.0216	0.0209
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.2709	0.0128	0.0082	0.0542	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.0000	0.0096	0.0061	0.0403	0.0007	0.0006
Mixer (2)	Diesel	250	0.75	0.13	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.1448	0.0068	0.0039	0.0286	0.1395	0.1353
Motor Grader (2)	Diesel	215	0.59	0.46	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.9223	0.0162	0.0093	0.0684	0.8865	0.8599
Track Loader (1)	Diesel	50	0.21	0.55	160	6	960	0.0003	0.0003	0.0066	0.0000	0.2709	0.0008	0.0009	0.0183	0.1301	0.1262
Vibratory Roller (2)	Diesel	99	0.62	0.37	320	6	1,920	0.0003	0.0005	0.0014	0.0000	0.1448	0.0063	0.0114	0.0296	0.1395	0.1353
Pickup Truck (2)	Diesel	130	0.59	0.59	320	6	1,920	0.0003	0.0002	0.0012	0.0000	0.0252	0.0126	0.0072	0.0531	0.0251	0.0243
Paving Equipment (1)	Diesel	99	0.59	0.39	160	6	960	0.0003	0.0005	0.0014	0.0000	0.1448	0.0032	0.0057	0.0149	0.0697	0.0676
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0005	0.0014	0.0000	0.1448	0.0014	0.0025	0.0066	0.0348	0.0338
						Total Hours:	24,480					Subtotal 2020:	0.1316	0.1008	0.5778	2.4677	2.3935

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-11: 2021 and 2022 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)[6/]

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (4) Grading/Paving Permanent Pavement																	
Backhoe (1)	Diesel	250	0.21	0.55	160	6	960	0.0003	0.0002	0.0006	0.0000	0.2709	0.0040	0.0023	0.0084	0.1303	0.1264
Bulldozer (2)	Diesel	170	0.59	0.45	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.1448	0.0126	0.0072	0.0264	0.1399	0.1357
Compactor (2)	Diesel	80	0.55	0.55	320	6	1,920	0.0003	0.0005	0.0006	0.0000	0.1448	0.0067	0.0121	0.0141	0.1395	0.1353
Dump Truck (9 CY) (5)	Diesel	360	0.21	0.55	800	6	4,800	0.0003	0.0002	0.0006	0.0000	0.1448	0.0289	0.0185	0.0607	0.3495	0.3391
Excavator (1)	Diesel	222	0.59	0.53	160	6	960	0.0003	0.0002	0.0006	0.0000	0.0435	0.0097	0.0055	0.0203	0.0216	0.0209
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.2709	0.0128	0.0082	0.0270	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.0000	0.0096	0.0061	0.0201	0.0007	0.0006
Mixer (2)	Diesel	250	0.75	0.13	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.0000	0.0068	0.0039	0.0142	0.0005	0.0005
Motor Grader (2)	Diesel	215	0.59	0.46	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.1448	0.0162	0.0093	0.0341	0.1401	0.1359
Track Loader (1)	Diesel	50	0.21	0.55	160	6	960	0.0003	0.0003	0.0066	0.0000	0.2709	0.0008	0.0009	0.0183	0.1301	0.1262
Vibratory Roller (2)	Diesel	99	0.62	0.37	320	6	1,920	0.0003	0.0005	0.0006	0.0000	0.1448	0.0063	0.0114	0.0133	0.1395	0.1353
Pickup Truck (2)	Diesel	130	0.59	0.59	320	6	1,920	0.0003	0.0002	0.0006	0.0000	0.0252	0.0126	0.0072	0.0264	0.0251	0.0243
Paving Equipment (1)	Diesel	99	0.59	0.39	160	6	960	0.0003	0.0005	0.0006	0.0000	0.1448	0.0032	0.0057	0.0067	0.0697	0.0676
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0005	0.0006	0.0000	0.1448	0.0014	0.0025	0.0029	0.0348	0.0338
						Total Hours:	24,480					Subtotals 2021/2022:	0.1316	0.1008	0.2929	1.5823	1.5347

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

6/ Nonroad construction activity and emissions were assumed to be the same for 2021 and 2022. This is a conservative assumption in that EPA vehicle and fuel regulations are expected to result in lower emissions from year to year due to cleaner engine standards and fleet turnover.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, January 2016.

Table F-12: 2017 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Phase 3: Secure National Hall Construction																	
Proposed Action - (1) Secure National Hall Construction																	
Backhoe (2)	Diesel	250	0.21	0.55	320	6	1,920	0.0003	0.0004	0.0031	0.0001	0.2709	0.0084	0.0097	0.0848	0.2617	0.2539
Compactor (1)	Diesel	80	0.55	0.55	160	3	480	0.0003	0.0017	0.0036	0.0002	0.1448	0.0018	0.0098	0.0210	0.0358	0.0347
Crane (2)	Diesel	200	0.43	0.48	320	11	3,520	0.0003	0.0004	0.0031	0.0001	0.0435	0.0221	0.0255	0.2223	0.0809	0.0784
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0004	0.0031	0.0001	0.1448	0.0031	0.0036	0.0317	0.0354	0.0343
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	6	1,920	0.0003	0.0004	0.0031	0.0001	0.1448	0.0120	0.0157	0.1221	0.1414	0.1371
Excavator (1)	Diesel	222	0.59	0.53	160	3	480	0.0003	0.0004	0.0031	0.0001	0.0435	0.0051	0.0058	0.0510	0.0114	0.0111
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0004	0.0031	0.0001	0.2709	0.0133	0.0175	0.1357	0.2627	0.2548
Misc. Generators (2)	Diesel	500	0.43	0.16	320	13	4,160	0.0003	0.0004	0.0031	0.0001	0.0000	0.0214	0.0282	0.2190	0.0042	0.0041
Mixer (2)	Diesel	250	0.75	0.13	320	11	3,520	0.0003	0.0004	0.0031	0.0001	0.1448	0.0130	0.0150	0.1313	0.2574	0.2497
Track Loader (2)	Diesel	50	0.21	0.55	320	6	1,920	0.0004	0.0015	0.0080	0.0002	0.2709	0.0023	0.0082	0.0446	0.2611	0.2533
Pickup Truck (2)	Diesel	130	0.59	0.59	320	13	4,160	0.0003	0.0004	0.0031	0.0001	0.0252	0.0286	0.0330	0.2880	0.0580	0.0562
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0017	0.0036	0.0002	0.1448	0.0015	0.0082	0.0174	0.0356	0.0346
						Total Hours:	24,960					Subtotal 2017:	0.1326	0.1802	1.3689	1.4456	1.4022

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-13: 2018 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FACTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Phase 3: Secure National Hall Construction																	
Proposed Action - (1) Secure National Hall Construction																	
Backhoe (2)	Diesel	250	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.2709	0.0080	0.0046	0.0678	0.2606	0.2528
Compactor (1)	Diesel	80	0.55	0.55	160	3	480	0.0003	0.0011	0.0029	0.0001	0.1448	0.0018	0.0064	0.0166	0.0353	0.0343
Crane (2)	Diesel	200	0.43	0.48	320	11	3,520	0.0003	0.0002	0.0024	0.0000	0.0435	0.0210	0.0120	0.1778	0.0780	0.0757
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0002	0.0024	0.0000	0.1448	0.0030	0.0017	0.0253	0.0350	0.0339
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.1448	0.0116	0.0074	0.0977	0.1398	0.1356
Excavator (1)	Diesel	222	0.59	0.53	160	3	480	0.0003	0.0002	0.0024	0.0000	0.0435	0.0048	0.0028	0.0408	0.0108	0.0105
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0024	0.0000	0.2709	0.0128	0.0082	0.1085	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	13	4,160	0.0003	0.0002	0.0024	0.0000	0.0000	0.0207	0.0133	0.1751	0.0015	0.0014
Mixer (2)	Diesel	250	0.75	0.13	320	11	3,520	0.0003	0.0002	0.0024	0.0000	0.1448	0.0124	0.0071	0.1050	0.2557	0.2480
Track Loader (2)	Diesel	50	0.21	0.55	320	6	1,920	0.0004	0.0011	0.0076	0.0001	0.2709	0.0021	0.0061	0.0419	0.2608	0.2530
Pickup Truck (2)	Diesel	130	0.59	0.59	320	13	4,160	0.0003	0.0002	0.0024	0.0000	0.0252	0.0273	0.0156	0.2303	0.0543	0.0527
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0011	0.0029	0.0001	0.1448	0.0015	0.0053	0.0138	0.0352	0.0342
						Total Hours:	24,960					Subtotal 2018:	0.1270	0.0905	1.1006	1.4281	1.3852

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

Table F-14: 2019 Nonroad Construction Equipment Emissions—Proposed Action (New Concourse)

EQUIPMENT	FUEL TYPE	BRAKE HORSEPOWER	LOAD FASCTOR[3/]	USAGE FACTOR[4/]	AVERAGE HOURS PER MONTH	AVERAGE MONTHS PER YEAR USED	AVERAGE HOURS PER YEAR USED	EMISSION FACTORS (POUNDS/HORSEPOWER-HR)[1/]					EMISSIONS (TONS PER YEAR)[2/]				
								VOC	CO	NO_X	PM	FUGITIVES	VOC	CO	NO_X	PM_{10}[5/]	$PM_{2.5}$[5/]
Proposed Action - (1) Secure National Hall Construction																	
Backhoe (2)	Diesel	250	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0018	0.0000	0.2709	0.0080	0.0046	0.0508	0.2606	0.2528
Compactor (1)	Diesel	80	0.55	0.55	160	3	480	0.0003	0.0005	0.0021	0.0000	0.1448	0.0017	0.0030	0.0123	0.0349	0.0338
Crane (2)	Diesel	200	0.43	0.48	320	11	3,520	0.0003	0.0002	0.0018	0.0000	0.0435	0.0210	0.0120	0.1333	0.0780	0.0757
Drilling Rig (1)	Diesel	209	0.43	0.48	160	3	480	0.0003	0.0002	0.0018	0.0000	0.1448	0.0030	0.0017	0.0190	0.0350	0.0339
Dump Truck (9 CY) (2)	Diesel	360	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0018	0.0000	0.1448	0.0116	0.0074	0.0732	0.1398	0.1356
Excavator (1)	Diesel	222	0.59	0.53	160	3	480	0.0003	0.0002	0.0018	0.0000	0.0435	0.0048	0.0028	0.0306	0.0108	0.0105
Front End Loader (2)	Diesel	400	0.21	0.55	320	6	1,920	0.0003	0.0002	0.0018	0.0000	0.2709	0.0128	0.0082	0.0814	0.2610	0.2531
Misc. Generators (2)	Diesel	500	0.43	0.16	320	13	4,160	0.0003	0.0002	0.0018	0.0000	0.0000	0.0207	0.0133	0.1312	0.0015	0.0014
Mixer (2)	Diesel	250	0.75	0.13	320	11	3,520	0.0003	0.0002	0.0018	0.0000	0.1448	0.0124	0.0071	0.0787	0.2557	0.2480
Track Loader (2)	Diesel	50	0.21	0.55	320	6	1,920	0.0003	0.0007	0.0071	0.0001	0.2709	0.0018	0.0040	0.0393	0.2606	0.2527
Pickup Truck (2)	Diesel	130	0.59	0.59	320	13	4,160	0.0003	0.0002	0.0018	0.0000	0.0252	0.0273	0.0156	0.1727	0.0543	0.0527
Concrete Saw (1)	Diesel	56	0.78	0.46	160	3	480	0.0003	0.0005	0.0021	0.0000	0.1448	0.0014	0.0025	0.0102	0.0348	0.0338
					Total Hours:		24,960					Subtotal 2019:	0.1265	0.0822	0.8327	1.4270	1.3842

NOTES:

1/ Emission factors derived from EPA "Exhaust and Emission Standards for Nonroad Engines," assuming an eight-year weighted average of Tier emission standards.

2/ Emissions were estimated assuming the fuel type, brake horsepower-hour, load factor, usage factor, average hours per year, and the EPA-weighted emission factor for each pollutant.

3/ Load factor based on the average throttle setting relative to full throttle rating.

4/ Usage factor is based on the percentage of daily operation obtained from the EPA, NONROAD2008b, 2013.

5/ All PM emissions are assumed to be smaller than 10 microns, and 97% of the PM is assumed to be less than 2.5 microns.

SOURCE: HMMH, December 2015.
PREPARED BY: HMMH, December 2015.

F.1.3.1 Fugitive Dust Nonroad Emissions

Fugitive dust from nonroad vehicles includes entrained road dust. Emissions factors for fugitive dust resulting from entrained road dust are provided in Section 13.2.3, "Heavy Construction Operations," of the EPA's AP-42. For purposes of the air quality analysis, it was assumed that water would be applied to the construction site soil approximately three to four times per day to reduce PM_{10} emissions caused by earth-moving activities. Adequate watering of the construction site as a control measure would be expected to reduce PM_{10} emissions by 50 percent. PM_{10} emissions resulting from fugitive dust sources were calculated on an equipment-type basis and incorporated into the nonroad equipment emissions estimates presented in Tables E3 – E14.

F.1.3.2 Fugitive Dust Construction Activities

Dirt piles, areas of bare soils, earth-moving activity, and newly paved portions of a construction site can be sources of fugitive PM_{10}. Emissions factors for fugitive emissions from construction activities were derived from EPA AP-42, "Compilation of Air Pollutant Emission Factors."[5] Emission factors for both PM_{10} and $PM_{2.5}$ were used based on the AP-42 emission factors, size of the disturbance, duration, and control factors as described in Section A6.2.4 of the *Aviation Handbook*. Fugitive dust emissions associated with construction activities were calculated: (1) for the period of time when the area of disturbance would have exposed soil and (2) for the period of time after the area of disturbance would be paved. Fugitive dust emissions of PM_{10} and $PM_{2.5}$ from paving operations were also included based on the estimated acreage of paving activities for 2016, 2017, 2018, 2020, 2021, and 2022.

Fugitive dust emissions of PM_{10} and $PM_{2.5}$ were calculated by determining the total area disturbed by land development activities per year. Consistent with AP-42, it was assumed 25 percent of this area was disturbed per month of construction. This amount was multiplied by a fugitive dust PM_{10} emission factor of 1.2 tons per acre disturbed per month, and annualized. It was estimated that implemented dust control measures would have an efficiency rate of 75 percent. The $PM_{2.5}$ fugitive dust emission rate was assumed to be 10 percent of the PM_{10} emission rate. The methodology used to calculate fugitive dust emissions is presented in **Equation F-2** and **Equation F-3**.

Equation F-2: Fugitive Dust Construction PM_{10} Emissions

Fugitive Dust PM_{10} Emission Rate (tpy)= Total Area Disturbed (acre) x 0.25 disturbed per month x 1.2 tons per acre disturbed per month x 12 months per year x (1-0.75) control efficiency

tpy = tons per year

SOURCE: FAA, *Aviation Emissions and Air Quality Handbook,* Version 3, Update 1, Section A6.2.4, "Fugitive Emissions," January 2015.
PREPARED BY: HMMH, July 2015.

[5] EPA, *Compilation of Air Pollutant Emission Factors* (AP-42), 5th ed., vol. I, *Stationary Point and Area Sources*, January 1995, http://www.epa.gov/ttnchie1/ap42/.

Equation F-3: Fugitive Dust Construction $PM_{2.5}$ Emissions

Fugitive Dust $PM_{2.5}$ Emission Rate (tpy)= PM_{10} Fugitive Dust Emission Rate (tpy) x 0.10

tpy = tons per year

SOURCE: FAA, *Aviation Emissions and Air Quality Handbook,* Version 3, Update 1, Section A6.2.4, "Fugitive Emissions," January 2015.
PREPARED BY: HMMH, July 2015.

Table F-15 presents the results of the construction fugitive emissions analysis for 2016 to 2022 under the Proposed Action.

F.1.3.3 Asphalt Paving

Asphalt surfaces and pavements are composed of compacted aggregate and an asphalt binder. Aggregate materials are produced from rock quarries as manufactured stone, or they are obtained from natural gravel or soil deposits. Asphalt binders take the form of asphalt cement (the residue of the distillation of crude oils) and liquefied asphalts. Asphalt cement, which is semi-solid, must be heated prior to mixing with aggregate.

Asphalt paving operations can be a source of VOC emissions. VOC emissions are created by the evaporation of the petroleum distillate solvent, or diluent, used to liquefy asphalt cement. Emissions from asphalt paving activities were calculated for the Proposed Action using the methodologies presented in the EPA Emission Inventory Improvement Program Technical Report Series*, Asphalt Paving*.[6] The formula used to calculate VOC emissions caused by asphalt paving operations is presented in **Equation F-4**.

Equation F-4: Asphalt Paving Emissions Calculation Equation

Asphalt VOC Emission Rate (tons/year) =0.053 tons/acre of asphalt placed x acres of asphalt placed

SOURCE: EPA, Emission Inventory Improvement Program, Technical Report Series Volume III, Chapter 17, *Asphalt Paving*, April 2001, http://www.epa.gov/ttnchie1/eiip/techreport/volume03/iii17_apr2001.pdf.
PREPARED BY: HMMH., July 2015.

Table F-16 presents a summary of VOC emissions associated with asphalt-paving activities for the Proposed Action.

F.1.3.4 Summary of Construction Emissions Analysis

A summary of total construction-related emissions for the Proposed Action for 2016 to 2022 is presented in **Table F-17**.

[6] EPA, Emission Inventory Improvement Program, Technical Report Series Volume III, Chapter 17, *Asphalt Paving*, April 2001.

Table F-15: Land Development and Wind Erosion Emissions—Proposed Action

ACTIVITY[1/]	YEAR	TOTAL DISTURBED AREA[2/] (FT^2)	TOTAL DISTURBED AREA (ACRES)	25% DISTURBED DURING CONSTRUCTION MONTH[4/]	EMISSION FACTORS[3/]		MONTHS DISTURBED	EMISSIONS (TPY)			
					PM_{10} ACRE PER MONTH[5/]	$PM_{2.5}$ ACRE PER MONTH[6/]		PM_{10} UNCONTROLLED	$PM_{2.5}$ UNCONTROLLED	PM_{10} CONTROLLED[7/]	$PM_{2.5}$ CONTROLLED[7/]
Phase 2 Placing Surcharge Material	2016	112,400	2.58	0.65	1.2	0.12	4	3.10	0.31	0.77	0.08
Phase 1 Demolition of Hangars 11 and 12	2017	110,000	2.53	0.63	1.2	0.12	6	4.55	0.45	1.14	0.11
Phase 2 Pavement Construction (temporary)	2018	172,800	3.97	0.99	1.2	0.12	6	7.14	0.71	1.79	0.18
Phase 2 New Concourse Construction	2018	112,400	2.58	0.65	1.2	0.12	12	9.29	0.93	2.32	0.23
Phase 2 Grading/Paving Permanent Pavement	2020	216,000	4.96	1.24	1.2	0.12	6	8.93	0.89	2.23	0.22
Phase 2 Grading/Paving Permanent Pavement	2021	216,000	4.96	1.24	1.2	0.12	6	8.93	0.89	2.23	0.22
Phase 2 Grading/Paving Permanent Pavement[8/]	2022	216,000	4.96	1.24	1.2	0.12	6	8.93	0.89	2.23	0.22

NOTES:

1/ Activity based on construction schedule provided by the Authority.

