**FEDERAL AVIATION ADMINISTRATION**

**EASTERN REGION**
AIRPORTS DIVISION

# Short Environmental Assessment Form for AIRPORT DEVELOPMENT PROJECTS

Airport Name: Baltimore/Washington International Thurgood Marshall Airport  Identifier: BWI

Proposed Project: International Terminal Extension, Commuter Concourse Demolition and Related Improvements

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

Responsible FAA Official

9 July 2015
Date

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

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

International Terminal Extension, Commuter Concourse Demolition and Related Improvements

1. **Introduction.** This document is a Finding of No Significant Impact (FONSI) on the environment as a result of the proposed International Terminal Extension, Commuter Concourse Demolition and Related Improvements project by the Maryland Aviation Administration (MAA), owner and operator of Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall). There are two elements and connected actions of the proposed project: International Terminal Concourse E Extension, Commuter Concourse Demolition, and Connected Actions.

   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.** Since the early 2000s regional jet and commuter operations have declined at BWI Marshall and the commuter concourse is sparsely utilized. The demolition of the commuter concourse is due to low utilization and will be converted to remain overnight (RON) parking due to current limited parking availability which will meet the growing demand and a conversion of apron needs to be constructed to support multiple aircraft parking positions of varying size . In late 2014, all remaining commuter aircraft use of the commuter concourse will likely cease, as all U.S. Air operations are being relocated to concourse C. The amount of international flight activity requiring immigration and customs services at the Airport has increased in recent years. The concourse E terminal handles international flights with U.S. Immigration and Customs inspection services stationed in the building. In order for BWI Marshall to maintain efficient gate usage and best utilize the terminal area given the changes in airline fleet mix in recent years, it is necessary to repurpose the commuter concourse gates in favor of additional gate capability at the international terminal concourse E and at concourse D. This action would improve the airport's ability to provide its customers with appropriate facilities, without adding to the existing number of total gates at BWI Marshall. With the

future addition of a five-gate extension to concourse A in the 2021-2025 (Phase 2) timeframe, as identified on the approved Airport Layout Plan (February 1, 2013), the result of the repurposing of gates would be to reduce total gates at BWI Marshall from 85 to 80.

3. **Proposed Project.** The following is a listing of the various elements, to include connected actions, of the proposed project:

- Demolish 12-gate commuter concourse;
- Reconstruct commuter aircraft parking apron to accommodate RON positions;
- Repurpose two of the 12 commuter gates at the end of concourse DY and add two new hold rooms;
- Extend concourse E 150 feet beyond a 90-foot extension for the international baggage screening system (under construction)
- Add new passenger loading bridges;
- Add approximately eight (8) acres of new pavement to accommodate aircraft parking and circulation for the full build-out of four gates (designed for Group V aircraft);
- Mill the area surrounding the proposed pavement improvements;
- Utility improvements needed to accommodate project, including the extension of the glycol collection system;
- Remove checkpoint Juliet;
- Abandon perimeter intrusion detection system (PIDS);
- Enhance security in north cargo complex buildings due to PIDS removal;
- Modify the vehicle service road and taxilanes to accommodate the location of the proposed projects;
- Add a parallel stormwater conveyance pipe between stormwater channel B14 and pond B15; and
- Add approximately 0.5 acres of additional apron pavement

4. **Reasonable Alternatives Considered.** As described in Section 5 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 environmental, and is made a part of this finding. The following impact analysis highlights the more thorough analysis presented in the EA prepared in February 2015.

**Air Quality.** Direct emissions associated with the proposed project will be limited to the duration of the proposed project. The development of the short and long term elements of the proposed project construction emissions were calculated to be below de minimis levels specified in 40 CFR Part 93.153 pursuant to Section

176(c) of the Clean Air Act Amendments of 1990. For NEPA purposes the construction emissions of the Proposed Action conform to the State Implementation Plan (SIP). Indirect source review requirements are state specific, and Maryland is not one of the states that require such reviews (EA-Table 1).

**Coastal Resources.** The project area falls within the Maryland Coastal Zone Management area and therefore must comply with Federal and State Coastal Zone regulations. A Federal Consistency review was submitted as part of the draft EA. Maryland Department of the Environment concurred that the proposed action is consistent with the Maryland Coastal Zone Management Program (EA-Attachment 1).

**Hazardous Material.** An asbestos-containing building materials (ACBM) survey has been conducted at the Commuter Concourse to identify the location of the ACBMs. Small quantities of ACBMs were identified in a number of rooms in the commuter concourse, primarily in the form of fire doors in restrooms, storage rooms and utility rooms. In accordance with these federal statutes, federal regulations under 29 CFR Parts 1910 and 1926, 40 CFR Parts 61 and 761, 49 CFR Parts 171-173, and Code of Maryland Regulations (COMAR) 26.11.21 and 26.13.10, proper removal of all ACBMs will be conducted in accordance with current abatement industry standard removal techniques prior to demolition of the concourse; therefore no release or exposure of hazardous materials is anticipated. The MDE also recommends that any contract specifying "lead paint abatement" complies with COMAR 26.16.01 – Accreditation and Training for Lead Paint Abatement Services. The proposed action includes the piping and drainage infrastructure for the glycol collection system that would ultimately connect to the proposed glycol collection system for the east side of the terminal complex. This infrastructure would have no impacts on hazardous materials since the upgraded collection system is not yet in place and there is no chance of glycol leakage since only "stubs" are being put in place for later connection (EA-Attachment 2, ACBM Survey).

**Historic, Architectural, Archeological and Cultural Resources.** 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, including an inventory of all recorded archeological and historical resources located on Airport property as well as a planning manual/action plan component. The MAA requested concurrence from MHT on 8/21/14, based on the Historic Preservation Plan (HPP) for the areas of the proposed project as previously evaluated and thus no additional study is required and that no historic properties will be effected. The MHT determined that the proposed project will have "no effect" on historic properties (EA-Attachment 1).

**Water Quality**. In order to confirm that control of stormwater quantity and water quality for the Proposed Action Alternative was/is feasible, and prior to conceptual plan design, a preliminary study of stormwater was conducted by

AECOM to conceptually assess stormwater requirements for removal of a stormwater channel (Channel B14) and addition of new impervious surface. The study was intended to provide guidance on potential treatment requirements for the land use conversion of pervious to impervious surface and to study the pipe capacity of the main stormwater pipes from Channel B14 to Pond B15 during the five-year design storm. The conceptual models indicate that the pipes between Channel B14 and Pond B15 are under capacity for the proposed flows. The MAA currently intends to add a parallel stormwater conveyance pipe to the existing pipe that runs between Channel B14 and Pond B15. In accordance with Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects (February 2015) and the Stormwater Management Act of 2007 (the Act), environmental site design (ESD) to the maximum extent practicable (MEP) must be implemented for all development. The intent of ESD is to restore, enhance, and maintain the chemical, physical, and biological integrity of streams, minimize damage to public and private property, and reduce the adverse impacts of land development. To meet this requirement, three infiltration trench options were identified. Stormwater quality control will also be designed in accordance with the Airport's MS4 permit, which takes into account the TMDLs developed for the impaired water bodies and mandates that the project will not result in a net increase of any impairing substances in the impaired waters. In order to meet permitting requirements, the Proposed Action Alternative will be designed to ensure that all water quality standards are met and that TMDL implementation plans established through the MS4 permit are adhered to (EA-Attachment 3, Tables 2 & 3).

6. **Public Participation.** The Draft EA was made available for public review from March 6, 2015 to April 17, 2015 (EA-Attachments 1 & 4).

