



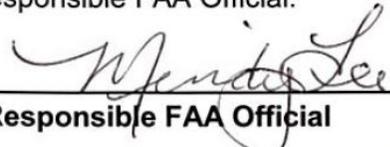
## Final Environmental Assessment

# Proposed Service Station Plaza at Baltimore/ Washington International Thurgood Marshall Airport Linthicum, Maryland

Prepared for:  
**Maryland Aviation Administration**  
*Office of Environmental Services*

March 2017

This environmental assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.

  
Responsible FAA Official

5/3/17  
Date



**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
FINDING OF NO SIGNIFICANT IMPACT**

Baltimore/Washington International Thurgood Marshall Airport  
Anne Arundel County, Maryland

Service Station Plaza

1. **Introduction.** This document is a Finding of No Significant Impact (FONSI) on the environment as a result of the proposed Service Station Plaza project by the Maryland Aviation Administration (MAA), owner and operator of Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall). The proposed project is on a 4.6 acre site owned by MAA at the corner of Aviation Boulevard and Amtrak Way intersection.

Federal Aviation Administration (FAA) must comply with the National Environmental Policy Act of 1969 (NEPA) before being able to take the federal action of further processing of an application for Federal assistance in funding various airport development and for approval of the Airport Layout Plan (ALP) that depicts the proposed airport development projects. Approval of the ALP is authorized by the Airport and Airway Improvement Act of 1982, as amended (Public Laws 97-248 and 100-223). The issuing of this FONSI does not constitute a commitment by the FAA to provide federal financial assistance for these actions.

2. **Project Purpose and Need.** There is a current lack of service stations in the western area of the Airport where physical airport development and vehicular traffic have increased. The lack of this service in this area of Airport property translates to missed revenue for the Airport and reduces customer service for BWI Marshall Airport travelers. MAA continues to require additional revenue to support current and future operations and maintenance needs, and also has land available that could be used to generate additional revenue in support of BWI Marshall Airport. A new fueling station and convenience store with basic car wash capabilities and food services would play a beneficial role in enhancing revenue generation to MAA.
3. **Proposed Project.** The following is a listing of the various elements, to include connected actions, of the proposed project:

- Canopies with weather overhangs;
- Fueling facilities to include an estimated 16 gas pumps on reinforced concrete slabs;
- Car wash;
- Quick-serve restaurant;
- Casual dine restaurant;
- Convenience store;
- Connection of major utilities such as potable water, electricity, telephone, natural gas, and sanitary sewer;
- Stormwater management redevelopment requirements;

4. **Reasonable Alternatives Considered.** As described in Chapter 3 of the attached Environmental Assessment (EA), alternatives, to include the no action alternative, were evaluated for the proposed project.
5. **Assessment.** The attached EA addresses the effect of the proposed project on the quality of the human and natural environment, and is made a part of this finding. The following impact analysis highlights the more thorough analysis presented in the EA prepared in January 2017.

**Air Quality.** The airport is located within the U.S. Environmental Protection Agency's (EPA) designated nonattainment area for the pollutants of ozone (O<sub>3</sub>) and particulate matter equal to or less than 2.5 micrometers (fine particulates or PM<sub>2.5</sub>). Therefore, the EPA's General Conformity Rule applies and an air quality analysis must be prepared for the proposed Service Station Plaza project. The emission levels do not exceed any applicable de minimis threshold levels for the proposed project area (EA-Appendix D, Table 5.1 & 5.2).

**Biological Resources.** The majority of the proposed site is currently paved with no vegetation or habitat for wildlife. According to the U.S. Fish and Wildlife Service (USFWS) IPAC tool, there is one federally listed Threatened species, the Swamp pink (*Helonias bullata*) on the species list of threatened and endangered species that is known to exist nearby on BWI Marshall Airport property. Swamp pink is typically found in wetlands which are not present in the Study Area. The USFWS confirmed on August 11, 2016 that "Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required."

The site is located in an area designated as a Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Area (SSPRA). No rare, threatened or endangered species (RTEs) or their habitats have been identified in the study area in previous studies. The MDNR responded on May 19, 2016 with a letter stating that there is no official State or Federal records for listed plant or animal species within the site study area (EA-Appendix C).

**Coastal Resources.** The project area falls within the Maryland Coastal Zone Management area and therefore must comply with Federal and State Coastal Zone regulations pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended (CZMA). The MAA originally submitted a request to MDE Federal Consistency Coordinator on May 2, 2016 seeking a Coastal Zone Consistency determination, however as the EA later progressed and after all applicable proposed project information was submitted to MDE, they reconfirmed on October 26, 2016 that the proposed service station plaza project, including the preferred alignment for the sanitary sewer connection, is consistent with the Maryland Coastal Zone Management Program (EA-Appendix C).

**Hazardous Material.** The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Enforcement & Compliance History Online (ECHO), and Envirofacts Data Warehouse (Envirofacts) online databases were reviewed and the study area is not identified on any of the State or Federal databases. The MAA performed a Phase I and Phase II Environmental Site

Assessment (ESA) in conformance with the scope and limitations of ASTM Practice E 1527-13, which meets the requirements of Title 40, Code of Federal Regulations Part 312, prior to commencing the EA. The ESA was conducted in advance of the potential redevelopment of the property as a service station plaza to provide information for use in evaluating recognized environmental conditions (RECs) associated with the proposed service station plaza site. No aboveground storage tanks (AST) have been observed at the proposed site, nor were any ASTs listed in the site-specific environmental database report reviewed. There is also no visual evidence of underground storage tanks (USTs) (e.g., vent pipes, fill ports), nor were any identified during historical research. Based upon MDE Land Restoration Program (LRP) review of the Phase I and Phase II ESA it was concluded that there is no reason to believe that the existing site conditions preclude the proposed development plan.

The operation of the proposed project, once constructed, would not generate a significant amount of solid waste compared to solid waste already generated by airport operations. During construction, the developer/contractor will use disposal methods in accordance with state and local regulations. Any solid waste generated from the project will be properly disposed of at a permitted solid waste facility, or recycled, if possible. No significant impacts related to solid waste are expected with the proposed project and no mitigation would be required (EA-Appendix E).

**Natural Resources and Energy Supply.** The proposed project would require additional energy use to provide water, heating, air conditioning, lighting and electricity. Fueling pump stations are proposed as part of the service station plaza. It is assumed the fuel will be brought in by tanker trucks from an outside supplier and transferred into the USTs for distribution to the public. The fuel demand for the proposed service station would not exceed available supply. It is estimated that the proposed project would use an average of 2,700 gallons per day during operation. It is not anticipated that the amount gallons of water per day would cause strain on current water demand or other projected demand. Coordination of all the necessary utilities will be done to ensure the existing sanitary sewers and wastewater treatment system has the capacity to accommodate the estimated amount of wastewater that would be generated by implementation of the proposed project. The proposed project would not cause a substantial increase in demand for local resources and utilities or strain the capacity/supply of these resources/utilities to the meet the additional demand, and no mitigation would be required (EA-Appendix B, C).

**Socioeconomics, Environmental Justice, and Children's Health and Safety Risks.** The Critical Lane Volume (CLV) analysis indicates that traffic operations under the proposed project in 2020 would affect Intersection 6 (Aviation Boulevard and Amtrak Way). The level of service (LOS) decreases from LOS A to LOS B during the AM peak hour and LOS C to LOS D during the PM peak hour. These values are within the acceptable thresholds of the Maryland State Highway Administration (SHA) guidelines. Under the 2025 proposed project, the Synchro analysis indicates that the LOS at all the study intersections remains at the same level as the no action alternative except for Intersection 6 (Aviation Boulevard at Amtrak Way). At Intersection 6, the LOS is expected to decrease from LOS C to LOS D in the PM peak hour. The CLV analysis indicates that traffic operations in the study area under the 2025 proposed project differ from the 2025 no action alternative. Based on the CLV analysis, Intersection 6 is projected to operate at LOS E in 2025, which is below the SHA LOS D acceptable threshold, mitigation would be required (EA-Table 5.3-5, Appendix F).

The proposed project would not impact the economic development or health and safety of the communities that exist in the vicinity of the Airport. There are no residential areas, schools, day cares, playgrounds, parks, or children's health clinics in the immediate vicinity of the Study Area. No neighborhoods or populations would be impacted by the proposed project and no disproportionately high and adverse impacts on minority and low-income populations with respect to human health and environment would occur (Appendix A).

**Water Resources.** Groundwater samples were collected from soil borings for the Phase I and Phase II ESA. According to the laboratory analytical results, Volatile Organic Compounds (VOC), RCRA metal and TPH-DRO/TPH GRO contamination is present in on-site groundwater. The detectable concentrations of both trichlorethene and arsenic in groundwater met and exceed the MDE Hazardous Substance Notification Standards of 2.6 µg/L and 0.446 µg/L, respectively (EA-Table 2, Appendix E).

Based on conceptual engineering, the sanitary sewer connection along Amtrak Way is proposed to connect to existing manhole SS-9, which is located approximately 30 feet west of Amtrak Way and encroaches upon the 100-year floodplain. The approximately 30 feet of construction impact to connect the sewer line from Amtrak Way to manhole SS-9 would be temporary. No significant floodplain encroachment would occur, as no notable adverse impacts on natural or beneficial floodplain values would occur (EA-Figure 4-4)

Wetlands are present approximately 450 feet to the west of the proposed service station plaza site and approximately 30 feet east of existing manhole SS-9 where the sanitary sewer line is proposed to connect. No impacts are anticipated to wetlands as a result of the proposed project.

6. **Public Participation.** The Draft EA was made available for public review from January 21, 2017 to February 21, 2017 (EA-Appendix H).
7. **Mitigation Measures.** The FAA requires that the MAA implement the following conservation measures, if it decides to pursue the proposed project:
  - a. Develop and implement erosion and sediment control measures in accordance with the latest version of the Maryland Standards and Specifications for Erosion and Sediment Control Handbook and Maryland Stormwater Management Laws and Regulations.
  - b. MAA/BWI is required to have an individual National Pollution Discharge Elimination System (NPDES) Permit. To meet the requirements of the NPDES permit, the MAA developed a Stormwater Pollution Prevent Plan (SWPPP) for BWI Marshall Airport. As a tenant, Service Station Plaza, of the Airport, the lease holder will be required to comply with stormwater management practices and procedures outlined in the SWPPP.
  - c. A Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland must be submitted to MDE, which is required for work performed in a 100-year floodplain.
  - d. The operational analysis indicates that the increase of traffic volumes on Aviation Boulevard from the Proposed Action Alternative would likely degrade LOS at the intersection of Aviation Boulevard and Amtrak Way to below a SHA acceptable LOS by 2025. As a result, this intersection would require a restriping of the

eastbound approach from a left-only lane and a right only lane to a left-only lane and shared left-right lane. With this restriping, the CLV analysis indicates that operations would be acceptable under SHA guidelines.

- e. Best management practices (BMPs) will be followed to avoid and minimize any potential impacts to the environment.
- f. All required permits and approved plans for the proposed project must be obtained prior to construction.
- g. Construction contract provisions must contain the provisions of FAA AC 150/5370-10E, *Standards for Specifying Construction of Airports* item P-156, temporary air, water pollution, soil erosion and siltation control and FAA AC 150/5320-5C, *Airport Drainage*.

**8. Finding of No Significant Impact**

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information I find that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in section 101(a) of the National Environmental Policy Act of 1969 (NEPA). I also find the proposed Federal Action, with the required mitigation referenced above will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to section 102 (2)(C) of NEPA. As a result, FAA will not prepare an EIS for this action.

**APPROVED:**

  
\_\_\_\_\_  
Matthew J. Thys, Manager  
Washington Airports District Office

5/3/17  
\_\_\_\_\_  
Date

**DISAPPROVED:**

\_\_\_\_\_  
Matthew J. Thys, Manager  
Washington Airports District Office

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Date

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## **ACRONYMS AND ABBREVIATIONS**

AC	Advisory Circular	CZMA	Coastal Zone Management Act
ACM	Asbestos-Containing Material		
ADG	Airplane Design Group	CZM	Coastal Zone Management
AGL	above ground level		
AIP	Airport Improvement Program	DOT	Department of Transportation
		DRO	Diesel Range Organics
ALP	Airport Layout Plan		
AST	Aboveground Storage Tank	DRP	Department of Recreation and Parks
BGE	Baltimore Gas & Electric	EA	Environmental Assessment
BGEPA	Bald and Golden Eagle Protection Act	ECHO	Enforcement & Compliance History Online
bgs	below ground surface	EO	Executive Order
BMP	Best Management Practice	EPA	U.S. Environmental Protection Agency
BWI	Baltimore/Washington International Thurgood Marshall Airport	ESA	Environmental Site Assessment
		ESA	Endangered Species Act
CAA	Clean Air Act	ESD	Environmental Site Design
CEQ	Council on Environmental Quality		
		FAA	Federal Aviation Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	FEMA	Federal Emergency Management Agency
		FONSI	Finding of No Significant Impact
cf/CF	Cubit Feet	FWS	U.S. Fish and Wildlife Service
CFR	Code of Federal Regulations		
CH <sub>4</sub>	Methane	GHG	Greenhouse Gas
CLV	Critical Lane Volume	GRO	Gasoline Range Organics
CO	Carbon Monoxide		
COMAR	Code of Maryland Regulations	HCM	Highway Capacity Manual
		HFC	Hydrofluorocarbon
CRCF	Consolidated Rental Car Facility	HPP	Historic Preservation Plan
CREC	Controlled Recognized Environmental Condition	HREC	Historic Recognized Environmental Condition
CTP	Consolidated Transportation Plan		
CWA	Clean Water Act		

## **ACRONYMS AND ABBREVIATIONS**

ICP	Integrated Contingency Plan	NPDES	National Pollutant Discharge Elimination System
IPAC	Information, Planning, and Consultation System	NRHP	National Register of Historic Places
LBP	Lead-Based Paint	NWI	National Wetland Inventory
LEED	Leadership in Energy Environmental Design	O <sub>3</sub>	Ozone
LOS	Level of Service	Pb	Lead
LRP	Land Restoration Program	PFC	Perfluorocarbons
MAA	Maryland Aviation Administration	PIA	Public Information Act
MARC	Maryland Area Regional Commuter	PM <sub>2.5</sub>	Particulate Matter with aerodynamic diameter of 2.5 microns and less
MD	Maryland	PM <sub>10</sub>	Particulate Matter with aerodynamic diameter of 10 microns and less
MDNR	Maryland Department of Natural Resources	RCRA	Resource Conservation and Recovery Act
MDOT	Maryland Department of Transportation	REC	Recognized Environmental Condition
MEP	Maximum Extent Practicable	ROW	Right of Way
MEPA	Maryland Environmental Policy Act	RTE	Rare, Threatened and Endangered
MBTA	Migratory Bird Treaty Act	sf/SF	Square Feet
MHT	Maryland Historical Trust	SF <sub>6</sub>	Sulfur hexafluoride
MOU	Memorandum of Understanding	SHA	State Highway Administration
MOVES	Motor Vehicle Emissions Simulator	SHPO	State Historic Preservation Office
N <sub>2</sub> O	Nitrous oxide	SIP	State Implementation Plan
NAAQS	National Ambient Air Quality Standards	SO <sub>2</sub>	Sulfur Dioxide
NEPA	National Environmental Policy Act	SPCC	Spill Prevention, Control, and Countermeasure Plan
NHPA	National Historic Preservation Act	SSPRA	Sensitive Species Project Review Area
NPDES	National Pollutant Discharge Elimination System	SWPPP	Storm Water Pollution Prevention Plan
NPL	National Priorities List	TIA	Traffic Impact Analysis
NO <sub>x</sub>	Nitrogen Oxides		
NO <sub>2</sub>	Nitrogen Dioxide		

## **ACRONYMS AND ABBREVIATIONS**

TMDL	Total maximum daily loads
TPH	Total Petroleum Hydrocarbons
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
U.S.C.	United States Code
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VPD	Vehicles Per Day
WQv	Water Quality Volume

# Chapter One:

## Background and Proposed Action

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### 1.1 Introduction

The Maryland Department of Transportation's Maryland Aviation Administration (MAA) proposes to construct a service station plaza at Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall Airport) to serve airport passengers, rental car patrons, employees, and other area motorists in a manner that maximizes revenue for BWI Marshall Airport.

The MAA is preparing an Environmental Assessment (EA) to fulfill the legal requirements of the National Environmental Policy Act of 1969 (NEPA), and the Council on Environmental Quality (CEQ) implementing regulations 40 Code of Federal Regulations (CFR) 1500-1508. NEPA requires environmental review of federal actions including federal funding, approvals and certifications. Therefore, an EA is being prepared in accordance with Federal Aviation Administration (FAA) policies and procedures for considering environmental impacts: FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. This EA is intended to identify and consider potential environmental impacts associated with the proposed service station plaza at BWI Marshall Airport. The FAA is the lead federal agency to ensure compliance with NEPA for airport development actions.

The EA will also satisfy the requirements of the Maryland Environmental Policy Act (MEPA) (Annotated Code of Maryland, Natural Resource Article, 1-301 to 1-305). Per the Maryland Department of Transportation (MDOT) regulations to implement MEPA, an environmental effects report will not be required.

For this EA, the required content and related information is organized in the following manner: **Chapter 1** provides background information as well as the Proposed Action; **Chapter 2** describes the purpose and need for the Proposed Action; **Chapter 3** discusses the alternatives considered and why they were dismissed from further evaluation, along with the Proposed Action and No Action alternatives; **Chapter 4** describes the existing conditions of potentially impacted environmental resources; **Chapter 5** identifies and evaluates the potential environmental consequences of the Proposed Action Alternative for detailed analysis; **Chapter 6** summarizes the public and agency involvement for the EA; and **Chapter 7** provides a list of preparers.

### 1.2 Background

BWI Marshall Airport is an international air carrier airport located in Anne Arundel County, Maryland that is owned by the MDOT and operated by the MAA. The Airport is located approximately 10 miles south of Baltimore and 30 miles northeast of Washington, DC. A general location map of

BWI Marshall Airport is provided on **Figure 1-1**.

BWI Marshall Airport continues to experience growth in passenger activity, with passenger volumes at the Airport expected to grow from a new record for passenger traffic in 2015 (23.8 million annual passengers) to approximately 31.7 million by 2030. In addition to passenger growth, the Airport physically continues to grow. Recent major physical changes include the Concourse B/C Connector improvements, runway improvements, and the Airfield Standards and Pavement Rehabilitation Project. Current and anticipated projects include the D/E Connector program, a proposed on-airport hotel development, and the planned International Terminal expansion to add international capacity. In addition, an increase in local employment and business activity in Anne Arundel County, and the BWI Marshall Airport area in particular, is projected to continue.

As a result of the local area and Airport growth, vehicular traffic at the Airport and in the airport vicinity has also increased. Traffic volumes in 2015 on Aviation Boulevard in this area range from 19,200 vehicles per day (VPD) near Dorsey Road to 44,600 VPD near I-195.<sup>1</sup> There are currently approximately 22 service stations within a three-mile radius of the Airport's main terminal, with the closest station located on Airport property on Aviation Boulevard. As shown on **Figure 1-2**, other stations close to the Airport are concentrated north, east and south of the Airport, on Camp Meade Road, Dorsey Road, and West Nursery Road. There are no service stations located on Aviation Boulevard between Dorsey Road and I-195, nor are there any service stations in the

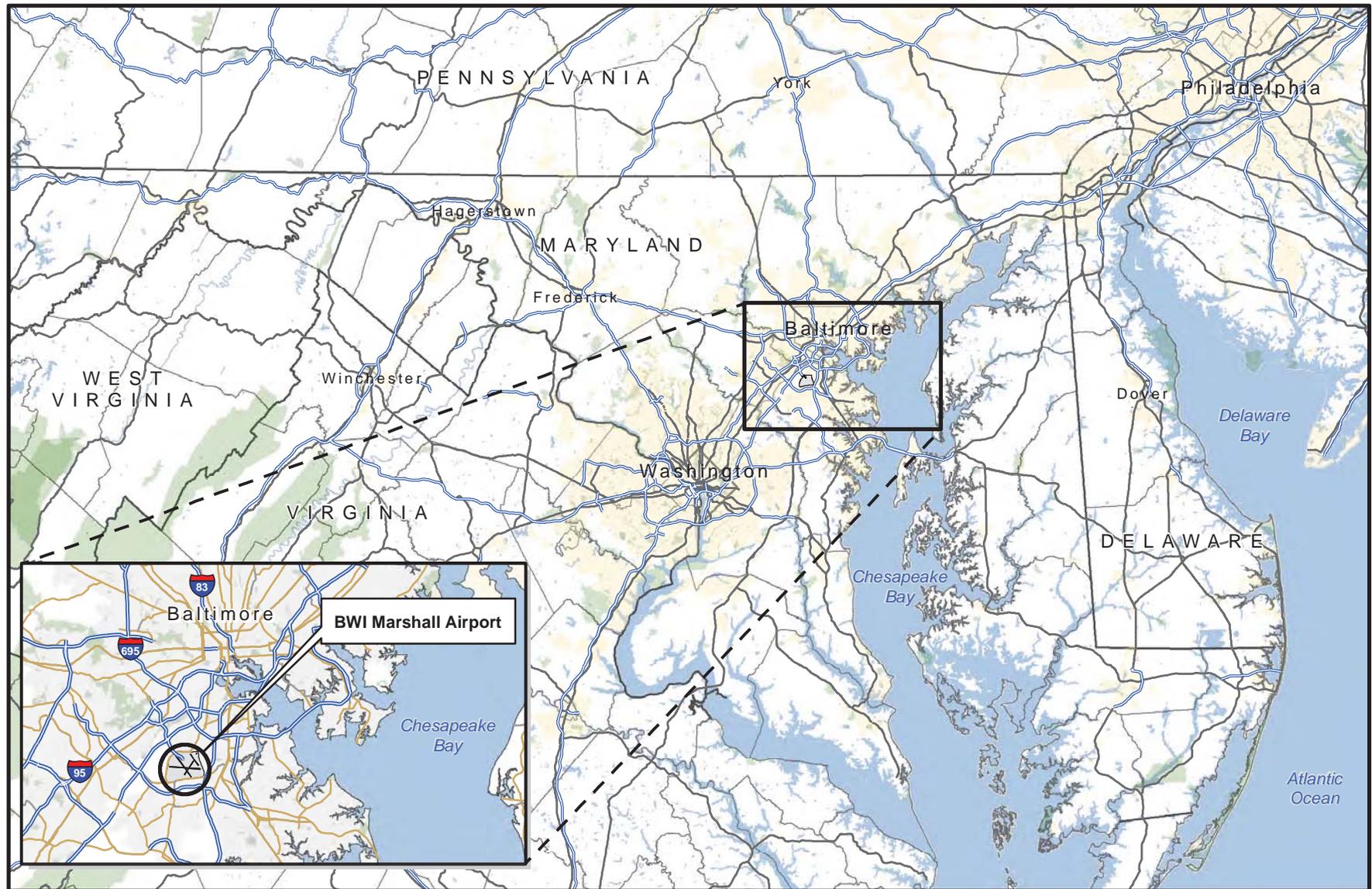
Stoney Run Road area directly west of the Airport's main terminal, despite considerable development on the west side of Airport property (e.g., construction of a second parking garage at the Amtrak Station, development of the Mid-Field Cargo Complex, construction of remote tenant parking, and other private development in the New Ridge Road corridor). In 2006, the MAA conducted a *BWI Gas Station Site Selection Study* to identify a preferred location for a proposed second gas station on Airport property (**Appendix A: BWI Gas Station Site Selection Study**). The study addresses the selection of potential sites, development of evaluation criteria, evaluation of alternative locations, and recommendation of a preferred site.