2/ Disturbed area based on estimates from conceptual plans provided by the Authority and Ricondo & Associates, Inc.

3/ EPA "Emission Factors" from AP-42, Volume I, *Stationary and Point Sources*, as discussed in the FAA's *Aviation Emissions and Air Quality Handbook,*, January 2015.

4/ Per EPA, assumes that 25% of the construction area will be disturbed per month.

5/ Per EPA, assumes that 1.2 tons per acre disturbed per month.

6/ Per EPA, assumes $PM_{2.5}$ is 10 percent of PM10.

7/ Per EPA, assumes a dust control efficiency of 75 percent due to daily watering and other measures.

8/ Phase 2 grading and paving activities were assumed to extend into 2022. It was assumed that grading and paving operations would be similar in 2022 as in 2021; therefore, emissions for 2022 were assumed the same as 2021.

SOURCE: HMMH, FAA, *Aviation Emissions and Air Quality Handbook,* Version 3, Update 1, Section A6.2.4, "Fugitive Emissions," January 2015. .
PREPARED BY: HMMH, January 2016.

Table F-16: Asphalt Paving Emissions—Proposed Action

ACTION	APPLICATION BY YEAR	PAVED AREA (SQ FT2) 1/	PAVED AREA (ACRE)	VOC EMISSION RATE (TONS/ACRE)2/	TOTAL VOC EMISSIONS (TONS/YEAR)
Pavement Construction (temporary)	2018	172,800	4	0.053	0.2102
Grading and Paving (Permanent)	2020	216,000	5	0.053	0.2628
Grading and Paving (Permanent)	2021	216,000	5	0.053	0.2628
Grading and Paving (Permanent)3/	2022	216,000	5	0.053	0.2628

NOTES:

1/ Paved area based on estimates from conceptual plans provided by the Authority.

2/ Based on Equation F-4.

3/ Grading and paving activities were assumed to extend into 2022. It was assumed that grading and paving operations would be similar in 2022 as in 2021; therefore, emissions for 2022 were assumed the same as 2021.

SOURCE: HMMH, EPA, Emission Inventory Improvement Program, Technical Report Series Volume III, Chapter 17, *Asphalt Paving*, April 2001.
PREPARED BY: HMMH, January 2016.

Table F-17: Construction Emissions Summary—Proposed Action

SOURCE BY YEAR	POLLUTANT EMISSIONS (TONS PER YEAR)					
	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$[1/]
2016						
On-Road Equipment	0.0466	0.0006	0.0041	0.0005	0.0002	0.0002
Nonroad Equipment	0.1401	0.0617	0.7259	0.000	0.7798	0.7564
Land Development[1/]	0.000	0.000	0.000	0.000	0.770	0.080
Asphalt Paving	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.1867	0.0623	0.7300	0.0005	1.5500	0.8366
2017						
On-Road Equipment	1.1313	0.0955	2.2841	0.0077	0.0949	0.0920
Nonroad Equipment	0.5071	0.3310	3.4202	0.000	3.6665	3.5565
Land Development[1/]	0.000	0.000	0.000	0.000	1.1400	0.110
Asphalt Paving	0.000	0.000	0.000	0.000	0.000	0.000
Total	1.6384	0.4265	5.7043	0.0077	4.9014	3.7585
2018						
On-Road Equipment	2.6806	0.3302	9.3910	0.0351	0.3347	0.3247
Nonroad Equipment	0.2732	0.3301	2.8581	0.000	4.0279	3.907
Land Development[1/]	0.000	0.0000	0.000	0.000	4.11	0.41
Asphalt Paving	0.000	0.2102	0.000	0.000	0.000	0.000
Total	2.9538	0.8705	12.2491	0.0351	8.4726	4.6417
2019						
On-Road Equipment	0.4583	0.0050	0.0300	0.0011	0.0016	0.0015
Nonroad Equipment	0.1563	0.2423	1.5958	0.0000	2.6890	2.6084
Land Development[1/]	0.000	0.0000	0.0000	0.0000	0.000	0.000
Asphalt Paving	0.000	0.0000	0.0000	0.0000	0.000	0.000
Total	0.6146	0.2473	1.6258	0.0011	2.6906	2.6099
2020						
On-Road Equipment	0.152	0.0012	0.007	0.0001	0.0005	0.0004
Nonroad Equipment	0.1008	0.1316	0.5778	0.0000	2.4677	2.3935
Land Development[1/]	0.0000	0.0000	0.0000	0.0000	2.2300	0.2200
Asphalt Paving	0.0000	0.2628	0.0000	0.0000	0.0000	0.0000
Total	0.2528	0.3956	0.5848	0.0001	4.6982	2.6139
2021						
On-Road Equipment	0.114	0.0011	0.0065	0.0001	0.0005	0.0004
Nonroad Equipment	0.1008	0.1316	0.2929	0.0000	1.5823	1.5347
Land Development[1/]	0.0000	0.0000	0.0000	0.0000	2.2300	0.2200
Asphalt Paving	0.0000	0.2628	0.0000	0.0000	0.0000	0.0000
Total	0.2148	0.3955	0.2994	0.0001	3.8128	1.7551
2022[2/]						
On-Road Equipment	0.1140	0.0011	0.0065	0.0001	0.0005	0.0004
Nonroad Equipment	0.1008	0.1316	0.2929	0.0000	1.5823	1.5347
Land Development[1/]	0.0000	0.0000	0.0000	0.0000	2.32	0.2200
Asphalt Paving	0.0000	0.2628	0.0000	0.0000	0.0000	0.0000
Total	0.2148	0.3955	0.2994	0.0001	3.8128	1.7551

NOTES:

Columns may not add to totals shown because of rounding.

1/ Emissions reported are controlled with daily watering and other measures. See footnotes in Table F-15 for details

2/ Emissions for 2022 were assumed the same as 2021 since construction operations are expected to be similar. This is a conservative assumption in that EPA vehicle and fuel regulations are expected to result in lower emissions from year to year due to cleaner engine standards and fleet turnover.

SOURCE: HMMH, December 2015.

PREPARED BY: HMMH, December 2015.

Appendix G

Draft Environmental Assessment Circulation

Attachment G-1 Notice of Availability of Draft Environmental Assessment for Review and Comment

Attachment G-2 Agency Mailing List and Example Agency Letter

Attachment G-3 Public Review Meeting Sign-in Sheet and Boards

Attachment G-4 Agency Comment Letters and Responses

Attachment G-1

Notice of Availability of Draft Environmental Assessment for Review and Comment

PUBLIC NOTICE
RONALD REAGAN WASHINGTON NATIONAL AIRPORT
ENVIRONMENTAL ASSESSMENT FOR TERMINAL B/C REDEVELOPMENT, SECURE NATIONAL HALL, AND RELATED IMPROVEMENTS AVAILABLE FOR REVIEW AND COMMENT

The Metropolitan Washington Airports Authority (the Authority) is proposing a redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements at Ronald Reagan Washington National Airport (DCA). The improvements include: replacing 14 off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates; demolition of the Authorityôs Corporate Office Building and relocation of the Authorityôs employees to an off-airport location; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; construction of two new security screening checkpoints (SSCPs) over the arrivals level roadway at the National Hall Level; conversion of National Hall to a post-security secure area; and other related improvements. The proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length.

As an integral part of the planning for this project, a Draft Environmental Assessment (EA) was prepared to evaluate existing conditions and potential environmental effects pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Draft EA addresses the environmental consequences of the Proposed Action and the No Action Alternative.

Beginning July 1, 2016, copies of the Draft EA are being made available for public review and comment at the following libraries**:** Arlington County Central Library (1015 N. Quincy Street, Arlington, VA 22201), and Aurora Hills Branch Library (735 S. 18th St., Arlington, VA, 22202). Copies of the Draft EA are also available for review, by appointment, at the Federal Aviation Administration Washington Airports District Office, 23723 Air Freight Lane, Dulles, VA, 20166 (703) 661-1365. The Draft EA can also be reviewed at http://www.mwaa.com/about/public-notice-july-1-2016

The Authority also invites the public to attend a Public Review Workshop that will be held on **Thursday, July 28, 2016 from 6:00 PM to 8:00 PM** at the Historic Main Terminal adjacent to Terminal A at DCA. Representatives from the Authority and its Consultant Team will be available to answer questions throughout the public workshop, and graphics will be on display illustrating the purpose and need for the proposed improvements, alternatives considered, the Authorityôs preferred alternative, affected environment, and environmental consequences.

An opportunity to submit written comments will be provided during and after the Public Review Workshop. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 1 Aviation Circle, Ronald Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to environmental.comments@mwaa.com. Comments must be received by 5:00 PM Eastern Time, **Thursday, August 4, 2016**.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment ï including your personal identifying information ï may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Ad # 12030290 Name VIRGINIA JACKSON Size 142 Lines T0001
Class 820 PO# Authorized by Account 2010264819

PROOF OF PUBLICATION

District of Columbia, ss., Personally appeared before me, a Notary Public in and for the said District, Alba Cortes well known to me to be BILLING SUPERVISOR of The Washington Post, a daily newspaper published in the City of Washington, District of Columbia, and making oath in due form of law that an advertisement containing the language annexed hereto was published in said newspaper on the dates mentioned in the certificate herein.

I Hereby Certify that the attached advertisement was published in The Washington Post, a daily newspaper, upon the following date(s) at a cost of $1,711.96 and was circulated in the Washington metropolitan area.

Published 1 time(s). Date(s):01 of July 2016

Account 2010264819

Alba Cortes

Witness my hand and official seal this 1st day of July 20 16

JENNIFER A. MITCHELL-JOHNSON NOTARY PUBLIC DISTRICT OF COLUMBIA MY COMMISSION EXPIRES 10/31/2019

My commission expires 10/31/2019

PUBLIC NOTICE RONALD REAGAN WASHINGTON NATIONAL AIRPORT ENVIRONMENTAL ASSESSMENT FOR TERMINAL B/C REDEVELOPMENT, SECURE NATIONAL HALL, AND RELATED IMPROVEMENTS AVAILABLE FOR REVIEW AND COMMENT The Metropolitan Washington Airports Authority (the Authority) is proposing a redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements at Ronald Reagan Washington National Airport (DCA). The improvements include: replacing 14 off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates; demolition of the Authority's Corporate Office Building and relocation of the Authority's employees to an off-airport location; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; construction of two new security screening checkpoints (SSCPs) over the arrivals level roadway at the National Hall Level; conversion of National Hall to a post-security secure area; and other related improvements. The proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length. As an integral part of the planning for this project, a Draft Environmental Assessment (EA) was prepared to evaluate existing conditions and potential environmental effects pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. The Draft EA addresses the environmental consequences of the Proposed Action and the No Action Alternative. Beginning July 1, 2016, copies of the Draft EA are being made available for public review and comment at the following libraries: Arlington County Central Library (1015 N. Quincy Street, Arlington, VA 22201), and Aurora Hills Branch Library (735 S. 18th St., Arlington, VA, 22202). Copies of the Draft EA are also available for review, by appointment, at the Federal Aviation Administration Washington Airports District Office, 23723 Air Freight Lane, Dulles, VA, 20166 (703) 661-1365. The Draft EA can also be reviewed at http://

www.mwaa.com/about/public-notice-july-1-2016 The Authority also invites the public to attend a Public Review Workshop that will be held on Thursday, July 28, 2016 from 6:00 PM to 8:00 PM at the Historic Main Terminal adjacent to Terminal A at DCA. Representatives from the Authority and its Consultant Team will be available to answer questions throughout the public workshop, and graphics will be on display illustrating the purpose and need for the proposed improvements, alternatives considered, the Authority's preferred alternative, affected environment, and environmental consequences. An opportunity to submit written comments will be provided during and after the Public Review Workshop. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 1 Aviation Circle, Ronald Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to environmental.comments@mwaa.com. Comments must be received by 5:00 PM Eastern Time, Thursday, August 4, 2016. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment # including your personal identifying information # may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Attachment G-2

Agency Mailing List and Example Agency Letter

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

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

July 6, 2016

Mr. Matthew Thys
Federal Aviation Administration
Washington Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166

RE: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport

Dear Mr. Thys:

The Metropolitan Washington Airports Authority (the Airports Authority) is proposing a redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these. As an integral part of the planning for this project, a Draft Environmental Assessment (EA) was prepared to evaluate existing conditions and potential environmental effects pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Airports Authority is pleased to transmit the above referenced Draft EA for your review and comment.

As indicated by the enclosed Public Notice, the record is open for comment until 5:00 p.m. Eastern Time, Thursday, August 4, 2016. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 45045 Aviation Drive, Third Floor, Dulles, VA 20166, or by e-mail to environmental.comments@mwaa.com.

If you have any questions regarding the enclosed documents, please feel free to contact Erik Schwenke at (703) 572-0268.

Sincerely,

Gregg M. Wollard, P.E., A.A.E.
Manager, Planning Department

ENS:SMM

Enclosures: Public Notice
CD containing PDF Document

PUBLIC NOTICE
RONALD REAGAN WASHINGTON NATIONAL AIRPORT
ENVIRONMENTAL ASSESSMENT FOR TERMINAL B/C REDEVELOPMENT, SECURE NATIONAL HALL, AND RELATED IMPROVEMENTS AVAILABLE FOR REVIEW AND COMMENT

The Metropolitan Washington Airports Authority (the Authority) is proposing a redevelopment of Terminal B/C, which includes the construction and operation of a New North Concourse (NNC), a Secure National Hall, and enabling projects related to these improvements at Ronald Reagan Washington National Airport (DCA). The improvements include: replacing 14 off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates; demolition of the Authority's Corporate Office Building and relocation of the Authority's employees to an off-airport location; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; construction of two new security screening checkpoints (SSCPs) over the arrivals level roadway at the National Hall Level; conversion of National Hall to a post-security secure area; and other related improvements. The proposed projects would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, or stage length.

As an integral part of the planning for this project, a Draft Environmental Assessment (EA) was prepared to evaluate existing conditions and potential environmental effects pursuant to the requirements and guidelines of Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Draft EA addresses the environmental consequences of the Proposed Action and the No Action Alternative.

Beginning July 1, 2016, copies of the Draft EA are being made available for public review and comment at the following libraries**:** Arlington County Central Library (1015 N. Quincy Street, Arlington, VA 22201), and Aurora Hills Branch Library (735 S. 18th St., Arlington, VA, 22202). Copies of the Draft EA are also available for review, by appointment, at the Federal Aviation Administration Washington Airports District Office, 23723 Air Freight Lane, Dulles, VA, 20166 (703) 661-1365. The Draft EA can also be reviewed at http://www.mwaa.com/about/public-notice-july-1-2016

The Authority also invites the public to attend a Public Review Workshop that will be held on **Thursday, July 28, 2016 from 6:00 PM to 8:00 PM** at the Historic Main Terminal adjacent to Terminal A at DCA. Representatives from the Authority and its Consultant Team will be available to answer questions throughout the public workshop, and graphics will be on display illustrating the purpose and need for the proposed improvements, alternatives considered, the Authority's preferred alternative, affected environment, and environmental consequences.

An opportunity to submit written comments will be provided during and after the Public Review Workshop. Written comments may be submitted to Erik N. Schwenke, Planning Department, Metropolitan Washington Airports Authority, 1 Aviation Circle, Ronald Reagan Washington National Airport, Washington, DC 20001-6000, or by e-mail to environmental.comments@mwaa.com. Comments must be received by 5:00 PM Eastern Time, **Thursday, August 4, 2016**.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Alexcy Romero, Superintendent
George Washington Memorial Parkway Headquarters
700 George Washington Memorial Parkway
McLean, VA 22101

Mr. Leonard Jordan
U.S. Department of Agriculture
Natural Resources Conservation Service, East Region
14th and Independence Ave., SW, Room 6103-S
Washington, DC 20250

Mr. Robert Zepp
Chesapeake Bay Field Office
U.S. Fish & Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. Kristy Beard
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. David W. Kaiser
Office of Ocean and Coastal Resource Management, NOAA
Coastal Response Research Center, University of New Hampshire
246 Gregg Hall, 35 Colovos Road
Durham, New Hampshire 03824-3534

Ms. Bettina Sullivan, EIR Program Manager
Office of Environmental Impact Review
Commonwealth of Virginia
Department of Environmental Quality
629 East Main Street, 6th Floor
Richmond, VA 23219

Ms. Sandra J. Adams
Commissioner
Virginia Department of Agriculture and Consumer Services
102 Governor Street
Richmond, Virginia 23219

Mr. R. N. (Rusty) Harrington
Manager, Planning and Environmental Section
Virginia Department of Aviation
5702 Gulfstream Road
Richmond, VA 23250

Mr. Clyde Cristman, Director
Virginia Department of Conservation and Recreation
600 E. Main Street, 24th Floor
Richmond, VA 23219

Mr. Thomas A. Faha
Virginia Department of Environmental Quality
Northern Regional Director
13901 Crown Court
Woodbridge, VA 22193

Mr. David Whitehurst
Virginia Department of Game and Inland Fisheries
Bureau of Wildlife Resources
4010 West Broad Street
Richmond, VA 23230

Mr. Marc Holma
State Historic Preservation Office
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Mr. John M.R. Bull
Virginia Marine Resources Commission Main Office
2600 Washington Avenue, 3rd Floor
Newport News, VA 23607

Mr. Mark Gibb
Executive Director
Northern Virginia Regional Commission
3040 Williams Drive
Fairfax VA 22031

Ms. Rene Hypes
Natural Heritage Project Review Coordinator
Virginia Department of Conservation and Recreation
217 Governor Street
Richmond, Virginia 23219

Mr. Daryl Glover, Division Manager
Virginia Department of Conservation and Recreation
Soil & Water Conservation Division
600 E. Main Street
Richmond, VA 23219

Mr. John Muse
Northern Virginia District Office
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, VA 22030

Hon. Allison Silberberg, Mayor
301 King St., Room 2300
Alexandria, VA 22314

Mr. Mark Schwartz
County Manager's Office
2100 Clarendon Boulevard, Suite 302
Arlington, VA 22201

Hon. Muriel Bowser, Mayor
John A. Wilson Building
1350 Pennsylvania Avenue, NW
Washington, DC 20004

Dr. Hamid Karimi, PhD.
District Department of Energy and the Environment
Natural Resources Administration
1200 First Street NE
Washington, DC 20002

Mr. Richard Jackson
District Department of Energy and the Environment
Toxic Substance Division
1200 First Street NE
Washington, DC 20002

Ms. Cecily Beall
District Department of Energy and the Environment
Air Quality Division
1200 First Street NE
Washington, DC 20002

Ms. Mary L Searing
District Department of Energy and the Environment
Water Quality Division
1200 First Street NE
Washington, DC 20002

Ms. Bryan King
District Department of Energy and the Environment
Fisheries and Wildlife Division
1200 First Street NE
Washington, DC 20002

Mr. Edward L. Long, Jr.
County Executive
Fairfax County
12000 Government Center Parkway
Fairfax, VA 22035

Mr. Rushern L. Baker III
County Executive
Prince Georges County
County Administration Building
14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772-3050

Mr. Richard DeiTos
Metropolitan Washington Airlines Committee
45045 Aviation Drive
Dulles, VA 20166

Mr. Chuck Bean
Executive Director
Metropolitan Washington Council of Governments
777 N. Capital Street, NE, Suite 300
Washington, DC 20002

Mr. Marcel Acosta
National Capital Planning Commission
North Lobby, Suite 500
401 9th Street NW
Washington, DC 20004

Attachment G-3

Public Review Meeting Sign-in Sheet and Boards

Sign-In Sheet
Environmental Assessment – Public Review Workshop
Terminal B/C Redevelopment, Secure National Hall and Related Improvements
Ronald Reagan Washington National Airport (DCA)
July 28, 2015, 6:00 p.m. – 8:00 p.m.