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. Upon initiation of design for the Proposed Action Alternative a concept plan will be submitted to MDE for initial review of best management practices to meet ESD to the MEP. To meet this requirement, three infiltration trench options were identified. Two of the options would need to be implemented to meet the 1.5 ac-ft requirements since each option treats only 0.8 ac-ft. Additionally, another option for complying with MDE water quality requirements includes the use of water quality credits within the Muddy Bridge Branch watershed. BWI Marshall currently has approximately 34.84 acres of water quality credits available within the Muddy Bridge Branch watershed, of which approximately 11 acres would be needed to meet water quality requirements. The specific solution to

address the need for increased pipe capacity would be further evaluated and verified during final design.

c. Best management practices (BMPs) will be followed to avoid and minimize any potential impacts to the environment.

d. All required permits and approved plans for the proposed project must be obtained prior to construction.

e. 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:**

7/9/15

Matthew J. Thys, Manager
Washington Airports District Office

Date

**DISAPPROVED:**

Matthew J. Thys, Manager
Washington Airports District Office

Date

# Table of Contents


1. Introduction/Background ..... 1
2. Project Description ..... 2
3. Purpose and Need ..... 5
   Requested Federal Action ..... 7
4. Affected Environment and Land Use ..... 7
5. Alternatives ..... 8
6. Environmental Consequences ..... 11
   (A) Air Quality ..... 11
   (B) Biotic Resources ..... 13
   (C) Coastal Resources ..... 13
   (D) Compatible Land Use ..... 14
   (E) Construction Impacts ..... 15
   (F) Section 4(f) Resources ..... 16
   (G) Endangered and Threatened Species ..... 16
   (H) Energy Supplies, Natural Resources and Sustainable Design ..... 16
   (I) Environmental Justice ..... 17
   (J) Farmlands ..... 17
   (K) Floodplains ..... 17
   (L) Hazardous Materials ..... 18
   (M) Historic, Architectural, Archeological or Cultural Property ..... 19
   (N) Induced Socioeconomic Impacts ..... 20
   (O) Light Emissions and Visual Effects ..... 20
   (P) Noise ..... 21
   (Q) Social Impacts ..... 21
   (R) Solid Waste ..... 21
   (S) Water Quality ..... 22
   (T) Wetlands ..... 24
   (U) Wild and Scenic Rivers ..... 25
   (V) Cumulative Impacts ..... 25
7. Permits ..... 30
8. Mitigation ..... 30
9. Public Involvement ..... 31
10. List of Attachments ..... 32
11. Preparer Certification ..... 33
12. Airport Sponsor Certification ..... 33
List of Preparers ..... 34
List of Agencies and Persons Consulted ..... 34

***This form is to be used only for limited types of projects. It is strongly recommended that you contact your local Environmental Protection Specialist (EPS) before completing this form. See instructions page.***

## APPLICABILITY

This Form can be used if the proposed project meets the following criteria:

1) It is not categorically excluded (see paragraphs 303 and 307-312 in FAA Order 1050.1E) or

2) It is normally categorically excluded but, in this instance, involves at least one extraordinary circumstance that may significantly impact the human environment (see paragraph 304 and the applicable section in Appendix of 1050.1E) or

3) The action is one that normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B) and

4) The proposed project must fall under one of the following categories of Federal Airports Program actions:

(a) Approval of a project on an Airport Layout Plan (ALP).
(b) Approval of federal funding for airport development.
(c) Requests for conveyance of government land.
(d) Approval of release of airport land.
(e) Approval of the use of Passenger Facility Charges (PFC).
(f) Approval of development or construction on a federally obligated airport.

**If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form.**

**********

**Complete the following information:**

**Project Location**
Airport Name: Baltimore/Washington International Thurgood Marshall Airport Identifier: BWI
Airport Address: P.O. Box 8766
City: BWI Airport County: Anne Arundel State: MD Zip: 21240-0766

**Airport Sponsor Information**
Point of Contact: Robin M. Bowie, Manager, Division of Environmental Planning
Address: P.O. Box 8766
City: BWI Airport State: MD Zip: 21240
Telephone: 410-859-7103 Fax: 410-859-7082
Email: rbowie@bwiairport.com

**Evaluation Form Preparer Information**
Point of Contact: HNTB Corporation
Address: 2900 S. Quincy Street, Suite 200
City: Arlington State: VA Zip: 22206
Telephone: 703-824-5100 Fax: 703-671-6210
Email: cpinegar@hntb.com