Given the lack of service stations on the west side of the Airport, the vehicle circulation in this area, and the considerable new development, MAA is proposing to develop a new service station plaza in this area. Based on (1) location and land use compatibility, (2) access, (3) visibility, (4) market presence/competition, and (5) environmental resources, a preferred location was selected. As shown on **Figure 1-3**, the project is identified as a Phase I improvement (2016-2020) on the BWI Marshall Airport January 2015 Draft Airport Layout Plan (ALP) (P46).

### **1.3 Proposed Action**

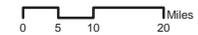
The Proposed Action includes the construction of a service station plaza on an MAA-owned parcel at the southwest corner of the intersection of Aviation Boulevard and Amtrak Way on BWI Marshall Airport property. The 4.6-acre site of the Proposed Action, shown on **Figure 1-4**, is mostly paved, available for development, and could generate non-aeronautical revenue for the

# BWI Marshall Airport Service Station Plaza Environmental Assessment



## LEGEND

-  Interstate
-  Highway / Major Road
-  Park / Wilderness Area / Recreation Area



Source: ESRI

Figure 1-1  
General Location

# BWI Marshall Airport Service Station Plaza Environmental Assessment



## LEGEND

-  Existing Gas Station
-  Proposed Service Station Plaza Location
-  Airport Property Boundary

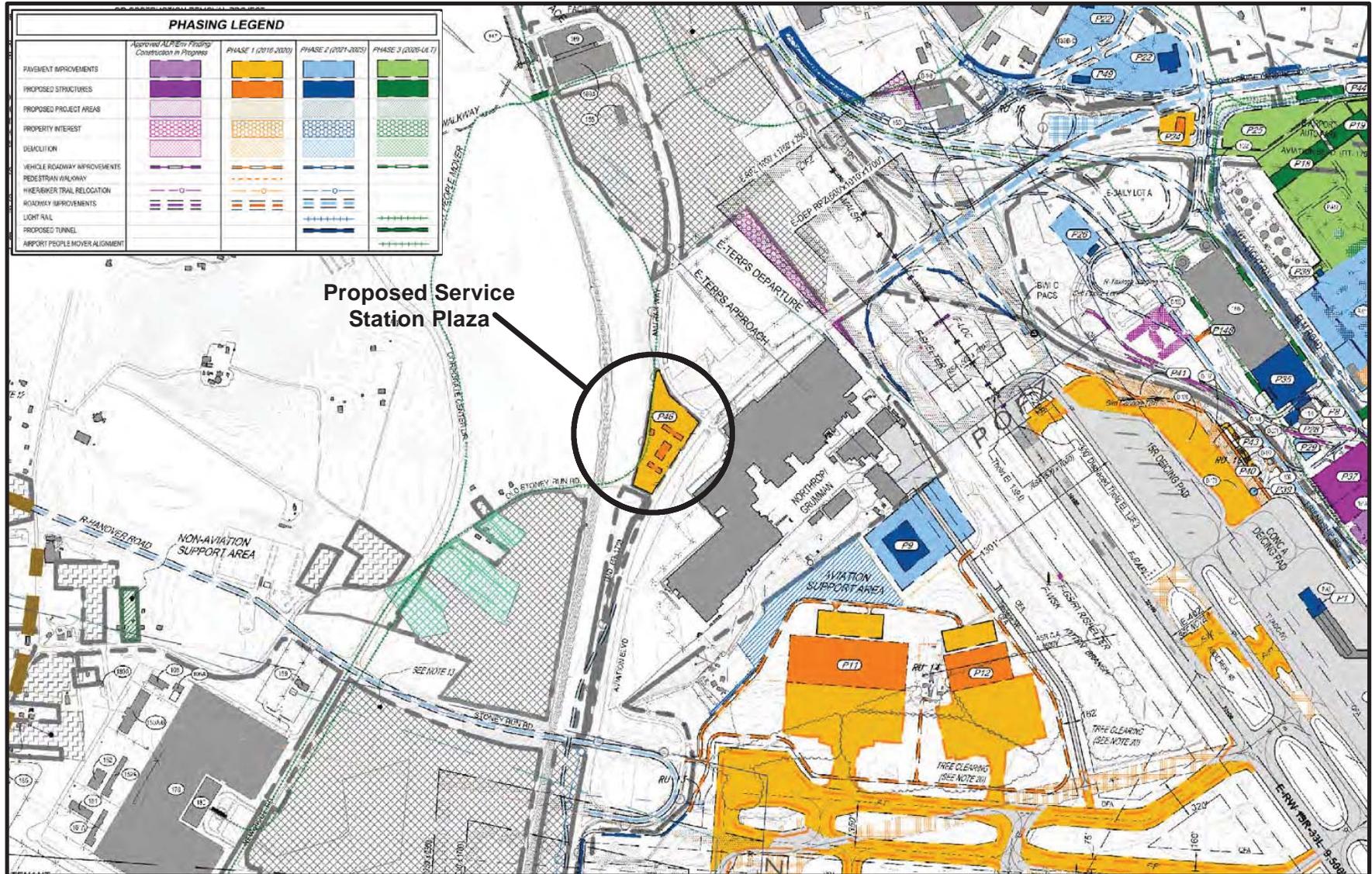


0 1,250 2,500 5,000 Feet

Figure 1-2  
Existing Gas Stations within 3-Mile Radius  
of BWI Marshall Airport

Source: BWI ALP (January 2015), Aerial - USDA NAIP 2015

# BWI Marshall Airport Service Station Plaza Environmental Assessment



Note: Proposed structure placement is shown on ALP, however site layout is unknown at the time of the EA.

Figure 1-3  
BWI Marshall Airport Layout Plan

Not to Scale

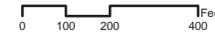
Source: BWI ALP (Draft January 2015)

# BWI Marshall Airport Service Station Plaza Environmental Assessment



**LEGEND**

- Proposed Service Station Plaza
- Maryland State Highway Administration (SHA) Right-of-Way
- Anne Arundel County Parcel Boundary
- Proposed Sanitary Sewer
- BWI Trail



**Figure 1-4  
Proposed Action**

Source: BWI ALP (January 2015), Aerial - Keystone (August 2011)  
Anne Arundel County

**BWI Marshall Airport Environmental Assessment  
for the Proposed Service Station Plaza**

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MAA. The site is currently used for contractor equipment and vehicle staging. Based on the assumptions considered in the *BWI Gas Station Site Selection Study*, it is estimated that the service station plaza will require approximately 2.5 acres of the available 4.6-acre site for development. MAA is considering and evaluating the entirety of the 4.6-acre site for purposes of this EA because the specific layout of the service station plaza within the paved area of the site (3.96 acres) has not been determined. Development would not occur within the portion of the parcel within Maryland State Highway Administration (SHA) right-of-way (ROW), see Figure 1-4.

No developer has been selected and therefore no detailed site plans are available at this time. Potential amenities onsite could include canopies with weather overhangs, fueling facilities to include an estimated 16 gas pumps on reinforced concrete slabs, a car wash, a quick-serve restaurant, a casual dine restaurant, and a convenience store. Gasoline would be stored in regulated underground storage tanks (USTs) registered through the UST Notification Program by the State of Maryland and would be installed, operated and tested in accordance with the requirements of Code of Maryland Regulation (COMAR) 26.10, *Oil Pollution and Tank Management*.

### **1.3.1 Connected Actions**

#### Connect Sanitary Sewer to Site

As part of the Proposed Action, utility and community infrastructure will have to be connected and incorporated into the site design of the proposed service station plaza. The Proposed Action includes connecting major utilities to the proposed

site, including potable water, electricity, telephone, natural gas, and sanitary sewer. A study was conducted in July 2015 to analyze the necessary utility requirements and to confirm that the site is suitable for commercial development (**Appendix B: Service Plaza Site Assessment**). With the exception of sanitary sewer, all of the major utilities are easily accessed from the site: power, water, communications, gas, and closed storm drain systems are all within or immediately adjacent to the site. For sanitary sewer service, several alignments were conceptually developed and preliminarily evaluated. Based on the preliminary analysis performed on the site, the potential alignment for the sanitary sewer connection would be located within the SHA ROW for Amtrak Way, leaving the site from the northernmost corner and connecting to existing manhole SS-9. Conceptual engineering review indicated that the terrain would allow for the pipe installation as a gravity line that could be relatively shallow and the alignment could be entirely within grass areas. This alignment was the preferred option identified during conceptual engineering, and was specifically positioned to avoid environmentally sensitive areas and natural resources. As “sister” state agencies under the umbrella of the MDOT, no acquisition of right-of-way from the SHA is necessary as part of the Proposed Action. The MAA will coordinate with SHA during the design of the sanitary sewer connection to ensure that the location of the sanitary sewer line is agreeable to both entities. Figure 1-4 illustrates the potential sanitary sewer connection to the site.

**BWI Marshall Airport Environmental Assessment  
for the Proposed Service Station Plaza**

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Address Stormwater Redevelopment  
Requirements

Stormwater management for the site will be needed as the existing site includes no stormwater management. Although the northern corner of the proposed service station plaza site contains a stormwater collection area outside of the fence enclosure, it does not collect stormwater from the paved area of site; the paved area drains south. Therefore, in accordance with the *Stormwater Management Act of 2007*, the 2000 *Maryland Stormwater Design Manual* (2009 revisions), and Maryland Department of the Environment (MDE's) *Stormwater Management Guidelines for State and Federal Projects*, the Proposed Action is considered a redevelopment project and will require treatment of 50% of the redeveloped area in order to receive site development approval. While the service station plaza may only require 2.5 acres for development, a conservative estimate of 2.8 acres<sup>2</sup> of impervious area was applied to provide concept-level stormwater calculations. With this assumption, 1.4 acres of impervious surface would need to be treated for the first 1" of rainfall. Treatment options could be met through pavement removal, water quality treatment through environmental site design (ESD) practices or structural best management practices (BMPs), or a combination of both. It is not known at this time what method will be used as ultimately the developer will be responsible for meeting MDE stormwater management requirements in order to obtain approval of the site design.

## **Endnotes**

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<sup>1</sup> Maryland State Highway Administration, Internet Traffic Monitoring System, [http://maps.roads.maryland.gov/itms\\_public/](http://maps.roads.maryland.gov/itms_public/), (accessed 7/7/16).

<sup>2</sup> Approximately 3.96 acres of the 4.6-acre parcel is paved. Approximately 1.2 acres of the parcel is within SHA ROW. It is not expected that development would occur within the SHA ROW, therefore, 2.8 acres of the 3.96 acres of paved area was estimated for the concept-level stormwater calculations.

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# Chapter Two:

## Purpose and Need

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This chapter briefly describes the underlying purpose and need for the Proposed Action. Defining the purpose and need is essential in providing a sound justification for the proposed action and is used as the primary foundation to develop reasonable alternatives to the Proposed Action.

### 2.1 Purpose and Need

#### 2.1.1 Sponsor's Purpose and Need

The **purpose** of the Proposed Action is to provide a convenient location for a gas station and convenience store (i.e., service station plaza) to serve BWI Marshall Airport air passengers, rental car patrons, employees, and other BWI area motorists in a manner that maximizes revenue for BWI Marshall Airport.

The proposed service station plaza is **needed** to generate revenue at BWI Marshall Airport. There is a current lack of service stations in the western area of the Airport where physical airport development and vehicular traffic have increased. The lack of this service in this area of Airport property translates to missed revenue for the Airport and reduces customer service for BWI Marshall Airport travelers. The MAA continues to require additional revenue to support current and future operations and maintenance needs, and also has land available that could be used to generate additional revenue in support of BWI Marshall Airport. A new fueling station and convenience store with basic car wash

capabilities and food services could play a beneficial role in enhancing revenue generation to MAA.

### 2.2 Requested Federal Action

The Requested Federal Action is FAA unconditional approval of the Proposed Action on the draft January 2015 ALP as identified in *Section 1.3, Proposed Action* and depicted on Figure 1-4.

The FAA's approval includes a determination that the EA satisfies the applicable environmental statutes and regulations, including those identified in FAA Orders 1050.1F and 5050.4B.

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# Chapter Three: Alternatives

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The analysis of alternatives is key to the NEPA process. Federal guidelines require only a brief discussion of alternatives that provides sufficient information for the FAA to choose an option that meets the need for the proposal and demonstrates reasoned decision-making.

## 3.1 Identification of Potential Alternatives

The alternatives for the proposed project are limited to the Proposed Action and No Action alternatives as there are no unresolved conflicts concerning alternative uses of available resources. Several studies were conducted for BWI Marshall Airport to identify a preferred location for a

service station and to determine the feasibility of the proposed site. This chapter describes the Proposed Action and No Action alternatives, and provides an overview of the locations previously considered, evaluated, and ultimately dismissed through a screening process.

In 2006, the *BWI Gas Station Site Selection Study (Appendix B)* evaluated three MAA-owned parcels, including the Proposed Action site, as illustrated on **Figure 3-1**. The three potential sites were originally considered on the west side of the Airport based on previous MAA studies and a review of MAA owned land. A brief description of the sites considered is provided in **Table 3.1**.

**Table 3.1**  
BWI Gas Station Site Selection Study Locations Evaluated

Site	Location / Description
Site 1: Managers' Lot at Aviation Boulevard and Amtrak Way ( <b>Proposed Service Station Plaza Site</b> )	Located on the northwest corner of the intersection of Aviation Boulevard and Amtrak Way. Approximately 1.5 miles from the main terminal. Currently used for contractor equipment and vehicle staging. Size: approximately 4.6 acres.
Site 2: Pink Lot Site	Located on the west side of Airport property on the south side of Mathison Way. Approximately 2 miles from the main terminal. Size: approximately 11 acres.
Site 3: Dorsey Road Site A	Located at the intersection of Dorsey Road and Aviation Boulevard. Approximately 3 miles from the main terminal, currently undeveloped. Size: approximately 6 acres (5.25 developable acres).

Source: Parsons Brinckerhoff, *BWI Gas Station Site Selection Study*, March 2006.

# BWI Marshall Airport Service Station Plaza Environmental Assessment



## LEGEND

 Alternatives Considered

1. Managers' Lot Site (Proposed Service Station Plaza)
2. Pink Lot Site
3. Dorsey Road Site A



0 500 1,000 2,000 Feet

Figure 3-1  
Alternative Locations Evaluated in  
BWI Gas Station Site Selection Study

Source: Parsons Brinckerhoff, BWI Gas Station Site Selection Study, March 2006, Aerial - Keystone (August 2011)

## **3.2 Alternatives Eliminated**

The three parcels evaluated were owned by the MAA, of adequate size and shape for a service station, had no limiting topographic issues, and were similar to each other and sufficient for development. To develop a clear understanding of the specific benefits and drawbacks of each of the sites and identify differentiating factors, the following criteria were considered and ultimately led to a final recommended action for the project: (1) Location and land use compatibility; (2) Access; (3) Visibility; (4) Market presence/competition; and (5) Environmental resources. The three sites were rated based on the criteria to determine which was best suited for development of the proposed service station.

The “Managers’ Lot” site (Site 1) was selected as the preferred location, discussed further in *Section 3.3.2, Proposed Action Alternative*. Site 2 and Site 3 were eliminated from further consideration as discussed in the sub-sections that follow.

### **3.2.1 Pink Lot Site**

The Pink Lot Site (Site 2) was rated “Fair” overall. It has reasonable development potential and would not significantly impact any existing uses assuming the existing overflow parking at the site was not replaced elsewhere. However, this alternative was dismissed from further consideration because it is located along a low volume side street, does not have a strong market location and has indirect access to Aviation Boulevard. Because of these drawbacks, this site would not maximize revenue for the Airport and therefore would not meet the purpose and need for the Proposed Action.

### **3.2.2 Dorsey Road Site A**

The Dorsey Road Site A (Site 3) was rated “Good” in all of the evaluation categories, and therefore received a “Best” rating. Although the site has the flexibility to accommodate a variety of gas station layouts and has adequate traffic levels to support a gas station operation, the site is not paved and would require substantial site preparation. Of importance, it would also require the removal of the existing ramp connecting MD176 and Aviation Boulevard. This alternative does not meet the purpose and need for the Proposed Action as it is the farthest away from the consolidated rental car facility and would entail extensive site preparation, neither of which would maximize revenue for the Airport.

## **3.3 Alternatives Carried Forward for Environmental Review**

This section provides descriptions of the alternatives for analysis in the EA, which includes the No Action and Proposed Action alternatives.

### **3.3.1 No Action Alternative**

The No Action Alternative would maintain the MAA-owned 4.6-acre site as it is currently and no service station plaza would be developed on BWI Marshall Airport property. The site would continue being used for contractor equipment and vehicle staging and would not generate additional revenue for the Airport. The western area of Airport property, where vehicle traffic and development have increased, would continue to lack convenient service station amenities such as fueling for BWI Marshall Airport customers and rental car users. The No Action Alternative does not meet the

purpose and need described in *Chapter Two, Purpose and Need*.

Although it does not meet the purpose and need, the No Action Alternative is carried forward for further environmental analysis in accordance with CEQ regulations implementing NEPA.

### **3.3.2 Proposed Action Alternative**

As discussed in detail in *Section 1.3, Proposed Action*, the Proposed Action Alternative includes the construction of a service station plaza on an MAA-owned 4.6-acre parcel at the southwest corner of the intersection of Aviation Boulevard and Amtrak Way on BWI Marshall Airport property. The Proposed Action Alternative includes as connected actions: (1) connection of sanitary sewer to the site, which would require pipe installation along Amtrak Way (within SHA ROW), and (2) addressing stormwater management, as the site has not previously been treated for stormwater. ESD requirements would be met through pavement removal, water quality treatment through ESD practices, or structural BMPs, or a combination of these options.

In the *BWI Gas Station Site Selection Study (Appendix A)*, the proposed service station plaza site (Managers' Lot Site [Site 1]) received the highest rating in all of the evaluation criteria considered, and an overall rating of "Best." The proposed site is in a prime location with high vehicle traffic, and is highly convenient and visible to many potential customers, including rental car drivers using the consolidated rental car facility (CRCF). The site has the flexibility to accommodate a variety of gas station layouts and has adequate traffic levels to support the operation of a gas station. In

terms of development, the proposed service station plaza site is already paved and is anticipated to require less site preparation than the Dorsey Road Site A location. The convenient location of the proposed site in a prime location with high vehicle traffic is expected to generate maximum revenue.

The Proposed Action Alternative meets the purpose and need for the Proposed Action and is carried forward for further environmental analysis.

# Chapter Four:

## Affected Environment

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This chapter provides a description of the existing conditions within the Study Area as described in *Section 4.1, Study Area*. The environmental resource categories are organized as identified in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. The potential environmental impacts of the No Action and Proposed Action alternatives are presented in *Chapter Five, Environmental Consequences*, of this EA.

### 4.1 Study Area

The Study Area is the geographic area where the potential impacts of the alternatives retained for further study are analyzed. As illustrated in **Figure 4-1**, the Study Area includes the proposed service station plaza site, as well as the alignment of the proposed pipe to connect sanitary sewer to the site within SHA ROW along Amtrak Way to existing manhole SS-9. In this case, the Study Area is determined by the extent of the Proposed Action's physical disturbance and the immediate surroundings.