Name	Affiliation	E-Mail	Phone
Zack Welds	Local Resident	dzw79e@gmail.com	7034342416

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Public Review Workshop

Environmental Assessment – Terminal B/C Redevelopment, Secure National Hall, and Related Improvements Ronald Reagan Washington National Airport

Ronald Reagan Washington National Airport
Historic Main Terminal
July 28, 2016
6:00 p.m. – 8:00 p.m.

Public Workshop Objectives

- Describe the National Environmental Policy Act (NEPA) process
- Provide information about Proposed Action, Alternatives, Environmental Consequences, and Mitigation
- Update the public on the project's progress since the Public Scoping Meeting
- Collect community comments on the project's purpose and need, alternatives, and environmental concerns

National Environmental Policy Act (NEPA)

- Required for projects receiving federal funding or approval
- Informs decision makers, agencies, organizations, and the public whether a federal action would significantly affect the environment
- Identifies environmental impacts of the proposed action, no action, and other reasonable alternatives
- Identifies measures to avoid, minimize, or mitigate adverse environmental impacts

Key Elements of an Environmental Assessment

- **Purpose and Need** – identifies the problem (need for action), the proposed solution (purpose of action), and the proposed timeframe
- **Proposed Action** – describes the solution
- **Alternatives** – compares the no action and reasonable action alternatives
- **Affected Environment** – describes the environmental resources that the proposed action and its reasonable alternatives (if any) are likely to affect
- **Environmental Consequences** – provides concise analyses for the potential environmental impacts that the no action, proposed action and its reasonable alternatives, if any, may cause, including cumulative impacts
- **Mitigation** – describes the conceptual measures proposed to mitigate the identified environmental impacts

Purpose and Need

- Terminal B/C Redevelopment / New North Concourse:
  - Volume of passengers in the holdroom areas at Gates 35 and 35X exceeds acceptable levels of service
  - Passengers must board a bus at the gate, travel to the hardstand apron, and load aircraft via a ramp/stairway, risking exposure to inclement weather and increasing the risk of an accident
  - New North Concourse would enhance passenger and airline operations by creating a safer and more convenient facility that provides a more equitable Level of Service for all gates
- Secure National Hall
  - Passengers are not able to fully utilize the National Hall, which causes overcrowding in the piers and requires additional TSA staffing
  - Connecting passengers transferring between piers must either take a bus or exit the secure area of the arrival pier and clear security again at the Security Screening Checkpoint of the departing pier, increasing congestion at the Security Screening Checkpoints, introducing additional time requirements for the travelling passengers, and further degrading the passenger experience
  - The Secure National Hall project would allow passengers to move freely between terminal piers, providing convenient access between all gates for connecting passengers

Alternatives Considered– New Concourse Alternatives

- 14 alternative concourse configurations within the New North Concourse project site were reviewed
- First level screening was performed to identify and eliminate those alternatives that would not fulfill the Proposed Action's purpose and need, leaving 8 shortlisted alternatives
- The remaining 8 alternatives went through additional screening using the following criteria:
  - Passenger experience
  - Affordability
  - Number of contact gates and remain overnight positions provided
  - Effect on Hangar 12
  - Operational effectiveness
  - Effect of existing aircraft operations
  - Impact on Section 4(f) resources

Information on each alternative and the screening criteria can be found in the EA document

Alternatives Considered– Secure National Hall Alternatives

- 11 Secure National Hall alternatives were identified and evaluated
- First level screening was performed to identify and eliminate those alternatives that would not fulfill the Proposed Action's purpose and need leaving 10 shortlisted alternatives
- The remaining 10 alternatives went through additional screening using the following criteria:
  - Cost
  - Area (adequate square footage)
  - Hubbing flexibility
  - Passenger flows
  - Pre- and post-security screening checkpoint concessions program
  - Implementation and constructability
  - Passenger convenience and experience
  - Meeter/greeter experience
  - Airport operations flexibility
  - Effects on existing architecture

Information on each alternative and the screening criteria can be found in the EA document

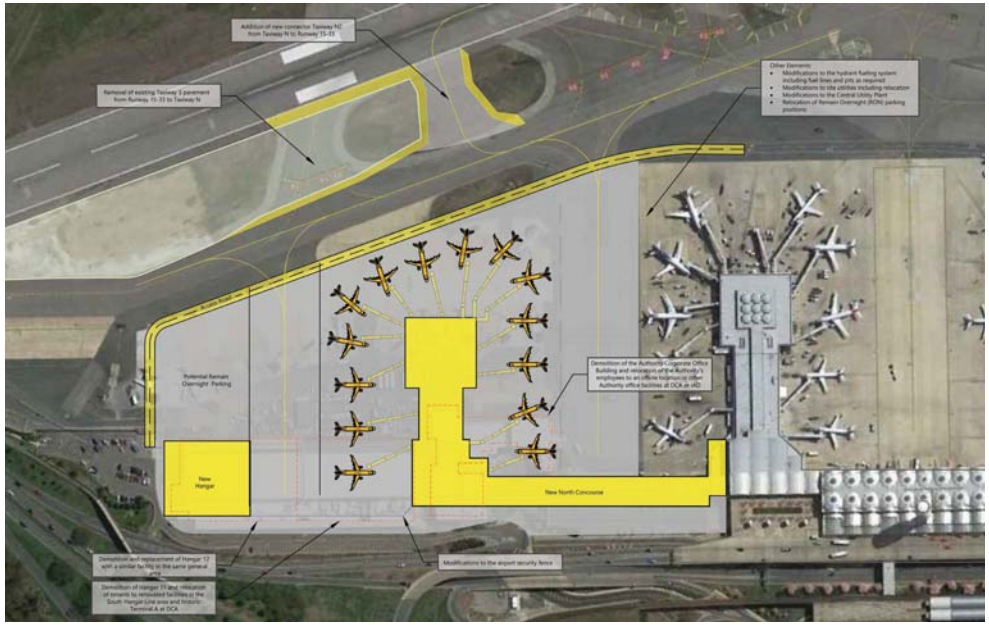
Proposed Action
New North Concourse and Hangar 12

- Replace 14 regional aircraft hardstand positions with 14 regional aircraft contact gates at the New North Concourse
- Demolish the Authority's Corporate Office Building; relocate the Authority's employees to an offsite location or other Authority office facilities at the Reagan National or Washington Dulles International Airport
- Demolish Hangar 11; relocate tenants to renovated facilities in the South Hangar Line area and Historic Terminal A at Reagan National
- Demolish Hangar 12 and replace with a similar facility in the same general area
- Remove existing Taxiway S pavement from Runway 15-33 to Taxiway N
- Construct new connector Taxiway N2 from Taxiway N to Runway 15-33
- Relocate utilities in the New North Concourse project area
- Modify Gate 35 (concourse level) and Gate 35X (apron level), the Central Utility Plant, the airport security fence; and, relocate parking locations for aircraft that remain overnight at Reagan National

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Proposed New North Concourse and New Hangar 12

Existing Conditions

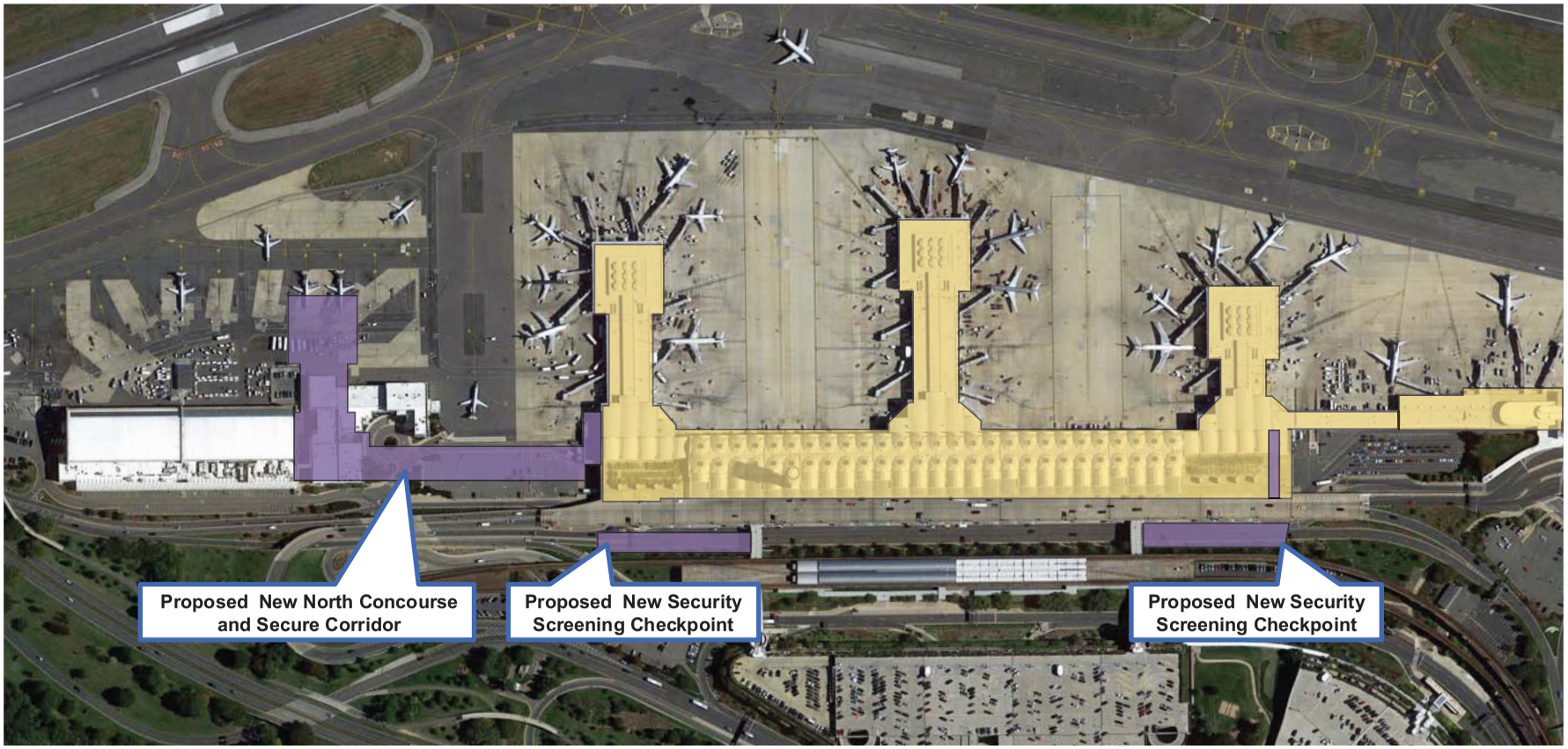


Proposed New North Concourse with 14 Gates, 3 Remain Overnight Positions and Hangar 12 Replacement

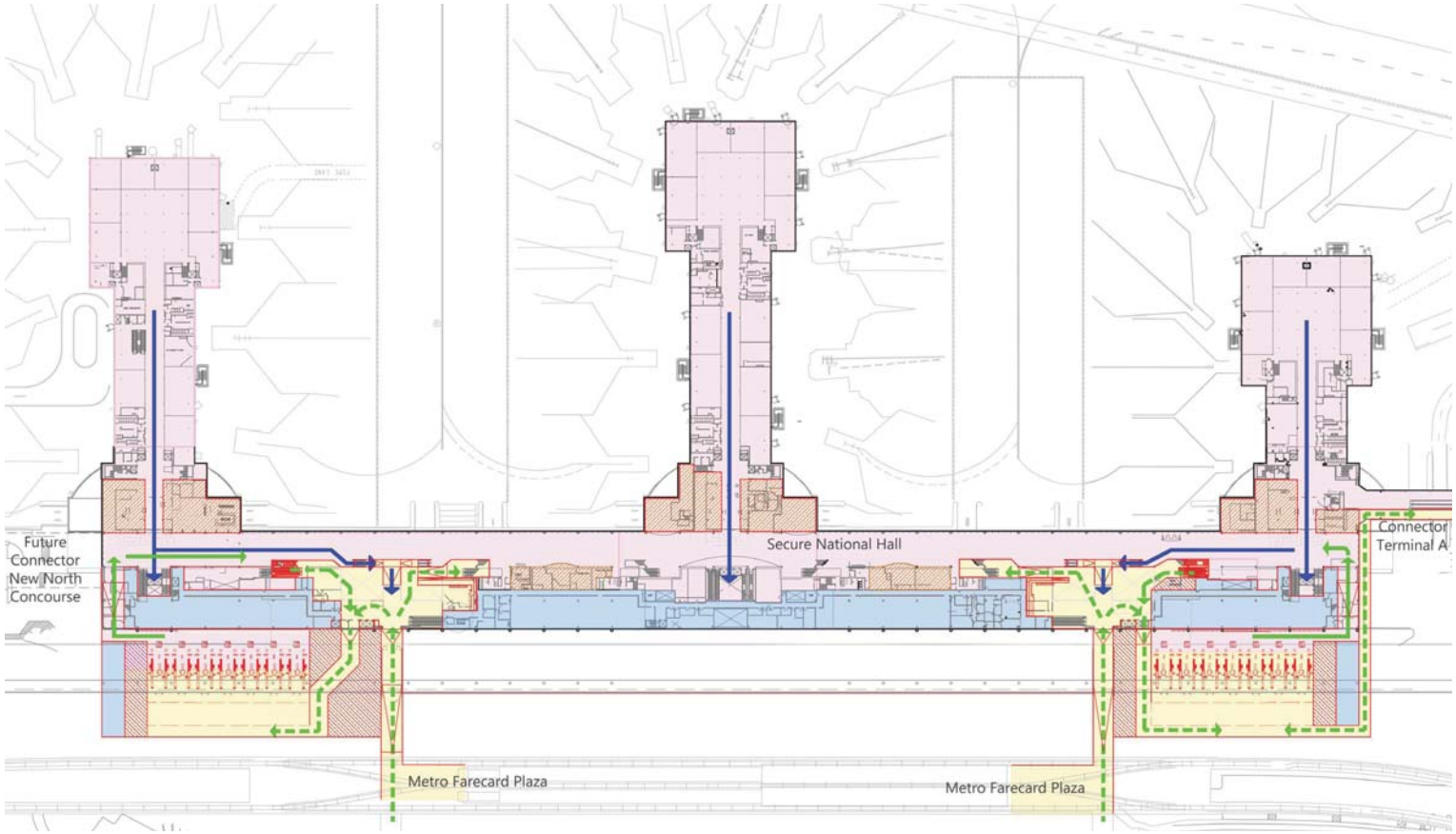
Proposed Action
Secure National Hall

- Construction of two new Security Screening Checkpoints over the terminal roadways at the National Hall level
  - *One north of the north Metro bridge*
  - *The other south of the south Metro bridge*
- Construction of elevators/escalators to move between terminal levels
- Modification and relocation of concessions' areas and support space
- Conversion of National Hall to a post-security secure area