---

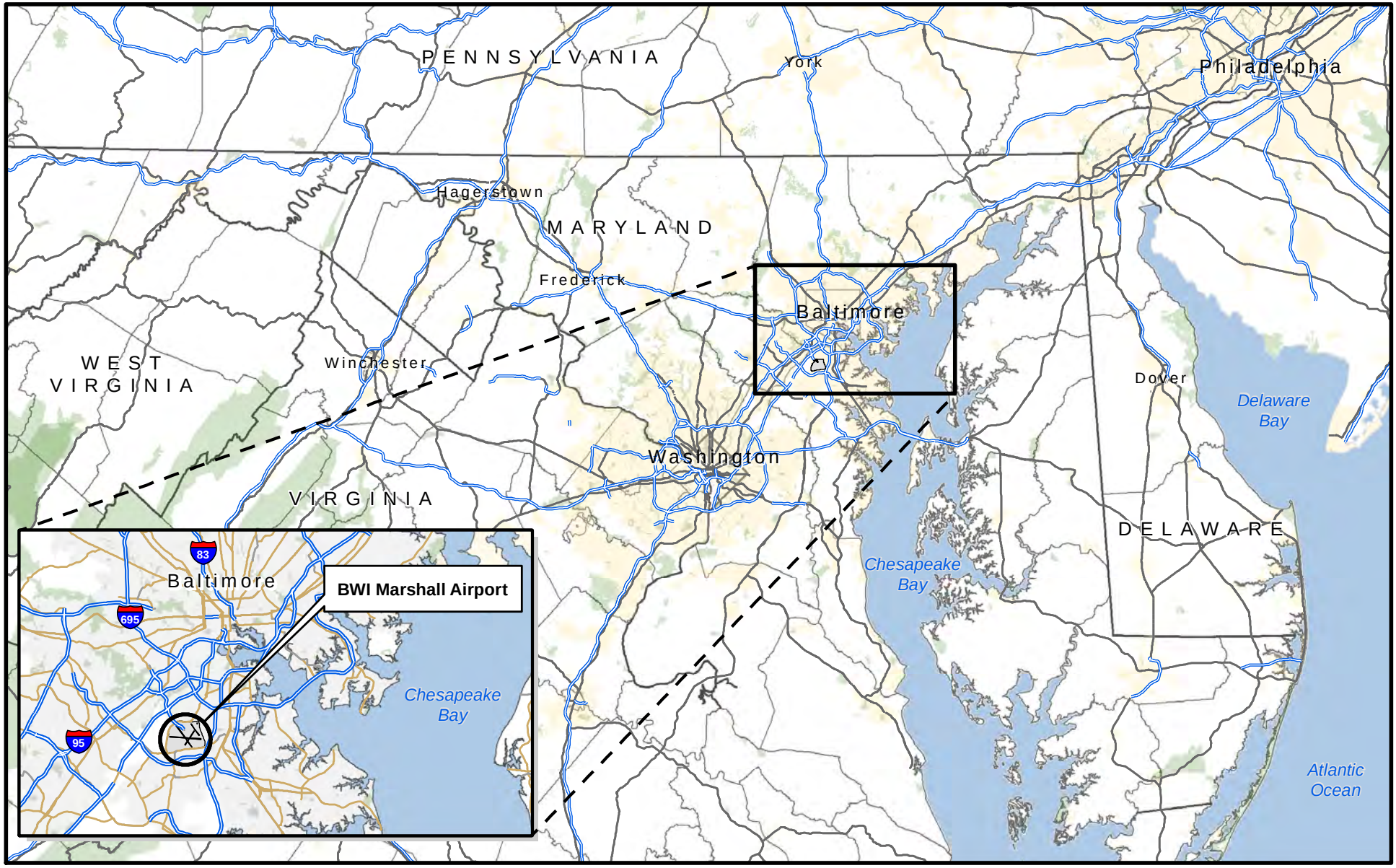
**1. Introduction/Background:**

The Maryland Aviation Administration (MAA) proposes to extend the International Terminal (Concourse E), demolish the Commuter Concourse, and conduct other related improvements in the Terminal Area at Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall). The BWI Marshall Main Terminal has three identified sections: the South Terminal, which includes Terminal A/B, and Concourses A and B; the Central Terminal, which includes Concourses C, D, DX, DY and the Commuter Concourse; and the North Terminal, which includes the International Terminal and Concourse E. A general location map of BWI Marshall is provided on **Exhibit 1** for reference. The existing conditions in the project vicinity are shown on **Exhibit 2**.

In the last several years, the amount of regional jet and commuter service activity at BWI Marshall has declined, resulting in low utilization of the Commuter Concourse. The 12-gate concourse was constructed in the 1980s to accommodate airline hubbing practices that were in existence at the airport at the time. Since the early 2000s, however, regional jet and commuter operations have declined at BWI Marshall and the Commuter Concourse is sparsely utilized. Located at the end of Concourse DY, the Commuter Concourse occupies a one-level structure to handle commuter traffic at the Airport. In late 2014, all remaining commuter aircraft use of the commuter concourse will likely cease, as all U.S. Air operations are being relocated to Concourse C. Conversely, the amount of international flight activity requiring immigration and customs services at the Airport has increased in recent years. The three-level International Terminal, which opened in 1997, serves international passengers within the north area of the terminal building. The terminal handles international flights with U.S. Immigration and Customs inspection services stationed in the building.

Baltimore/Washington International Thurgood Marshall Airport

International Terminal Extension, Commuter Concourse Demolition and Related Improvements




**LEGEND**

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

N

0 32,500 65,000 130,000 Feet

Exhibit 1
Location Map

Source: ESRI

Baltimore/Washington International Thurgood Marshall Airport
International Terminal Extension, Commuter Concourse Demolition and Related Improvements

**LEGEND**

Stormwater Channel / Pond

Exhibit 2
Existing Conditions

N

0 100 200 400 Feet

Source: BWI ALP, MAA

In order for BWI Marshall to maintain efficient gate usage and best utilize the Terminal Area given the changes in airline fleet mix in recent years, it is necessary to repurpose the commuter concourse gates in favor of additional gate capability at the International Terminal (Concourse E) and at Concourse D. This action would improve the airport's ability to provide its customers with appropriate facilities, without adding to the existing number of total gates at BWI Marshall. With the future addition of a five-gate extension to Concourse A in the 2021-2025 (Phase 2) timeframe, as identified on the approved ALP (February 1, 2013), the result of the repurposing of gates would be to reduce total gates at BWI Marshall from 85 to 80.

**2. Project Description (**List and clearly describe **ALL** components of project proposal including all connected actions). **Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:**

As shown on **Exhibit 3** and identified by the corresponding number below, the Proposed Action includes the following components and connected actions:

<u>Commuter Concourse Demolition</u>

1. Demolish 12-Gate Commuter Concourse;
2. Reconstruct Commuter aircraft parking apron to accommodate Remain Overnight parking (RON) positions;
3. Repurpose two of the 12 commuter gates at the end of Concourse DY and add two new hold rooms.

<u>Concourse E (International Terminal) Extension</u>

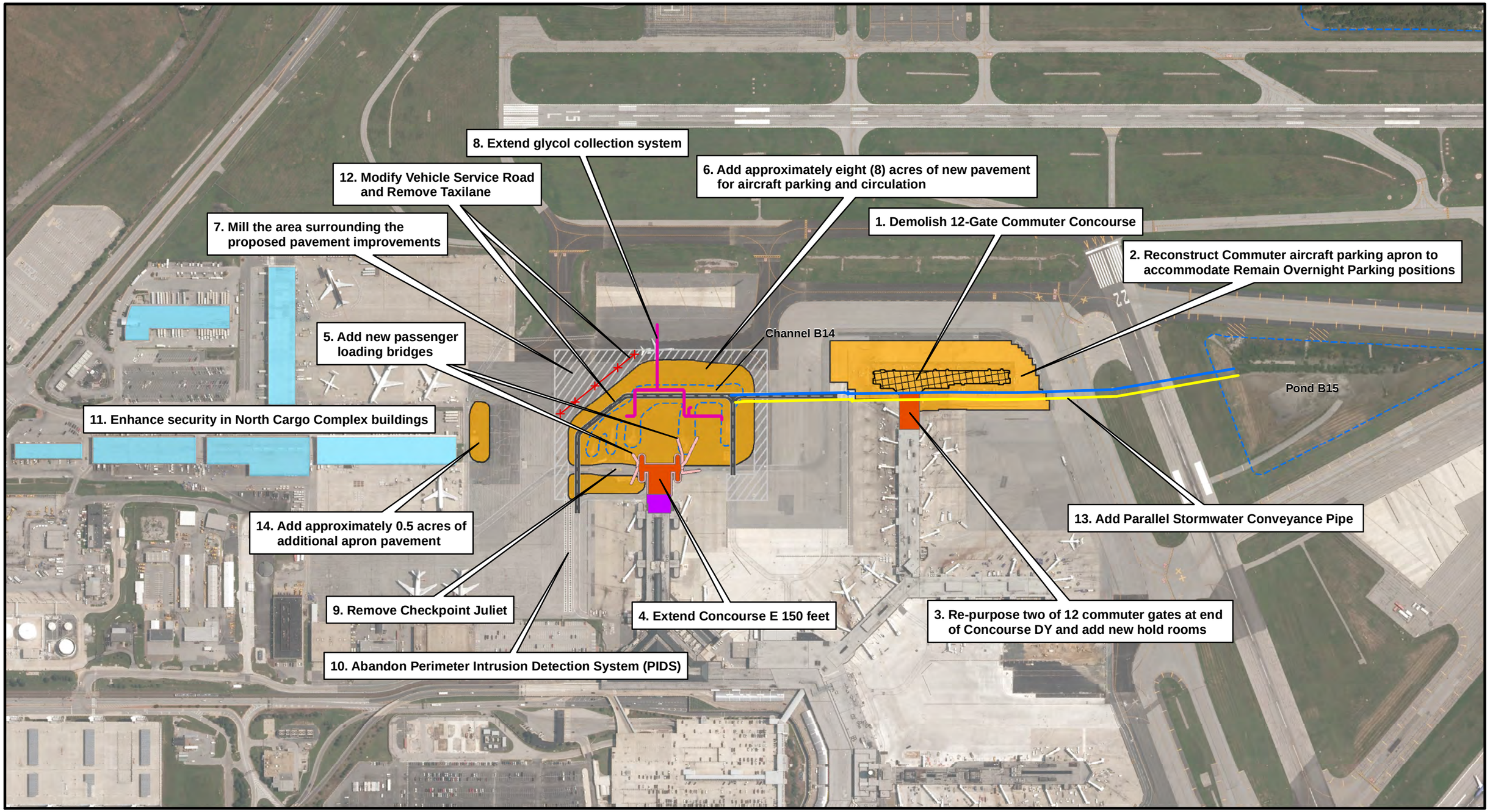
4. Extend Concourse E 150 feet beyond a 90-foot extension for the international baggage screening system (under construction[1]);
5. Add new passenger loading bridges;
6. Add approximately eight (8) acres of new pavement to accommodate aircraft parking and circulation for the full build-out of four gates (designed for Group V aircraft);
7. Mill the area surrounding the proposed pavement improvements;
8. Utility improvements needed to accommodate project, including the extension of the glycol collection system.