The proposed service station plaza site is located at the northwest corner of the intersection of Aviation Boulevard and Amtrak Way on BWI Marshall Airport property and consists of a 4.6-acre parcel currently used for contractor equipment and vehicle staging. Although the service station plaza is only expected to require 2.5 acres of the 4.6-acre site, the MAA is

considering and evaluating the entirety of the 4.6-acre site for purposes of this EA. The proposed service station plaza development would not occur within the portion of the parcel within SHA ROW (see Figure 4-1).

There is a stormwater collection area located in the northern portion of the property outside of the fence enclosure, however it does not collect stormwater from the paved area of the site.

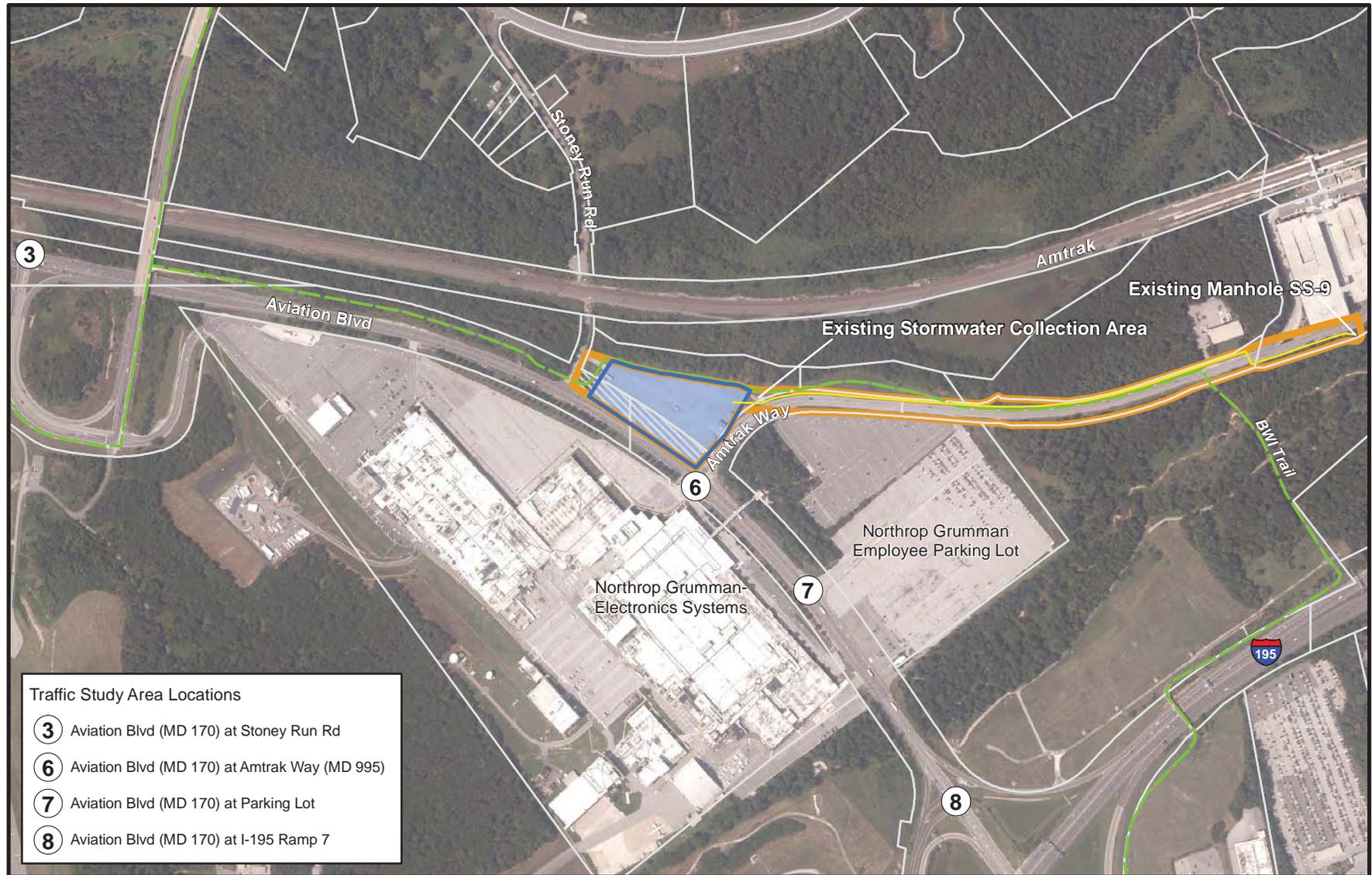
A Traffic Study Area was also developed for conducting traffic analysis for the Proposed Action. The Traffic Study Area includes the following four intersections (listed north to south with node numbers for Synchro analysis<sup>1</sup>) on and adjacent to Aviation Boulevard (MD 170) (see Figure 4-1):

8. Aviation Boulevard (MD 170) at SB I-195 Ramps
7. Aviation Boulevard (MD 170) at Northrop Grumman Gate 1A
6. Aviation Boulevard (MD 170) at Amtrak Way (MD 995)
3. Aviation Boulevard (MD 170) at Stoney Run Road

### 4.2 Non-Issue Impact Categories

**Table 4.1** presents the environmental resource categories that will not be affected by the No Action and Proposed Action alternatives as well as the rationale for no further review of these categories. In

# BWI Marshall Airport Service Station Plaza Environmental Assessment



## LEGEND

- Proposed Service Station Plaza
- Study Area
- Maryland State Highway Administration (SHA) Right-of-Way
- Anne Arundel County Parcel Boundary
- Proposed Sanitary Sewer
- BWI Trail



Figure 4-1  
Study Areas

Source: BWI ALP (January 2015), Aerial - Keystone (August 2011), Anne Arundel County

**BWI Marshall Airport Environmental Assessment  
for the Proposed Service Station Plaza**

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accordance with guidance provided in FAA Orders 5050.4B and 1050.1F, no further

analysis of these resources is provided within this EA.

Table 4.1

**Environmental Resources Categories Not Affected**

Farmlands	There are no farmlands present in the Study Area.
Historic, Architectural Archaeological, and Cultural Resources	No impacts to historic, architectural, archeological, or cultural property. In 1996, MAA prepared a Historic Preservation Plan (HPP) with input and coordination from Maryland Historic Trust (MHT) that provided an overview of the history and prehistory of BWI Marshall Airport, including an inventory of all recorded archaeological and historical resources located on Airport property as well as a planning manual/action plan component. Part of the HPP planning manual/action plan details the coordination required for project review and development. Specifically, for projects that fall within areas designated in the HPP as previously evaluated/no additional study is required, MAA is able to move forward with the proposed project without any further coordination with MHT. The proposed site is located in a “previously evaluated/no additional study required” area of the Airport. MAA received concurrence from the MHT dated 5/26/16 confirming that there are no historic properties affected by the Proposed Action ( <b>Appendix C: Agency and Public Consultation</b> ).
Water Resources (Wild and Scenic Rivers)	There are no river segments listed in the Wild and Scenic River System nor the Nationwide River Inventory located within the vicinity of BWI Marshall Airport.

Source: HNTB analysis, 2016.

**4.3 Potentially Affected Environmental Resource Categories**

The following environmental resources are assessed in this EA based on requirements in FAA Order 1050.1F:

- Air Quality
- Biological Resources (including fish, wildlife and plants)
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Land Use
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks

- Water Resources (Surface Waters, Groundwater)

## **4.4 Air Quality**

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for a group of “criteria air pollutants” to protect public health, the environment, and the quality of life from the detrimental effects of air pollution. These NAAQS have been set for the following six pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). The NAAQS primary standards are designed to protect human health while the secondary standards are designed to protect human welfare.

Areas within the U.S. are designated with respect to the NAAQS as *attainment*, *non-attainment*, *maintenance*, or *unclassifiable*. An area with air quality better than the NAAQS is designated as attainment; an area with air quality worse than the NAAQS is designated as non-attainment. Areas that are reclassified from non-attainment to attainment are designated as *maintenance*.

The Proposed Action is located in Anne Arundel County in Maryland which is presently designated by the EPA as non-attainment for ozone (O<sub>3</sub>) and maintenance for particulate matter equal to or less than 2.5 micrometers (PM<sub>2.5</sub>) in diameter. Therefore, the EPA’s General Conformity Rule applies to the Proposed Action and an air quality analysis was prepared. Emissions of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) – the two primary precursors to O<sub>3</sub> formation – as well as PM<sub>2.5</sub> were the focus of the air quality assessment. For the Proposed Action, the

applicable *de minimis* thresholds are 100 tons per year of VOC, NO<sub>x</sub>, or PM<sub>2.5</sub>. **Appendix D: Air Quality** contains additional information about existing air quality conditions at BWI Marshall Airport.

## **4.5 Biological Resources**

Section 7 of the Endangered Species Act of 1973 (ESA), as amended, (16 U.S.C. § 1531 et seq.) provides protection to any wildlife, which includes endangered plants or animals. In compliance with Section 7(c) of the ESA, federal agencies are required to ensure development/improvements will not jeopardize the continued existence of threatened or endangered species, or result in the destruction or adverse modification of the critical habitat of such species. Endangered species are defined as those in danger of extinction throughout all or a significant portion of its range. Threatened species are defined as any species that are likely to become an endangered species, within the foreseeable future, throughout all or a significant portion of its range.

### **4.5.1 Threatened and Endangered Species**

The majority of the proposed service station plaza site is currently paved, with no vegetation or habitat for wildlife. No habitats or species of concern live within the Study Area. According to the U.S. Fish and Wildlife Service (USFWS) IPAC tool, there is one federally listed Threatened species, the Swamp pink (*Helonias bullata*) on the species list of threatened and endangered species that is known to exist nearby on BWI Marshall Airport property. Swamp pink is typically found in wetlands which are not present in the Study Area.

The MAA requested information regarding the presence of federally protected threatened or endangered species from the USFWS and received confirmation August 11, 2016 that “Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required.” See *Appendix C: Agency and Public Consultation* for coordination with the USFWS, the USFWS Official Species List and IPAC.

The proposed service station plaza site is located in an area designated as a Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Area (SSPRA) as shown on **Figure 4-2**. The site is currently paved with no vegetation and used for contractor and vehicle staging and no habitat is believed to exist in the project area. No rare, threatened or endangered species (RTEs) or their habitats have been identified in the Study Area in previous studies.

The MAA requested concurrence from the MDNR that no rare, threatened or endangered species or habitat exist at the proposed service station plaza site. MDNR responded on May 19, 2016 with a letter stating that there are no official State or Federal records for listed plant or animal species within the proposed service station plaza site. See *Appendix C: Agency and Public Consultation* for coordination with the MDNR.

#### **4.5.2 Migratory Birds**

Migratory birds are protected by the Migratory Bird Treaty Act (MBTA). The

USFWS is the Federal agency responsible for the management of migratory birds as they spend time in habitats of the U.S. The proposed service station plaza site is devoid of trees and plant communities that could potentially attract birds or other wildlife.

#### **4.5.3 Bald and Golden Eagle Protection Act**

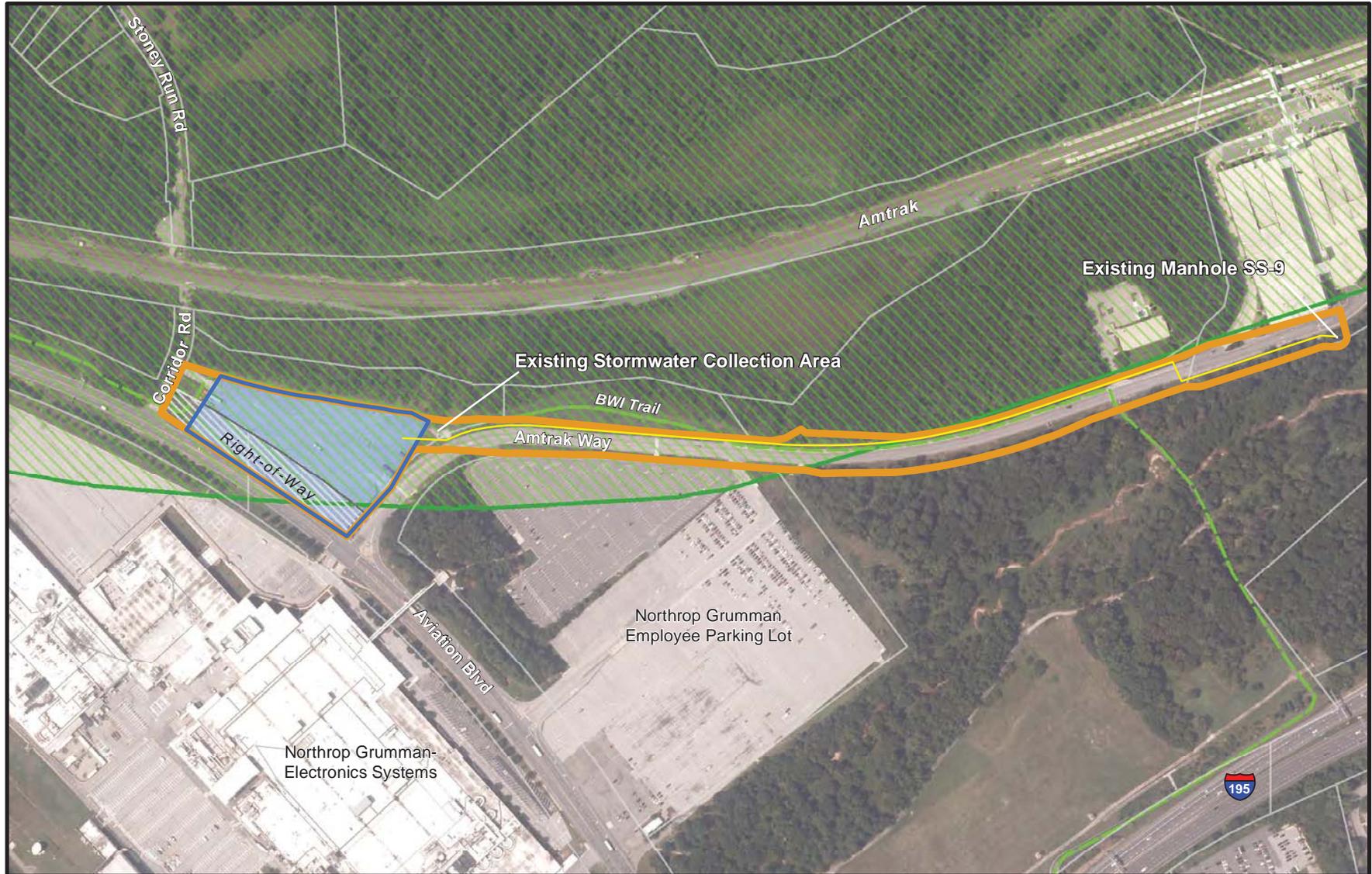
The bald eagle is a federally protected species under the Bald and Golden Eagle Protection Act (BGEPA). The BGEPA prohibits individuals and companies from knowingly, or with wanton disregard for the consequences of the Act, taking any bald or golden eagles or their body parts, nests, chicks, or eggs, which includes collection, molestation, disturbance, or killing. The proposed service station plaza site is devoid of trees and bald eagle habitat.

#### **4.6 Climate**

Research has shown there is a direct correlation between fuel combustion and greenhouse gas (GHG) emissions. According to the 1050.1F Desk Reference, “GHG emissions result from anthropogenic sources including the combustion of fossil fuels. GHGs are defined as including carbon CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). CO<sub>2</sub> is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. Climate change is a global phenomenon that can have local impacts...Research has shown there is a direct correlation between fuel combustion and GHG emissions.”<sup>2</sup>

No quantitative data on GHG emissions is available for the Study Area, however the

BWI Marshall Airport Service Station Plaza Environmental Assessment



LEGEND

-  Proposed Service Station Plaza
-  Study Area
-  Developable Area
-  Maryland State Highway Administration (SHA) Right-of-Way
-  Anne Arundel County Parcel Boundary

-  MDNR Sensitive Species Project Review Area
-  Proposed Sanitary Sewer
-  BWI Trail

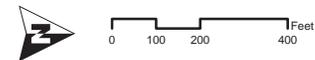


Figure 4-2  
Biological Resources

Sources: BWI ALP (January 2015), Aerial - Keystone (August 2011), Anne Arundel County, Maryland Department of Natural Resources, FEMA

**BWI Marshall Airport Environmental Assessment  
for the Proposed Service Station Plaza**

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Proposed Action will not affect the number or type of aircraft using BWI Marshall Airport, which is the main contributor to GHG emissions. GHG emissions were considered, however, as part of the air quality analysis.

#### **4.7 Coastal Resources**

Coastal resources include all natural resources occurring within coastal waters and their adjacent shorelands.<sup>3</sup> BWI Marshall Airport is in Anne Arundel County, which is part of Maryland's Coastal Zone. As such, MAA is required to comply with the regulations set forth and administered by MDE and MDNR. The MAA submitted a request to the MDE Federal Consistency Coordinator on May 2, 2016 seeking a Coastal Zone Consistency determination for this project, pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended (CZMA). As study of the sanitary sewer connection progressed, additional information was submitted to the MDE Coastal Consistency Coordinator in October 2016 related to the location of the existing manhole SS-9 that encroaches the 100-year floodplain. Re-verification of consistency with the CZMA was requested and received. Correspondence with the Federal Consistency Coordinator is included in *Appendix C: Agency and Public Consultation*.

#### **4.8 DOT Act, Section 4(f)**

Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966 protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites.<sup>4</sup> The proposed service station plaza site is bordered to the west by the BWI Trail,

a recreation trail which runs north to south along the site. The BWI Trail in the vicinity of the Study Area is asphalt and is separated from the proposed service station plaza site by a chain link fence as shown in **Photo 1** and **Photo 2**. The trail is bordered on the west by wooded area and to the east by the proposed site, which is currently used for vehicle staging and construction equipment.

The trail encircles the BWI Marshall Airport campus and is available to the public for bicycling, walking, running, and other such activities for recreation, exercise, and commuting. The trail, completed in 1999, is 12.5 miles long and provides bicycle access



**Photo 1.** *BWI Trail to the west of the proposed site, through chain link fence.*



**Photo 2.** *BWI Trail to the west of the proposed site, through chain link fence.*

to the Baltimore & Annapolis Trail (B&A Trail) which extends through most of Anne Arundel County. The BWI Trail is maintained and operated through a Memorandum of Understanding (MOU) between the MAA, Anne Arundel County Department of Recreation and Parks (DRP), and the SHA. The Study Area is adjacent to a section of trail maintained by the SHA.

There are no other Section 4(f) resources in the vicinity of the Study Area. MAA received concurrence from the MHT dated 5/26/16 confirming that there are no historic properties affected by the Proposed Action (*Appendix C: Agency and Public Consultation*).

## **4.9 Hazardous Materials, Solid Waste, and Pollution Prevention**

### **4.9.1 Hazardous Materials**

The Study Area is not identified on any of the State or Federal databases reviewed. The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Enforcement & Compliance History Online (ECHO), and Envirofacts Data Warehouse (Envirofacts) online databases were reviewed. The CERCLIS database consists of sites being assessed under the Superfund program (NPL sites), hazardous waste sites, and potential hazardous waste sites. The ECHO database consists of EPA compliance history at a site. The Envirofacts database retrieves information obtained from 17 national systems, including the CERCLIS, Superfund program (NPL sites), hazardous waste sites, and potential hazardous waste sites. The proposed service station plaza site and

surrounding area were not identified on the CERCLIS database.

The MAA performed a Phase I and Phase II Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Practice E 1527-13, which meets the requirements of Title 40, Code of Federal Regulations Part 312, prior to commencing the EA. The ESA was conducted in advance of the potential redevelopment of the property as a service station plaza to provide information for use in evaluating recognized environmental conditions (RECs) associated with the proposed service station plaza site. The assessment is based on a review of existing conditions, reported pre-existing conditions, observed operations at the subject property, and adjacent properties, and a subsurface investigation. The Phase II subsurface investigation at the site was conducted on July 15 and July 16, 2015 to assess soil and groundwater conditions at the site (*Appendix E: Hazardous Materials*). In conducting the Phase II ESA, the contractor advanced soil borings and collected soil and groundwater samples for laboratory analysis. According to the ESA, "Arsenic was detected in six surface soil samples above MDE Soil Cleanup Standards but the concentrations were consistent with the State of Maryland background arsenic concentrations.

The following RECs were identified in connection with the proposed site:

- The presence of 1,1-dichloroethene and trichloroethene, as well as total RCRA metals arsenic, cadmium, chromium and lead, in groundwater exceeding their respective MDE Groundwater Standards for Type I and Type II Aquifers is considered a REC.

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- The presence of Total Petroleum Hydrocarbons- Diesel Range Organics (TPH-DRO) and TPH-Gasoline Range Organics (GRO) in groundwater exceeding their respective MDE Residential Groundwater Standard is considered a REC.”<sup>5</sup>

No controlled RECs (CRECs) or historic RECs (HRECs) were identified in connection with the proposed service station plaza site.

No aboveground storage tanks (AST) have been observed at the proposed site, nor were any ASTs listed in the site-specific environmental database report reviewed. There is also no visual evidence of underground storage tanks (USTs) (e.g., vent pipes, fill ports), nor were any identified during historical research.