Proposed Secure National Hall

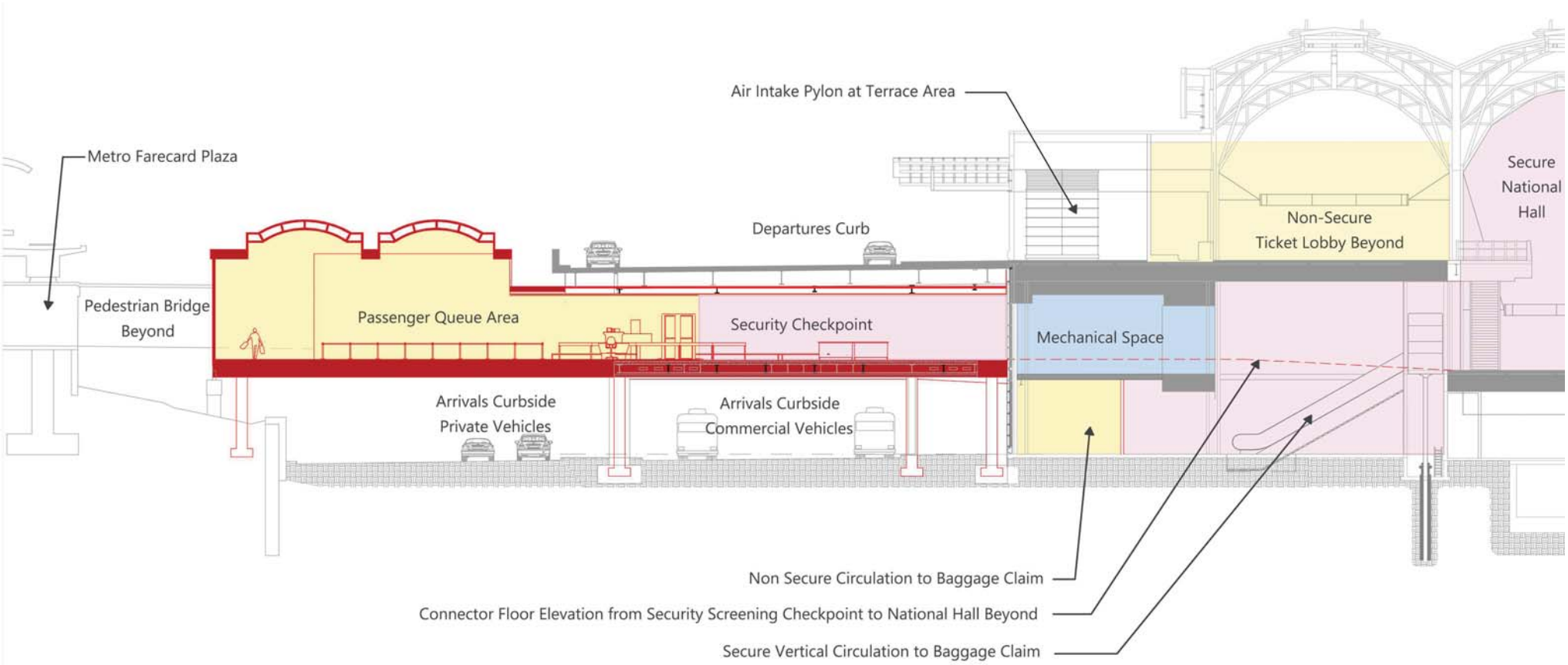


Proposed Security Screening Checkpoint Plan View – National Hall Level

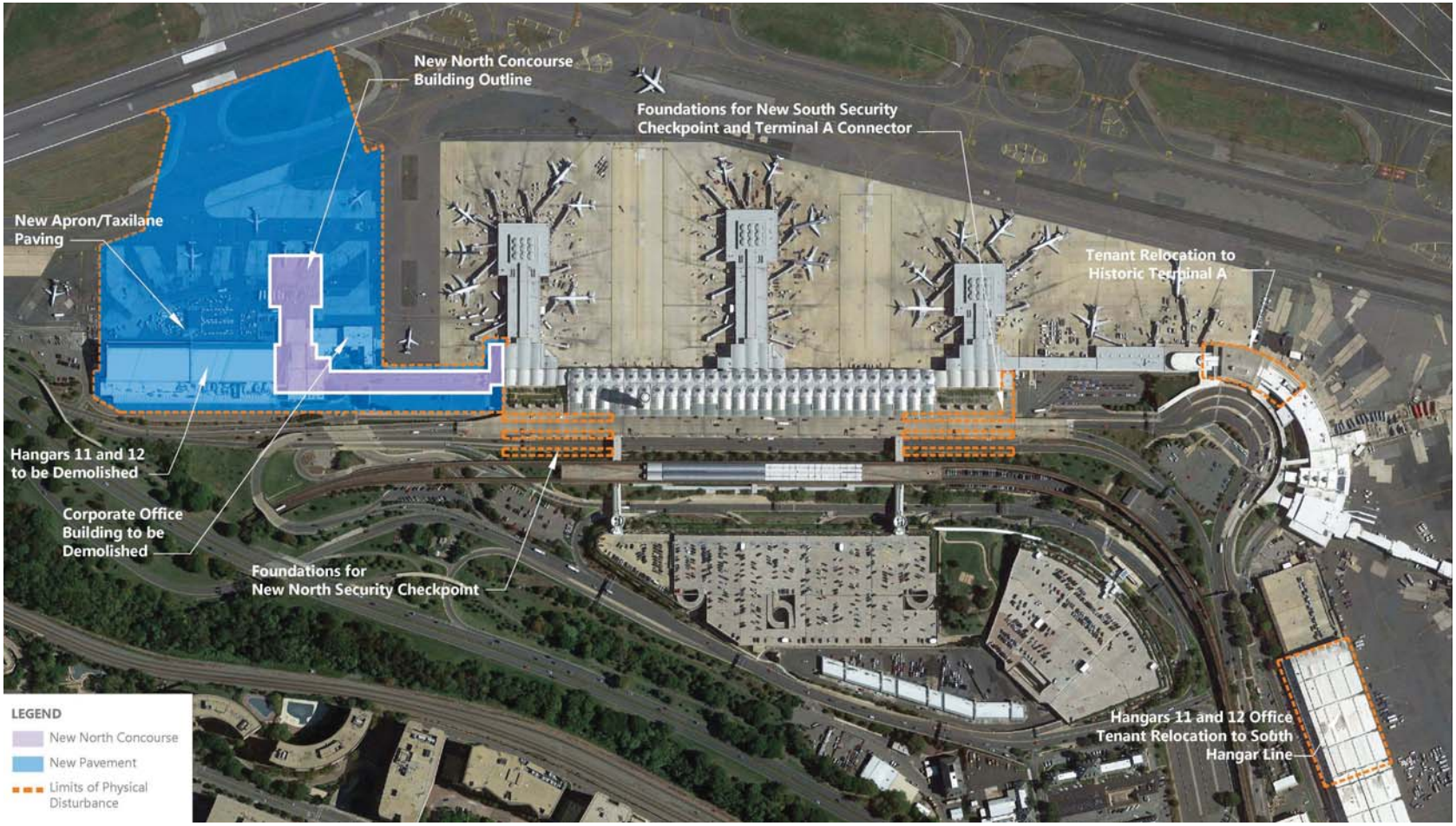


METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Proposed Security Screening Checkpoint Profile View



Limit of Physical Disturbance



Environmental Impact Categories Analyzed

- Air Quality
- Biological Resources
- Climate
- **Department of Transportation Act Section 4(f)**
- Hazardous Materials, Solid Waste, and Pollution Prevention
- **Historical, Architectural, Archaeological, and Cultural Resources**
- Land Use
- Natural Resources and Energy Supply
- **Noise and Compatible Land Use**[1/]
- **Socioeconomic Impacts,**[1/] Environmental Justice, Children's Health and Safety Risks
- Visual Effects
- Water Resources
- Cumulative Impacts

The Proposed Action would affect the categories in bold, but the impacts, after mitigation, do not meet or exceed the thresholds of significance

1/ Construction only

Mitigation

During the implementation of the Proposed Action, the Authority will:

- Continue coordination with the State Historic Preservation Office as design of the new facilities progresses and obtain their final concurrence of No Adverse Effect to Historic Terminal A and the South Hangar Line.
- Coordinate with Arlington County transportation staff to implement signal-timing optimization to mitigate change from LOS D to LOS E in the peak hour on northbound U.S. Route 1 during hauling operations.
- Impose construction equipment noise-reduction methods during construction if projected noise levels exceed the Authority's 2014 Design Manual's nighttime noise criterion of an Lmax of 55 dBA.

Construction Vehicle Route and Potentially Affected Surface Roadways

During construction, the north bound travel speeds on US Route 1 would result in Level of Service E during the PM peak hour compared to the No Action Alternative's Level of Service D. This is a temporary construction impact that could be mitigated. The southbound direction of US Route 1 will not have any significant impacts during construction and will operate at the same Level Of Service as the No Action Alternative.

Construction Noise Sensitive Receptors

Potential to exceed nighttime noise level of Lmax 55 dBA at Receptor 2. To prevent a construction noise impact from occurring, appropriate mitigation measures would be applied.

Three Ways to Provide Comments

- Provide comments during Public Review Workshop
- Mail comments for delivery by 5:00 p.m. Eastern Time, August 4, 2016 to:

  Erik N. Schwenke
  Planning Department
  Metropolitan Washington Airports Authority
  1 Aviation Circle
  Ronald Reagan Washington National Airport
  Washington, DC 20001-6000

- Email comments by 5:00 p.m. Eastern Time, August 4, 2016 to environmental.comments@mwaa.com

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Environmental Assessment Schedule

April 2015	Agency Scoping Meeting
May 2015	Public Scoping Workshop
June 2015 – June 2016	Prepare Draft Environmental Assessment • Purpose and Need • Alternatives • Affected Environment • Environmental Consequences/Cumulative Impacts • Mitigation
July 2016	**Public Information Workshop and Review Period** ← **WE ARE HERE**
August 2016	Respond to Comments and Questions
September 2016	
October 2016	
November 2016	Final Environmental Assessment
December 2016	FAA Finding Issued and Available to the Public

Attachment G-4

Agency Comment Letters and Responses

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Monday, August 08, 2016 9:13 AM
To: Virginia Jackson
Subject: FW: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport
Attachments: 20151030_Letter_Service to Interested Parties_Online Project Reviews SIGNED.pdf; Official_Species_List_VA ESFO_20_Apr_2016.pdf

Virginia,

Please see the attached response from USFWS. The Online Project Review that we did in April (attached) needs to be included in the Final EA.

Thanks,
Erik

From: Jennifer Stanhope [mailto:jennifer_stanhope@fws.gov]
Sent: Monday, August 01, 2016 11:19 AM
To: Schwenke, Erik
Subject: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport

Dear Erik,

We have reviewed the package received on July 15, 2016 for the referenced project and found no evidence of a completed Online Project Review. Please see attached letter for more information about the website and review process.] 01

Sincerely,

Jen

--

Jennifer Stanhope
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
804-824-2408
https://www.fws.gov/northeast/virginiafield/

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

October 30, 2015

Greetings:

Due to increased workload and refinement of our priorities in Virginia, this office will no longer provide individual responses to requests for environmental reviews. However, we want to ensure that U.S. Fish and Wildlife Service trust resources continue to be conserved. When that is not possible, we want to ensure that impacts to these important natural resources are minimized and appropriate permits are applied for and received. We have developed a website that provides the steps and information necessary to allow any individual or entity requiring review/approval of their project to complete a review and come to the appropriate conclusion. This site can be accessed at: *http://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html*.

The website is frequently updated to provide new species/trust resource information and methods to review projects. Refer to the website for each project review to ensure that current information and methods are utilized.

If you have any questions about project reviews or need assistance, please contact Troy Andersen of this office at (804) 824-2428 or troy_andersen@fws.gov.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

RESPONSE TO COMMENT AF-1

Response AF-1-01:

The Online Project Review was completed April 20, 2016, but was inadvertently left out of the Draft Environmental Assessment. No listed species were identified in the vicinity of the project. After receiving the U.S. Fish and Wildlife Service's (FWS) comment on the Draft EA, an updated species list and Self-Certification Letter were generated. The Self-Certification package was emailed to FWS also on August 15, 2016 and is included herein.

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Monday, August 15, 2016 3:45 PM
To: Virginia Jackson
Subject: FW: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport
Attachments: Self Certification.pdf

FYI

From: Schwenke, Erik
Sent: Monday, August 15, 2016 3:44 PM
To: 'Jennifer Stanhope'
Subject: RE: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport

Jennifer,

Thank you for your comments on the Draft EA Document. We did in fact generate an Official Species List via the USFWS website back in April, but it was inadvertently left out of the Draft EA appendix. I apologize for that oversight.

Based on the instructions you provided, I completed an updated species list and self-certification. I have attached a copy of the self-certification for your review and comment. This list will be included in the Final EA document.

Please let me know if you have any additional comments on the proposed project.

Sincerely,
Erik

Erik N. Schwenke
Environmental Planner

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Office of Engineering
Planning Department
45045 Aviation Drive, 3rd Floor
Dulles, Virginia 20166
703-572-0268
erik.schwenke@mwaa.com
mwaa.com

From: Jennifer Stanhope [mailto:jennifer_stanhope@fws.gov]
Sent: Monday, August 01, 2016 11:19 AM
To: Schwenke, Erik
Subject: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport

Dear Erik,

We have reviewed the package received on July 15, 2016 for the referenced project and found no evidence of a completed Online Project Review. Please see attached letter for more information about the website and review process.

Sincerely,

Jen

--

Jennifer Stanhope
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
804-824-2408
https://www.fws.gov/northeast/virginiafield/

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: August 15, 2016

Self-Certification Letter

Project Name: DCA Terminal B/C Redevelopment and Secure National Hall

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: DCA Terminal B/C Redevelopment and Secure National Hall

Date: August 15, 2016

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
ESA Listed Species	Species Not Present	No Effect	
Critical Habitat	No Critical Habitat Present	No Effect	
Bald Eagle	Unlikely to Disturb Nesting Bald Eagles	No Eagle Act Permit Required	
Bald Eagle	Does not Intersect with an Eagle Concentration Area	No Eagle Act Permit Required	

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2016-SLI-2306 August 15, 2016
Event Code: 05E2VA00-2016-E-04628
Project Name: DCA Terminal B/C Redevelopment and Secure National Hall

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and

endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: DCA Terminal B/C Redevelopment and Secure National Hall

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

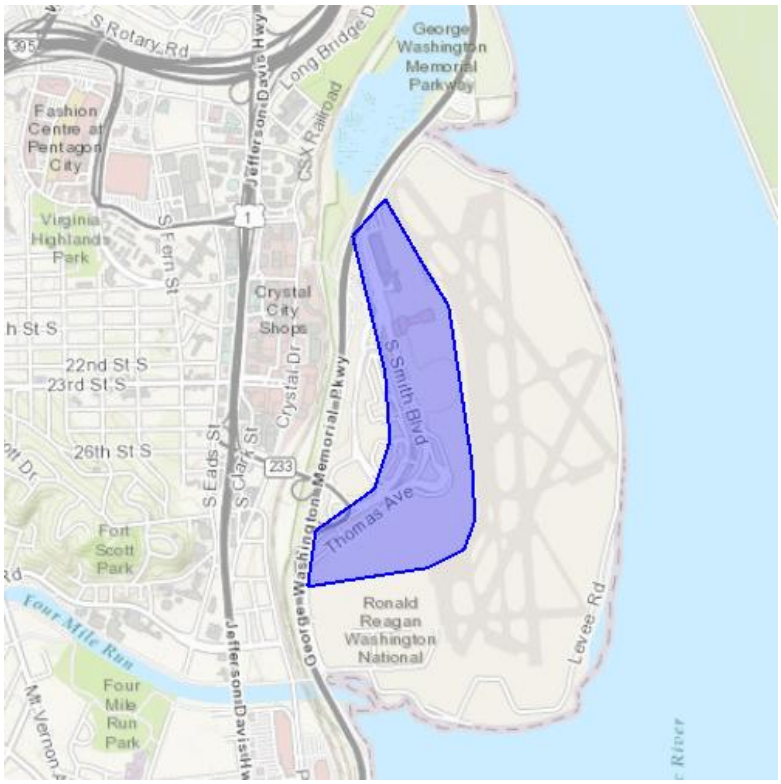
Consultation Code: 05E2VA00-2016-SLI-2306
Event Code: 05E2VA00-2016-E-04628

Project Type: TRANSPORTATION

Project Name: DCA Terminal B/C Redevelopment and Secure National Hall
Project Description: Construction of a new north concourse at Ronal Reagan Washington National Airport to replace existing hardstand operations. The project will also convert the existing National Hall to a secure area and construct two new security checkpoints.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-77.04630374908447 38.85929308834189, -77.04467296600342 38.86083028642411, -77.04261302947998 38.85809004057625, -77.0412826538086 38.85645252619142, -77.04008102416992 38.85010262406381, -77.0399522781372 38.847796466658096, -77.0405101776123 38.84659322442003, -77.04244136810303 38.845824475669154, -77.04870700836182 38.845089143004174, -77.0482349395752 38.84736196486416, -77.04523086547852 38.849066533608884, -77.04441547393799 38.85100501313216, -77.04463005065918 38.853745531976266, -77.04630374908447 38.85929308834189)))

Project Counties: Arlington, VA

Endangered Species Act Species List

There are a total of 0 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.