<u>Connected Actions</u>

9. Remove Checkpoint Juliet;
10. Abandon Perimeter Intrusion Detection System (PIDS);
11. Enhance security in North Cargo Complex buildings due to PIDS removal;
12. Modify the vehicle service road and taxilanes to accommodate the location of the proposed projects;
13. Add a parallel stormwater conveyance pipe between Stormwater Channel B14 and Pond B15; and
14. Add approximately 0.5 acres of additional apron pavement.

[1] Categorical Exclusion approval received from FAA on 6/9/2014.

Baltimore/Washington International Thurgood Marshall Airport
International Terminal Extension, Commuter Concourse Demolition and Related Improvements




**LEGEND**

- International Baggage Screening System* (Under Construction)
- North Cargo Complex Buildings
- Re-Purposed Gates
- Area to be Milled
- Concourse Demolition
- Required Pavement
- Glycol Collection System
- Taxilane Removal
- Existing Stormwater Conveyance Pipe
- Proposed Stormwater Conveyance Pipe
- Stormwater Channel / Pond

*Received Categorical Exclusion approval from the FAA on 6/9/2014.

N

0 100 200 400 Feet

Exhibit 3
Proposed Action

Source: BWI ALP, MAA

*Project Description – Commuter Concourse Demolition and RON Parking*

The MAA proposes to demolish the 12-gate Commuter Concourse located at the end of Concourse DY and to convert the commuter aircraft parking apron into RON parking that could accommodate multiple aircraft parking positions of varying size, up to Aircraft Design Group (ADG or Group) V standards. Given the existing pavement design specific to regional aircraft, the existing apron is capable of supporting Group III aircraft only. The MAA also proposes to repurpose two of the 12 commuter gates by adding two gates at the end of Concourse DY following the demolition of the Commuter Concourse to support existing and future airline operations at Concourse D. As part of this gate construction, two new hold rooms would be constructed to accommodate passengers using these gates. The two new gates and future RON Parking Apron would be configured to meet FAA design standards.

*Project Description – Concourse E (International Terminal) Extension*

The MAA proposes to extend Concourse E by 150 feet to provide two aircraft gates with two interior hold rooms, and also provide up to five passenger boarding bridges to accommodate the projected increased peak period demand for arrivals. The total additional terminal space would be approximately 19,000 square feet. This EA includes the first phase of a two-phase expansion which will ultimately add approximately 43,000 square feet of terminal space for a variety of Group III and Group V capable gates. Concourse E is currently undergoing construction of a 90-foot addition for an improved outbound baggage screening system. The proposed 150-foot extension would be an extension beyond the 90 feet currently under construction. The second phase of the Concourse E Extension will be evaluated in a subsequent environmental document when the international operations demand warrants additional space. Construction of the future Concourse E extension beyond that proposed by this Proposed Action is dependent on commissioning of a proposed new airport traffic control tower (ATCT), since its construction would obstruct existing ATCT visibility to Taxiways B and S, as well as Runway 15L-33R. It is anticipated that the commissioning of a new ATCT and the second phase of the terminal expansion project will occur after 2020.

Five (5) passenger loading bridges would be constructed to connect to the extended Concourse E to accommodate a combination of Group III and Group V aircraft. As shown on **Exhibit 4**, two loading bridges would connect to the new north gate (E5) and three loading bridges would connect to the new south gate (E10). Upon deplaning, passengers would walk off the loading bridge into the sterile corridor of the International Terminal and then proceed to immigration and international baggage claim areas. Interior improvements within Concourse E's 150-foot extension would include two hold rooms, a sterile corridor, mechanical, electrical and plumbing (MEP), and Information Technology (I.T.) improvements. Improvements to the building's interior architectural design are also anticipated, however the design of the concourse has not been determined. U.S. Customs and Border Protection requires a secure sterile secure area surrounding all arriving international flights at the gate. As part of the concourse extension, all exterior and interior projects would be designed and built to meet applicable building and life safety codes and FAA design standards.

Approximately eight (8) acres of new apron pavement with strength to accommodate aircraft parking and circulation (including taxiway system) of aircraft up to Group V would be constructed in association with the Concourse E extension. The apron proposed for development is in the infield area east of the International Terminal, bounded by Taxilane AA, Taxilane N, and Taxiway

Baltimore/Washington International Thurgood Marshall Airport

International Terminal Extension, Commuter Concourse Demolition and Related Improvements