Based on the distance from the proposed site (i.e. greater than 500 feet) and/or topographical position from the subject property (i.e. down-gradient or cross-gradient), no off-site listings are expected to present a concern to the subject property. Due to the proximity; however, the following facility information is provided in the Phase I and Phase II ESA regarding the Northrop Grumman facility:

“Northrop Grumman Systems Corporation/BWI Site at 7323 Aviation Boulevard, is located approximately 140 feet southeast of the subject property in an up-gradient position. The adjacent Northrop Grumman facility was developed sometime between 1938 and 1957, based on aerial photographs. This facility is identified on the Resource Conservation and Recovery Act (RCRA) Treatment, Storage and

Disposal Facilities (TSDF) database, the Corrective Action (CORRACTS) database, the RCRA large quantity generator (LQG) database, the Toxic Chemical Release Inventory System (TRIS) database, the Facility Index System/Facility Registration System (FINDS) database, the Maryland Oil Control Program (MD OCPCASES) database, the NJ, PA and NY Manifest databases, the United States (US) Financial Assurance database, the US Permit and Facility Information Listing (AIRS) database, the 2020 Corrective Action Database, the MD Financial Assurance database, the MD Underground Storage Tank (UST) database, the Engineering Controls database, and the MD Aboveground Storage Tank (AST) database.”<sup>6</sup>

A Public Information Act (PIA) request to the MDE was submitted for the proposed service station plaza site and the adjacent Northrop Grumman facility at 7323 Aviation Boulevard at the time of the Phase I and Phase II study. In response, the MDE Land Restoration Program (LRP) indicated on February 19, 2016 that “...with implementation of a proper site management plan, the site’s current environmental condition is acceptable for the projected development of the site as a commercial facility” (*Appendix E: Hazardous Materials*).

#### **4.9.2 Solid Waste and Pollution Prevention**

The Airport currently produces and collects solid waste. Solid waste generated at the Airport and from construction projects is properly disposed of at a permitted solid waste facility, or recycled, if possible. There

were two roll-off dumpsters temporarily on site located at the south side of the parcel at the time of the site visit. The dumpsters are used by the contractor who utilizes the fence enclosed area in the southern portion of the subject property. The dumpsters are presumed to be used on an as-needed-basis during construction activities offsite.<sup>7</sup> No regulated waste was observed during the site inspection.

#### **4.10 Land Use**

The proposed service station plaza site is in a landside support area on Airport property along Aviation Boulevard, a major thoroughfare, and across from the Northrop Grumman parking lot. The site is currently flat and paved, bordered to the north and east by roadway and to the west by the BWI Trail. South of the property is an access road. Beyond the BWI Trail to the west is a wooded area, and Amtrak railroad lines are to the northwest. Northeast of the proposed service station plaza site is Amtrak Way, beyond which is the Amtrak employee parking lot. East of the site is Amtrak Way and the intersection between Amtrak Way and Aviation Boulevard, beyond which is a wooded area (northeast) and a Northrop Grumman facility (7323 Aviation Boulevard). The site is located approximately 1.5 miles from the main terminal.

The Study Area is located completely within BWI Marshall Airport property and there are no sensitive populations within the vicinity of the Study Area. The nearest sensitive receptors (i.e. schools, day care centers, hospitals, places of public assembly) are located off of BWI Marshall Airport property, at least one mile from the Study Area. Current zoning at this site (W2 Industrial - Light) is compatible with a service station plaza/gas station. The Airport itself is

bounded on the west, north, and east by Aviation Boulevard and on the south by Dorsey Road. Anne Arundel County describes land use on Airport property as Transportation/Utility, Retail, and Industrial. The proposed service station plaza site is identified as "Industrial" land use on Airport property in the 2003 BWI/Linthicum Small Area Plan.

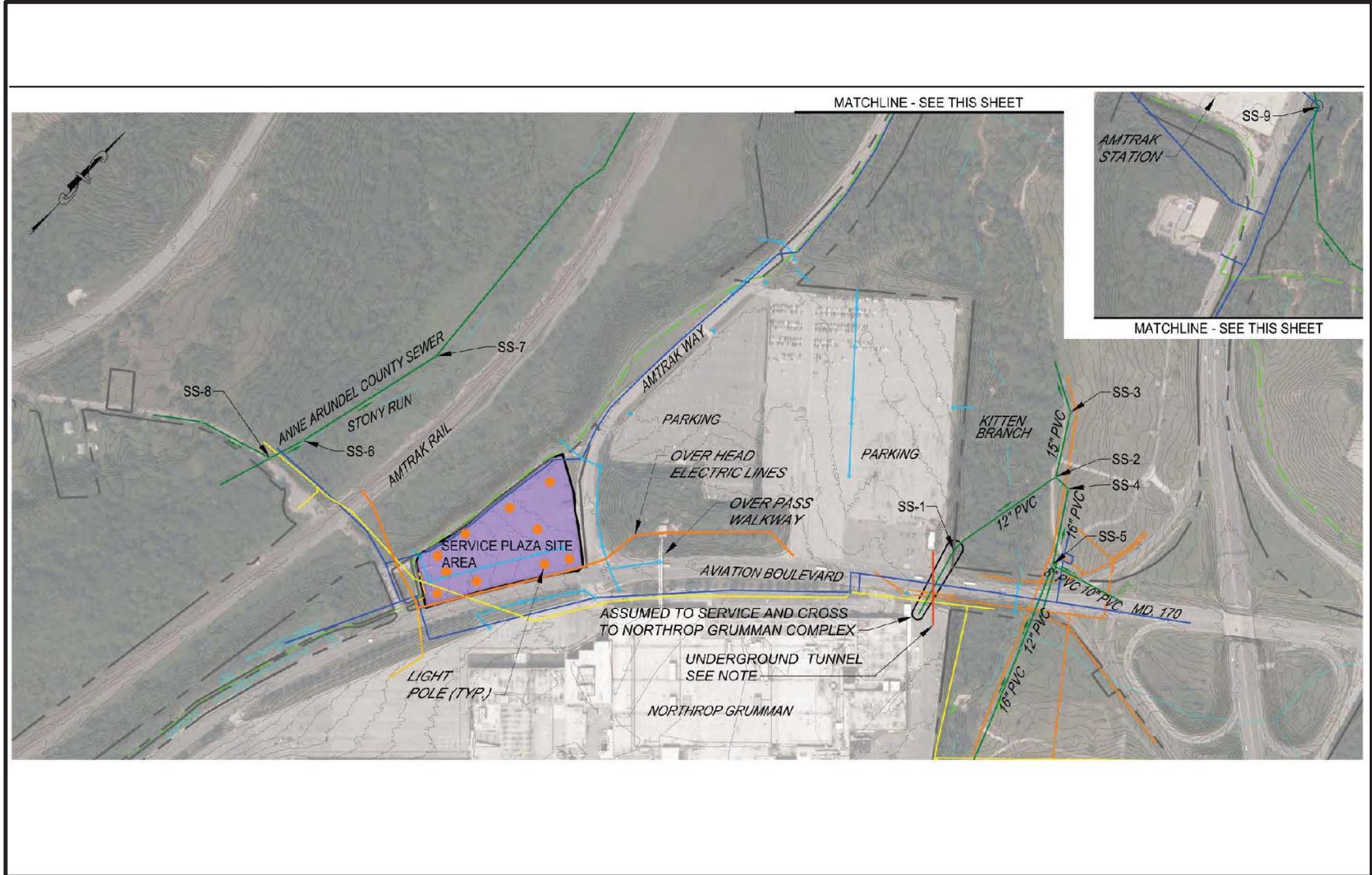
The project is consistent with the approved BWI Marshall ALP Update (August 2012) and is identified as a Phase I improvement (2016-2020) on the BWI Marshall Airport Draft ALP (January 2015) as "P46."

#### **4.11 Natural Resources and Energy Supply**

A *Service Plaza Site Assessment (Appendix B)* was conducted to ensure the site is suitable for commercial development. As part of this study, it was determined that all major utilities are in proximity to the site and easily accessed from the site, with the exception of sanitary sewer service. Power, water, communications, gas, and closed storm drain systems are all within or immediately adjacent to the site. **Figure 4-3** illustrates the existing utilities available to the site.

Baltimore Gas and Electric (BGE) would be the provider of natural gas and electricity to the site, Verizon would provide communication services, and the Anne Arundel County Bureau of Utility Operations (Department of Public Works) would provide water services. Scoping notices were submitted to each of these utility companies/ suppliers, provided in *Appendix C: Agency and Public Consultation*. The Anne Arundel County Department of Public Works responded with information regarding the public water connection, sewer

# BWI Marshall Airport Service Station Plaza Environmental Assessment



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	WATER		NATURAL GAS		WETLAND BUFFER		US WATER		SERVICE PLAZA SITE
	STORM WATER		ELECTRICAL		AIRPORT PROPERTY LINE		WETLAND		
	SANITARY SEWER		COMMUNICATION		HIKER/BIKER TRAIL				

**NOTE: TUNNEL LOCATION/ELEVATION AND UTILITIES ARE NOT FIELD VERIFIED. VERIFICATION SHOULD BE INCLUDED IN THE DESIGNERS SCOPE OF WORK.**

Figure 4-3  
Existing Utilities

Not to Scale

alignments, and the need for Anne Arundel County permits for public water or sewer.

There are no known deposits of valuable natural resources located on or in the vicinity of the Study Area.

#### **4.12 Noise and Noise- Compatible Land Use**

The Proposed Action will not affect the number or type of aircraft using BWI Marshall Airport. The proposed service station plaza site is located along Aviation Boulevard, a major thoroughfare, and across from the Northrop Grumman parking lot, completely within BWI Marshall Airport property. There are no sensitive noise receptors within the vicinity of the Study Area. The nearest sensitive receptors (i.e. schools, day care centers, hospitals, places of public assembly) are located off of BWI Marshall Airport property, at least one mile from the Study Area.

#### **4.13 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks**

##### **4.13.1 Socioeconomics**

Currently, there is one other gas station on Airport property (Shell Station on Aviation Blvd). There are approximately 22 service stations within a three-mile radius of the Airport's main terminal, with the closest station located on Airport property on Aviation Boulevard. As shown on Figure 1-2, other stations close to the Airport are concentrated north, east and south of the Airport, on Camp Meade Road, Dorsey Road, and West Nursery Road. There are no service stations located on Aviation

Boulevard between Dorsey Road and I-195, nor are there any service stations in the Stoney Run Road area directly west of the Airport's main terminal. However, there has been considerable development on the west side of Airport property, including the construction of the CRCF, construction of a second parking garage at the Amtrak Station, development of the Mid-Field Cargo Complex, construction of remote tenant parking, and other private development in the New Ridge Road corridor. Traffic volumes on Aviation Boulevard in this area range from 19,200 vehicles per day (VPD) near Dorsey Road to 44,600 VPD near I-195.

The site is currently used by Eastern Companies Excavating Contractors. There is a portable trailer onsite for business use, along with construction and excavation equipment. The site is set up as a temporary staging location for the contractor, based in Odenton, Maryland, and is leasing the site in the near term.

##### **Traffic Impact Analysis**

The Proposed Action has the potential to affect Aviation Boulevard (MD 170), therefore a Traffic Impact Analysis (TIA) was conducted as part of the EA (**Appendix F: Traffic Impact Analysis**). The TIA was conducted in accordance with Maryland SHA guidelines for traffic impact studies. The Traffic Study Area, shown on Figure 1 in *Appendix F* and Figure 4-1, includes the following four intersections (listed north to south with node numbers for Synchro analysis) on and adjacent to Aviation Boulevard (MD170)<sup>8</sup>:

8. Aviation Boulevard (MD 170) at SB I-195 Ramps

7. Aviation Boulevard (MD 170) at Northrop Grumman Gate 1A
6. Aviation Boulevard (MD 170) at Amtrak Way (MD 995)
3. Aviation Boulevard (MD 170) at Stoney Run Road

Existing 2016 traffic conditions were analyzed to define existing conditions. In order to analyze the intersections, peak hour traffic volumes were developed for the weekday AM and PM peak hours and analyzed in Synchro (Version 9), a traffic analysis software which follows the Highway Capacity Manual's 2000 and 2010 methodology for signalized intersections. The Critical Lane Volume (CLV) methodology was also used to analyze peak hour traffic volumes.

Using the methodology outlined in the Highway Capacity Manual (HCM), vehicular delay was used to measure traffic operations at the study intersections. The delay is categorized into level of service (LOS) which describes the overall operation of the intersection. The LOS and CLV delay thresholds are included in *Appendix F: Traffic Impact Analysis*. Under the Existing Conditions, all of the Traffic Study Area intersections operate with minimal to no congestion and, based on the Synchro analysis, all operate at LOS D or better in the AM and PM peak hour conditions. These operations are within the acceptable thresholds of the SHA guideline.

Under the Existing Conditions, all of the Traffic Study Area intersections operate at LOS C or better based on the CLV methodology in the AM and PM peak hour conditions. These values are within the acceptable threshold of the SHA guidelines.

#### **4.13.2 Environmental Justice and Children's Health and Safety Risks**

The proposed service station plaza site is located on a 4.6-acre vacant, mostly paved lot at the intersection of Amtrak Way and Aviation Boulevard in a landside support area of Airport property. The proposed site is currently owned by MAA and used for contractor equipment and vehicle staging, and is surrounded by forested area, roadway and industrial properties. There are no residential areas, schools, day cares, playgrounds, parks, or children's health clinics in the immediate vicinity of the Study Area.

#### **4.14 Visual Effects**

##### **4.14.1 Visual Resources and Visual Character**

The proposed service station plaza site is in the landside area of Airport property and has an appearance that is consistent with the surrounding area. The proposed site's western edge is bordered by the BWI Trail, beyond which is a wooded area and Amtrak railroad lines to the northwest. Northeast of the subject property is Amtrak Way, beyond which is the Amtrak employee parking lot. East of the site is Amtrak Way and the intersection between Amtrak Way and Aviation Boulevard, beyond which is a wooded area (northeast) and a Northrop Grumman facility (7323 Aviation Boulevard) as shown in **Photo 3**. The site is located approximately 1.5 miles from the main terminal.

The view from the BWI Trail, a Section 4(f) resource, is currently of a paved parking area being used as a vehicle storage and construction staging area as shown in

**Photo 4.** Refer to *Section 4.8* for additional discussion of the visual effect from the BWI Trail.



**Photo 3.** *View of paved proposed site, looking east across Amtrak Way (Source: BWI Service Plaza Site Assessment, p.31).*



**Photo 4.** *BWI Trail adjacent to the proposed site. Current view is of paved parking area with vehicle storage and construction staging equipment.*

#### 4.14.2 Light Emissions

The Airport currently has light emissions from aircraft, ground operations, work area lighting and security lighting, and the surrounding highways and local roads are illuminated by street lights around the Airport property.

## 4.15 Water Resources

### 4.15.1 Wetlands

Federal and State of Maryland regulations address activities conducted in “waters of the US,” including jurisdictional wetlands, in order to minimize reduction and degradation of these resources and achieve a no net loss of wetlands.

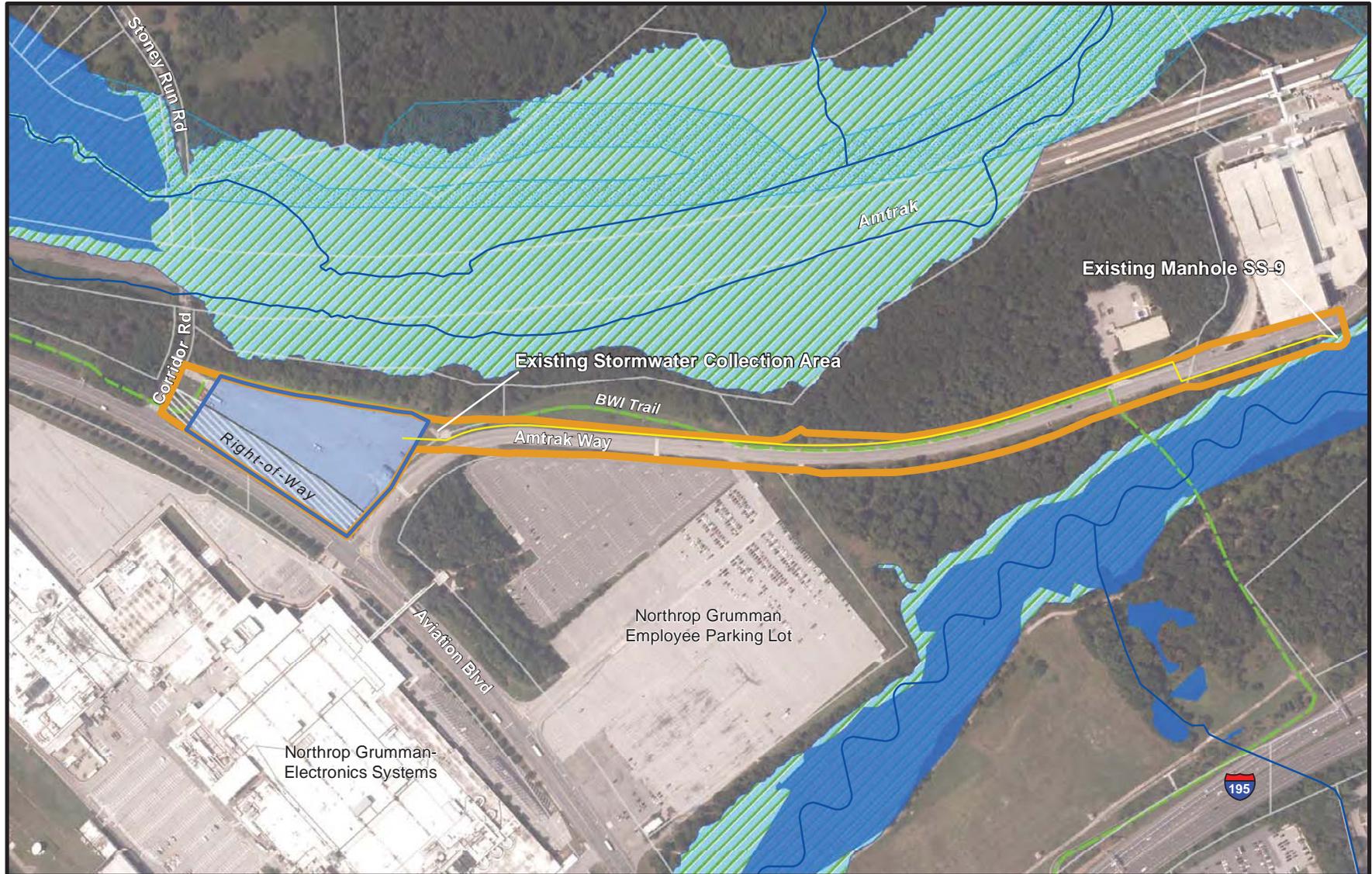
As shown on **Figure 4-4**, there are no wetlands located within the Study Area. Wetlands are present approximately 450 feet to the west of the proposed service station plaza site and approximately 30 feet east of existing manhole SS-9 where the sanitary sewer line is proposed to connect.

### 4.15.2 Floodplains

Executive Order 11988 directs federal agencies to “take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains...” Department of Transportation (DOT) Order 5650.2, *Floodplain Management and Protection*, contains DOT’s policies and procedures for implementing Executive Order 11988. Per DOT Order 5650.2, “Federal agencies are directed to avoid conducting, allowing, or supporting actions on the base [100-year] floodplain unless the agency [FAA] finds that base floodplain is the only practical alternative location...”<sup>9</sup>

As shown on Figure 4-4, existing manhole SS-9 is located approximately 30 feet west of Amtrak Way and encroaches upon the 100-year floodplain, as designated by the Federal Emergency Management Agency (FEMA).

# BWI Marshall Airport Service Station Plaza Environmental Assessment



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- |  |  |
|--|--|
|  Proposed Service Station Plaza                           |  Stream                           |
|  Study Area   |  100-Year Floodplain              |
|  Developable Area   |  Wetland                          |
|  Maryland State Highway Administration (SHA) Right-of-Way |  Wetland of Special State Concern |
|  Anne Arundel County Parcel Boundary                      |  Proposed Sanitary Sewer          |
|  |  BWI Trail                        |



0 100 200 400 Feet

Figure 4-4  
Water Resources

Sources: BWI ALP (January 2015), Aerial - Keystone (August 2011), FEMA, ADCI  
Anne Arundel County, Michael Baker Jr, Inc (Stream Restoration Project, 2013)

Manholes within floodplains are typically designed to be above the 100-year floodplain elevation. Based on a site visit in October 2016, analysis of the topography at this location, and conceptual engineering, the manhole is above the 100-year floodplain elevation. The nearest 100-year floodplain to the proposed service station plaza site is approximately 70 feet.

#### **4.15.3 Surface Waters**

Surface waters include streams, rivers, lakes, ponds, estuaries, and oceans.<sup>10</sup> No surface waters are present in the Study Area. There is a stormwater collection area in the northern portion of the property outside of the fence enclosure, but it does not collect stormwater from the paved area of the proposed service station plaza site; the paved area of the site drains south (**Photo 5**). Stormwater from the existing parcel drains to one of five existing inlets on site and discharges into the wooded area at the southwest corner of the parcel, ultimately draining into Stony Run.



**Photo 5.** Stormwater collection area to north of proposed service station plaza site, outside of fenced area. Does not collect from site, as site drains to the south.