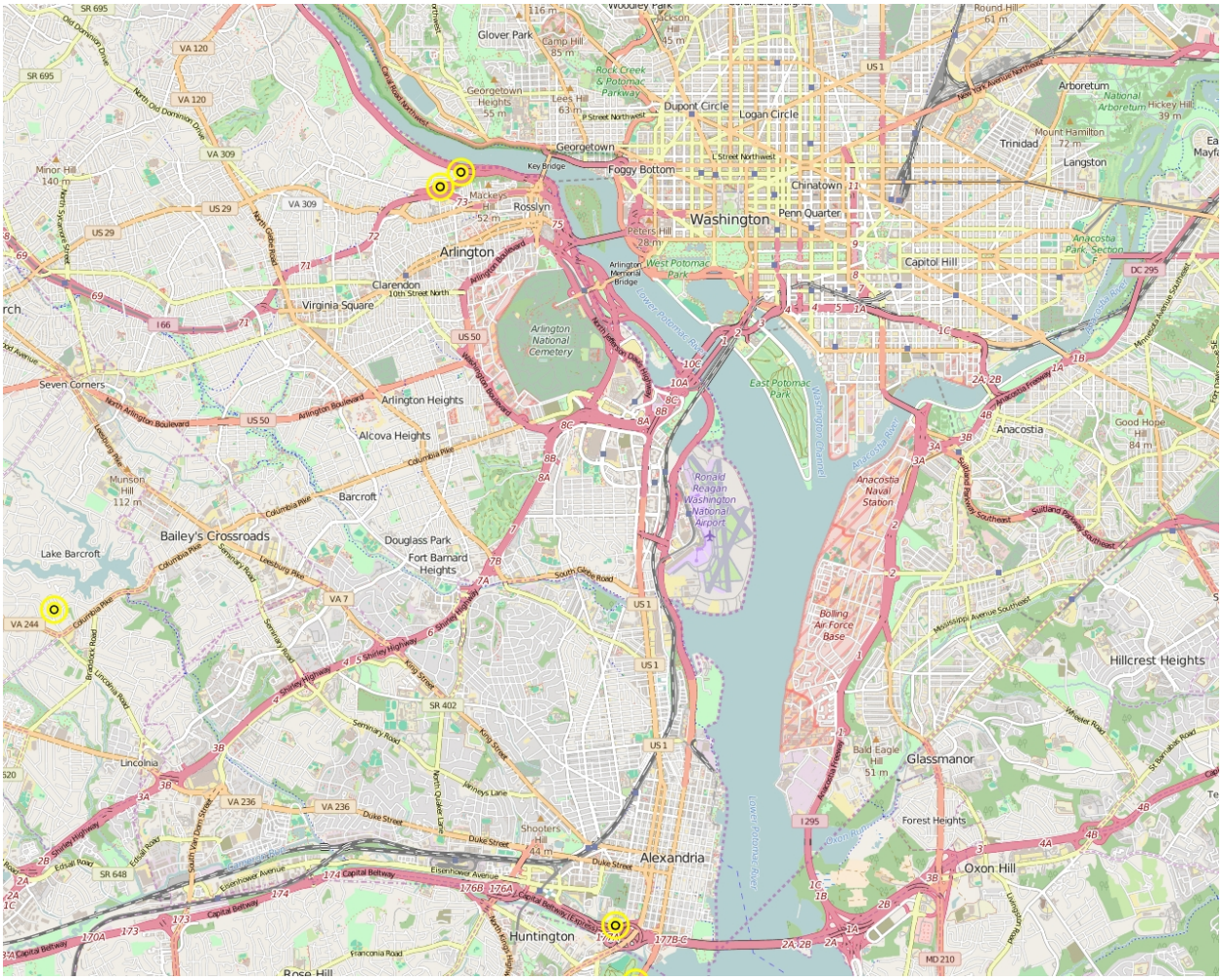
Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

CCB Mapping Portal



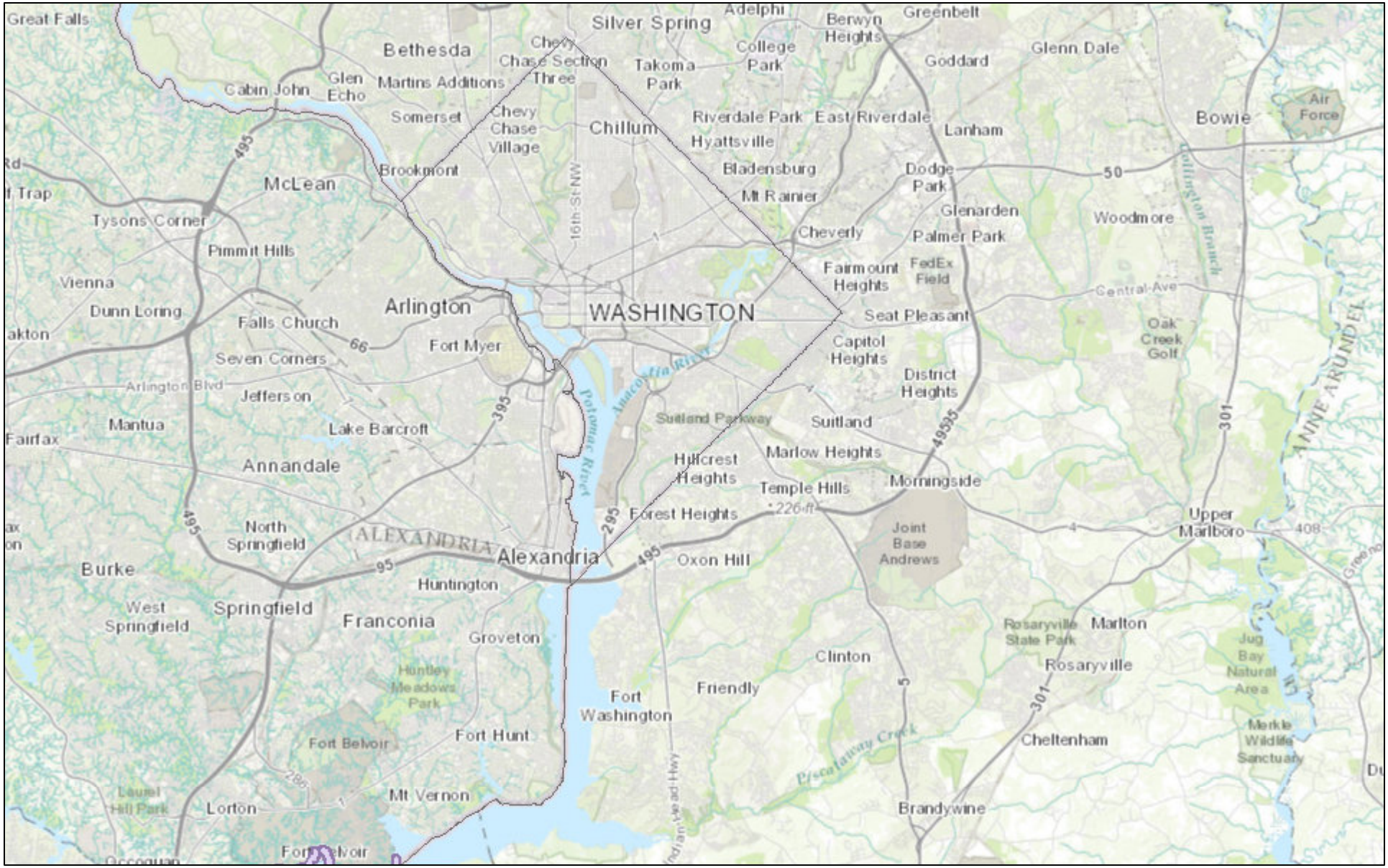
Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers

Map Center [longitude, latitude]: [-77.0416259765625, 38.852676073770596]

Map Link:
http://www.ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&zoom=13&lat=38.852676073770596&lng=-77.0416259765625&legend=legend_tab_a78d6af8-e398-11e4--d42-0e0c41326911&base=Street+Map+%28OSM%29

Report Generated On: 08/15/2016

DCA Terminal B/C Redevelopment and Secure National Hall



August 15, 2016

1:288,895

0 2.5 5 10 mi

0 4 8 16 km

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,

National Capital Planning Commission
401 9th Street, NW North Lobby, Suite 500 Washington, DC 20004 Tel 202.482.7200 Fax 202.482.7272 www.ncpc.gov

IN REPLY REFER TO:
NCPC FILE No. 7675

01

August 4, 2016

Mr. Erik N. Schwenke
Lead Environmental Planner, Planning Department
Metropolitan Washington Airports Authority
45045 Aviation Drive, Third Floor
Dulles, Virginia 20166

Re: Draft Environmental Assessment for Terminal B/C Redevelopment, Secure National Hall and Related Improvements, Ronald Reagan Washington National Airport

Dear Mr. Schwenke:

Thank you for the opportunity to comment on the Draft Environmental Assessment (DEA) for Terminal B/C Redevelopment, Secure National Hall and Related Improvements at Ronald Reagan Washington National Airport (DCA) on behalf of the National Capital Planning Commission (NCPC). We understand that the preferred alternative includes a new north concourse with fourteen gates for regional aircraft; construction of two new security screening checkpoints over the commercial and public vehicle arrivals level roadways; and demolition, relocation or modification of several other facility elements. This proposal will enhance passenger and airline operations by creating a more equitable level of service for each gate and convenient access between gates for connecting passengers.

In accordance with the November 2, 1988 Memorandum of Understanding between NCPC and the Metropolitan Washington Airports Authority (MWAA), I am providing the following comments for inclusion in the final environmental assessment (EA):

02

Visual Resources

DCA is sited in a strategic and highly visible location along the Potomac River adjacent to the Monumental Core of the nation's capital. As such, views from the Monumental Core, along with views from the George Washington Memorial Parkway (GWMP), warrant special consideration. The *2016 Comprehensive Plan for the National Capital* sets forth the policies that guide planning for the National Capital Region, including the protection of the capital's image and historic character. In particular, the Urban Design Element notes that one of the most important hallmarks of the capital city's symbolic image and urban design framework is the spatial and visual order that reinforces the preeminence of national symbols and democratic institutions. The development at DCA should continue to preserve the visual hierarchy of the Monumental Core.

03

We appreciate that the DEA acknowledges the prominence of the airport setting and the important views which are vital to the federal interest. Exhibit 5-3 identifies several positions from which the proposal was evaluated for visual impacts. We recommend the final EA includes both existing and proposed views from these locations to confirm the findings as described in the DEA, and in particular, whether the proposed action will impact views from the Monumental Core or GWMP. Updated photographs or renderings similar to those used as part of the Assessment of Effects report regarding historic resources may be appropriate. 04

Noise and Noise-Compatible Land Use

The DEA indicates the implementation of the preferred alternative would not increase the number of existing or forecast operations by time of day, aircraft type, or stage length; result in a change in runway use (the ratio of flights arriving to or departing from each runway compared to the total number of arrivals and departures at DCA); or change the location or use of flight paths. The DEA further states that the proposed action would not result in any significant changes in airport noise. 05

However, if additional sound barriers or other buffering measures are necessary due to the new north concourse, we request they be included as part of the analysis to evaluate any visual impacts on the GWMP. 06

Water Resources

Regarding flooding, Executive Order 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* recently amended Executive Order 11988. This new order encourages federal agencies to design for flood events that are greater than the 100-year flood standard. This new guidance should be reflected in the final EA. 07

Finally, we request that MWAA evaluate Low Impact Development (LID) practices to handle stormwater, such as rain gardens, vegetated swales, bioswales, pocket wetlands, infiltration planters, re-vegetation using native plants and bio-retention areas in compliance with federal and local stormwater regulations, in coordination with applicable federal and state guidance. 08

In addition, we recommend the use of porous and permeable pavements for any new paving areas to reduce stormwater runoff and impacts on off-site water quality. 09

These comments have been prepared in accordance with NCPC's Environmental and Historic Preservation Policies and Procedures, and reflect the information that NCPC will need to adequately review this project relative to the MOU and the policies contained in the Federal Elements of the *Comprehensive Plan*. If you have any questions about these comments, please contact Matthew J. Flis at (202) 482-7236 or matthew.flis@ncpc.gov. 10

Sincerely,

Diane Sullivan
Director, Urban Design and Plan Review

RESPONSE TO COMMENT AF-2

Response AF-2-01:

Comment noted.

Response AF-2-02:

Comment noted.

Response AF-2-03:

Comment noted.

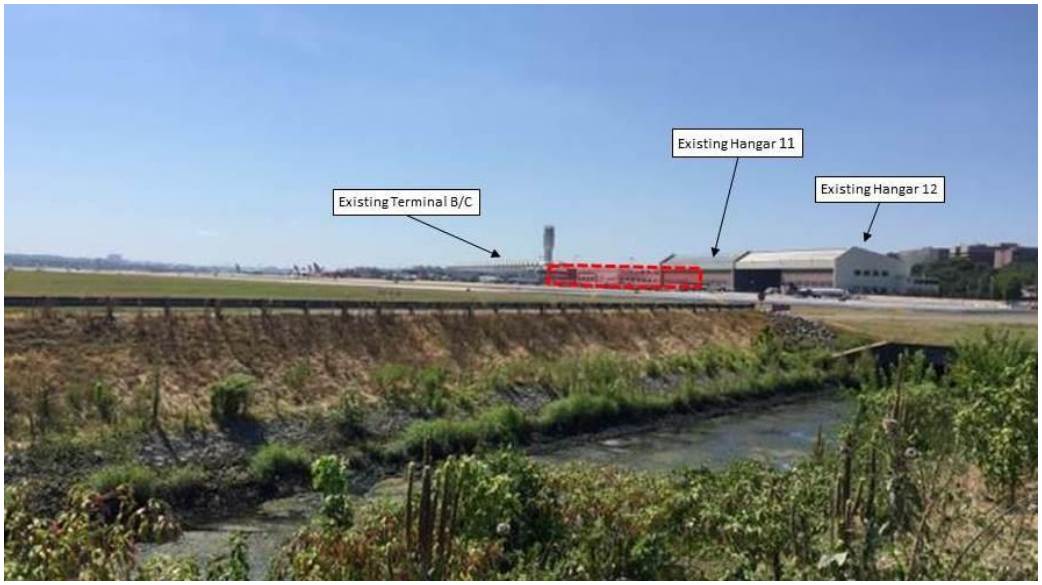
Response AF-2-04:

Photographs from the positions noted on Exhibit 5-4 (formerly Exhibit 5-3) illustrating the height and location of the Proposed Action are included in **Exhibits G-1 through G-5**.. The Proposed Action is indicated by the red dashed rectangle.

Exhibit G-1: View of Proposed Action from Gravelly Point

SOURCE: Metropolitan Washington Airports Authority, August 2016.
PREPARED BY: Ricondo & Associates, Inc., August 2016.

Exhibit G-2: View of Proposed Action from Mt. Vernon Trail



SOURCE: Metropolitan Washington Airports Authority, August 2016.
PREPARED BY: Ricondo & Associates, Inc., August 2016.

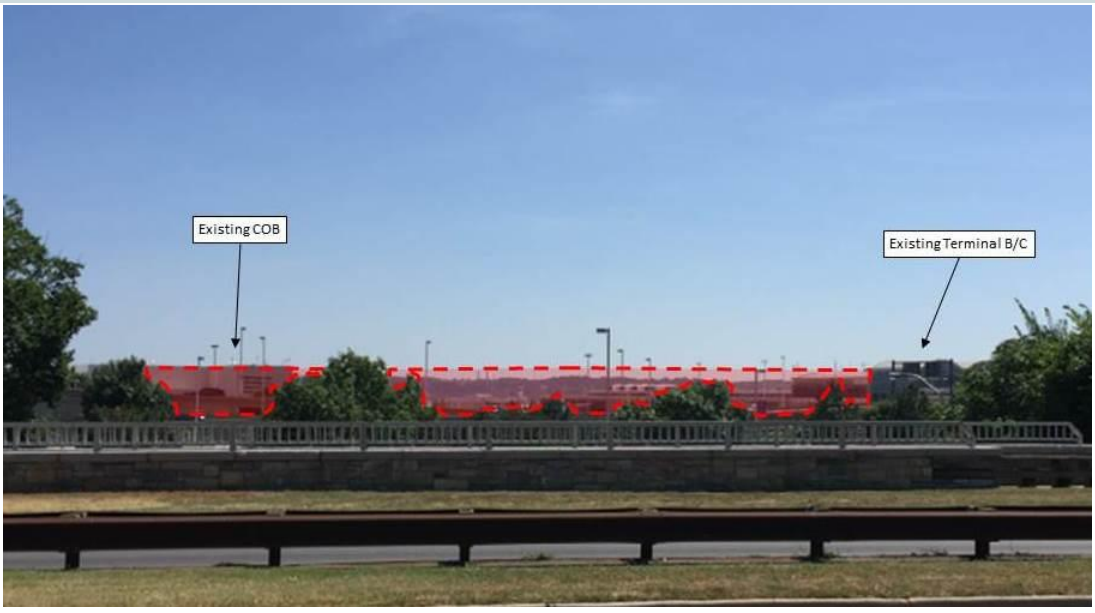
Exhibit G-3: View of Proposed Action from Long Bridge Park

SOURCE: Metropolitan Washington Airports Authority, August 2016.
PREPARED BY: Ricondo & Associates, Inc., August 2016.

Exhibit G-4: View of Proposed Action from East Potomac Park

SOURCE: Metropolitan Washington Airports Authority, August 2016.
PREPARED BY: Ricondo & Associates, Inc., August 2016.

Exhibit G-5: View of Proposed Action from George Washington Memorial Parkway



SOURCE: Metropolitan Washington Airports Authority, August 2016.
PREPARED BY: Ricondo & Associates, Inc., August 2016.

Response AF-2-05:

Comment noted.

Response AF-2-06:

Comment noted. The implementation and use of the Proposed Action would not change the taxi patterns on the Airport. The aircraft noise conditions for the Proposed Action and the No Action Alternative would be the same. Therefore the Authority does not anticipate that additional sound barriers or other buffer measures would be necessary.

Response AF-2-07:

In addition to the release of the new EO and FFRMS, draft flood risk management standard implementation guidelines were released. Information about the FFRMS has been incorporated into the guidelines to aid agencies in development of their revised or new procedures and to promote consistency among agencies. The guidelines are also advisory. To the extent permitted by law and consistent with their statutory authority, each agency shall draft or update their own rules and regulations to be consistent with EO 13690.[1] The FAA has not yet drafted rules and regulations for airport projects to comply with EO 13690, nor has the FAA selected one of the three approaches for establishing the flood elevations and hazard area to be used in siting, design, and construction of airport projects.

Response AF-2-08:

Low Impact Development (LID) facilities such as bioretention and plantings are generally incompatible with public airport use. Federal Aviation Administration (FAA) Advisory Circular (AC) 150-5200-33B, *Hazardous Wildlife Attractants on or Near Airports* recommends that stormwater management systems that are located on or adjacent to airports be designed and operated so as not to create above-ground standing water, or introduce wildlife attractants such as habitat or food sources. However, some infiltration based stormwater management techniques that do not created wildlife hazards such as grass lined channels, gravel diaphragms, and sand filters would be incorporated into the design as applicable.

Response AF-2-09:

Comment noted. As noted in Section 5.3.2.1, the Proposed Action would be restricted to a previously disturbed area at the Airport and would result in the removal and replacement of existing impervious services,

[1] Association of State Floodplain Managers, *Executive Order 1360 and the new Federal Flood Risk Management Standard*, https://www.floods.org/ace-files/documentlibrary/FloodRiskMngmtStandard/EO_and_FFRMS_for_News_Views.pdf (accessed August 19, 2016).

as well as an increase in the impervious surface area within the LOPD by 305 square feet (0.007 acres). As noted in Section 5.5.2, the redevelopment of existing impervious surfaces and the proposed additional impervious surfaces would be designed to manage stormwater runoff in accordance with the storage and pre- and post-flow requirements of the Virginia Stormwater Management Program (VSMP), the guidance in FAA AC 150/5320-5C, Surface Drainage Design (or current version), and the Virginia BMP Clearinghouse.

Response AF-2-10:

Comment noted. The Authority appreciates your interest in the Proposed Action. Per the terms of the MOU between the two agencies, preliminary site and building plans for construction will be provided as the project design progresses.

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

David C. Dowling
Deputy Director of Soil and Water Conservation and Dam Safety

Thomas L. Smith
Deputy Director of Operations

July 29, 2016

Gregg M. Wollard
Metropolitan Washington Airports Authority
45045 Aviation Drive, 3rd Floor
Dulles, VA 20166

Re: Terminal B & C Redevelopment, Secure National Hall, and Related Improvements

Dear Mr. Wollard:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations. 01

According to the information currently in our files, River bulrush (*Bolboschoenus fluviatilis*, G5/S2/NL/NL) and Davis's sedge (*Carex davisii*, G4/S1/NL/NL) have been documented downstream from the project site. 02

River bulrush, a state-rare plant species, inhabits fresh tidal marshes of the coastal plain of Virginia. This species forms predominantly sterile colonies that spread by rhizomes. Water pollution and sedimentation, sea level rise, and invasive species such as *Phragmites* australis pose the greatest threats to populations of this sedge. Nine populations of river bulrush are believed to be extant in Virginia. 03

Davis' sedge is a sedge species of more northern and midwestern affiliations, occurring in northern Virginia at the southernmost extension of its range. This species can be found in floodplain forests, rich deciduous forests and forest margins, along streams and meadows, and is usually associated with calcareous soils. As indicated by the global rank, this species is much more common to the north and west of Virginia. 04

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. 05

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity. 06

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects. 07

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized. 08

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov. This project is located within 2 miles of a documented occurrence of a state listed animal. Therefore, DCR recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). 09 10

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Alli Baird

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

Cc: Amy Ewing, VDGIF

Literature Cited

Flora of North America Editorial Committee 2002. Flora of North America North of Mexico. Volume 23, Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press, New York, NY 608pp.