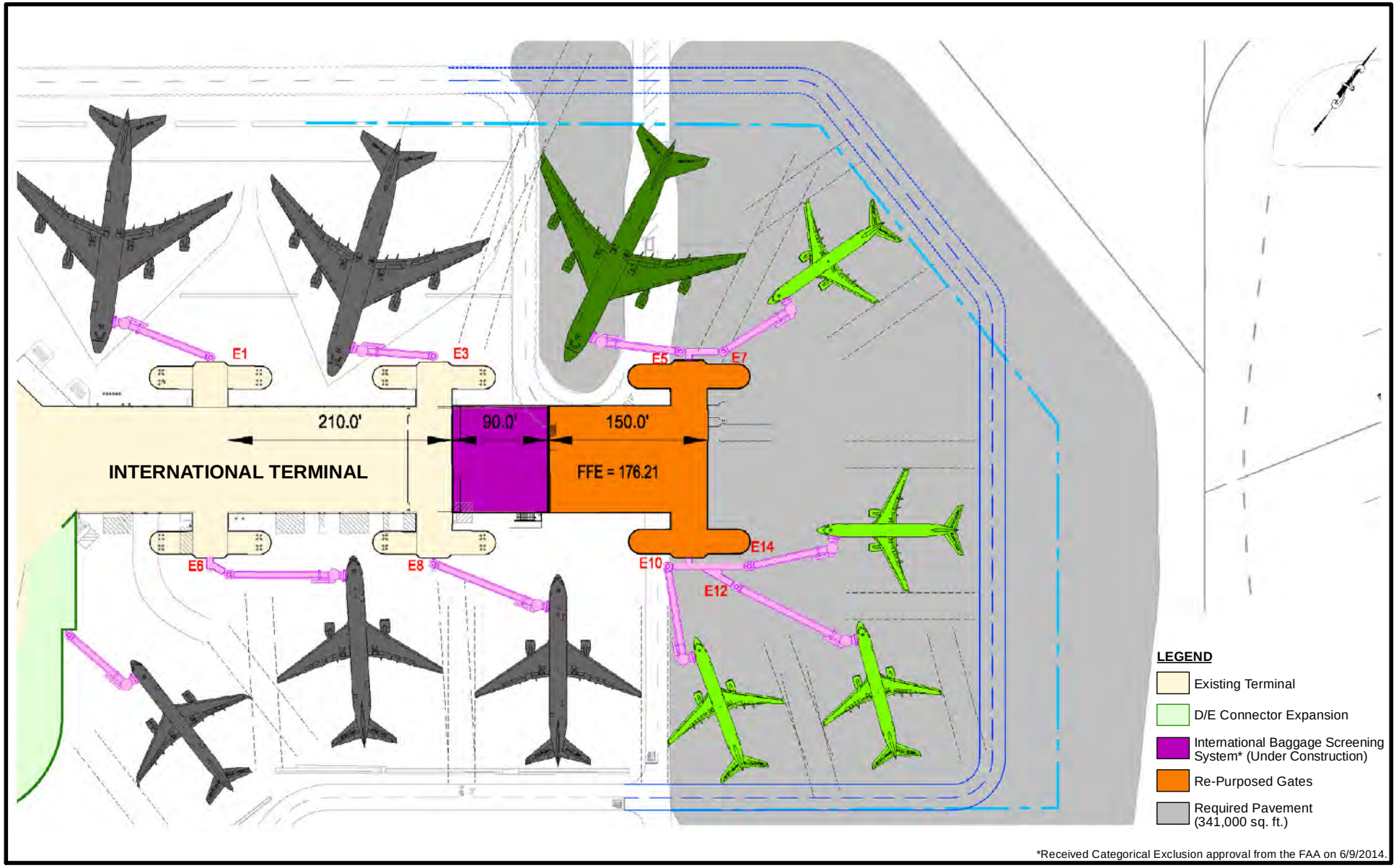



Exhibit 4

Concourse E Extension - Proposed Passenger Loading Bridge Configuration

Source: ADCI

B. The apron is designed to accommodate the second phase of the terminal extension as well, which would include additional Group V aircraft-capable gates when the capacity is needed and following the construction of a new ATCT. As part of the new pavement, a stormwater conveyance channel (Channel B14) would need to be filled and paved. Stormwater requirements for removal of Channel B14 and the addition of new impervious surfaces were conceptually assessed as part of a stormwater management study. Potential solutions include infiltration trenches and/or expanding pipe capacity, as discussed in *Section (S), Water Quality*.

The pavement immediately surrounding the proposed 8-acre apron would be milled to ensure smooth transition to the new pavement area, as shown on Exhibit 3. The milling is only expected to remove and replace the surface material and not impact any underground utilities.

Utility improvements to accommodate the project are proposed, including the extension of the glycol collection system. BWI Marshall's glycol collection and distribution system has been evaluated; because the existing collection system is at capacity, a collection system expansion has been planned in order to meet future aircraft deicing demand. The glycol collection system piping and drainage infrastructure for the International Concourse extension would be constructed as part of the Proposed Action and would ultimately connect to the proposed glycol collection system for the east side of the terminal complex. Extension of the concourse and the new apron pavement would require coordination with the horizontal location of any underground utilities to ensure that the appropriate connections are established and to confirm adequate clearance for construction of foundation components.

*Project Description – Connected Actions*

Several connected actions are associated with the extension of Concourse E. These are actions that would occur as a result of the proposed action, and would not occur or be necessary otherwise. The Concourse E extension and apron construction would require the removal of Security Checkpoint Juliet and bisect the vehicle service road (VSR) access to the airfield through the existing location. Security Checkpoint Juliet facilities consist of a guard booth and a vehicle inspection area.

The extension of Concourse E would impact the Perimeter Intrusion Detection System (PIDS), which would be abandoned as part of the proposed project. Because the PIDS is being removed, security in the North Cargo Complex buildings would need to be enhanced. Increasing security at these buildings would include installation of additional security measures. The 0.5-acre grass island immediately south of the North Cargo Complex buildings, between North Cargo Positions F18A and F20A, will be filled and paved to provide additional pavement for adjustment of parking between the two parking positions. The pavement will create additional area for aircraft parking and Remain Overnight parking (RON) and will provide more flexibility for fleet mix parking and cargo servicing of the positions once the aircraft are parked.

The VSR supporting the International Terminal would need to be modified to accommodate the Concourse E extension and the associated gate and apron area. The VSR would be routed to circumvent the area utilized for aircraft parking at the gates and would connect to the VSR on the east side of the International Terminal, as shown on Exhibit 3. The VSR is used by baggage tugs, fuel trucks and other ground support equipment vehicles and extends north to south, parallel to the terminal behind Gates E1 and E3. Although the VSR route will be modified slightly from its current route, the trip length for vehicles using the VSR will not be impacted. Emergency service

vehicles do not come from a direction that will be impacted by the change in the VSR route. Taxilane AA, where it would run parallel to the west side of the new pavement at a 45 degree angle, would also be removed as shown on Exhibit 3.

The stormwater pipe network would also be modified as part of the Proposed Action due to the additional impervious area being added for the International Terminal apron. The peak flows to the storm drain pipe network between Channel B14 (the stormwater conveyance channel to be filled and paved ) and Pond B15 is expected to increase as a result of the additional impervious surface and loss of peak flow reduction from Channel B14. Therefore, a parallel stormwater conveyance pipe is proposed to mitigate the increase in flow, as shown on Exhibit 3. In order to construct the parallel stormwater conveyance pipe, existing pavement along the proposed alignment would need to be removed for construction of the pipe and replaced after completion of construction. The existing pipe runs beneath the Commuter Concourse, and much of the proposed parallel pipe would not require additional pavement excavation beyond what would be required for the demolition of the Commuter Concourse and construction of the RON parking.

## 3. Project Purpose and Need:

### Purpose

The purpose of the Proposed Action is to improve the efficiency of gate usage, better utilize the Terminal Area and provide BWI Marshall customers with appropriate facilities in accordance with the Airport's Master Plan.

### Need

***Commuter Concourse Demolition and RON Parking***

Demolish Commuter Concourse

The low utilization of Commuter Concourse gates warrants demolition of the concourse and conversion to a RON parking area. As noted previously, the 12-gate Commuter Concourse at BWI Marshall was constructed in the 1980s when regional jet service was on the rise. Since the early 2000s, the regional jet and commuter market operations have declined at BWI Marshall and the Commuter Concourse is sparsely used. Two of the 12 commuter gates are being used by U.S. Air's Dash-8 aircraft; however in late 2014, all remaining commuter aircraft use of the commuter concourse will likely cease, as all U.S. Air operations are being relocated to Concourse C. The commuter gates are no longer needed since the Airport is able to accommodate the small number of remaining commuter operations on existing mainline gates.

Accommodate RON Parking

RON parking availability is limited at BWI Marshall. Due to a lack of accessible RON aircraft parking spaces, some airlines double-park their aircraft at the gates. Although the Commuter Concourse apron currently supports some U.S. Air commuter service and RON operations, the pavement is deteriorating and in need of repair. Additionally, the existing apron pavement at the Commuter Concourse was designed specifically for regional aircraft and is capable of supporting Group III aircraft only. The reconstructed RON apron needs to be constructed to support multiple aircraft parking positions of varying size, up to ADG V standard. By demolishing the Commuter Concourse and converting the area to support RON positions, MAA can meet the growing demand

for RON parking positions at BWI Marshall. The deferral of this project would compound the demand for RON spaces at BWI Marshall and could result in parking aircraft overnight at more remote positions. Such a practice can prove to be undesirable if the positions can only be provided where runway crossings are necessary.

Repurpose Gates from Demolished Commuter Concourse

For BWI Marshall to maintain efficient gate usage and best utilize the Terminal Area given the changes in airline fleet mix in recent years, the MAA intends to repurpose several gates from the Commuter Concourse in favor of additional gate capability at Concourse D and Concourse E. These actions would improve the airport's ability to provide its customers with appropriate facilities, without adding to the existing number of total gates at BWI Marshall. With the future addition of a five-gate extension to Concourse A in the 2021-2025 (Phase 2) timeframe, as identified on the approved ALP, the result of the repurposing of gates would be to reduce total gates at BWI Marshall from 85 to 80.