#### **4.15.4 Groundwater**

Groundwater is the subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geological layers that store or transmit groundwater, such as to wells, springs and other water sources.<sup>11</sup> Groundwater samples were collected from soil borings for the Phase I and Phase II ESA. Groundwater on-site was encountered between 16.92 feet below ground surface (bgs) and 24.75 feet bgs.

According to the laboratory analytical results, Volatile Organic Compounds (VOC), RCRA metal and TPH-DRO/TPH-GRO contamination is present in on-site groundwater. Maryland law requires “responsible persons” to disclose environmental sampling results and report indications of a release of hazardous substances at a property to the State. While these thresholds have yet to be published in full in the regulation, the MDE has made them available to the public for reference and/or guidance. The detectable concentrations of both trichlorethene and arsenic in groundwater met and exceed the MDE Hazardous Substance Notification Standards of 2.6 µg/L and 0.446 µg/L, respectively.

The MDE only provides cleanup standards if the contaminated groundwater is located within a residential-use area. Several of the temporary wells sampled had TPH-DRO and TPH-GRO concentrations which exceed their respective MDE Residential Groundwater Standard. Therefore, the detectable concentration of TPH-DRO and TPH-GRO in groundwater is generally considered an REC.

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The groundwater analytical results are summarized in Table 2- Groundwater Analytical Results and a copy of the laboratory report is included in Appendix D- Soil and Groundwater Laboratory Analytical Report of *Appendix E: Hazardous Materials*.

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**Endnotes**

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<sup>1</sup> Intersection IDs are numbered consistent with the traffic study that is underway for a forthcoming EA that will consider additional proposed airport improvements as defined in the 2011 BWI Marshall Airport Master Plan.

<sup>2</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 3-1, [http://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/environ\\_policy\\_guidance/policy/faq\\_nepa\\_order/desk\\_ref/media/3-climate.pdf](http://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faq_nepa_order/desk_ref/media/3-climate.pdf), accessed 9/8/16.

<sup>3</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 4-1.

<sup>4</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 5-1.

<sup>5</sup> AECOM, Environmental Site Assessment Parking Lot at Aviation Boulevard & Amtrak Way, Linthicum Heights, Maryland, August 18, 2015, p. ES-3.

<sup>6</sup> AECOM, Environmental Site Assessment Parking Lot at Aviation Boulevard & Amtrak Way, Linthicum Heights, Maryland, August 18, 2015, p. ES-2.

<sup>7</sup> AECOM, Environmental Site Assessment Parking Lot at Aviation Boulevard & Amtrak Way, Linthicum Heights, Maryland, August 18, 2015, p. 2-3.

<sup>8</sup> Intersection IDs are numbered consistent with the traffic study that is underway for a forthcoming EA that will consider additional proposed airport improvements as defined in the 2011 BWI Marshall Airport Master Plan, as the two studies overlap in study area. Using the same Synchro node numbers for both studies will allow for ease of comparisons between the two studies.

<sup>9</sup> Department of Transportation Order 5650.2, *Floodplain Management and Protection*, 4/23/79, pp. 1-2.

<sup>10</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 14-19.

<sup>11</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 14-25.

# Chapter Five: Environmental Consequences

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The potential for environmental effects resulting from implementation of the Proposed Action and No Action alternatives are presented in this chapter. These alternatives are summarized below and discussed in *Chapter Three, Alternatives*, of this EA.

Potential impacts are discussed in relation to the Study Area, as defined in *Chapter Four, Affected Environment*. Potential cumulative impacts resulting from the incremental effects of the alternatives when added to the effects of past, present, and reasonably foreseeable future actions are also analyzed. Where necessary, potential mitigation measures are discussed that would reduce or eliminate anticipated environmental impacts for each of the alternatives.

In accordance with guidance provided in FAA Orders 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Actions*, and 1050.1F, *Environmental Impacts: Policies and Procedures*, environmental resources not present within the Study Area would not be affected by the alternatives, and therefore are not discussed within this chapter. The environmental resources not affected by the alternatives include the following:

- Farmlands
- Historic, Architectural Archaeological, and Cultural Resources
- Wild and Scenic Rivers

## 5.1 Air Quality

FAA Order 5050.4B<sup>1</sup> provides the basis for delineating the scope of the FAA's assessment of air quality impacts under NEPA and the Clean Air Act (CAA), and contains guiding criteria for determining the extent of an air quality analysis. Additionally, FAA Order 1050.1F<sup>2</sup> directs agency personnel to ensure that an air quality assessment prepared under NEPA includes an analysis and summary conclusions of the Proposed Action's impacts on air quality and, when a NEPA analysis is needed, an assessment of the Proposed Action is required to evaluate the impact on the NAAQS.

For the air quality assessment, a construction emissions inventory was prepared and an intersection analysis was conducted. *Appendix D: Air Quality* provides the detailed assumptions, methodologies, and results of the assessment. The EPA's General Conformity Rule applies to the Proposed Action and an air quality analysis was prepared. Emissions of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) – the two primary precursors to O<sub>3</sub> formation – as well as PM<sub>2.5</sub> were the focus of the air quality assessment. For the Proposed Action, the applicable *de minimis* thresholds are 100 tons per year of VOC, NO<sub>x</sub>, or PM<sub>2.5</sub>.

### 5.1.1 Intersection Review

The Proposed Action Alternative is located adjacent to the intersection of Aviation

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Boulevard (MD 170) at Amtrak Way (MD 995). Because the Proposed Action may affect traffic operations at MD 170, a traffic study was prepared as part of the EA. EPA identifies CO, PM<sub>10</sub>, and PM<sub>2.5</sub> as the primary pollutants of concern when assessing potential air quality impacts from motor vehicle exhaust. Increased concentrations of these pollutants can be expected in places where large numbers of motor vehicles (especially diesel vehicles for PM<sub>10</sub> and PM<sub>2.5</sub>) are present, including crowded intersections where traffic delays are common during peak traffic periods. To determine if the Proposed Action has the potential to affect concentrations of CO, PM<sub>10</sub> and PM<sub>2.5</sub>, traffic operating conditions at the following four intersections, on and adjacent to Aviation Boulevard (MD170), were reviewed:

8. Aviation Boulevard (MD 170) at Stoney Run Road
7. Aviation Boulevard (MD 170) at Amtrak Way (MD 995)
6. Aviation Boulevard (MD 170) at Northrop Grumman Gate 1A
3. Aviation Boulevard (MD 170) at SB I-195 Ramps

Following the requirements in EPA's Project-Level Conformity and Hot-Spot Analyses, an intersection analysis is required if:

- for CO, for projects affecting intersections that are at Level-of-Service (LOS) D, E, or F, or those that will change to LOS D, E, or F because of increased traffic volumes related to the project; and
- for PM<sub>10</sub> and PM<sub>2.5</sub>, for projects affecting intersections that are at LOS D, E, or F with a significant number of diesel

vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

**Table 5.1** presents the LOS and volumes for the AM and PM peak periods for the 2016 Existing, 2020 and 2025 future No Action and Proposed Action alternatives as well as the 2025 Mitigated Proposed Action Alternative. As shown, the LOS of the Proposed Action intersections would not deteriorate as a result of increased traffic volumes and/or diesel vehicles (i.e., the LOS would be the same with or without the Proposed Action for both alternative years), except for the intersection of Aviation Boulevard (MD 170) at Amtrak Way (MD 995) in the PM peak period of the 2025 Proposed Action Alternative. Notably, this intersection is mitigated from a LOS D to a LOS C with the Mitigated Proposed Action Alternative. As such, it can be assumed that the Proposed Action Alternative would not cause a significant increase in motor vehicular emissions and, therefore, would not be of local air quality concern.

Under the No Action Alternative, there would be no service station plaza development, therefore no changes to motor vehicular emissions would occur.

### **5.1.2 Construction Emissions Inventory**

Construction emissions were estimated using the EPA's Motor Vehicle Emissions Simulator (MOVES) and NONROAD<sup>3</sup> emission factor models, and other appropriate guidelines. Construction-related emissions are primarily associated with the exhaust from heavy equipment (i.e., cranes, backhoes, bulldozers, graders, rollers, etc.), delivery and haul trucks (i.e., cement trucks, dump trucks, etc.), and construction worker

## BWI Marshall Airport Environmental Assessment for the Proposed Service Station Plaza

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vehicles getting to and from the site; and with fugitive dust from site preparation, land clearing, material handling, equipment movement on unpaved areas, and demolition activities. These emissions are temporary in nature and generally confined to the construction site and the access/egress roadways.

Emissions from construction activities were estimated based on the projected construction activity schedule, the number of vehicles/pieces of equipment, the types of equipment/type of fuel used, vehicle/equipment utilization rates (including load factor or usage factor), the equipment size (horsepower), and the year in which construction occurs. The construction activities associated with the development of the Service Station Plaza at BWI Marshall are anticipated to occur from January 2018 through December 2019. Refer to *Appendix D: Air Quality* for construction equipment information and methodology used in the construction emissions inventory.

The construction emissions associated with the Proposed Action Alternative are presented and compared to applicable *de minimis* thresholds in **Table 5.2**. As shown, emissions are well below the *de minimis* threshold of 100 tons for NO<sub>x</sub>, VOC, PM<sub>2.5</sub> and SO<sub>2</sub>. Therefore, a Conformity Determination is not required and the Proposed Action Alternative is presumed to comply with the SIP and other requirements of the CAA.

Under the No Action Alternative, the proposed service station plaza would not be constructed, therefore no construction emissions would result and no project induced changes would occur to air quality.

Although construction-related emissions associated with the Proposed Action are

well below *de minimis* thresholds and would be temporary in duration, these emissions can be further reduced by employing the following measures. Importantly, the fugitive dust calculations prepared in support of this air quality analysis account for implementation of these measures as they relate to dust control (i.e., periodic watering):

- Reduction of exposed erodible surface area through appropriate materials and equipment staging procedures;
- Cover of exposed surface areas with pavement or vegetation in an expeditious manner;
- Reduction of equipment idling times;
- Ensure contractor knowledge of appropriate fugitive dust and equipment exhaust controls;
- Soil and stock-pile stabilization via cover or periodic watering;
- Use of low- or zero-emissions equipment;
- Use of covered haul trucks and conveyors during materials transportation;
- Reduction of electrical generator usage, wherever possible;
- Suspension of construction activities during high-wind conditions;
- Creation of dust, odor and nuisance reporting system;
- Daily watering of exposed surfaces and demolition activities;
- Reduction of vehicles speeds onsite; and
- Prohibition of open burning for waste disposal.

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**Table 5.1**

Level of Service and Volume Data

Intersections	2020 No Action		2020 Proposed Action Alternative		2025 No Action		2025 Proposed Action Alternative		2025 Mitigated Proposed Action Alternative	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<b>Level of Service</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>
MD 170 at Stoney Run Rd	C	A	C	C	C	C	C	C	C	C
MD 170 at Amtrak Way (MD 995)	B	C	B	C	B	C	B	<b>D</b>	B	C
MD 170 at Northrop Grumman Gate 1A	A	B	A	B	A	B	A	B	A	B
MD 170 at SB I-195 Ramps	A	A	A	A	A	B	A	B	A	A
<b>Volumes</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>
MD 170 at Stoney Run Rd	3385	3791	3459	3870	3594	4027	3671	4109	3671	4109
MD 170 at Amtrak Way (MD 995)	3463	3828	3694	4065	3679	4065	3922	4315	3922	4315
MD 170 at Northrop Grumman Gate 1A	3659	4079	3733	4157	3886	4332	3964	4414	3964	4414
MD 170 at SB I-195 Ramps	2124	3194	2198	3273	2256	3392	2334	3475	2334	3475

Source: HNTB, Traffic Analysis to Support BWI Marshall Proposed Vehicular Service Station Environmental Assessment, July 11, 2016.

**Table 5.2**

Construction Emission Results (tons)

Year	2018	2019	de minimis	Conforms?
<b>CO</b>	1.0	<0.1	--	--
<b>VOC</b>	0.3	<0.1	100	Yes
<b>NO<sub>x</sub></b>	1.9	<0.1	100	Yes
<b>SO<sub>x</sub></b>	<0.1	<0.1	100	Yes
<b>PM<sub>10</sub></b>	0.1	<0.1	--	--
<b>PM<sub>2.5</sub></b>	0.1	<0.1	100	Yes

Source: EPA, MOVES/NONROAD Model.

-- Not applicable

## **5.2 Biological Resources**

This resource category includes consideration of impacts to threatened and endangered species, including migratory birds. Potential impacts to threatened and endangered species were evaluated in accordance with FAA Order 1050.1F. A significant impact would occur if the USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat.<sup>4</sup>

### **5.2.1 Threatened and Endangered Species**

The site where the service station plaza would be constructed is currently paved, with no vegetation or habitat for wildlife. The sanitary sewer line is proposed to connect at manhole SS-9, which is within the 100-year floodplain and near wetlands. According to the USFWS IPAC tool, there is one federally listed Threatened species, the Swamp pink (*Helonias bullata*) on the species list of threatened and endangered species that is known to exist on BWI Marshall Airport property. Swamp pink is typically found in wetlands which are not present in the Study Area, and would not be impacted by the Proposed Action Alternative.

The MAA requested information regarding the presence of federally protected threatened or endangered species from the USFWS and received confirmation August 11, 2016 that “Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact

area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required.” See *Appendix C: Agency and Public Consultation* for coordination with the USFWS and the USFWS Official Species List and IPAC.

Due to parts of the Study Area being located in an area designated as an MDNR Sensitive Species Project Review Area (SSPRA) (Figure 4-2), the MAA requested concurrence from the MDNR that no rare, threatened or endangered species or habitat exists in the Study Area. MDNR responded on May 19, 2016 with a letter stating that there are no official State or Federal records for listed plant or animal species within the proposed service station plaza site. See *Appendix C: Agency and Public Consultation* for coordination with the MDNR.

The Proposed Action Alternative would not have a significant impact on RTE species and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to RTE species.

### **5.2.2 Migratory Birds**

The proposed service station plaza site is devoid of trees and plant communities that could potentially attract birds or other wildlife. Therefore, there is no potential to directly or indirectly impact migratory bird habitat or other species due to the Proposed Action Alternative.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to migratory birds.

### **5.2.3 Bald and Golden Eagle Protection Act**

The proposed service station plaza site is devoid of trees and not conducive to eagle habitat and no known eagle habitat is present in the vicinity of the site. Therefore, there is no potential to directly or indirectly impact bald eagles due to the Proposed Action Alternative.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to bald eagles.

## **5.3 Climate**

The Proposed Action will not affect the number or type of aircraft using BWI Marshall Airport, which is the main contributor to GHG emissions. GHG emissions were considered, however, as part of the air quality analysis.

The Proposed Action will not result in exceedances of the applicable *de minimis* threshold for criteria pollutants, therefore it is assumed that there would be a minimal increase of emissions of greenhouse gases during the short-term construction period. Notably, there are no *de minimis* thresholds by which you could evaluate the magnitude of the increase in greenhouse gases. GHG emissions would not be adverse and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no change to GHG emissions.

## **5.4 Coastal Resources**

The MAA submitted a request to the MDE Federal Consistency Coordinator on May 2,

2016 seeking a Coastal Zone Consistency determination for this project, pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended (CZMA). The MDE responded on June 14, 2016 that, “Based on the information provided, the Service Station Plaza project is consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the CZMA.” As study of the sanitary sewer connection progressed, additional information was submitted to the MDE Coastal Consistency Coordinator related to the location of the existing manhole SS-9 encroaching the 100-year floodplain, and re-verification of consistency with the CZMA was requested. The MDE responded on October 26, 2016 “reconfirming that the proposed service station plaza project, including the preferred alignment for the sanitary sewer connection, is consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended. Please note that this determination does not obviate the responsibility to obtain any other State approvals that may be necessary for the project.” Correspondence with the Federal Consistency Coordinator is included in *Appendix C: Agency and Public Consultation*.

The Proposed Action Alternative would not have a significant impact on coastal resources and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to coastal resources.

## **5.5 DOT Act, Section 4(f)**

FAA Order 1050.1F provides the FAA's significance threshold for Section 4(f) properties as the following: "A significant impact would occur when: *The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource.*"<sup>5</sup>

The Proposed Action Alternative would not result in a permanent physical or constructive use of the BWI Trail, a Section 4(f) resource that borders the proposed service station plaza site to the west. The trail is operated and maintained through an MOU between the MAA, Anne Arundel County DRP, and SHA and is available to the public for bicycling, walking, running, and other activities for recreation and commuting. The Proposed Action Alternative would not result in a physical use of the BWI Trail because the proposed changes do not involve a physical taking of

the land within the 4(f) property through purchase, physical occupation or alteration of the facility.

The Proposed Action Alternative would alter the view from the trail toward the parcel in this part of the trail. The current view toward the parcel is of a paved lot used as a construction equipment and vehicle staging area; the view of the parcel does not contribute to the significance or enjoyment of the BWI Trail, as illustrated in **Photo 1**. According to the *FAA Order 1050.1F Desk Reference*, "Substantial impairment occurs only when the protected activities, features, or attributes of the Section 4(f) property that contribute to its significance or enjoyment are substantially diminished. This means that the value of the Section 4(f) property, in terms of its prior significance and enjoyment, is substantially reduced or lost." Since the main purpose of the trail is for recreation and commuting, and the viewshed is not a significant attribute in terms of what makes the trail a Section 4(f) property, the Proposed Action Alternative also would not result in a constructive use of the BWI Trail.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to Section 4(f) properties.

### **Construction**

The paved area of the 4.6-acre parcel is larger than the anticipated area needed for the service station plaza development and could accommodate construction equipment and staging without temporary use of the trail or interference with trail access. There is currently a chain-link fence between the proposed service station plaza site and the



**Photo 1.** Current view from BWI Trail is of paved parking area with vehicle storage and construction staging equipment. Viewshed is not an attribute of the BWI Trail, a Section 4(f) resource.

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BWI trail, which provides a barrier between the site and the trail.

The proposed placement of the sanitary sewer line along Amtrak Way identified during conceptual engineering is within SHA ROW and would intersect with the BWI Trail where the trail transitions from the grassed area to the roadway shoulder of Amtrak Way. This construction-related activity would result in a temporary occupancy of the Section 4(f) property. The 1050.1F Desk Reference states, “A temporary occupancy of a Section 4(f) property for project construction-related activities is usually so minimal that it does not constitute a use within the meaning of Section 4(f).”<sup>6</sup> The alignment along Amtrak Way was the preferred option identified during conceptual engineering, and was specifically positioned to avoid environmentally sensitive areas and natural resources.

According to the MOU, the section of the trail in the Study Area is owned and maintained by the SHA. As a “sister” state agency under the umbrella of Maryland Department of Transportation (MDOT), MAA would coordinate with the SHA to ensure that the location of the sanitary sewer line is agreeable to both entities and to coordinate the temporary occupancy of the trail during construction. The MAA would work with the SHA and the selected contractor to ensure that trail access remains open and that the trail operates as usual or an adjacent alternative path is provided. Any temporary impacts to trail access during construction of the sanitary sewer line would be coordinated, and appropriate accommodations for trail users, notification and signage would be implemented.

The temporary occupancy during construction of the sanitary sewer line would not constitute a “use” in accordance with the FAA Order 1050 Desk Reference for the following reasons:

- The duration of the occupancy is expected to be minimal;
- The area of BWI Trail that may be temporarily affected would be replaced in-kind if there was actual disturbance to the trail;
- No permanent adverse physical impacts would occur, and no temporary or permanent interference with Section 4(f) activities would occur;
- The land would be returned fully to its existing condition; and
- MAA would coordinate with the SHA, who maintains this part of the trail according to the MOU, as a “sister” state agency under the umbrella of MDOT regarding any temporary impacts during placement of the sanitary sewer line.<sup>7</sup>

Given the ambient aircraft noise and other nearby land uses (vehicular roadways, Amtrak station, etc.), construction-related noise is not anticipated to be noticeable for a prolonged duration or to interfere with trail activities. Furthermore, “quiet” is not an attribute of the trail that contributes to its significance or enjoyment.

There are no other Section 4(f) resources in the vicinity of the Study Area. MAA received concurrence from the MHT dated May 26, 2016 confirming that there are no historic properties affected by the Proposed Action (*Appendix C: Agency and Public Consultation*).

## **5.6 Hazardous Materials, Solid Waste, and Pollution Prevention**

### **5.6.1 Hazardous Materials**

Several RECs were identified in connection with the proposed service station plaza site. The presence of 1,1-dichloroethene and trichloroethene, as well as total RCRA metals arsenic, cadmium, chromium and lead, in groundwater exceeding their respective MDE Groundwater Standards for Type I and Type II Aquifers is considered a REC. The presence of TPH-DRO and TPH-GRO in groundwater exceeding their respective MDE Residential Groundwater Standard is also considered a REC. No controlled RECs (CRECs) were identified in connection with the subject property. No historic RECs (HRECs) were identified in connection with the subject property.