Response AS-1-01:

Comment noted.

Response AS-1-02:

The River bulrush and Davis's sedge were added to Table 4-4: Natural Heritage Resources in Arlington County, Virginia.

Response AS-1-03:

Comment noted.

Response AS-1-04:

Comment noted.

Response AS-1-05:

Comment noted. As stated in Section 5.14.1.3 The Authority's design and construction program requires any project that involves excavation, landfill, or soil disturbance to include erosion and sediment control measures in accordance with Virginia Erosion and Sediment Control Law and Regulations and the latest version of the *Virginia Erosion and Sediment Control Handbook*.

Response AS-1-06:

Comment noted.

Response AS-1-07:

Comment noted. A statement noting VDCR's conclusion was added to Section 5.3.2.3

Response AS-1-08:

Comment noted.

Response AS-1-09:

Comment noted.

Response AS-1-10:

Table 4-5 contains threatened and endangered species within Arlington County. The Draft EA was circulated to the VDGIF. No comments were received.

COMMONWEALTH of VIRGINIA
Department of Agriculture and Consumer Services
PO Box 1163, Richmond, Virginia 23218
Phone: 804/786-3501 • fax: 804/371-2945 • Hearing Impaired: 800/828-1120
www.vdacs.virginia.gov

Sandra J. Adams
Commissioner

August 3, 2016

Mr. Erik N. Schwenke
Planning Department
Metropolitan Washington Airports Authority
45045 Aviation Drive
Third Floor
Dulles, VA 20166

RE: Draft Environmental Assessment for the Terminal B/C Redevelopment, Secure National Hall, and Related Improvements; Ronald Reagan Washington National Airport

Dear Mr. Schwenke:

This is in response to Mr. Wollard's letter to this agency dated July 6, 2016, inviting our comments on the Draft Environmental Assessment (EA) for the proposed redevelopment of Terminal B/C at Reagan National, including the construction of a New North Concourse, a Secure National Hall, and related improvements.

Based on the enclosed EA for the proposed project, the impacted land does not support agricultural uses and no prime, unique, or state significant farmlands are present. Therefore it does not appear that the project will affect any of the regulations administered by this agency. 01

VDACS works closely with the Department of Conservation and Recreation (DCR) in determining the potential impact of proposed projects on state endangered and threatened plant and insect species. Through a Memorandum of Agreement between our agencies, DCR reviews these projects and submits comments on our behalf. Consequently, inquiries relating to state protected plant and insect species should be directed to DCR. If after researching its database of natural resources, critical habitats, and species locations DCR finds that a project poses a potential adverse impact on an endangered or threatened plant or insect species, the appropriate information will be referred to VDACS for further review and possible mitigation. Please note that requests of this nature should be sent to Rene Hypes at the DCR Division of Natural 02 03

Heritage Project Review Program. Ms. Hypes can be reached at (804) 371-2708 or rene.hypes@dcr.virginia.gov.

03 cont.

Thank you for the opportunity to provide feedback on this project.

Sincerely,

Sandra J. Adams
Commissioner

cc: Larry Nichols, Director, Division of Consumer Protection
Kevin Schmidt, Director, Office of Policy, Planning, and Research

Response AS-2-01:

Comment noted.

Response AS-2-02:

Comment noted. Please note comments from VDCR coded as Document Id AS-1-07 and the Authority's responses.

Response AS-2-03:

Comment noted.

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Tuesday, August 09, 2016 3:25 PM
To: Virginia Jackson
Subject: FW: Draft EA for Terminal B/C redevelopment, secure National Hall, and related improvements, Ronald Reagan Washington National Airport (2015-0444)

SHPO comments on Draft EA

From: Holma, Marc (DHR) [mailto:Marc.Holma@dhr.virginia.gov]
Sent: Tuesday, August 09, 2016 2:48 PM
To: Schwenke, Erik
Subject: Draft EA for Terminal B/C redevelopment, secure National Hall, and related improvements, Ronald Reagan Washington National Airport (2015-0444)

Erik,

The DHR received for our review and comment the draft EA for the above referenced project. On 23 September 2015 we concurred with MWAA that the undertaking will have No Adverse Effect provided consultation with respect to the designs of the new facilities is continued. After reviewing the draft EA, DHR maintains this opinion and we look forward to further conversations with MWAA on the project designs when available. 01

Sincerely,

Marc Holma

Response AS-3-01:

Comment noted.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 15, 2016

Mr. Erik Schwenke
Planning Department, MA-32
Metropolitan Washington Airports Authority
45045 Aviation Drive
Dulles, Virginia 20166

RE: Draft Environmental Assessment and Federal Consistency Certification, Terminal B/C Redevelopment, Secure National Hall, and Related Improvements, Ronald Reagan Washington National Airport, Federal Aviation Administration, Arlington County, DEQ 16-162F

Dear Mr. Schwenke:

The Commonwealth of Virginia has completed its review of the June 2016 Draft Environmental Assessment (DEA) and Federal Consistency Certification (FCC) dated and received on July 11, 2016, for the above referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of FCCs submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. The following agencies participated in the review of the DEA and FCC:

Department of Environmental Quality
Department of Conservation and Recreation
Department of Aviation

In addition, the Department of Game and Inland Fisheries, Department of Historic Resources, Arlington County, and Northern Virginia Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The Metropolitan Washington Airports Authority (MWAA or applicant) proposes to redevelop the Terminal B/C area of Ronald Reagan Washington National Airport

(DCA), to include a New North Concourse (NNC) and a Secure National Hall (SNH), and related improvements at the airport in Arlington County. Construction of the NNC includes:

- replacement of 14 regional aircraft hardstand positions with 14 regional aircraft contact gates;
- relocation of utilities in the NNC area; and
- modifications to Gate 35 (concourse level) and Gate 35X (apron level).

SNH construction includes:

- two new Security Screening Checkpoints at the National Hall level (i.e., one north of the north Metro pedestrian bridge, the other south of the south Metro pedestrian bridge);
- new vertical circulation passenger corridors;
- modification and relocation of concessions areas and support space; and
- conversion of National Hall to a post-security secure area.

Other project elements include:

- demolition of the Authority's Corporate Office Building and relocation of the Authority's employees to an offsite location or other Authority office facilities at DCA or Washington Dulles International Airport;
- demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area and historic Terminal A at DCA;
- demolition and replacement of Hangar 12 with a similar facility in the same general area;
- modifications to the hydrant fueling system including fuel lines and pits;
- modifications to site utilities including relocation;
- modifications to the Central Utility Plant;
- modifications to the airport security fence;
- relocation of parking locations for aircraft that remain overnight at DCA;
- removal of existing Taxiway S pavement from Runway 15-33 to Taxiway N; and
- the addition of new connector Taxiway N2 from Taxiway N to Runway 15-33.

CONCLUSION

Provided activities are performed in accordance with the recommendations which follow in the Impacts and Mitigation section of this report, this proposal is unlikely to have significant effects on ambient air quality, water quality, wetlands, water supply, wildlife, fisheries, forest resources, important farmland or historic resources. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

01

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Water Quality and Wetlands. According to the DEA (page 5-58), during construction, the proposed action would have the potential to temporarily affect localized water quality conditions due to soil erosion and stormwater runoff from construction activities conducted on land. The proposed action increases the impervious surface area by 305 square feet (0.007 acres) and is unlikely to have adverse permanent impacts on water quality. The total amount of any industry-specific pollutants to be controlled in the runoff would not increase as a result of the proposed action.

The document (page 5-57) states that no vegetated wetlands or stream channels regulated by the U.S. Army Corps of Engineers (Corps), DEQ, or the Virginia Marine Resources Commission (VMRC) are located on airport land within the limits of potential development (LOPD). Neither the construction nor the operation of the proposed action would impact wetlands or waters of the U.S. (WOTUS) and mitigation would not be necessary.

1(a) Agency Jurisdiction. The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 *et seq.*; and
- State Water Control *Regulations*, 9 VAC 25-210-10.

1(b) Agency Findings. The VWP Permit Program at the DEQ Northern Regional Office (NRO) did not indicate that surface waters or wetlands under its jurisdiction would be impacted by the proposed action. 02

1(c) Requirements. A VWP permit from DEQ-NRO may be required should the project change and impacts to surface waters are anticipated. The DEQ VWP staff 03

recommends the the avoidance and minimization of surface water impacts to the maximum extent practicable and coordination with the Corps. Upon receipt of a Joint Permit Application (JPA) for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and guidance. 03

1(d) CZMA Federal Consistency. Based on the information provided the DEA and DEQ-NRO's response, the proposed action is consistent with the wetlands management and point source pollution control enforceable policies of the Virginia Coastal Zone Management (CZM) Program (see Federal Consistency under the CZMA section below for additional information). 04

For additional information, contact DEQ-NRO, Trisha Beasley at (703) 583-3940.

2. Erosion and Sediment Control and Stormwater Management. According to the EA (page 5-58), all necessary erosion and sediment control measures would be implemented prior to beginning each element of construction. Additionally, a Virginia Stormwater Management Program permit will be required from DEQ for construction-related stormwater discharges from construction activities greater than 2,500 square feet. The document concludes that the proposed action would comply with the Virginia Erosion and Sediment Control Regulations.

2(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the following laws and regulations governing construction activities:

- Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 *et seq.*) and *Regulations* (9 VAC 25-840) (VESCL&R);
- Virginia Stormwater Management Act (VSMA, § 62.1-44.15:24 *et seq.*);
- Virginia Stormwater Management Program (VSMP) Regulation (9 VAC 25-870); and
- 2014 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880).

In addition, DEQ is responsible for the VSMP General Permit for Stormwater Discharges from Construction Activities related to Municipal Separate Storm Sewer Systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program (9 VAC 25-890-40).

2(b) Requirements. DEQ-OSWM did not respond to our request for comments. However, based on previous responses to projects at DCA, regulatory guidance for the control of non-point source pollution is presented below. 05

(i) Erosion and Sediment Control and Stormwater Management Plans

The MWAA and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with the *VESCL&R*, *VSWML&R* (including coverage under the general permit for stormwater discharge from construction activities) and other applicable federal nonpoint source pollution mandates (e.g. *Clean Water Act*-Section 313, federal consistency under the *Coastal Zone Management Act*). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, or other structures, soil/dredge spoil areas, or related land conversion activities that disturb greater than 2,500 square feet would be regulated by *VESCL&R* and those that disturb 2,500 square feet or greater would be covered by *VSWML&R*. Accordingly, MWAA must prepare and implement erosion and sediment control (ESC) and stormwater management (SWM) plans to ensure compliance with state law and regulations. MWAA is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and/or other mechanisms consistent with agency policy. The agency is encouraged to contact DEQ at (804) 837-1073 to obtain plan development, implementation assistance and to ensure project conformance during and after active construction. [Reference: *VESCL* §62.1-44.15:61].

05

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities

The operator or owner of a construction project involving land-disturbing activities equal to one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management *Act* 62.1-44.15 *et seq.*] *VSMP Permit Regulations* 9 VAC 25-880 *et seq.*].

2(c) CZMA Federal Consistency. Based on the information provided the DEA, the proposed action is consistent with the nonpoint source pollution control enforceable policies of the Virginia CZM Program (see Federal Consistency Under the CZMA section below for additional information).

06

3. Air Pollution Control. According to the DEA (page 5-6), construction would not increase the number of existing or forecast aircraft operations by time of day, aircraft type, stage length, or aircraft operational emissions. Implementation of the proposed

action is not expected to cause or contribute to exceedances of the National Ambient Air Quality Standards (NAAQS).

3(a) Agency Jurisdiction. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law (Virginia Code §10.1-1300 *et seq.*). DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance. As a part of this mandate, EIRs of projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

The Air Division regulates emissions of air pollutants from industries and facilities and implements programs designed to ensure that Virginia meets national air quality standards. The most common regulations associated with major State projects are:

- Open burning: 9 VAC 5-130 *et seq.*
- Fugitive dust control: 9 VAC 5-50-60 *et seq.*
- Permits for fuel-burning equipment: 9 VAC 5-80-1100 *et seq.*

3(b) Agency Findings. According to the DEQ Air Division, the project site is located in a designated ozone nonattainment area and emission control area for NO_x and VOCs. Precursors to ozone (O_3) pollution include VOCs and NO_x. 07

3(c) Recommendation. The project proponent should take all reasonable precautions to limit emissions of VOCs and NO_x, principally by controlling or limiting the burning of fossil fuels. 08

3(d) Requirements.

(i) Fugitive Dust

Fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following: 09

- Use, where possible, of water or chemicals for dust control;

- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

09

(ii) Asphalt Paving

There are some limitations stemming from 9 VAC 5-40-5490 in the *Regulations for the Control and Abatement of Air Pollution* on the use of "cut-back" (liquefied asphalt cement, blended with petroleum solvents) that may apply to paving that may be associated with the proposed access road. Moreover, there are time-of-year restrictions on its use during the months of April through October in VOC emission control areas.

10

(iii) Open Burning

If project activities include the open burning or use of special incineration devices for the disposal of land clearing debris, this activity must meet the requirements of 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100of the *Regulations* for open burning, and it may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The project proponent should contact Arlington County officials to determine what local requirements, if any, exist.

11

(iv) Fuel-burning Equipment

Should the project include the installation of fuel-burning equipment (boilers, generators, compressors, etc.), or any other air pollution emitting equipment, the project may be subject to 9 VAC 5-80, Article 6, Permits for New and Modified Sources. Accordingly, the project manager should contact the DEQ-NRO Air Permit Manager for a permitting determination prior to the installation, construction, and operation of fuel-burning or other air pollution emitting equipment.

12

3(e) CZMA Federal Consistency. Based on the information provided in the DEA and the DEQ Air Division's response, the proposed action is consistent with the air pollution control enforceable policy of the Virginia CZM Program (see Federal Consistency under the CZMA below for additional information).

13

4. Chesapeake Bay Preservation Areas. The DEA (page 5-17) states that under the Chesapeake Bay Preservation Act and the Arlington County Chesapeake Bay Preservation Ordinance, all of Arlington County is classified as a Resource Management Area. The LOPD does not lie within 100 feet of the mean high-water mark of the Potomac River and would not be considered, by definition, as being within a Resource Protection Area. The proposed action would be designed and constructed in

accordance with the erosion, sediment, stormwater quality controls, and pollutant prevention practices required by applicable regulations and permit requirements.

4(a) Agency Jurisdiction. The DEQ Office of Local Government Programs (OLGP) administers the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15:67 *et seq.*) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (9 VAC 25-830-10 *et seq.*). Each Tidewater locality must adopt a program based on the Bay Act and *Regulations*. The Act and *Regulations* recognize local government responsibility for land use decisions and are designed to establish a framework for compliance without dictating precisely what local programs must look like. Local governments have flexibility to develop water quality preservation programs that reflect unique local characteristics and embody other community goals. Such flexibility also facilitates innovative and creative approaches in achieving program objectives. The regulations address nonpoint source pollution by identifying and protecting certain lands called Chesapeake Bay Preservation Areas. The regulations use a resource-based approach that recognizes differences between various land forms and treats them differently.

4(b) Agency Comments. DEQ-OSWM notes that, in Arlington County, the areas protected by the Chesapeake Bay Preservation Act, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

All areas of the County not included in the RPA are designated as RMA.

14

4(c) Agency Findings. DEQ-OSWM finds that it appears that the proposed development will be located on land analogous to RMA and outside of the land analogous to RPA associated with Colvin Run. The proposed activities will not result in an increase of impervious surfaces or in encroachments into on-site RPA.

15

4(d) Requirements. Land-disturbing activities in Bay Act localities are required to be consistent with the performance criteria of the *Regulations* on land analogous to locally-designated RPA and RMA, as provided in 9 VAC 25-830-130 and 140 of the *Regulations*, including the requirement to:

- minimize land disturbance (including access and staging areas);
- retain existing vegetation;
- minimize impervious cover;

16

- comply with the requirements of the *Virginia Erosion and Sediment Control Handbook,* and
- comply with stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*;

16

4(e) CZMA Federal Consistency. Based on the information provided in the DEA and the DEQ-OLGP's response, the proposed action is consistent with the coastal lands management enforceable policy of the Virginia CZM Program (see Federal Consistency Under the CZMA below for additional information).

17

5. Solid and Hazardous Wastes and Hazardous Materials. According to the DEA (page 5-20), site preparation activities associated with the construction (e.g., demolition of the COB and Hangars 11 and 12; the NNC; the replacement of Hangar 12; associated airfield pavements) would have the potential to disturb petroleum-contaminated soil and groundwater. Construction activities would generate solid waste. During construction, larger demolition debris would be disposed of at an appropriate construction and demolition debris landfill.

5(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq.*), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation Liability Act (CERCLA), commonly known as Superfund.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*
- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81 (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60 (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

Federal:

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 *Code of Federal Regulations*, Part 107
- Applicable rules contained in Title 40, *Code of Federal Regulations*.

DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq.*), including Aboveground Storage Tanks (9 VAC 25-91 *et seq.*) and Underground Storage

Tanks (9 VAC 25-580 *et seq.* and 9 VAC 25-580-370 *et seq.*), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq.* which covers oil spills.

5(b) Agency Findings. DEQ-DLPR conducted a cursory search of solid and hazardous waste databases for waste sites in close proximity to the project area and identified twenty-six petroleum releases that have occurred throughout the site, all of which might impact the project activity. A detailed list of these sites is contained in DEQ-DLPR comments attached to this response. In addition, DEQ-DLPR did not identify other waste sites of possible concern within the airport zip code (22202). 18

5(c) Recommendations.

(i) Petroleum Release Site

Petroleum releases should be evaluated by the project engineer or manager to establish the exact location, nature and extent of the petroleum release and the potential to impact the proposed project. The facility representative should contact the DEQ-NRO Tanks Program for further information and the administrative records of the petroleum contamination (PC) case which is in close proximity to the proposed project. 19

(ii) Pollution Prevention

Implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately. 20

5(d) Requirements.