In order to provide gate capability for the appropriate types of aircraft at Concourse D, two of the 12 Commuter Concourse gates would be repurposed to the end of Concourse DY to meet ADG V standards. These gates would support existing and anticipated Concourse D airline operations. The MAA desires to construct the two gates at this time because the additional gate capability at Concourse D is needed, and because it is efficient to repurpose these gates during the same construction period as the Commuter Concourse demolition and RON Parking construction.

### *Concourse E (International Terminal) Extension*

Extend Concourse E

The amount of international flight activity requiring immigration and customs services at the Airport has increased in recent years. Southwest Airlines in particular is increasing their international destinations and frequencies to non-precleared[2] markets, such that additional gates are needed at the International Terminal to meet existing and projected growth in international service at BWI Marshall. Currently, there are six international gates and there are existing peak periods when all six gates are utilized simultaneously. During the peak period between approximately 5:00 p.m. and 9:00 p.m. the current utilization is three departure gates and three arrival gates. The three peak period departure gates typically accommodate Group IV and Group V aircraft, whereas the peak period arrival gates typically have been Group III aircraft. The demand for international peak period gates is expected to increase through at least 2022. Considering recent air service trends and expected growth in international service to non-pre-cleared markets, it is reasonable to project a peak period demand for 10 international gates by 2019, with the potential for 12 peak period international gates needed by 2022.[3]

[2] A "precleared" market is one that is approved for Customs and Border Protection security procedures. Such markets would not need to arrive at the BWI Marshall International gates; rather, they are able to arrive and depart from a domestic gate. Non-precleared markets must arrive at the BWI Marshall International concourse to obtain Customs and Border Protection services.

[3] During the 2019–2022 timeframe, it is estimated that peak period international operations would require seven arrival gates and five departure gates. This assumption does not address all projected international demand because some of the international operations are expected to be to pre-clearance destinations whereby international arrivals would process passengers in the domestic terminal.

Additional gate capability and interior processing room is therefore needed at the International Terminal, and as a result the repurposing of two gates to Concourse E is also proposed. A 150-foot extension to the concourse building is needed in order to provide two aircraft gates with interior hold rooms, and also provide up to five passenger boarding bridges to accommodate the projected increased peak period demand for arrivals.

Furthermore, BWI Marshall's D/E Connector project, currently undergoing architectural design, is expected to be under construction from February 2015 through spring of 2017. During that time, there will be International Terminal gate closures to accommodate construction phasing which will reduce gate availability from six to five gates through 2016. The end result will be a net increase of two Group III or one Group V international gate, for a total of seven or eight international gates. However, even with the net increase in international gate capability of the D/E Connector project, international peak period gate demand is still projected to exceed supply by 2019 by at least two gates, increasing to a four-gate peak period deficiency by 2022. It is anticipated that a second phase of the concourse extension project will occur after 2020; however, the second phase of the concourse extension is dependent on commissioning of a proposed new ATCT, as discussed in *Section 2, Project Description*.

Expand Apron Pavement

In order to accommodate the full build-out of four gates, approximately eight acres of apron pavement is needed for aircraft parking and circulation for aircraft up to Group V standards. As part of the extension of the concourse and the new apron pavement, the glycol collection system needs to be extended to include the project area. The piping and drainage infrastructure for the glycol collection system would ultimately connect to the proposed glycol collection system for the east side of the terminal complex. It is most cost-effective and efficient to update the glycol collection system during the construction of this project. The stormwater pipe network also needs to be modified as part of the Proposed Action due to the additional impervious area being added for the International Terminal apron. A parallel stormwater conveyance pipe is proposed to mitigate the increase in flow as a result of the additional impervious surface and loss of peak flow reduction from Channel B14.

**Requested Federal Action**

The Requested Federal Action is FAA unconditional approval of the Proposed Action on the FAA conditionally approved ALP (February 1, 2013) as identified in *Section 2, Project Description* and depicted on Exhibit 3, Proposed Action.

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

**4. Describe the affected environment (existing conditions) and land use in the vicinity of project:**

The Proposed Action site is located on BWI Marshall property in Anne Arundel County, Maryland. The Airport is bounded on the west, north, and east by Aviation Boulevard and on the south by Dorsey Road. BWI Marshall property is identified as "Government" land use in the 2009 *Anne Arundel County Land Use Plan*. A general location map of BWI Marshall is shown on Exhibit 1,

and Exhibit 2 provides an illustration of the existing conditions at the Proposed Action site in relation to the airport vicinity.

As shown on **Exhibit 5**, the Proposed Action site is located in the Central and North Terminal areas of the Airport, just south of the Airfield area, and within a Cargo Facilities area (North Cargo Complex buildings), as defined by the 2011 BWI Marshall Master Plan. The Proposed Action site is surrounded by airport-related land uses, including terminal buildings, aprons, taxilanes, taxiways and vehicle service roads. The Terminal Area includes the main terminal building, six concourses, a commuter terminal, and all associated gates. The Cargo facilities area includes cargo hangars, cargo aircraft parking areas, and cargo auto parking and truck docks.

Open space and vegetation are sparse in the vicinity of the Proposed Action site due to its proximity to the airfield and runway area. There is a stormwater channel (Channel B14) to the northeast of Concourse E, beyond which is RON Parking and Runway 15L/33R, identified as Airfield land use.

There are no nearby water bodies, publicly-owned and used parks, recreational areas, wildlife or waterfowl refuges, federally- or state-listed threatened or endangered species or critical habitats, wetlands, floodplains, or cultural resources on or within the immediate vicinity of the Proposed Action site. There are also no sensitive populations within the project area. The nearest residential areas, schools, daycare centers, or places of public assembly are located off of BWI Marshall property, approximately ¾- miles or more from the project area.

Anne Arundel County is located within a coastal zone, therefore MAA is required to comply with the regulations set forth and administered by the Maryland Department of the Environment (MDE) and Maryland Department of Natural Resources (MDNR) for this project, as discussed in *Section (C), Coastal Resources*. Anne Arundel County is presently designated by the Environmental Protection Agency (EPA) as nonattainment for the pollutants of ozone ($O_3$) (moderate) and particulate matter equal to or less than 2.5 micrometers (fine particulates or $PM_{2.5}$) (moderate).

**5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, <u>and</u> include a description of the "No Action" alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why** (attach alternatives drawings as applicable)**:**

## Alternatives

### *Alternatives to Commuter Concourse Demolition and RON Parking*

No alternatives other than the No Action Alternative were considered for the demolition of the Commuter Concourse since demand for this type of facility no longer exists at the Airport. Due to the lack of space available on the airfield for RON parking, no alternative other than the No Action Alternative was considered for RON parking.