The MAA requested a review by the MDE Land Restoration Program (LRP) at the time of the Phase I and Phase II ESA to assess if the site's existing environmental condition is acceptable for developing the property into an "automobile repair shop/convenience store." Specifically, the review was submitted for the subject property and the adjacent Northrop Grumman facility at 7323 Aviation Boulevard. The MDE LRP responded that "...based on our review of the above reports and data collected from the limited Phase II investigations, the LRP has no reason to believe that the existing Site conditions preclude the proposed development plan."<sup>8</sup> Additionally the LRP stated the following:

"The limited soil and groundwater information collected during the Phase II sampling indicates low levels of solvent and/or arsenic in soil and

groundwater. However, it cannot be confirmed that the contamination in the groundwater is from an onsite source. We also note that our understanding of the soil quality onsite is limited to the top six (6) inches of soil. That being said the overall information and a limited toxicological analysis does not indicate any immediate concerns that would require the LRP to open a case file for the site to conduct any further investigation. With the implementation of a proper site management plan, the site's current environmental condition is acceptable for the projected development of the site as a commercial facility."<sup>9</sup>

Refer to *Appendix E: Hazardous Materials* for the Phase I and Phase II ESA and the MDE LRP correspondence.

Storage and use of hazardous materials would be involved in the operation of the service station plaza. Once a contractor for the development of the service station is selected, it is assumed that the construction of the service station plaza would include the installation of one or more UST for fueling vehicles. USTs on commercial properties are highly regulated, and USTs containing petroleum products or hazardous substances are subject to federal and state regulations. MDE is the compliance authority for USTs in the State of Maryland. All USTs in Maryland storing motor fuels (e.g., gasoline, diesel) must meet specific technical standards (corrosion protection, spill/overfill prevention, leak detection, and financial responsibility) in accordance with the Oil Control Program within the Land Management Administration of the MDE. The MAA would work with the contractor to require that the USTs are installed in

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accordance with state and federal regulations and are registered with the Maryland's Underground Storage Tank Notification Program. All storage systems would be installed, operated and tested in accordance with the requirements of COMAR 26.10, *Oil Pollution and Tank Management*.<sup>10</sup>

The EPA has promulgated federal UST regulations; however, the federal regulations have been essentially duplicated as state regulations, and the Maryland State UST program has been granted State Program Approval by the EPA. Thus, the MDE Oil Control Program principally enforces UST regulations in the state and is the immediate regulatory authority.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to hazardous materials.

### **Construction**

As with any construction project on Airport property, potential impacts could result from construction activities that disturb existing hazardous materials or contaminated soil, causing them to be released into the surrounding environment. Procedures such as ensuring proper equipment maintenance and functionality, best management practices, developing standardized operating procedures for material handling and storage, and providing spill prevention and control measures would greatly reduce the likelihood of any potential releases of these materials. If any hazardous materials are encountered during construction, they would be disposed of in accordance with applicable laws and regulations. Additionally, if any aboveground or underground petroleum storage tanks are

found on site, the contents and tanks along with any contamination would be removed.

The lease holder will be required to independently generate, certify, and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan to satisfy the requirements of Title 40, Code of Federal Regulations (CFR), Part 112.3. All regulatory required testing, maintenance and repairs to fuel system tanks and components will be the responsibility of the lease holder.

The stormwater structures, systems and conveyances at BWI Marshall Airport constitute a large Municipal Separate Storm Sewer System (MS4) as defined by Title 40, CFR, Part 122.26. As an Operator of a large MS4, BWI Marshall Airport is required to have an individual National Pollution Discharge Elimination System (NPDES) Permit. This permit includes requirements for stormwater discharges from industrial activities associated with Transportation Facilities as defined by Title 40 CFR, Part 122.26. To meet the requirements of the NPDES permit, the MAA developed a Stormwater Pollution Prevent Plan (SWPPP) for BWI Marshall Airport. As a tenant of the Airport, the lease holder will be required to comply with stormwater management practices and procedures outlined in the SWPPP.

The amounts and types of hazardous wastes generated during the operation and maintenance of the proposed service station plaza is not expected to differ from current Airport activities. Best management practices along with leak detection systems installed for any underground storage tank(s) would minimize any potential impacts for this action. The EPA and state agencies enforce regulations governing

installation and safe operation of underground petroleum storage tank facilities, as well as any remediation of petroleum contamination when it is discovered.

No significant environmental impacts related to hazardous materials and waste would be expected with the Proposed Action Alternative and no mitigation would be required.

### **5.6.2 Solid Waste and Pollution Prevention**

The operation of the Proposed Action Alternative, once constructed, would not generate a significant amount of solid waste compared to solid waste already generated by Airport operations. During construction, the developer/contractor will use disposal methods in accordance with state and local regulations. Any solid waste generated from the project will be properly disposed of at a permitted solid waste facility, or recycled, if possible. MAA will advise the selected developer/contractor to consider Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, during construction and implementation of the Proposed Action Alternative. The Order sets forth Federal energy requirements in several areas and states that Federal agencies should enhance efforts toward sustainable buildings and communities.

Additionally, COMAR 26.10.01.20(C) requires “All sewers and drains serving these facilities, and receiving oil-bearing wastes or wastewaters from operations at these facilities, shall be provided with adequate and properly maintained oil separating systems,” and (D) “The ultimate disposal of used oil shall be undertaken in a

manner that will prevent water pollution, such as salvaging or sale to a salvage company, or use as fuel, or other methods in accordance with State, federal, and local codes.” COMAR 26.10 also stipulates procedures, methods, and precautions instituted to prevent oil spills and specifies conditions for issuance of an Oil Operations Permit dependent upon the facility being “properly and adequately equipped to prevent oil pollution and control oil spills,” among other regulations.<sup>11</sup> No significant impacts related to solid waste are expected with the Proposed Action Alternative and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts related to solid waste.

## **5.7 Land Use**

The Proposed Action Alternative is located completely within BWI Marshall Airport property and is consistent with the Airport’s ALP, as well as local land use plans. The future use of the proposed service station plaza site as “Non-Aviation Support Area” is identified on the February 2013 Conditionally Approved ALP and the “New Vehicle Service Station” is specifically identified as a Phase I improvement (2016-2020) on the BWI Marshall Airport Draft ALP (January 2015) as “P46.” Current zoning at this site (W2 Industrial - Light), which includes a service station plaza/gas station in its permitted uses.

All construction related to the Proposed Action Alternative would be on Airport property and there are no sensitive populations in the vicinity of the Study Area. The nearest sensitive receptors (i.e. schools, day care centers, hospitals, places

of public assembly) are located off of BWI Marshall Airport property, at least one mile from the Study Area. The Proposed Action would not impact any natural resource areas, nor disrupt communities or require relocation of residences or businesses, as discussed in 4.9, *Socioeconomics, Environmental Justice, and Children's Health and Safety Risks*. The primary access to the service station plaza would remain on Amtrak Way. A Traffic Impact Analysis was conducted in accordance with SHA guidelines for traffic impact studies to identify any potential impacts associated with implementation of the Proposed Action Alternative, as discussed in *Section 4.9*.

It is important to note that due to its location, the Proposed Actions site is subject to wildlife hazard restrictions and the placement and type of stormwater management is restricted due to these wildlife hazard considerations. The Proposed Action Alternative would not be located near or create a wildlife hazard as defined in FAA Advisory Circular (AC) 150/5200-33, "Wildlife Hazards On and Near Airports." The AC warns against the creation of any open water within 10,000 feet of aircraft movement areas or within five miles of approach or departure surfaces. In addition, design standards require that ESD is used to the MEP for stormwater management and does not allow for open water facilities or landscaping that would serve as habitat or attract waterfowl or potentially hazardous wildlife on Airport property. MAA has design standards for SWM and landscaping that do not allow construction of wildlife hazards on Airport property. All SWM facilities will be designed for consistency with Maryland standards for both water quality (COMAR 26.08.02) and stormwater management (COMAR 26.17.02).

No significant impacts related to land use are expected with the Proposed Action Alternative and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to land use.

## **5.8 Natural Resources and Energy Supply**

The Proposed Action Alternative would require additional energy use to provide water, heating, air conditioning, lighting and electricity to any buildings developed on the proposed service station plaza site (e.g., convenience store, car wash, restaurant); however, the anticipated increase in additional resources and energy consumption required by the Proposed Action Alternative would not amount to a significant percent of total Airport use, and would not create a substantial increase in demand for local resources and utilities or strain the capacity/supply of these resources/ utilities to the meet the additional demand.

A Service Plaza Site Assessment (*Appendix B: BWI Service Plaza Site Assessment*) was conducted to ensure the site is suitable for commercial development. As part of this study, it was determined that water, power, and telecommunications are all in close proximity to the site. For sanitary sewer, several alignments were conceptually developed and preliminarily evaluated. Figure 4-3 illustrates the existing utilities available to the site, and Figure 1-4 illustrates the proposed sanitary sewer connection. Based on the preliminary analysis performed on the site and to avoid natural resource areas, the potential

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alignment for the sanitary sewer connection would be located within the SHA ROW for Amtrak Way, leaving the site from the northernmost corner and connecting to existing manhole SS-9. Conceptual engineering review indicated that the terrain would allow for the pipe installation as a gravity line that could be relatively shallow and the alignment could be entirely within grass areas.

Scoping notices were submitted to the utility companies/ suppliers. Anne Arundel County Department of Public Works (DPW) responded with information regarding the public water connection, sewer alignments, and the need for Anne Arundel County permits for public water or sewer. Consultation with DPW regarding the proposed sanitary sewer alignment and connection would be needed prior to final design to confirm the utility connections and other necessary requirements. The scoping notices and responses are included in *Appendix C: Agency and Public Consultation*.

Fueling pump stations are proposed as part of the service station plaza. It is assumed the fuel will be brought in by tanker trucks from an outside supplier and transferred into the USTs for distribution to the public. The proposed service station plaza would require importing and distributing fuel; however, the anticipated increase in fuel supply/consumption required by the proposed service station plaza would not amount to a significant percent of overall fuel usage locally or regionally. The fuel demand for the proposed service station would not exceed available supply.

One of the potential amenities to the service station plaza is a car wash (estimated 300 square feet). The MDE regulates car

washes in the State of Maryland, including Gray Water Reuse Regulation. Car washes must comply with water reuse regulations and guidelines in the State of Maryland, including Proposed Water Reuse Regulation for Class IV effluent. Using an industry estimate of 71 cars per day going through the car wash and an average of 38 gallons used per car (averaged between the various types of car washes), it is estimated that the Proposed Action Alternative would use an average of 2,700 gallons per day during operation. It is not anticipated that this amount would cause strain on current water demand or other projected demands. Note also that the data represents the total water used, and does not take into account whether or not a car wash recycles its water. The MAA would encourage a developer to incorporate a water-recycling system into the facility design, such as a closed-loop recycling system. The quantity of water recycled varies from 10 percent to 80 percent of the water used, however recycling rates of 75-80 percent of washwater can be achieved. Car washes typically utilize wastewater holding tanks, however the developer and MAA would coordinate with all of the necessary utilities to ensure the existing sanitary sewers and wastewater treatment system have the capacity to accommodate the estimated amount of wastewater that would be generated by implementation of the Proposed Action Alternative.

Compared to the local context of supply of natural resources and energy in the local area, the Proposed Action Alternative would not have the potential to cause demand to exceed available or future supplies of these resources. Additionally, the Proposed Action Alternative would not involve the use of any unusual or scarce materials and

would not cause a demand for the use of any unusual natural resource or the use of any resource that is in short supply. There are no known deposits of valuable natural resources located on or in the vicinity of the Study Area that would be affected by the Proposed Action Alternative. The Proposed Action Alternative would not cause a substantial increase in demand for local resources and utilities or strain the capacity/supply of these resources/utilities to the meet the additional demand, and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to natural resources or energy supply.

### **5.9 Noise and Noise-Compatible Land Use**

The Proposed Action Alternative will not affect the number or type of aircraft using BWI Marshall Airport and there are no noise sensitive receptors in vicinity of the Study Area. Noise impacts during construction are expected, but noise impacts are generally localized at the vicinity of the construction site. Construction equipment and vehicles will create localized increases in noise levels, but these temporary noise impacts will not disrupt normal airport operations or activities.

As discussed in *Section 5.5, DOT Act, Section 4(f)*, the BWI Trail runs to the west of the proposed site. Given the ambient aircraft noise and other nearby land uses (vehicular roadways, Amtrak station, etc.), construction-related noise is not anticipated to be noticeable for a prolonged duration or to interfere with trail activities. Furthermore,

“quiet” is not an attribute of the trail that contributes to its significance or enjoyment.

Overall, the construction phase of this project is expected to create minor and temporary impacts at the project site and in the surrounding area. These impacts will be short-term in nature, lasting for the duration of construction activities.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to noise and noise-compatible land use.

## **5.10 Socioeconomics, Environmental Justice, and Children’s Health and Safety Risks**

### **5.10.1 Socioeconomics**

The Proposed Action Alternative would not cause any impacts to surrounding communities or shift any business or economic activity or population movement or shifts in a community. There is sufficient market demand to accommodate the proposed service station plaza on Airport property. Currently, there is one other gas station on Airport property (Shell Station on Aviation Blvd). See *Appendix A: BWI Gas Station Site Selection Study* for the study conducted by MAA to identify a preferred location for a proposed second gas station on Airport property. Traffic volumes on Aviation Boulevard in this area range from 19,200 vehicles per day (VPD) near Dorsey Road to 44,600 VPD near I-195, which is an increase since the 2006 study. Given the local area’s population and economic growth, BWI Marshall Airport’s passenger growth and the physical development in the last several years, it is assumed that there

is sufficient demand remains for the proposed service station plaza, as was the case when the study was conducted in 2006.

The site is currently used by Eastern Companies Excavating Contractors. There is a portable trailer onsite for business use, along with construction and excavation equipment. The site is set up as a temporary staging location for the contractor, based in Odenton, Maryland, who is leasing the site in the near term. The tenant would need to relocate prior to construction, however the MAA would provide advanced notice of the end of the lease term. Furthermore, the change in location would not be expected to affect the business's employment or economic activity. Construction of the Proposed Action Alternative and operation of the proposed service station plaza would provide a modest increase in additional employment opportunities in the area.

No significant impacts related to socioeconomics are expected with the Proposed Action Alternative and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts related to socioeconomics.

### **5.10.2 Traffic Impact Analysis**

Years of analysis for the Proposed Action Alternative are 2020 (opening year) and 2025 (five years after opening year).<sup>12</sup> The future conditions alternatives that were analyzed, listed in **Table 5.3**, are the No

Action Alternative, Proposed Action Alternative (i.e. constructing the proposed facility with no road improvements), and Mitigated Proposed Action Alternative. The Mitigated Proposed Action Alternative includes mitigation necessary to provide acceptable level of service (LOS). The methodology to determine the weekday AM and PM peak hour is presented in *Appendix F: Traffic Impact Analysis*. In order to analyze the intersections, peak hour traffic volumes were developed for all scenarios shown in Table 5.3 and analyzed in Synchro (Version 9), a traffic analysis software which follows the Highway Capacity Manual's 2000 and 2010 methodology for signalized intersections. The Critical Lane Volume (CLV) methodology was also used to analyze peak hour traffic volumes.

Using the methodology outlined in the Highway Capacity Manual (HCM), vehicular delay was used to measure traffic operations at the study intersections. The delay is categorized into LOS which describes the overall operation of the intersection. If the proposed projects degrade the traffic operations of any intersection to a LOS worse than "D" per SHA guidelines, potential improvements are typically proposed and analyzed to mitigate the impacts. The LOS and CLV delay thresholds are included in *Appendix F: Traffic Impact Analysis*. A summary of the results of the Synchro and CLV results is provided below. Refer to *Appendix F* for detailed results, peak hour traffic volume tables, methodologies, and growth factors.

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**Table 5.3**

Alternatives and Analysis Years

<b>Analysis Year</b>	<b>AM/PM</b>	<b>Existing Conditions</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>	<b>Mitigated Proposed Action Alternative</b>
Existing (2016)	Weekday AM	X	-	-	-
	Weekday PM	X	-	-	-
Opening Year (2020)	Weekday AM	-	X	X	*
	Weekday PM	-	X	X	*
2025	Weekday AM	-	X	X	*
	Weekday PM	-	X	X	*

\* Assessed if necessary to provide acceptable LOS.

**No Action Alternative**

The No Action Alternative assumes that the Proposed Action does not occur. The No Action Alternative is used to compare the results of the Proposed Action Alternative and identify any impacts resulting from the land use change. The No Action Alternative was examined for the years 2020 and 2025.

**2020 No Action Alternative Summary**

Under the 2020 No Action Alternative, the Synchro analysis indicates that all the study area intersections are expected to operate at LOS D or better. These values are within the acceptable thresholds of the SHA guidelines. The CLV analysis indicates that all values are within the acceptable thresholds of the SHA guidelines.

**2025 No Action Alternative Summary**

Under the 2025 No Action Alternative, the Synchro analysis indicates that all study area intersections are expected to operate at LOS D or better. These values are within the acceptable thresholds of the SHA guidelines. The CLV analysis indicates that all values are within the acceptable thresholds of the SHA guidelines.

**Proposed Action Alternative**

The Proposed Action Alternative considers the additional trips generated by the Proposed Action, and these trips are layered onto the No Action Alternative volumes to generate the Proposed Action Alternative volumes. The traffic operations resulting from the No Action and Proposed Action Alternatives are then compared to assess whether the Proposed Action Alternative has impacts that require mitigation.

**2020 Proposed Action Alternative**

Under the 2020 Proposed Action Alternative, the Synchro analysis indicates that all intersections operate in the AM peak with identical LOS as the 2020 No Action Alternative. In the PM peak, Intersection 3 (Aviation Boulevard at Stoney Run Road) operates at LOS C as opposed to LOS B in the 2020 No Action Alternative. All the study area intersections operate at LOS D or better which are within the acceptable thresholds of the SHA guidelines.

The CLV analysis indicates that traffic operations under the Proposed Action Alternative in 2020 would affect Intersection 6 (Aviation Boulevard and Amtrak Way)

compared to the No Action Alternative. The LOS decreases from LOS A to LOS B during the AM peak hour and LOS C to LOS D during the PM peak hour. These values are within the acceptable thresholds of the SHA guidelines.

#### 2025 Proposed Action Alternative

Under the 2025 Proposed Action Alternative, the Synchro analysis indicates that the LOS at all the study intersections remain at the same level as the No Action Alternative except for Intersection 6 (Aviation Boulevard at Amtrak Way). At Intersection 6, the LOS is expected to decrease from LOS C to LOS D in the PM peak hour. Nevertheless, all intersections are projected to operate at LOS D or better which is within the acceptable thresholds of the SHA guidelines.

The CLV analysis indicates that traffic operations in the study area under the 2025 Proposed Action Alternative differ from the 2025 No Action Alternative as follows:

- Intersection 3 (Aviation Boulevard and Stoney Run Road)
  - During the PM peak hour the LOS decreases from LOS B to LOS C compared to the No Action Alternative.
- Intersection 6 (Aviation Boulevard and Amtrak Way)
  - During the AM peak hour the LOS decreases from LOS A to LOS B compared to the No Action Alternative.
  - During the PM peak hour the LOS decreases from LOS D to LOS E compared to the No Action Alternative.

With the exception of Intersection 6 in the PM peak hour, the projected operations are within the acceptable thresholds of SHA guidelines. Since, based on the CLV analysis, Intersection 6 is projected to operate at LOS E in 2025, which is below the SHA LOS D acceptable threshold, mitigation would be required. In order to meet SHA requirements for meeting a LOS of D, mitigation is proposed for the Proposed Action Alternative as described in the following section.

#### 5.10.2.1 Mitigation

The operational analysis conducted for the Proposed Action Alternative indicated that the increase of traffic volumes on Aviation Boulevard from the Proposed Action Alternative would degrade the LOS at the intersection of Aviation Boulevard and Amtrak Way to below an acceptable LOS by 2025 per SHA requirements. As a result, a restriping is proposed at this intersection for the eastbound approach from a left-only lane and a right-only lane to a left-only lane and shared left-right lane, as shown on **Figure 5-1**. With the proposed restriping and signal optimization, the traffic analysis indicates that operations would be improved to an acceptable level per SHA requirements.

#### 2025 Mitigated Proposed Action Alternative

To improve operations at Aviation Boulevard at Amtrak Way since based on the CLV analysis, Intersection 6 is projected to operate at LOS E in 2025 (below the SHA LOS D acceptable threshold), the eastbound approach lane-use channelization was modified from a left-only lane and a right-only lane to a left-only lane and shared left-right lane in the 2025 Mitigated Proposed Action Alternative. The

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LEGEND

- Proposed Service Station Plaza
- Maryland State Highway Administration (SHA) Right-of-Way
- Proposed Sanitary Sewer
- BWI Trail
- Existing Traffic Movement
- Proposed Traffic Movement (shared left-right lane)

Figure 5-1  
Proposed Action with Mitigated Traffic Movement



Source: BWI ALP (January 2015), Aerial - Keystone (August 2011), Anne Arundel County

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signal timing was also optimized for the corridor in AM and PM peak hours. The average intersection delay per vehicle for the Mitigated Proposed Action Alternative compared to the Proposed Action Alternative is shown in **Table 5.4**. The overall intersection delay under the Mitigated Proposed Action Alternative is reduced compared with the Proposed Action Alternative. Detailed HCM reports from Synchro are presented in Appendix B of *Appendix F: Traffic Impact Analysis*.

**Table 5.5** presents the results of the CLV analysis for the intersection of Aviation Boulevard and Amtrak Way with the Proposed Action Alternative compared to the mitigation identified above (Mitigated Proposed Action). With this restriping of the eastbound approach and signal optimization, the CLV analysis indicates that operations would be acceptable.