(i) Waste Management

Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. It is the generator's responsibility to determine if a solid waste meets the criteria of a hazardous waste and be management accordingly. 21

(ii) Asbestos-containing Material and Lead-based Paint

Structures being renovated or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9VAC 20-80-640 for ACM and 9VAC 20-60-261 for LBP must be followed. 22

Questions or requests for further information may be directed to DEQ-DLPR, Katy Dacey at (804) 698-4274.

6. Pesticides and Herbicides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information. 23

7. Natural Heritage Resources. According to the DEA (page 5-13), the development of the project has been coordinated with the Department of Conservation and Recreation, Division of Natural Heritage. In a letter dated May 22, 2015, the agency stated that it does not anticipate that this project would adversely impact natural heritage resources.

7(a) Agency Jurisdiction.

(i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH).

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) The Virginia Department of Agriculture and Consumer Services (VDACS).

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

7(b) Agency Findings. DCR-DNH searched its Biotics Data System for occurrences of natural heritage resources from the project area.

(i) River Bulrush and Davis' Sedge

According to the information currently in DCR-DNH files, River bulrush (*Bolboschoenus fluviatilis*, G5/S2/NL/NL) and Davis' sedge (*Carex davisii*, G4/S1/NL/NL) have been documented downstream from the project site. 24

River bulrush, a state-rare plant species, inhabits fresh tidal marshes of the coastal plain of Virginia. Nine populations of river bulrush are believed to be extant in Virginia.

Davis' sedge is a sedge species of more northern and mid-western affiliations, occurring in northern Virginia at the southernmost extension of its range. This species can be found in floodplain forests, rich deciduous forests and forest margins, along streams and meadows, and is usually associated with calcareous soils. 24

(ii) State-listed Plant and Insect Species

DCR-DNH finds that the proposed activity will not affect any documented state-listed threatened and endangered plant or insect species. 25

(iii) State Natural Area Preserves

DCR finds that there are no State Natural Area Preserves under the agency's jurisdiction in the project vicinity. 26

7(c) Recommendations.

(i) Aquatic Ecosystem

DCR-DNH recommends the implementation of and strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities. 27

(ii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System. 28

(iii) Wildlife Resources and Protected Species

DGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented by DCR-DNH. DCR-DNH recommends that the applicant access the database http://vafwis.org/fwis/ or contact Ernie Aschenbach (804) 367-2733 or ernie.aschenbach@dgif.virginia.gov. In addition, the project site is located within 2 miles of a documented occurrence of a state-listed animal. Therefore, DCR-DNH recommends coordination with DGIF to ensure compliance with the Virginia Endangered Species Act (Virginia Code §§ 29.1-563-570). 29

8. Aviation Impacts.

8(a) Agency Jurisdiction. The Virginia Department of Aviation (DoAv) is a state agency that plans for the development of the state aviation system; promotes aviation; grants aircraft and airports licenses; and provides financial and technical assistance to cities, towns, counties and other governmental subdivisions for the planning, development, construction and operation of airports, and other aviation facilities.

8(b) Agency Findings. DoAv finds that the proposed projects will enhance airport capacity, allow for a safer, more secure terminal, and contribute to the overall utility of the airport. 30

For additional information, contact DoAv, Rusty Harrington at (804) 236-3632.

9. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

9(a) Recommendations. We have several pollution prevention recommendations that may be helpful in constructing or operating this facility:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to complying with environmental regulations, reducing risk, minimizing environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for alternative compliance methods.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts. 31
- Consider energy efficiency when choosing materials and products, like insulation, fixtures, and HVAC systems.
- Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for building construction and design.
- Integrate pollution prevention techniques into the facility maintenance and operation, to include inventory control for centralized storage of hazardous

materials. Maintenance facilities should have sufficient and suitable space to allow for effective inventory control and preventive maintenance.

31

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. If interested, please contact Meghann Quinn at (804) 698-4021.

10. Energy Conservation. Proposed buildings should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. The applicant is encouraged to incorporate the energy, environmental, and sustainability concepts listed in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system into the development and procurement of their projects.

10(a) Agency Recommendations. The energy efficiency of the new buildings can be enhanced by maximizing the use of the following:

- thermally efficient building shell components (roof, wall, floor, windows and insulation);
- facility siting and orientation with consideration towards natural lighting and solar loads;
- high-efficiency heating, ventilation, air conditioning systems;
- high-efficiency lighting systems and day-lighting techniques; and
- energy-efficient office and data processing equipment.

32

Contact the Department of Mines, Minerals and Energy, David Spears at (434) 951-6350 for additional information on energy conservation measures. For more information on the LEED rating system, visit www.leedbuilding.org.

11. Water Conservation. The following recommendations will result in reduced water use associated with the operation of the facility.

- Grounds should be landscaped with hardy native plant species to conserve water as well as lessen the need to use fertilizers and pesticides.
- Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.
- Low-flow toilets should be installed in new facilities. Otherwise, offset older toilets with a plastic jug of pebbles and water to minimize flushing.
- Consider installing low flow restrictors and aerators to faucets.
- Improve irrigation practices by:
    - upgrading sprinkler clock; water at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week, and do not need to be watered daily; overwatering causes 85% of turf problems);
    - installing a rain shutoff device; and
    - collecting rainwater with a rain bucket or cistern system with drip lines.

33

- Consider replacement of old equipment with new high-efficiency machines to reduce water useage.
- Check for and repair leaks (toilets and faucets) during regular routine maintenance activities.

33

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972, as amended, and federal consistency regulations (15 CFR Part 930, Sub-part D, § 930.50 *et seq.*), federal licensing and permitting activities for projects affecting coastal uses or resources must be implemented in a manner consistent with the enforceable policies of the Virginia Coastal Zone Management (CZM) Program. The Virginia CZM Program consists of a network of programs administered by several agencies. The DEQ coordinates the review of federal consistency certifications with agencies administering the enforceable and advisory policies of the Virginia CZM Program. A federal consistency certification was submitted with the DEA (page 5-15) that includes an analysis of the enforceable policies of the Virginia CZM Program.

Pursuant to 15 CFR §930.60(a) DEQ is allowed up to six months to conduct a coordinated review and respond to submitted federal consistency certifications. The six-month review period of DCA's federal consistency certification began July 11, 2016 and ends January 6, 2017.

Public Participation

In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, the public was invited to participate in the review of the FCC. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from July 21, 2016 through August 12, 2016. No public comments were received in response to the notice.

34

Federal Consistency Analysis

According to information in the FCC, the proposed activity would have no effect on the following enforceable policies: fisheries management; subaqueous lands management, wetlands management; dunes management; point source pollution control; and shoreline sanitation. The resource agencies that are responsible for the administration of the enforceable policies of the Virginia CZM Program generally agree with the findings of the FCC. The applicant must ensure that the proposed action is consistent with the aforementioned policies. In addition, the applicant is encouraged to consider potential project impacts on the advisory policies (Attachment 2) of the Virginia CZM Program.

35

Federal Consistency Concurrence

Based on our review of the FCC and the comments and recommendations submitted

36

by agencies administering the enforceable policies of the Virginia CZM Program, DEQ concurs that this proposal is consistent with the Virginia CZM Program, provided that the applicant obtains and complies with all applicable permits and approvals associated with the enforceable policies of the Virginia CZM Program. In addition, other state approvals which may apply to this project are not included in this concurrence. Therefore, the applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations. 36

REGULATORY AND COORDINATION NEEDS

1. Erosion and Sediment Control and Stormwater Management.

1(a) Erosion and Sediment Control and Stormwater Management. The MWAA must ensure that it is in compliance with its current general erosion and sediment control standards and specifications on file and approved by DEQ in accordance with §62.1-44.15 *et seq.* Such standards and specifications shall be consistent with the requirements of this article and associated regulations and the Erosion and Sediment Control Law and Stormwater Management Act (§ 62.1-44.15:24 *et seq.*) and associated regulations where applicable. For additional information and coordination, contact DEQ-OSWM, Larry Gavan at (804) 698-4040. 37

1(b) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities. For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepety at (804) 698-4039. 38

2. Air Quality Regulations. This project may be subject to air regulations administered by the Department of Environmental Quality. The following sections of Virginia Administrative Code are applicable:

- 9 VAC 5-40-5490 *et seq.* for asphalt paving operations;
- 9 VAC 5-50-60 *et seq.* governing fugitive dust emissions; and
- 9 VAC 5-130 *et seq.*, for open burning.

Any fuel burning equipment (e.g. boilers and generators) installed may require permitting from DEQ in accordance with 9 VAC 5-80, Article 6, *Permits for New and Modified Sources*. For more information contact the DEQ-NRO, James LaFratta at (703) 583-3928. Also, should the project involve open burning, contact Arlington County fire officials for information on any local requirements. 39

3. Chesapeake Bay Preservation Areas. The proposed action must be consistent with the requirements of the *Chesapeake Bay Preservation Act* (Virginia Code §§ 62.1- 40

44.15:67 through 62.1-44.15:78) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (9 VAC 25-830-130 and 140). The project activities are subject to the general performance criteria for activities in RMAs and RPAs. For additional information, contact DEQ-OLGP, Daniel Moore at (804) 698-4520. 40

4. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. Contact DEQ-NRO, Richard Doucette at (703) 583-3813, concerning the location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered. 41

4(a) Asbestos-Containing Material. It is the responsibility of the owner or operator of a demolition activity to thoroughly inspect the affected part of the facility prior to demolition for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*). Contact the DEQ-NRO, Richard Doucette at (703) 583-3813 and the Department of Labor and Industry, Doug Wiggins (540) 562-3580 ext. 131 for additional information. 42

4(b) Lead-Based Paint. If applicable, the Proposed Action must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation at (804) 367-8500. 43

4(c) Fuel Storage Tanks. Should the project activities involve the installation, relocation, or removal of any above or below ground petroleum storage tanks, they must be conducted in accordance with 9 VAC 25-91-10 *et seq.* and/or 9 VAC 25-580-10 *et seq*. Contact DEQ-NRO, Randy Chapman at (703) 583-3809 for additional information and coordination. 44

5. Natural Heritage and Wildlife Resources. Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System. 45

6. Wildlife Resources and Protected Species. Contact DGIF, Amy Ewing at (804) 367-2211, to ensure compliance with the Virginia Endangered Species Act (Virginia Code §§ 29.1-563-570) and to develop project-specific measures, as necessary, to minimize project impacts upon wildlife resources. 46

Thank you for the opportunity to review the Draft Environmental Assessment and Federal Consistency Certification for the Terminal B/C Redevelopment, Secure National Hall, and Related Improvements at DCA in Arlington County. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4325 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,

Bettina Sullivan, Program Manager
Environmental Impact Review and Long-Range Priorities

Enclosures

Ec: Robbie Rhur, DCR
Amy Ewing, DGIF
Roger Kirchen, DHR
Rusty Harrington, DoAv
Mark Schwartz, Arlington County
G. Mark Gibb, Northern Virginia Regional Commission
Susan Stafford, FAA

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

a. Coastal Natural Resource Areas - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:

a) Wetlands
b) Aquatic Spawning, Nursery, and Feeding Grounds
c) Coastal Primary Sand Dunes
d) Barrier Islands
e) Significant Wildlife Habitat Areas
f) Public Recreation Areas
g) Sand and Gravel Resources
h) Underwater Historic Sites.

b. Coastal Natural Hazard Areas - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:

i) Highly Erodible Areas
ii) Coastal High Hazard Areas, including flood plains.

c. Waterfront Development Areas - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:

i) Commercial Ports
ii) Commercial Fishing Piers
iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCP is encouraged.

Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCP recognizes two broad classes of priority uses for waterfront development APC:

i) water access dependent activities;
ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.

b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.

d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.

f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.

Fisher, John (DEQ)

From: Burstein, Daniel (DEQ)
Sent: Friday, July 22, 2016 11:10 AM
To: Fisher, John (DEQ)
Subject: Re: FAA- Terminal B/C Redevelopment, Secure National Hall and Related Improvements, DEQ #16-162F- Review

NRO comments regarding the Environmental Assessment and Federal Consistency Determination for the FAA-Terminal B/C Redevelopment, Secure National Hall and Related Improvements located in Arlington County, Virginia are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the FAA would follow applicable federal, state, and county regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should the project install fuel burning equipment (Boilers, Generators, Compressors, etc…), or any other air pollution emitting equipment, the project may be subject to 9 VAC 5-80, Article 6, Permits for New and Modified sources and as such the project manager should contact the Air Permit Manager DEQ-NRO prior to installation or construction, and operation, of fuel burning or other air pollution emitting equipment for a permitting determination. Lastly, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance.

Water Permitting/VPDES Program/Stormwater: The project manager is reminded to follow all applicable regulations related to stormwater management and erosion and sediment controls.

Daniel Burstein
Regional Enforcement Specialist, Senior II
Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193
Phone: (703) 583-3904
daniel.burstein@deq.virginia.gov.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John E. Fisher **DEQ - OEIA PROJECT NUMBER: DEQ #16-162F**

PROJECT TYPE: ☐ STATE EA / EIR **X FEDERAL EA / EIS** ☐ SCC

X CONSISTENCY DETERMINATION

PROJECT TITLE: Terminal B/C Redevelopment, Secure National Hall and Related Improvements

PROJECT SPONSOR: Federal Aviation Administration

PROJECT LOCATION: **X OZONE NONATTAINMENT AND EMISSION CONTROL AREA FOR NOX & VOC**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION** ☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X 9 VAC 5-130 et seq. – Open Burning**
4. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart_____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_X).

K. S. Narasimhan

(Kotur S. Narasimhan)
Office of Air Data Analysis

DATE: July 18, 2016

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

MEMORANDUM

TO: John Fisher, Environmental Impact Review Coordinator

FROM: Daniel Moore, Principal Environmental Planner

DATE: July14, 2016

SUBJECT: DEQ - 16-162F– FAA: Reagan National Airport Terminal Redevelopment & Repairs, Arlington County

We have reviewed the Federal Consistency Certification for the proposed Airport Terminal Redevelopment Repairs Project at Reagan National Airport in Arlington County and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Arlington County, the areas protected by the *Chesapeake Bay Preservation Act*, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include tidal wetlands, certain non-tidal wetlands and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. All areas of the County not included in the RPA are designated as RMAs. Based on the documents submitted, it appears that the proposed development will be located on RMA lands outside of the RPA associated with Colvin Run.

Development activities within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated RPAs/RMAs, as provided in §9VAC25-830-130 and 140 of the Regulations, including compliance with the requirements of the *Virginia Erosion and Sediment Control Handbook,* and stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*." For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion and Sediment Control Handbook.*

Based on the information contained in the Consistency Certification submittal, the proposed activities will not result in an increase of impervious surfaces or in encroachments into on-site lands analogous to RPA lands. Provided adherence to the above-referenced requirements, the proposed activity would be consistent with the *Chesapeake Bay Preservation Act* and Regulations.

It should be noted that, since June 2013, the Office of Local Government Programs in the Water Division at DEQ has been responsible for the administration of the Chesapeake Bay Preservation Act Program. These duties were once held by the Division of Chesapeake Bay Local Assistance at the Virginia Department of Conservation and Recreation.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

TO: John Fisher, DEQ/EIR Environmental Program Planner

FROM: Katy Dacey, Division of Land Protection & Revitalization Review Coordinator

DATE: July 15, 2016

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Review: EIR Proj No 16-162F Terminal B/C Redevelopment, Secure National Hall and Related Improvements, Arlington County, VA

The Division of Land Protection & Revitalization (DLPR) has completed its cursory review of the Terminal B/C Redevelopment, Secure National Hall and Related Improvements located at Ronald Regan Washington National Airport in Arlington VA 22202

> Project Scope: redevelopment of terminal B/C, construction of a new north concourse, securing of National Hall to include construction of two screening checkpoints, passenger corridors, and modification and relocation of concession areas, demolition of two hangars, replacement of one hangar, and several other modifications associated with this project

Solid and hazardous waste issues were addressed in the submittal. The submittal did indicate that a search of Federal or State environmental databases was conducted. DLPR staff conducted a cursory search (the entire airport) of solid and hazardous waste databases for waste sites in close proximity to the project area, and did identify the project site as a federal facility in addition to several petroleum releases (26 listed below) that occurred throughout the site, all of which might impact the project activity. Additionally, no waste sites of possible concern were located within the same zip code, 22202. The DEQ DLPR staff has reviewed the submittal and offers the following comments concerning possible waste issues associated with this proposed project:

Hazardous Waste/RCRA Facilities* – *none in close proximity to the project site

CERCLA Sites* – *none in zip code of the project site

The hazardous wastes/RCRA/Cerlis site information can be accessed from EPA's websites at https://www3.epa.gov/enviro/, https://rcrainfopreprod.epa.gov/rcrainfoweb/action/main-menu/view and https://www.epa.gov/superfund

FUDS* – *one is the project site

Solid Waste – none

VRP – none

Petroleum Releases – 26 identified on the project site

1. *PC#19890308, MWAA-Regan Airport Leaking Drum, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/14/1988. Closed*

2. *PC#19911504, MWAA-South Hangar Line – tank CA1, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/19/1991. Closed*

3. *PC#19920522, MWAA-Ogden Maintenance Facility, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/17/1991. Closed*

4. *PC#19921487, MWAA-Gate 26, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 02/27/1992. Closed*

5. *PC#19930961, MWAA-South End, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/30/1992. Closed*

6. *PC#19930967, MWAA-Ogden South End, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/30/1992. Closed*

7. *PC#19930962, MWAA-Area 8, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/30/1992. Closed*

8. *PC#19931157, MWAA-Sky Chef In Flight Kitchen, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 11/24/1992. Closed*

9. *PC#19940513, MWAA-South of Delta Interim Terminal, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/23/1993. Closed*

10. *PC#19943400, MWAA-Satellite Parking Lot C, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/01/1994. Closed*

11. *PC#19943241, FAA, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/01/1994. Closed*

12. *PC#19943268, MWAA-North Gate Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/04/1994. Closed*

13. *PC#19954017, MWAA-FHEG, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 06/15/1994. Closed*

14. *PC#19954028, MWAA-Mogas Site, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 08/05/1994. Closed*

15. *PC#19954238, MWAA-Runway 18/36, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/07/1995. Closed.*

16. *PC#19954175, MWAA-Former National Car Rental, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 04/07/1995. Closed*

17. *PC#19963193, MWAA-Transformer, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 06/03/1996. Closed*

18. *PC#19973036, MWAA-Tank 7, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 01/09/1997. Closed*

19. *PC#20013253, Regan National Airport Old Terminal, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 07/25/1997. Closed*

20. *PC#19993151, MWAA-Gate 10, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 07/25/1997. Closed*

21. *PC#19983653, MWAA-Regional Terminal Area, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 01/02/1998. Closed*

22. *PC#19993654, MWAA-Jet Ramp, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 10/30/1998. Closed*

23. *PC#20003152, MWAA-Fuel Farm, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 09/30/1999. Closed*

24. *PC#20003355, MWAA-Terminal A Improvements, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 05/12/2000. Closed*

25. *PC#20023169, MWAA-Elevator Piston East Building, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 01/08/2002. Closed*

26. ***PC#20073032, Bus Maintenance Facility, Ronald Regan Washington National Airport, Engineering & Maintenance Division MA-120, Arlington, VA 22202. Release Date: 08/16/2006. Closed***

Please note that the DEQ's PC case files of the PC Case numbers are identified above and these petroleum releases should be evaluated by the project engineer or manager to establish the exact location of the release and the nature and extent of the petroleum release and the potential to impact the proposed project. The project engineer or manager should contact the DEQ's Northern Virginia Regional Office at 703-583-3800 (Tanks Program) for further information and the administrative records of the PC cases which are in close proximity to the proposed project.