### *Alternatives to Concourse E (International Terminal) Extension*

Two options were evaluated as alternatives to extending Concourse E. There is a near-term need for additional gates while the D/E Connector project is being constructed (gate availability will be reduced from six to five gates through 2016), as well as a long term need for additional

Baltimore/Washington International Thurgood Marshall Airport
International Terminal Extension, Commuter Concourse Demolition and Related Improvements

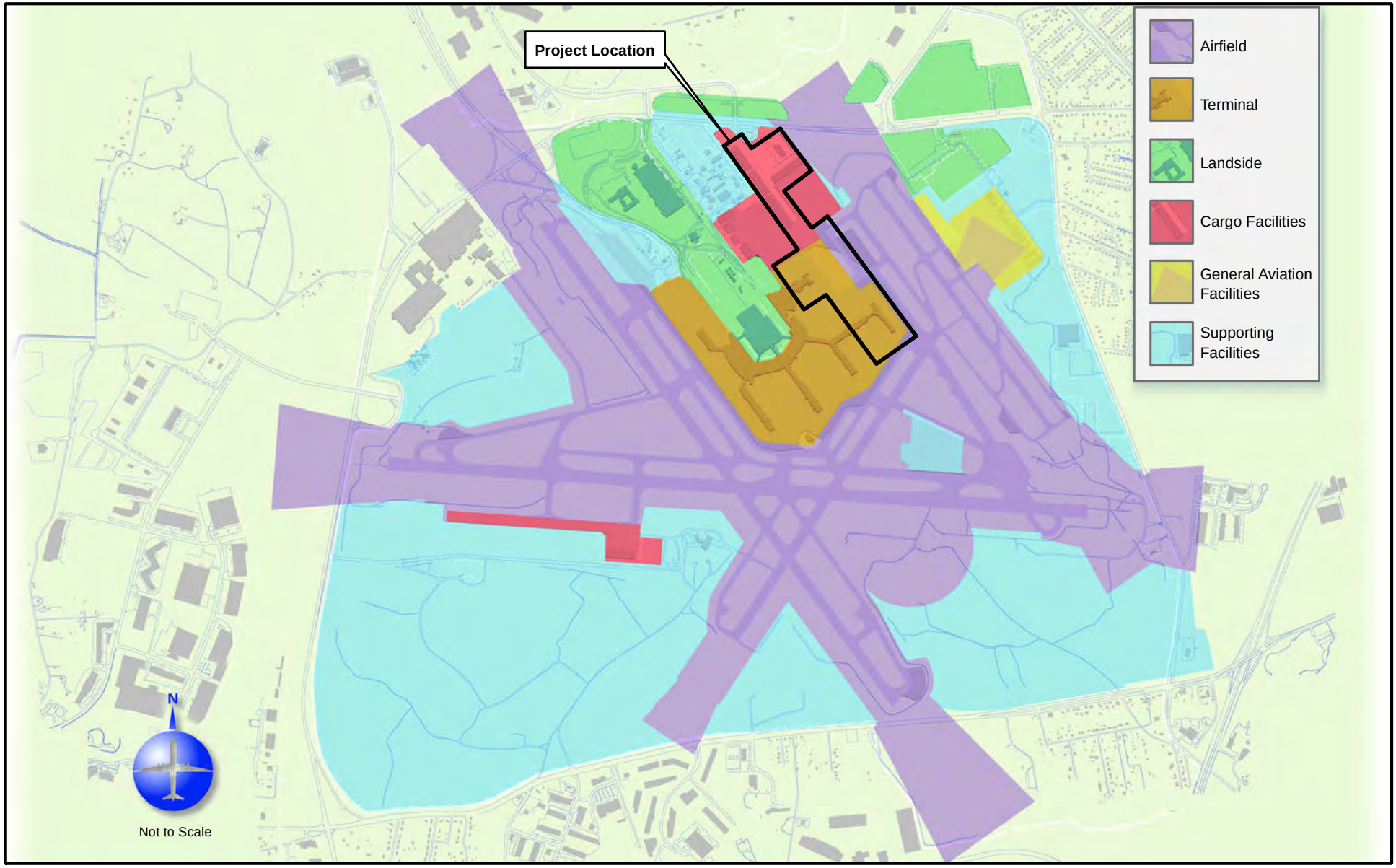



Exhibit 5
On-Airport Generalized Land Use

Source: BWI Marshall Airport Master Plan

International gate capability based on projected demand and supply by 2019. Therefore one temporary and one potentially long-term solution were identified and evaluated. The alternatives evaluated were limited to connections with the existing International Terminal location; no other terminal locations for international gates were explored for purposes of this EA.

Alternative 1: Concourse F Temporary Extension 2 Gates

As shown on **Exhibit 6**, an alternative to provide two temporary at-grade gates for international arrivals only, with a sterile passenger corridor directly to the U.S. Customs and Border Protection (CBP) arrivals facilities was considered. These gates would replace gate positions lost during the D/E construction project, alleviating arrivals demand, while minimizing the installation of permanent structures on the existing apron. These two arrivals only gates would be narrow-body aircraft capable, handling arriving international aircraft by sharing the current apron parking positions F1 and F2 with air cargo operations. Upon deplaning, passengers would walk off the boarding bridge into the sterile corridor ramping down to 18" above grade level. This sterile corridor would have a direct connection to the International Primary Processing Hall located in the lower level of the International Terminal. Under this alternative, a new airside VSR adjacent to the length of the corridor would be constructed to reroute the access to the apron. The PIDS line would need to be reconfigured (angled) to account for the commercial aircraft arrivals.

The primary reason for dismissal of this alternative is that a temporary facility is not consistent with the Airport's long term plan. Additionally, due to the location, this alternative would constrain the proposed ATCT site for construction (anticipated to begin in 2018) and provides a low level of service for passengers due to the long walking distance with no option for moving walks under this alternative. This alternative may complicate aircraft access to the North Cargo Area, would reduce the number of parking stalls in the Manager's parking lot and complicates access to the ramp area between Gate E1 and the Light Rail Station for terminal service and emergency response vehicles and equipment. For these reasons, this alternative was dismissed from further consideration.

Alternative 2: Temporary to Permanent Elevated E/F Connector 2 Gates

A potential long term alternative, shown on **Exhibit 7**, would allow for two temporary or permanent arrivals gates that would be elevated and connect to the CBP facilities (international arrivals) as well as provide a departures level access from the D/E Connector to a pair of holdrooms at the F1 and F2 gate positions. The gates would replace gate positions lost during the D/E construction project, would alleviate arrivals demand, and would allow the construction of permanent arrival/departure gates if necessary.

These two gates would likely be primarily narrow-body aircraft capable, handling International arrivals using the current cargo apron. Upon deplaning, passengers would walk off the loading bridge into the sterile corridor above grade level. An elevation change from the sterile corridor level to grade would happen near the connection to the International Primary Processing Hall located in the lower level of the International Terminal. An optional permanent departures-level structure, built directly adjacent to the corridor, would provide secure access from the D/E Connector to the two gates. The elevated position of the structure would allow unobstructed vehicle service to the apron and building services between Gate E1 and the light rail station.