**Table 5.4**

2025 Comparison of Synchro Analysis Results for  
Average Intersection Delays (sec/veh) and LOS

<b>Node</b>	<b>Intersection</b>	<b>Time Period</b>	<b>Proposed Action Alternative</b>	<b>Mitigated Proposed Action Alternative</b>
6	Aviation Boulevard (MD 170) at Amtrak Way (MD 995)	AM	16.2 / B	15.0 / B
		PM	39.4 / D	28.4 / C

Source: HCM reports from HNTB's Synchro analysis of 2025 Mitigated Proposed Action Alternative.

**Table 5.5**

2025 Comparison of CLV Analysis Results for Peak Hour Intersection and LOS

<b>Node</b>	<b>Intersection</b>	<b>Time Period</b>	<b>Proposed Action Alternative</b>		<b>Mitigated Proposed Action</b>	
			<b>CLV / LOS</b>	<b>V/C</b>	<b>CLV / LOS</b>	<b>V/C</b>
6	Aviation Blvd (MD 170) at Amtrak Way (MD 995)	AM	1,095 / B	0.68	1158 / C	0.72
		PM	1,477 / E	0.92	1267 / C	0.79

Source: HNTB's CLV analysis of 2025 Mitigated Proposed Action Alternative.

**5.10.2.2 Summary of Traffic Analysis**

The operational analysis indicates that the increase of traffic volumes on Aviation Boulevard from the Proposed Action Alternative would likely degrade LOS at the intersection of Aviation Boulevard and Amtrak Way to below a SHA acceptable LOS by 2025. As a result, this intersection would require a restriping of the eastbound approach from a left-only lane and a right-

only lane to a left-only lane and shared left-right lane, as shown on Figure 5-1. With this restriping, the CLV analysis indicates that operations would be acceptable under SHA guidelines. All other intersections operate within acceptable thresholds, meaning all intersections will perform at LOS D or better.

### **5.10.3 Environmental Justice and Children's Health and Safety Risks**

The proposed service station plaza site is currently owned by MAA and used for contractor equipment and vehicle staging, and is surrounded by forested area, roadway and industrial properties. The Proposed Action Alternative would not impact the economic development or health and safety of the communities that exist in the vicinity of the Airport. There are no residential areas, schools, day cares, playgrounds, parks, or children's health clinics in the immediate vicinity of the Study Area. Therefore, no neighborhoods or populations would be impacted by the Proposed Action Alternative and no disproportionately high and adverse impacts on minority and low-income populations with respect to human health and environment would occur.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts related to environmental justice or children's health and safety.

## **5.11 Visual Effects**

### **5.11.1 Visual Resources and Visual Character**

No impacts to light emissions or visual impacts would result from implementing the Proposed Action Alternative. The area surrounding BWI Marshall Airport is an urban landscape and there are no nearby residents that would be impacted by additional lighting from the proposed service station plaza.

The Proposed Action Alternative would not have the potential to block or obstruct any views of visual resources. The view from the BWI Trail, a Section 4(f) resource, is currently of a paved parking area being used as a vehicle storage and construction staging area. No significant impacts related to visual resources or visual character are expected with the Proposed Action Alternative and no mitigation would be required. Refer to *Section 4.5* for additional discussion of the visual effect from the BWI Trail.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to visual impacts or character.

### **5.11.2 Light Emissions**

The Proposed Action Alternative does not have the potential to affect the visual character of nearby areas due to light emissions. The Airport currently has light emissions from aircraft, ground operations, work area lighting and security lighting, and the surrounding highways and local roads are illuminated by street lights around the Airport property. Therefore, any additional light from the proposed service station plaza site would not significantly change the light emissions from the Airport. Surrounding land uses include parking lots and roadway, all currently lit with street lighting.

Lighting for the Proposed Action Alternative will be designed to comply with FAA and airport lighting standards in order to ensure there will be no negative impacts to runway operations or aircraft safety. The FAA promotes the following measures to mitigate any potential lighting impacts: shielding lighting fixtures with visors; angling fixtures

toward the base of the mounting poles; directional lighting; or using minimal pole heights or reduced wattage bulbs. No significant impacts related to light emissions are expected with the Proposed Action Alternative and no mitigation would be required.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to light emissions.

## **5.12 Water Resources**

### **5.12.1 Wetlands**

As shown on Figure 4-4, wetlands are present approximately 450 feet to the west of the proposed service station plaza site and approximately 30 feet east of existing manhole SS-9 where the sanitary sewer line is proposed to connect. No impacts are anticipated to wetlands as a result of the Proposed Action Alternative. The Proposed Action Alternative does not increase the impervious area at the site and thus would not increase stormwater runoff from the site. Placement of the sanitary sewer line would not be within a wetland area and MAA would work with the contractor to ensure that staging during placement of the sanitary sewer avoids wetlands. Additionally, an enhanced treatment of stormwater runoff is part of the Proposed Action Alternative.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to wetlands.

### **5.12.2 Floodplains**

In accordance with the Order 1050.1F Desk Reference, "Floodplain impacts would be significant if: *The action would cause notable adverse impacts on natural and beneficial floodplain values.*"<sup>13</sup> No increase to impervious surface would occur as a result of the Proposed Action Alternative and thus would not increase stormwater runoff from the site. The Proposed Action Alternative also includes enhanced treatment of stormwater runoff at the site.

As shown on Figure 4-4, based on conceptual engineering, the sanitary sewer connection along Amtrak Way is proposed to connect to existing manhole SS-9, which is located approximately 30 feet west of Amtrak Way and encroaches upon the 100-year floodplain. The approximately 30 feet of construction impact to connect the sewer line from Amtrak Way to manhole SS-9 would be temporary. No significant floodplain encroachment would occur, as no notable adverse impacts on natural or beneficial floodplain values would occur. In accordance with significant floodplain encroachment definitions under DOT Order 5650.2, the construction-related impacts would not result in "(1) a considerable probability of loss of human life; (2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; and (3) a notable adverse impact on 'natural and beneficial floodplain values.'"<sup>14</sup>

*A Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland* would be submitted to MDE, which is required for work performed in a 100-year floodplain. At the conclusion of the MDE review process,

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and after receipt of final construction plans, the MDE may issue a Letter of Authorization in accordance with Maryland Environment Article Title 5, Subtitle 5-501 through 5-514.

Mitigation measures during construction will adhere to permit conditions which are expected to include protective conditions such as construction controls to minimize erosion and sedimentation and commitments to comply with special flood-related design criteria.

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to floodplains.

### **5.12.3 Surface Waters**

No surface waters are present in the Study Area. There is a stormwater collection area in the northern portion of the property outside of the fence enclosure, but it does not collect stormwater from the paved area of the proposed service station plaza site; the paved area of the site drains south. Stormwater from the existing parcel drains to one of five existing inlets on site and discharges into the wooded area at the southwest corner of the parcel, ultimately draining into Stony Run.

The Proposed Action Alternative is considered a redevelopment project in accordance with MDE's *Stormwater Management Guidelines for State and Federal Projects*, and therefore requires treatment of 50% of the redeveloped area in order to receive site development approval. The existing site includes no stormwater management. With the required treatment of 50% of the project site met, the water quality of the stormwater runoff reaching surface waters would be enhanced. While

the Proposed Action Alternative may only include development of 2.5 acres of the existing parcel, a conservative estimate using 2.8 acres<sup>15</sup> of impervious area was applied to provide concept-level stormwater calculations. With this assumption, 1.4 acres of impervious surface would need to be treated for the first 1" of rainfall. Treatment options could be met through pavement removal, water quality treatment through ESD practices or structural BMPs, or a combination of both. The following concepts could be considered by the site designer.

#### Pavement Removal

ESD requirements for the site could be met by removing 1.4 acres of existing pavement. With the assumption that 2.8 acres of the impervious area will be developed, there would be no possibility for pavement removal at the site. However, if only 2.5 acres are developed, the treatment could be met through a combination of removing the excess 0.3 acres of existing pavement at the site and additional water quality treatment.

#### Water Quality Treatment

ESD requirements could be met through use of ESD practices or structural BMPs to treat stormwater. ESD requirements for this site would be 4,828 cubic feet (cf) (0.11 acre-feet) of treatment, based on treatment of the first 1" of rainfall for 1.4 acres (50% of the 2.8 acres of redeveloped impervious).

ESD practices would not be suitable for this site due to the poorly drained soil (Type D) in the area. There is also a lack of open space adjacent to the site as it is bordered by Aviation Boulevard to the east, Amtrak Way to the north, and the BWI Trail and a fairly steep slope to the west and south.

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The majority of the existing parcel drains to the southwest where there is a limited amount of open space that could potentially be utilized for a structural stormwater facility. With these constraints, a more feasible solution would be to design an underground sand filter basin on the existing parcel.

Based on the filtering treatment criteria outlined in Chapter 3 of the *MDE Design Manual* (p.3.39), the filter surface area to treat the water quality volume (WQv) would be approximately 1,104 square feet (sf) for an 18" sand filter bed depth. The surface area of the entire underground system would be closer to 2,500 sf when including the pre-treatment sedimentation chamber and overflow chamber. See **Appendix G: Concept-Level Stormwater Calculations** for concept-level calculations.

- Surface Area of Sand Filter bed = 1,104 sf
- Proposed WQv = 9,656 cf > design volume (9,656 cf)

Presently, stormwater from the existing parcel drains to one of five existing inlets on site and discharges into the wooded area at the southwest corner of the parcel, ultimately draining into Stony Run. An underground sand filter would likely need to be located at the south or southwest corner of the parcel, with a connection to the existing storm drain system or to a modified system. Stormwater entering the storm drain system would flow to the underground system for treatment. Modifications or a replacement of the existing storm drain system will likely be required depending on the current condition of the system and the final placement of the service facilities and stormwater management facility.

The Proposed Action Alternative would require development of a Stormwater Pollution Prevention Plan (SWPPP) to document the practices used to avoid the potential risk for spills, leaks or illicit discharges. The MDE report: *Stormwater Pollution Prevention Guidance, Vehicle Maintenance and Repair, Fueling, Washing or Storage, Loading and Unloading, Outdoor Storage* provides specific guidance for stormwater pollution prevention at vehicle fueling and washing facilities. Some required techniques include: locating storm drain inlets away from the immediate fueling away; paving with concrete rather than asphalt; covering fueling stations to prevent direct contact with rainfall; and installing slotted inlets along the perimeter of the down slope side to collect fluids and to drain to a stormwater treatment practice.

If a car wash is constructed as part of the Proposed Action Alternative, vehicle washwater could impact surface waters and underground sources of drinking water if not properly managed. MDE regulates vehicle washing at commercial facilities and a discharge permit may be required if operations would introduce pollutants into surface waters. MDE classifies discharge from commercial car washes as a Class IV effluent and requires a water reuse permit to be obtained from MDE prior to reuse. Washwater management by sanitary sewer treatment, storage in a holding tank for later offsite treatment, or onsite discharge under the requirements and guidance of a discharge permit, all prevent contaminated vehicle wastewater from entering stormwater drains, ditches, creeks or the ground untreated.

The Proposed Action would necessarily meet all stormwater treatment requirements for a redevelopment site in accordance with

the *Stormwater Management Act of 2007* in order to obtain design approval. Design criteria set forth in the 2000 *Maryland Stormwater Design Manual (2009 revisions)*, and *MDE's Stormwater Management Guidelines for State and Federal Projects* would also necessarily be followed.

The Anne Arundel County of Public Works also commented that if the service station plaza contains a restaurant, a grease trap would be required and approval by Anne Arundel County would be needed.

If uncontrolled, construction activities have the potential to cause erosion and sedimentation that can impact water quality. Short-term construction impacts would be minimized by strict adherence to erosion and sediment control procedures. BMPs would be used to avoid and minimize any potential impacts to the environment during construction and for the control of stormwater for quantity and quality. The Anne Arundel County Bureau of Utility Operations noted that protection of the 24" water transmission main through the parcel is required during construction activities.

Under the No Action Alternative, there would be no service station plaza development and therefore surface waters would continue to be untreated.

#### **5.12.4 Groundwater**

The Proposed Action Alternative would not impact groundwater such that water quality standards set by Federal, state, or local agencies would be exceeded or would have the potential to contaminate an aquifer used for public water supply.

The Proposed Action Alternative would include USTs to store gasoline. USTs would meet all regulations for spill containment measures and therefore would not impact groundwater. Additionally, stormwater runoff from the site will be contained in the storm drain system and treated for water quality in a stormwater management facility (proposed underground sand filter).

Under the No Action Alternative, there would be no service station plaza development and therefore would be no potential for impacts to groundwater.

### **5.13 Cumulative Impacts**

The regulations which implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results 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."<sup>16</sup>

Cumulative impacts were determined by combining the impacts of the Proposed Action Alternative with other past, present, and reasonably foreseeable future actions.

#### **5.13.1 Past, Present, and Reasonably Foreseeable Future Actions**

This section describes cumulative actions in the vicinity of the Proposed Action. A review of several information sources was conducted to determine past, present, and reasonably foreseeable development actions at BWI Marshall Airport and the surrounding area. The primary source of information used is the Draft BWI Marshall

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Airport Layout Plan Update Narrative Report (January 2015), which contains the development projects completed since the February 2011 ALP, 2014 projects, 2015 projects, and proposed Phase I (2016-2020) projects. Additionally, the analysis of cumulative impacts (past projects) presented in the April 2012 Final EA for Proposed Airport Improvements at BWI Marshall was used as supplemental information. The information sources used in the April 2012 Final EA included the BWI Marshall Airport Master Plan (2010), BWI Marshall ALP, BWI Marshall 2011 Construction Update, and Maryland's FY 2011-2016 Consolidated Transportation Program. The analysis of cumulative impacts in this EA considers the potential impacts of the Proposed Action Alternative and other development actions, both on and off the Airport, that are related in terms of time (three years for past projects and five years for future foreseeable projects) or proximity.

The construction activities associated with the development of the Service Station

Plaza at BWI Marshall Airport are anticipated to occur from January 2018 through December 2019.

**5.13.1.1 On-Airport Projects**

MAA is responsible for the planning, design and construction of various airport projects on BWI Marshall Airport property intended to improve the functionality of the Airport as well as maintain its economic vitality. The *Draft BWI Marshall Airport Layout Plan Update Narrative Report* (January 2015), which addresses the long-term facility needs of the Airport through 2030 and beyond, is categorized by Airfield and Airside Improvements, Terminal Enhancements, Landside Improvements, General Aviation, and Support Facilities. **Table 5.6** contains a list of recently completed, current and future projects that occur between 2012 and 2021, in order to qualitatively assess potential cumulative impacts for this project as well as those three years in the past and five years in the future.

**Table 5.6**

BWI Marshall On-Airport Cumulative Projects

<b>Time</b>	<b>Project Name (Type of Project<sup>1</sup>)</b>	<b>Year</b>
<b>Recently Completed (3 years)</b>	Comprehensive Paving Improvements (A)	2011 - 2014
	Runway 10-28 Improvements (Including Runway 15R-33L Intersection) (A)	2011-2014
	Concourse B/C Connector Improvements (T)	2011 - 2015
	Runway 15L-33R FAA Standards Compliance (A)	2012-2015*
	Runway 15R-33L Improvements (A)	2014-2015*
	International Terminal Bag Screening Improvements (T)	2014-2015*
	Homeowner Assistance Program (M)	2012 - 2016
	Sheraton Four Points Demolition (L)	2014-2015*
	Runway 15L-33R FAA Improvements (A)	2015*
	Runway 15R-33L Improvements (A)	2015*
	Runway 10-28 Improvements (as part of Airfield Standards and	2015*

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**Table 5.6**

BWI Marshall On-Airport Cumulative Projects

<b>Time</b>	<b>Project Name (Type of Project<sup>1</sup>)</b>	<b>Year</b>
	Pavement Rehabilitation Project) (A)	
	Taxiway Uniform (U) Relocation (A)	2015*
	Airfield Standards and Pavement Rehabilitation Project (A)	2015*
	Expansion of CUP (S)	2015*
	On-Airport Roadway Improvements (S)	2015*
	Parking Revenue Control System (Maryland CTP)	2015
<b>Current (2016)</b>	Relocation of Electrical vault (S)	2016
	Apron Fill at North Cargo Positions F18/F20 (A)	2016-2017
	Concourse E (2-Gate Expansion) (Phase 1 of 4-Gate Expansion)	2016-2018
	Concourse D-E Connector (T)	2015-2017*
<b>Future (5 years)</b>	Taxiway T Reconstruction (A)	2017
	B/C Alley Reconstruction (A)	2017
	Hotel Construction, Hourly Garage Expansion, and Sky Bridge E (L)	2017
	Taxiway B Reconstruction	2017
	Relocate Taxiway Foxtrot (F) – Phase 1 (A)	2017*
	Relocate Airfield Lighting Vault (A)	2017-2019*
	Runway 28 Deicing Pad Expansion	2018-2019*
	Taxiway Uniform (U) 3 – Phase 1 (A)	2018-2020*
	Relocate Taxiways K & L (A)	2019*
	Isolation/RON Apron Construction (Runway 4 end & Taxiway Y)(A)	2019*
	Northrop Grumman Hangar (P)	Construct or Under Construction by 2020**
	Relocate Taxiway Romeo (R) – Phase 1 (A)	
	Snow Removal Equipment Storage Facility (S)	
	International Terminal Area Taxiway Fillets/Shoulders (A)	
	Concourse E (2-Gate Expansion) (Phase 2 of 4-Gate Expansion) (T)	
	Helipad Relocation (A)	
	Second FBO (S)	
	Relocate Taxiway Hotel (H) (A)	
	Relocate Fire Training Facility (S)	
	Airport Maintenance Complex Relocation and Consolidation (Phase 1) (S)	
Northwest Quadrant Perimeter Road Construction (Runway 10) (S)		
New Infill Pavement Near Taxiways T, P and Future P (A)		
Taxiway Connectors (between Taxiways T-P) (A)		
Obstruction Removal Project (M)		
Runway 10 Hold Pad (A)		
VSR Section from Runway 33L to Future Fire Training Facility (A)		

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**Table 5.6**

**BWI Marshall On-Airport Cumulative Projects**

<b>Time</b>	<b>Project Name (Type of Project<sup>1</sup>)</b>	<b>Year</b>
<b>Future (5 years)</b>	New Sky Bridge C (T)	Construct or Under Construction by 2020**
	New Terminal Response Fire Rescue Station (L)	
	Building 113 Demolition (L)	
	New Aircraft Maintenance Facilities (G)	
	New Air Traffic Control Tower (S)	
	Relocate Remote Transmitter Receiver (S)	
	Existing Aircraft Rescue and Firefighting Facility (ARFF) Expansion Bays (S)	
	Runway Deicing Chemical Storage and Access Road (S)	
	Glycol Storage / Truck Staging Relocation	
	Runway 15R Deicing Pad Expansion (A)	
	New Area for Snow Dumping (A)	
	Triturator Relocation	
	Taxiway Victor (V) Relocation (A)	
	Upper Level Roadway Widening at Concourse E (L)	
	Terminal Roadway Widening and Access Improvements (L)	
	Taxicab Support Building at Former Hotel Site (L)	
	Taxiway Uniform (U) 3 – Phase 2 (A)	2021-2025*
	Runway 15R-33L Extension (A)	
	Maintenance Main Building (L)	
	Maintenance Bay Expansion (L)	
	Widening of Taxiway J (A)	
	Airline Cargo Demolition	
	Demolition of Maintenance Facilities (A)	
	Perimeter Road Improvements (A)	
	Substation Relocations/Expansions (A)	
	Concourse A Extension (T)	
	Relocation of I-195/Aviation Blvd (L)	
	Relocation of Light Rail Tracks and Light Rail Station (L)	
	Daily Garage Expansion (L)	
Taxicab staging (L)		
Limo/Bus/Shared Ride Staging (L)		
New Police Station – northeast of existing GA terminal area (L)		
Co-Gen and Chiller Plant Expansion (L)		
Pump Stations (L)		
Bus Staging Fuel Facility (L)		
Hiker/Biker Trail Relocation (L)		
Consolidation of Long-Term Parking Lots (L)		

Sources: *Final Environmental Assessment: Proposed Airport Improvements at BWI Marshall*, April 2012, Table 4.16-

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**Table 5.6**

**BWI Marshall On-Airport Cumulative Projects**

<b>Time</b>	<b>Project Name (Type of Project<sup>1</sup>)</b>	<b>Year</b>
1, <i>Draft BWI Marshall ALP Narrative</i> , January 2015, and <i>Scope of Work for BWI Proposed Improvements EA 2016-2020</i> , July 2016.		
<b>Notes:</b>		
<sup>1</sup> Type of Project: (A) – Airfield and Airside improvements; (T) – Terminal enhancement; (S) – Support facility; (L) – Landside; (P) – Private investment project; (M) – MAA project; (G) – General Aviation.		
*Indicates Project Name and/or Year updated based on <i>Draft BWI Marshall ALP Narrative</i> , January 2015. Discussion is ongoing.		
**Indicates Project Name and/or Year updated based on <i>Scope of Work for BWI Proposed Improvements EA 2016-2020</i> , July 2016.		

**5.13.1.2 Off-Airport Projects**

In considering cumulative impacts, off-airport projects that are planned for implementation in proximity to BWI Marshall Airport were also evaluated. Projects discussed in this section are limited to those within the spatial boundary that are included within the approved local growth management plans for the BWI Marshall Airport area. The projects listed are reasonably foreseeable based on state and local planning documentation.