GENERAL COMMENTS

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Kathryn Perszyk at the DEQ's Northern Virginia Regional Office at 703-583-3856.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Katy Dacey at (804) 698-4274.

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

David C. Dowling
Deputy Director of Soil and Water Conservation and Dam Safety

Thomas L. Smith
Deputy Director of Operations

MEMORANDUM

DATE: August 9, 2016

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 16-162F, FAA Terminal B & C Redevelopment, Secure National Hall and Related Improvements

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, River bulrush (*Bolboschoenus fluviatilis*, G5/S2/NL/NL) and Davis's sedge (*Carex davisii*, G4/S1/NL/NL) have been documented downstream from the project site.

River bulrush, a state-rare plant species, inhabits fresh tidal marshes of the coastal plain of Virginia. This species forms predominantly sterile colonies that spread by rhizomes. Water pollution and sedimentation, sea level rise, and invasive species such as *Phragmites* australis pose the greatest threats to populations of this sedge. Nine populations of river bulrush are believed to be extant in Virginia.

Davis' sedge is a sedge species of more northern and midwestern affiliations, occurring in northern Virginia at the southernmost extension of its range. This species can be found in floodplain forests, rich deciduous forests and forest margins, along streams and meadows, and is usually associated with calcareous soils. As indicated by the global rank, this species is much more common to the north and west of Virginia.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov. This project is located within 2 miles of a documented occurrence of a state listed animal. Therefore, DCR recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDGIF

Literature Cited

Flora of North America Editorial Committee 2002. Flora of North America North of Mexico. Volume 23, Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press, New York, NY 608pp.

COMMONWEALTH of VIRGINIA

Randall P Burdette
Director

Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624
FAX • (804) 236-3635

August 12, 2016

Mr. John E. Fisher
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, 6th Floor
Richmond, Virginia 23219

Re: Terminal B/C Redevelopment, Secure National Hall and Related Improvements Consistency Determination, Project Number 16-162F

Dear Mr. Fisher:

Thank you for requesting our comments regarding the Terminal B/C Redevelopment, Secure National Hall and Related Improvements Projects, Consistency Determination, Project Number 16-162F.

The Virginia Department of Aviation has reviewed the document and based upon our review, the Department believes that when developed, the projects will enhance capacity, allow for a safer, more secure terminal and contribute to the overall utility of Ronald Reagan Washington National Airport.

The Department appreciates the consideration you have given to us by requesting our comments on this project. Please do not hesitate to contact me should you have any questions or require further assistance regarding the Department's review of these projects.

Sincerely,

R. N. (Rusty) Harrington
Manager, Planning and Environmental Section
Airport Services Division

tbm/

200 DOAVAS 20160812 Terminal B/C Redevelopment, Secure National Hall and Related Improvements

Response AS-4-01:

Comment noted.

Response AS-4-02:

Comment noted.

Response AS-4-03:

The Authority does not anticipate that the project will change such that a VWP Permit would be necessary. The Authority notes that should such a change occur, a permit would be required.

Response AS-4-04:

Comment noted.

Response AS-4-05:

Per section 5.14.1.3, the Proposed Action would be designed in compliance with Virginia Erosion and Sediment Control Law and Stormwater Management Law.

Response AS-4-06:

Comment noted.

Response AS-4-07:

Comment noted.

Response AS-4-08:

The emissions caused by the construction of the Proposed Action are below de minimis levels. The Proposed Action would not be considered regionally significant because the project-related emissions would represent a minute fraction of the total emissions in the region. A general conformity determination is not required for the Proposed Action. No adverse air quality impacts would be expected to result from implementation of the Proposed Action. (Reference Section 5.2.2.)

Response AS-4-09:

The Authority would comply with the control methods outlined in 9 VAC 5-50-60 et seq. of the *Regulations for the Control and Abatement of Air Pollution*.

Response AS-4-10:

The Authority does not use cut-back asphalt.

Response AS-4-11:

The Proposed Project would not involve open burning.

Response AS-4-12:

The Proposed Action would not include the installation of fuel burning equipment such as boilers and generators.

Response AS-4-13:

Comment noted.

Response AS-4-14:

Comment noted.

Response AS-4-15:

Comment noted.

Response AS-4-16:

The Authority would comply with 9 VAC 25-830-130 and 140 et seq. and the performance criteria outlined in of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (9VAC 25-830-10 et seq.). Per section 5.14.1.3, the Proposed Action would be designed in compliance with Virginia Erosion and Sediment Control Law and Stormwater Management Law.

Response AS-4-17:

Comment noted.

Response AS-4-18:

Comment noted.

Response AS-4-19:

Per Section 5.7.2, all material excavated from within the Project Area would be tested prior to disposal. Any material found to be hazardous would be transported and disposed of in accordance with federal, state, and local requirements, including:

- Management of hazardous waste (49 USC § 260-280)
- Transportation of hazardous waste (49 USC § 171-199)
- Virginia Hazardous Waste Management Regulations (9 VAC § 20-60)
- Virginia Regulations Governing the Transportation of Hazardous Materials (9 VAC § 20-110)

There are no known USTs within the LOPD. In the event that previously unknown contaminants are discovered during construction of the Proposed Action, or in the event a spill occurs during construction of the Proposed Action, work in the area of the contaminants or spill would be stopped until the proper reporting agency could be notified. In the event of a spill or a release to the ground, VDEQ would be notified. However, if the release or spill enters Four Mile Run, Roaches Run, or the Potomac, the National Response Center (NRC), District Department of Environment, and VDEQ would be notified.

Response AS-4-20:

With respect to pollution prevention, per Section 5.7.2.3, pollution prevention is an integral part of operations at all Authority holdings. Management systems are in place and implemented throughout the Authority. The Authority has implemented a Pollution Prevention Plan that minimizes the amount of materials utilized and wastes generated, while it increases the reuse and recycling of these materials. This program would be implemented during both construction and post-construction phases.

With respect to the generation of hazardous wastes, please see Response AS-4-19.

Response AS-4-21:

With respect to waste management, please see Response AS-4-19.

Response AS-4-22:

Hangars 11 and 12 may contain asbestos, and lead paint. Demolition of these facilities would disturb these building materials contained within these structures. Demolition would proceed, following abatement activities where applicable (e.g., abatement of asbestos-containing materials [ACM]). All demolition material would be disposed of off-Airport at licensed facilities that accept these specific wastes, and material would be confirmed prior to disposal. Any material found to be hazardous would be transported and disposed of in accordance with federal and state requirements, including:

- Identification and Listing of Hazardous Materials (40 USC § 261)
- Virginia Solid Waste Management Regulations (asbestos abatement) (9 VAC § 20-80-640)
- Virginia Solid Waste Management Regulations (9 VAC § 20-60-261)

Building demolition involving lead-containing components is regulated by the Occupational Health and Safety Act (OSHA). Contractors performing the work would be properly trained and notified with regards to the materials containing lead. Lead-containing materials would be disposed in accordance with 40 USC § 261, Identification and Listing of Hazardous Waste following characterization through a "toxicity characteristic leaching procedure."

Response AS-4-23:

The Proposed Action would not involve the use of pesticides.

Response AS-4-24:

Please see Response AS-1-02.

Response AS-4-25:

Comment noted.

Response AS-4-26:

Comment noted.

Response AS-4-27:

Please see Response AS-4-5.

Response AS-4-28:

Comment noted.

Response AS-4-29:

Please see Response AS-1-10.

Response AS-4-30:

Comment noted.

Response AS-4-31:

Please see Response AS-4-20.

Response AS-4-32:

The Authority would consider energy efficiency in the design and construction of the Proposed Action.

Response AS-4-33:

The Authority would consider water conservation methods in the design and construction of the Proposed Action.

Response AS-4-34:

Comment noted.

Response AS-4-35:

Per Section 5.5.2, the Authority certifies that the Proposed Action complies with the enforceable policies of the Virginia Coastal Zone Management (CZM) Program.

Response AS-4-36:

The Authority would obtain and comply with all applicable permits and approvals associated with the enforceable policies of the Virginia CZM Program. The Proposed Action would be constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

Response AS-4-37:

Please see Response AS-4-5.

Response AS-4-38:

Per Section 5.14.1.3, the Authority's design and construction program requires any project that involves excavation, landfill, or soil disturbance to include erosion and sediment control measures in accordance with Virginia Erosion and Sediment Control Law and Regulations and the latest version of the *Virginia Erosion and Sediment Control Handbook*.

Response AS-4-39:

Please see Responses AS-4-09 through 12.

Response AS-4-40:

Please see Response AS-4-16.

Response AS-4-41:

Please see Responses AS-4-19 and AS-4-22.

Response AS-4-42:

Please see Response AS-4-22.

Response AS-4-43:

Please see Response AS-4-22.

Response AS-4-44:

Comment noted.

Response AS-4-45:

Comment noted.

Response AS-4-46:

Comment noted.

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

July 28, 2016

Erik N. Schwenke, Planning Department
Metropolitan Washington Airports Authority
45045 Aviation Drive, Third Floor
Dulles, VA 21066

SUBJECT: **Environmental Assessment for Terminal B/C redevelopment at Ronald Reagan Washington National Airport**

Dear Mr. Schwenke:

Thank you for your recent letter to Fairfax County requesting comments for the referenced Environmental Assessment. Although Reagan National Airport (DCA) lies outside the boundaries of Fairfax County, we are generally supportive of improvements to the operation and efficiency of this facility. 01

The proposed improvements include: replacing14-off-gate regional aircraft hardstand positions with 14 regional aircraft contact gates; demolition of the Authority's corporate office building and relocation of the Authority's employees to an off-airport location; demolition of Hangar 11 and relocation of tenants to renovated facilities in the South Hangar Line area at DCA; demolition and replacement of Hangar 12 with a similar facility in the same general area; construction of two new security screening checkpoints over the arrivals level roadway at the National Hall level; and conversion of National Hall to a post security secure area; and other related improvements.

Based on a review of the information, it does not appear that the proposed improvements will have any significant impact on land use issues involving plans, policies, or regulations. Established communities will not be disrupted, and neither will there be any disruption of future planned development. No appreciable change in employment will occur, residents or business will not be relocated, and socioeconomic impacts will not be induced. The proposed project will not increase the number of existing or forecast aircraft operations, and will not increase aircraft noise. Also, it is not expected to generate significant increases in regional roadway and transit traffic or alter transportation patterns. 02

Department of Planning and Zoning
Planning Division
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5507
Phone 703-324-1380
Fax 703-653-9447
www.fairfaxcounty.gov/dpz/

Fairfax County Staff Comments

Staff has no comment regarding the Environmental Assessment. Fairfax County Department of Planning and Zoning staff provides comments solely for the purpose of identifying issues that we believe need to be resolved. These concerns represent staff analysis and do not reflect the opinion of the Fairfax County Board of Supervisors. Thank you in advance for consideration of our comments. Please call Harvey Clark of my staff at (703) 324-1263 if you have any questions.

03

04

Sincerely,

Marianne R Gardner

Marianne R. Gardner, Director
Planning Division, Department of Planning and Zoning

MG/HDC

cc: Board of Supervisors
Edward L. Long Jr., County Executive
Robert A. Stalzer, Deputy County Executive
Fred Selden, Director, Department of Planning and Zoning
Denise James, Chief, Environment and Development Review Branch, DPZ
Harvey Clark, DPZ

Response AL-1-01:

Comment noted.

Response AL-1-02:

Comment noted.

Response AL-1-03:

Comment noted.

Response AL-1-04:

Comment noted.

Virginia Jackson

From: Schwenke, Erik <Erik.Schwenke@MWAA.com>
Sent: Monday, August 08, 2016 9:51 AM
To: Virginia Jackson
Subject: FW: Draft EA for Terminal B/C Redevelopment; Reagan Airport
Attachments: WQD review comments on EA for Ronald Reagan National Airport Final.pdf

Comments from DOEE

From: Searing, Mary (DOEE) [mailto:mary.searing@dc.gov]
Sent: Wednesday, August 03, 2016 4:46 PM
To: Environmental Comments
Subject: Draft EA for Terminal B/C Redevelopment; Reagan Airport

Please see the attached for comments from DOEE's Water Quality Division. Other DOEE comments may be coming from other Divisions.

Thanks, Mary

Mary L. Searing, PE, DWRE, GISP, CFM
Chief, Planning and Permitting Branch
Department of Energy & Environment
Government of the District of Columbia
1200 First Street, NE, 5th floor
Washington, DC 20002
Desk: (202) 535-2990
Web:doee.dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

MEMORANDUM

TO: Ibrahim Bullo
Acting Environmental Review Coordinator, DOEE

THROUGH: Collin R. Burrell
Associate Director, Water Quality Division

Mary L. Searing, PE, DWRE, GISP, CFM
Chief, Planning and Permitting Branch, Water Quality Division

FROM: Ki Don Cha
Environmental Engineer, Water Quality Division

DATE: August 2, 2016

SUBJECT: **WQD Review Comments on Draft Environmental Assessment, Ronald Reagan Washington National Airport, Terminal B/C Redevelopment, Secure National Hall, and Related Improvements**

At your request, the Water Quality Division (WQD) has reviewed the above referenced draft Environmental Assessment (EA) filed for the subject site, as well as the supporting documents provided. Based on the information contained in this and other in-house documents (see Resources Consulted), WQD has the attached comments for the Ronald Reagan Washington National Airport, Terminal B/C Redevelopment, Secure Nation Hall, and Related Improvements.

Attachment:
WQD review comments on draft EA, Ronald Reagan Washington National Airport

Draft Environmental Assessment, Ronald Reagan Washington National Airport, Terminal B/C Redevelopment, Secure National Hall, and Related Improvements

Resources Consulted

The following documents were consulted in the Environmental Assessment (EA) review process:

1. Department of Energy and Environment, District of Columbia Wetland Conservation Plan. August 1997.
2. D.C. Groundwater Resources Studies (series of four reports).
3. Johnston, P.M., Geology and Ground-Water Resources of Washington, D.C. and Vicinity. USGS Water Supply Paper (WSP) 1776. Reston, Virginia, 1964.
4. U.S. Geological Survey (USGS), Topographic Map Washington West Quadrangle 7.5 Minute Series, 1965. Photo Revised 1982.
5. Metropolitan Washington Airports Authority (The Authority), 2016. Draft Environmental Assessment, Ronald Reagan Washington National Airport, Terminal B/C Redevelopment, Secure National Hall, and Related Improvements, Date of Report: June 2016.

01

Water Resources/Wetlands

The EA was reviewed for water-related issues in accordance with the D.C. Environmental Policy Act and regulations, Sections 7201.2(c), (d), and (l).

02

Project Description

Per The Authority (2016), the project description is described as follows:

The Ronald Reagan Washington National Airport (DCA), which occupies approximately 733 acres of land and 127 acres of water, is situated along the western shore of the Potomac River across from Washington, D.C. All Construction would take place on airport land area, which includes a redevelopment of Terminal B/C, construction of Secure Nation Hall, and project improvements related to this project at DCA.

03

Environmental Setting

Based on the topographic map for the site (USGS, 1965), and aerial photography map, there are no streams, lakes, ponds, springs, or wetlands within 100 feet of the limit of physical disturbance (LOPD)

04

Environmental Consequences

The EA was reviewed for water-related issues in accordance with the D.C. Environmental Policy Act and regulations, Sections 7201.2(c), (d), and (l). Sections 7201.2(c), (d), and (1) implementing regulations provide that a project should be assessed to determine whether the action might:

05

(a) Significantly deplete or degrade groundwater resources;
(b) Significantly interfere with groundwater recharge; and/or
(c) Cause significant adverse change in the existing surface water quality or quantity.

05 cont.

Groundwater

(The following addresses requirements of Sections 7201.2(c) and (d) of the Environmental Policy Act regulations)

06

The construction area within the LOPD is located in Arlington County, immediately north of the City of Alexandria, Virginia. Therefore, there is no impact on groundwater quality and recharge in the District's area.

Surface Water

(The following addresses requirements of Section 7201.2(l) of the Environmental Policy Act regulations.)

In the EA, it is stated that potential water quality impacts typically associated with airfield improvement projects include soil erosion and sediment transport from construction activities conducted on land, and increased stormwater runoff due to the increased impervious area. The airport currently operates under a National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) issued by the EPA for industrial activities. All potential effects from existing and future airport operations would be managed as required by the airport's existing NPDES permit, and Stormwater Pollution Prevention Plan (SWPPP) as part of the permit.

07

Therefore, if the guidance provided above is adhered to, minimal or no impact to surface water quality is anticipated to result from the project.

08

Conclusion

In view of the above, the WQD has assessed that there is no apparent significant adverse impact or likelihood of substantial negative impact to water quality and quantity with regards to Sections 7201.2(c), (d), and (l) of the Environmental Policy Act.

09

Response AL-2-01:

Comment noted.

Response AL-2-02:

Comment noted.

Response AL-2-03:

Comment noted.

Response AL-2-04:

Comment noted.

Response AL-2-05:

Comment noted.

Response AL-2-06:

Comment noted.

Response AL-2-07:

Comment noted.

Response AL-2-08:

Comment noted.

Response AL-2-09:

Comment noted.

RICONDO®
& ASSOCIATES