To identify major transportation and development projects for the assessment of cumulative impacts, a variety of information sources were reviewed. The Anne Arundel County General Development Plan, BWI/Linthicum Small Area Plan, Baltimore Metropolitan Council Transportation Outlook, Maryland's FY 2016-2021 Consolidated Transportation Program and the Baltimore Region Transportation Improvement Program 2014-2017 were reviewed to identify projects that were included for capital improvement funding.

*Maryland's FY 2016-2021 Consolidated Transportation Program (CTP)*

- MD 170 – MD 648 to Andover Road, as part of a Retrofit Bicycle Program (Bike and Pedestrian Related Projects in Anne Arundel County). This project is funded for construction as of December 2015 for construction in FY 2016-2017. This area of roadway is located to the northeast of BWI Marshall Airport property, off airport property approximately two miles from the Study Area.

*Maryland Transit Administration*

- MARC BWI Rail Station Upgrades and Repairs – Structural improvements to the BWI Rail Station parking garages and improvements to the existing station, including more passenger-friendly station with additional seating and new pedestrian overpass connecting the garage and station. An EA/FONSI was received in 2015. (<https://mta.maryland.gov/bwi-amtrak-rail-improvement>) Anticipated to be implemented by 2020 with an overall 42-month construction phasing schedule.

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The station is approximately ½-mile from the Study Area.

Baltimore Region Amended 2016-2019  
Transportation Improvement Program (TIP)

- MARC BWI Garage Repairs – Comprehensive structural inspection of both garages, with design and construction of recommended structural repairs (same as above). In the 2014-2017 TIP, this project was expected to be in operation in 2016, however, the Amended 2016-2019 TIP states this project will be combined with MARC Riverside Procurement to create a new project (MARC Facilities). The station is approximately ½-mile from the Study Area.
- BWI/Linthicum Small Area Plan (2003)
- Proposed land use changes and land development projects in various phases, including:
  - Airport Square Business Park in Linthicum is a business park along West Nursery Road that is planned for Employment Mixed land use to create more live/work opportunities along this employment corridor.
  - The Ridge Road Area of Hanover, located near the BWI Amtrak Station, is designated for Transit Mixed Use to allow office, retail, and high density residential uses near major employers around the Airport and near AMTRAK and MARC transit/multi-modal opportunities.

Anne Arundel County General Development  
Plan (2009) and The Business Monthly  
Article (6/6/16)

- Aerotropolis – Developers have been interested in pursuing an “aerotropolis” concept that would incorporate airport-oriented uses, employment, hospitality, entertainment and residential uses in a transit-oriented development. The development would be planned within the area bordered by MD-295, Hanover Road, and Aviation Boulevard. The Business Monthly states that the BWI Aerotropolis is planned to include two phases: Aerotropolis North, which is 300 acres around Nursery and Elkridge Landing roads with 3.5 million square feet of office space, more than 1,000 hotel rooms, the Alexan Concorde and the planned mixed-use redevelopment of the Hoyts Cinemas parking lot. The mixed-use development is planned to include 80,000 square feet of destination retail and restaurants, a boutique hotel and 300 urban-style townhouses and apartments. According to The Business Monthly, the Aerotropolis project was delayed for several years, but is currently underway with the opening of a 310-unit luxury apartment complex (Alexan Concorde) off of West Nursery Road behind the Hoyt’s Cinemas. The apartments opened in the summer of 2016. Construction of 400 high-end apartment units are planned to commence next year.<sup>17</sup>

The 200-acre Aerotropolis South is planned to be constructed northwest of the airport, north of Stoney Run Road on Corporate Center Drive and Ridge Road, around the Maryland Department of Transportation headquarters.

Aerotropolis south plans are “in their infancy,” and not in the foreseeable future, as anticipated development is expected to be “within 20 years.”<sup>18</sup>

### **5.13.2 Potential Cumulative Impacts**

Environmental resource categories appropriate for analysis for cumulative impacts are addressed in this section. The following is a qualitative assessment of impact categories in which the potential for cumulative impact associated with the projects described previously, when considered along with the Proposed Action Alternative.

#### **5.13.2.1 Air Quality**

A significant impact to air quality could occur if the Proposed Action Alternative, when considered in combination with other past, present, or reasonably foreseeable actions, would exceed a NAAQS or would not conform to the State Implementation Plan. The total amount of air emissions at BWI Marshall Airport are expected to increase in the future, with or without the Proposed Action Alternative and other cumulative projects. This outcome is largely attributable to the forecasted increased aircraft operations at BWI Marshall Airport over the same timeframe.

The Proposed Action Alternative could result in additional vehicle trips to/from the service station plaza for customers frequenting the service station plaza amenities. The LOS of the Proposed Action intersections would not deteriorate as a result of increased traffic volumes and/or diesel vehicles (i.e., the LOS would be the same with or without the Proposed Action for both alternative years, except for the intersection of Aviation Boulevard (MD 170)

at Amtrak Way (MD 995) in the PM peak period of the 2025 Proposed Action Alternative. Notably, this intersection is mitigated from a LOS D to a LOS C with the Mitigated Proposed Action Alternative. As such, it can be assumed that the Proposed Project would not cause a significant increase in motor vehicular emissions and, therefore, would not be of local air quality concern. Additionally, a BWI Marshall Airport Air Quality Assessment (2013) was conducted to enable future improvement projects such as this to conform with the SIPs and meet requirements of the CAA General Conformity Rule. A Construction Emissions Inventory was also conducted as part of the Assessment which enables future improvement projects through 2020 to meet the requirements of the CAA General Conformity Rule.

Overall, implementation of the Proposed Action and other cumulative projects is not anticipated to result in a significant cumulative impact to the environment surrounding BWI Marshall Airport.

#### **5.13.2.2 Socioeconomic Resources (Traffic)**

Improvements to the MARC BWI Rail Station Upgrades and Repairs, along with other roadway/ bicycle projects associated with MD 170 – MD 648 as well as on-airport improvements would result in changes to surface transportation and roadways; however, it is anticipated that all of the improvements would be made within the existing transportation rights-of-way and would be evaluated for any associated impacts. As the Proposed Action has the potential to affect MD 170, a TIA was required and completed for the project. The operational analysis indicated that the increase of traffic volumes on Aviation

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Boulevard from the proposed service station would not impair intersection LOS, with the exception of the intersection of Aviation Boulevard intersection at Amtrak Way. This intersection would require a restriping of the eastbound approach from a left-only lane and a right-only lane to a left-only lane and shared left-right lane to mitigate the impaired intersection. With this restriping, the CLV analysis indicates that operations would be acceptable relative to SHA thresholds. All other intersections operate within acceptable SHA thresholds, meaning all intersections will perform at LOS D or better.

The primary projects planned in the next five years on BWI Marshall Airport property that have the potential to impact surface traffic conditions, based on the January 2015 Draft ALP, include:

- Aircraft Maintenance Facility – The maintenance facility has the potential to increase traffic to and from the site.
- Terminal Roadway and Access Improvements and Relocation of Taxi Staging Area – The relocation of the taxi staging area will relocate traffic into/out of the staging area, changing the pattern into the facility and to the terminal.
- Fire Training Facility– This location will require new access off of Aviation Boulevard. The new access road will require that the Airport bike path/trail be crossed.
- Snow Removal Equipment Storage Building– There is existing access to the proposed location which will house all of MAA’s snow removal equipment. This improvement will primarily be accessed from the airside and is not expected to impact traffic.

- Second FBO including parking displacement – The second FBO will utilize existing access but construction will displace some parking spaces.
- New Terminal Response Fire Rescue Station – The second fire station is located to the north on Aviation Boulevard.

The changes to surface transportation as a result of the Proposed Action Alternative would occur within Airport right-of-way, and are not anticipated to result in any impact to surface transportation when considered cumulatively with other off-airport projects due to the limited area of influence on Airport property, and the fact that there are no anticipated significant impacts to roadway, intersection, or parking operations resulting from the proposed service station plaza. The proposed “Aerotropolis North” project is off Airport property and not in the vicinity of the Study Area (> 1.5 miles) and would not result in any cumulative traffic impacts.

While the on-airport projects planned in the next five years have the potential to increase traffic volumes on Airport property, a traffic study will be conducted for these improvements separately; the new service station plaza will be included as part of the future No Action Alternative for that study, as it is assumed to be implemented before the other projects. The operational analysis indicated that the increase of traffic volumes on Aviation Boulevard from the proposed service station would not impair intersection LOS with the restriping of the eastbound approach from a left-only lane and a right-only lane to a left-only lane and shared left-right lane. The intersections would continue to operate within acceptable SHA thresholds, meaning all intersections will perform at LOS D or better.

No significant impacts are expected to result from the cumulative impact of the other on-airport projects combined with the service station plaza (Mitigated Proposed Action Alternative).

#### 5.13.2.3 Water Resources

Implementation of the cumulative projects would result in localized, temporary impacts to water quality. These impacts would result from land clearing and temporary construction activities and primarily consist of potential increases in sediment runoff and transport, siltation, and changes in storage volumes, flow velocities and pollutant levels in receiving water bodies. All off-airport construction activities should adhere to the design standards and guidelines contained in state and local specifications. These standards would help minimize any cumulative water quality impacts.

The potential for water supply and permanent water quality and ground water quality impacts varies by the individual project. Impacts could primarily result from the runoff of stormwater from newly constructed roadways and associated impervious surfaces. Commercial construction in the vicinity of BWI Marshall Airport would be required to utilize onsite water retention and water quality control measures to prevent degradation of water quality in groundwater and receiving bodies. The Proposed Action Alternative would not impact surface waters such that water quality standards set by MDE would be exceeded. As described previously, the project is considered a redevelopment project in accordance with MDE's Stormwater Management Guidelines for State and Federal Projects, and therefore requires treatment of 50% of the redeveloped area. The existing site has no

stormwater management currently. With the required treatment of 50% of the project site met, the water quality of the stormwater runoff reaching surface waters would be enhanced. Several options were analyzed to meet stormwater requirements, as discussed in *Section 5.11, Water Resources*.

All stormwater management facilities would necessarily be designed for consistency with Maryland standards for both water quality (COMAR 26.08.02) and stormwater management (COMAR 26.17.02). Necessary stormwater discharge permits and construction permits would be obtained prior to project implementation. Along with BMPs, adherence to the Maryland Stormwater Management Guidelines for State and Federal Projects, and an NPDES permit, potential water resource impacts of the Proposed Action Alternative and cumulative projects would be minimized.

#### 5.13.2.4 Construction

Overall, the construction phase of this project is expected to create minor and temporary impacts at the project site and in the surrounding area. These impacts would be short-term in nature, lasting for the duration of construction activities. Construction of the Proposed Action Alternative would result in temporary impacts to ambient noise levels, air quality, and potentially localized water quality when runoff occurs.

As shown in *Section 5.1, Air Quality*, although construction-related emissions associated with the Proposed Action would be well below *de minimis* thresholds and temporary in duration, these emissions could be further reduced by employing the BMPs and by incorporating the provisions of

*FAA Advisory Circular 150/5370 – 10E, Standards for Specifying Construction of Airports.*

If uncontrolled, construction activities have the potential to cause erosion and sedimentation that can impact water quality. Short-term construction impacts would be minimized by strict adherence to erosion and sediment control procedures. It is expected that runoff from construction projects would be minimized by BMPs that would limit sediment transport.

All impacts associated with construction of the Proposed Action Alternative would be temporary and below significance thresholds. Permit requirements would be adhered to and would minimize or mitigate any potential temporary impacts due to construction. Temporary pollution controls employed by MAA could include limiting work activities to normal business hours; restricting open burning; wetting of active equipment work areas; covering of all trucks hauling loose materials; stabilizing materials, mulch, sandbags, slope drains, sediment checks, artificial covering, and berms. All applicable local, state, and Federal environmental construction controls should be incorporated into the specifications and construction plans necessary for the individual cumulative projects.

The aforementioned controls and BMPs would help minimize the temporary construction impacts, and implementation of the Proposed Action Alternative and cumulative projects is not anticipated to result in a significant cumulative impact to the environment surrounding BWI Marshall Airport.

#### 5.13.2.5 Summary of Potential Cumulative Impacts

Through the use of BMPs and mitigation measures, the potential impacts of the Proposed Action Alternative would be in accordance with all Federal, state, and local laws and regulations and therefore not result in a significant impact. The government agency responsible for the development of each cumulative project would be responsible for obtaining all necessary approvals and permits to minimize impacts. Based on the types of cumulative projects planned for the area surrounding BWI Marshall Airport, MAA has concluded that the implementation of the Proposed Action Alternative (with mitigation for traffic impacts for one intersection) along with the cumulative projects would not result in a significant cumulative impact.

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**Endnotes**

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- <sup>1</sup> FAA, Order 5050.4B, NEPA Implementing Instructions for Airport Actions, April 26, 2006.
- <sup>2</sup> FAA, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 16, 2015.
- <sup>3</sup> EPA, Motor Vehicle Emission Simulator (MOVES), <https://www3.epa.gov/otaq/models/moves/>; and NONROAD, <https://www3.epa.gov/otaq/nonrdmdl.htm>.
- <sup>4</sup> FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 2015, p. 4-4.
- <sup>5</sup> FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 2015, p. 4-6.
- <sup>6</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 5-6.
- <sup>7</sup> Bullet list responds to the specific items identified in *Section 5.3.1, Physical Use of Section 4(f) Property* of FAA Order 1050.1F Desk Reference, p. 5-6.
- <sup>8</sup> Correspondence letter from Maryland Department of the Environment Land Restoration Program to Maryland Aviation Administration, "MAA Aviation Blvd. Property, Linthicum Heights, MD (Anne Arundel County: Tax Map 3, Parcel: 18," 2/19/16.
- <sup>9</sup> Ibid.
- <sup>10</sup> Maryland Department of the Environment, Division of State Documents, Title 26, Subtitle 10, Oil Pollution and Tank Management, [http://www.dsd.state.md.us/comar/subtitle\\_chapters/26\\_Chapters.aspx](http://www.dsd.state.md.us/comar/subtitle_chapters/26_Chapters.aspx), accessed 9/13/16.
- <sup>11</sup> MDE, Division of State Documents, COMAR 26.10.01.20 and 26.10.01.11, [http://www.dsd.state.md.us/comar/subtitle\\_chapters/26\\_Chapters.aspx](http://www.dsd.state.md.us/comar/subtitle_chapters/26_Chapters.aspx), accessed 9/13/16.
- <sup>12</sup> Years of analysis were determined based on feedback from MAA and Anne Arundel County to align with the traffic study that is underway for a forthcoming environmental assessment that will consider additional proposed airport improvements as defined in the 2011 BWI Marshall Airport Master Plan.
- <sup>13</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 14-18.
- <sup>14</sup> FAA Order 1050.1F Desk Reference (July 2015), p. 14-16.
- <sup>15</sup> Approximately 3.96 acres of the 4.6-acre parcel is paved. Approximately 1.2 acres of the parcel is within SHA ROW. It is not expected that development would occur within the SHA ROW, therefore, 2.8 acres of the 3.96 acres of paved (impervious) area was estimated for the concept-level stormwater calculations.
- <sup>16</sup> Code of Federal Regulations, Title 40 (CFR) Part §1508.7 (1978).
- <sup>17</sup> Smith, Mark R., "The BWI Aerotropolis: Is Now the Time?" *The Business Monthly*, June 6, 2016, <http://www.bizmonthly.com/the-bwi-aerotropolis-is-now-its-time/> (accessed 6/22/16).

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<sup>18</sup> Alderton, Matt, "Aerotropolis' A Town Square with Transit," gb&d Magazine, September/October 2014, <http://gbdmagazine.com/2014/29-heffner-weber/> (access 6/22/16).

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# Chapter Six:

## Public and Agency Involvement

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Public and agency involvement is important to ensure that information is provided to the general public and public agencies as federal actions are being considered. This chapter describes the agency and public review process and comments received. *Appendix C: Agency and Public Consultation* includes materials related to agency coordination and the public involvement process.

### 6.1 Scoping Letters

Scoping letters with information regarding the proposed service station plaza were sent to relevant agencies by MAA on May 2, 2016. The scoping information provided a brief background of the project and project information, including the proposed location of the project, as well as the impact categories expected to require some analysis and a preliminary schedule.

The following agencies received scoping information:

- Anne Arundel County Planning and Zoning, Transportation Planning
- Maryland Department of the Environment (MDE), Air Quality Planning Program
- Maryland Department of the Environment, Federal Consistency Coordinator
- Maryland Department of Natural Resources (MDNR), Wildlife and Heritage Division

- Maryland Department of Transportation (MDOT), Office of Planning and Capital Programming
- Maryland Historical Trust (MHT), Division of Historical and Cultural Programs
- Maryland State Highway Administration (SHA)

The following utility providers also received scoping information:

- Anne Arundel County Bureau of Utility Operations (Department of Public Works)
- Baltimore Gas & Electric Company
- Verizon Communications, Maryland

### 6.2 Scoping Responses

Four responses were received in response to the Scoping Letters. The Maryland Historical Trust (MHT) concurred that there are no historic properties affected by the Proposed Action. MDNR Wildlife and Heritage Division determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated and had no specific comments or requirements pertaining to protection measures.

The Federal Consistency Coordinator with the MDE responded that based on the information provided, the Service Station Plaza is consistent with the Maryland

Coastal Zone Management Program, as required by Section 307 of the CZMA. As study of the sanitary sewer connection progressed, additional information was submitted to the MDE Coastal Consistency Coordinator in October 2016 related to the location of the existing manhole SS-9 that encroaches the 100-year floodplain. Re-verification of consistency with the CZMA was requested and received. See *Appendix C: Agency and Public Consultation*, for copies of the scoping information.

Anne Arundel County Bureau of Utility Operations provided comments regarding the public water and sewer service, including questioning if the sanitary sewer connection is to be connected to the 30" main to the west (rear of parcel). The conceptual sanitary sewer connection alignment includes a pipe installation along Amtrak Way that would leave the site from the northernmost corner and connect to existing manhole SS-9. The conceptual alignment is located within the right-of-way (ROW) for Amtrak Way

### **6.3 Other Agency Correspondence**

The MAA requested information regarding the presence of federally protected threatened or endangered species from the USFWS through the USFWS Information, Planning, and Consultation System (IPAC) system. The MAA received confirmation August 11, 2016 that "Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required." An updated IPAC was conducted in December 2016 as official species lists are

valid for 90 days. See *Appendix C: Agency and Public Consultation* for coordination with the USFWS, the USFWS Official Species List and IPAC.

### **6.4 Notice of Draft EA Availability**

The Draft EA must be made available to the public via a Notice of Availability (NOA) for a 30-day review period. The public and agencies were provided an opportunity to review and comment on the Draft EA from January 6<sup>th</sup>, 2017 through February 21<sup>st</sup>, 2017. A NOA was published in *The Baltimore Sun* on January 21<sup>st</sup> and January 22<sup>nd</sup>, 2017. Notice of availability of the draft and links to the Draft EA document were also available on the MAA website. Copies of the NOA are included in ***Appendix H: Notice of Availability***.

Hard copies of the document were made available to the public during the review period at the following locations:

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

Maryland Aviation Administration  
Office of Environmental Services  
991 Corporate Boulevard  
Linthicum, MD 21090

Anne Arundel County Library  
Linthicum Branch  
400 Shipley Road  
Linthicum, MD 21090

Anne Arundel County Library  
North County Branch  
1010 Eastway  
Glen Burnie, MD 21060

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The Draft EA was also submitted to the Maryland Department of Planning (MDP) State Clearinghouse for distribution to relevant agencies.

Comments received on the Draft EA are included in *Appendix C: Agency and Public Consultation*. The MDP, MDOT, and MHT (via the State Clearinghouse) commented that the project is consistent with their plans, programs, and objectives. No other comments on the Draft EA were received from agencies or the public during the comment review period.

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# Chapter Seven:

## List of Preparers

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### 7.1 List of Preparers

This chapter identifies the individuals assisting in the preparation and independent review of this EA along with each preparer's responsibilities. **Table 7.1**

includes MAA staff who are responsible for the preparation of the EA and/or who were involved in its review. Supporting the FAA in this effort are individuals from HNTB and KB Environmental Sciences.

Table 7.1  
**List of Preparers**

Personnel	Title	Years of Experience	Project Responsibilities
<b>MAA</b>			
Robin Bowie	Acting Director, Office of Environmental Services	26	Project Manager
John Hurt	Acting Manager, Environmental Planning Section, Office of Environmental Services	31	Document Review
<b>HNTB</b>			
Caroline Pinegar, AICP, Envision SP	Environmental Project Manager	11	Project Manager
Kim Hughes, PE	Manager of Environmental Services	30	Program Manager; Quality Assurance, Quality Control
Kent Miller	Senior GIS Analyst	16	GIS; Graphics
Ryan Carey, PE	Environmental Planner	5	Water Quality
Robert Brander, PE	Project Manager Transportation Planning	15	Traffic Analysis
Jessica Wyatt	Project Manager II, Aviation	20	Traffic Analysis QA/QC
<b>KB Environmental Sciences</b>			
Paola Pringle	Senior Environmental Scientist	15	Air Quality Analysis
Carrol Fowler	President	30	Air Quality QA/QC