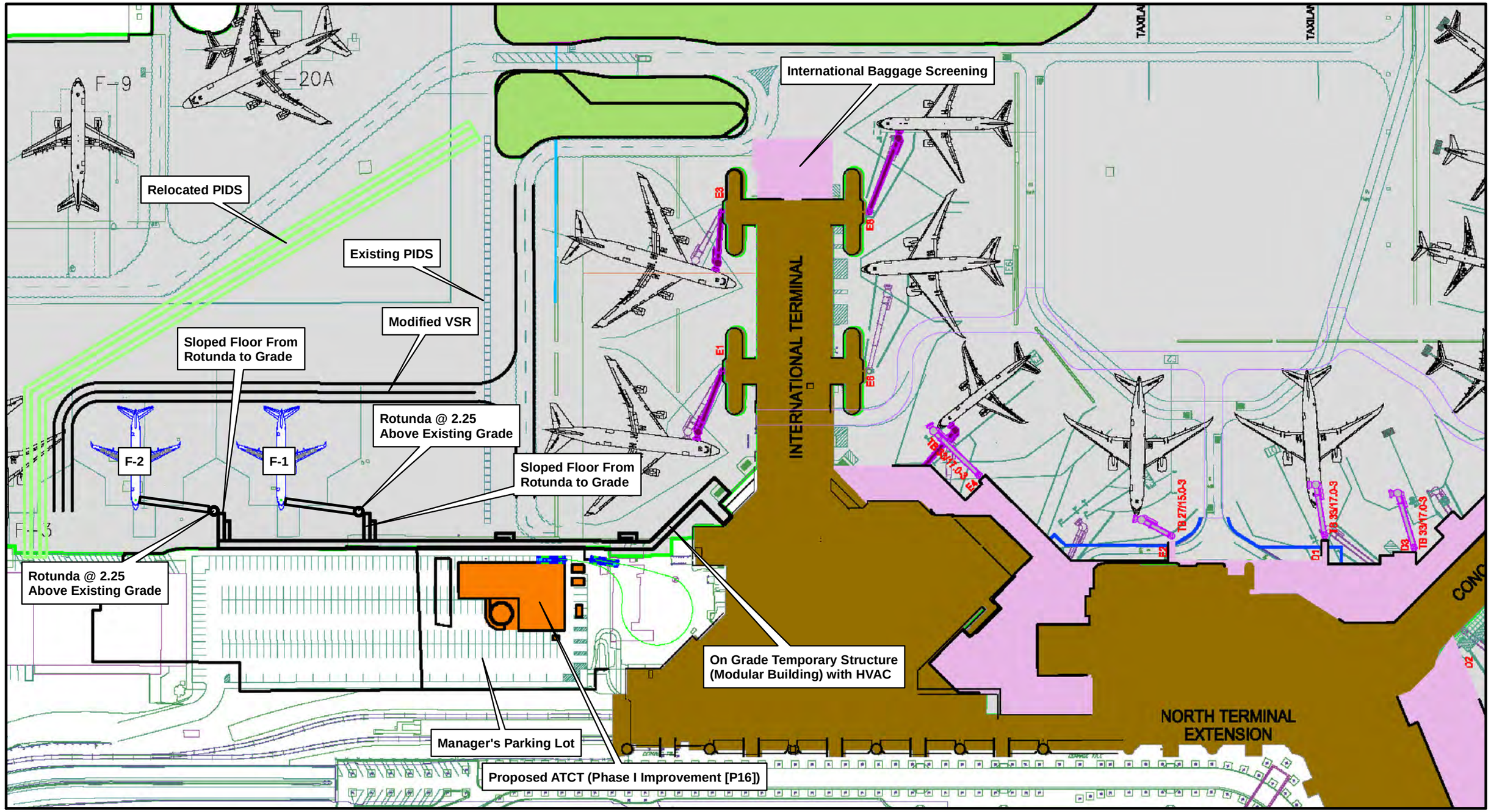



Exhibit 6
Alternative 1: Concourse F Temporary Extension 2 Gates

Source: ADCI, L&B

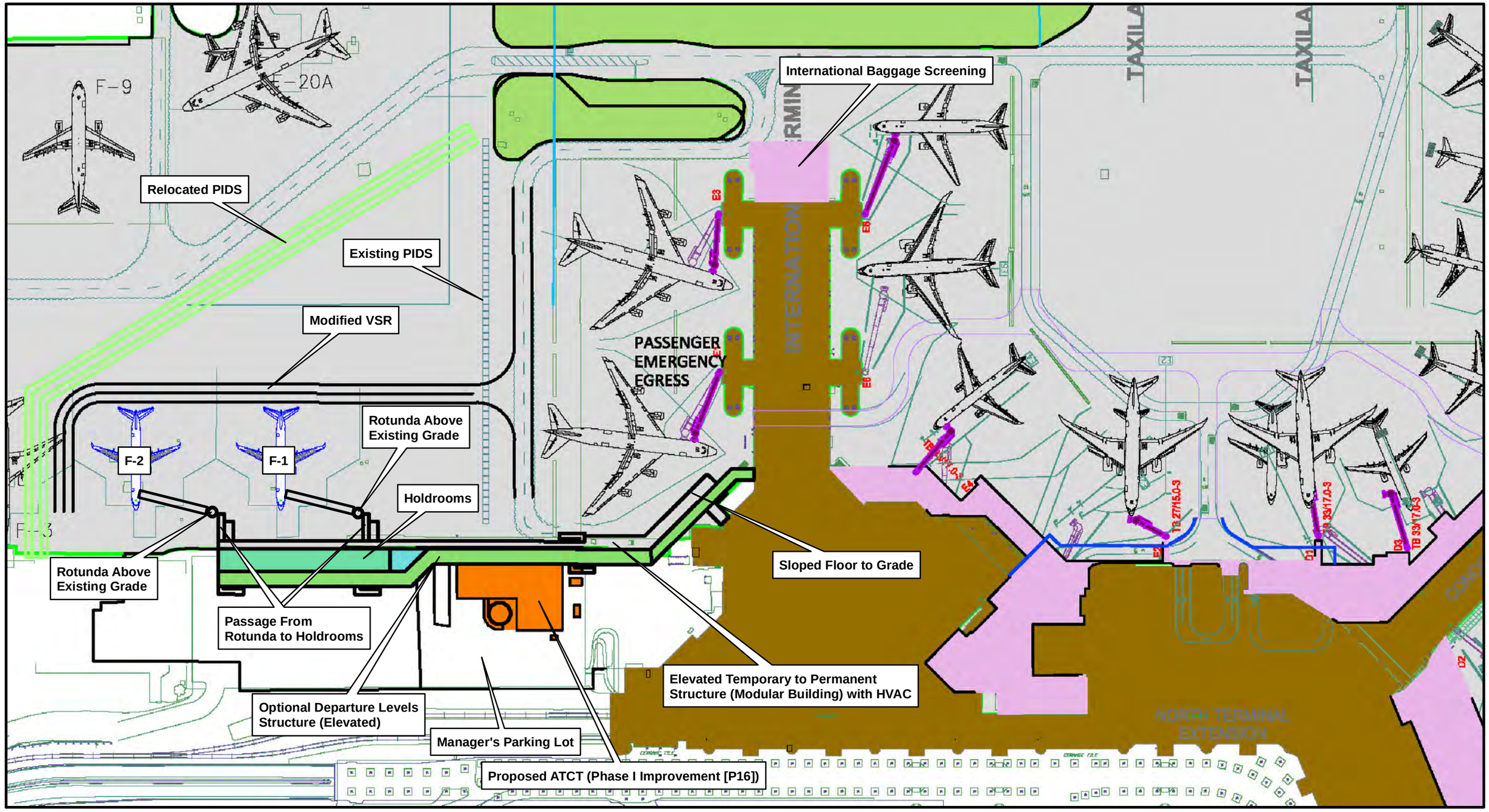



Exhibit 7
Alternative 2: Temporary to Permanent Elevated E/F Connector 2 Gates

Source: ADCI, L&B

Although this alternative would maintain an option to add a non-sterile but secured passenger corridor and two holdrooms permanently for the long term, this alternative was dismissed because it is not consistent with longer term airport planning for a possible Concourse F and would also constrain the proposed ATCT site construction area (anticipated to begin in 2018). Although two holdrooms are proposed in the ultimate build-out of this alternative, the passenger level of service would not be ideal, as no concession areas are likely and there is a long walking distance without an option for a moving walkway under this alternative. This alternative also may complicate aircraft access to the North Cargo Complex and reduces the number of parking stalls in the Manager's parking lot. For these reasons, this alternative was dismissed from further consideration.

***No Action Alternative***

Under the No Action Alternative, the Commuter Concourse would not be demolished and four of those commuter gates would not be repurposed to other areas of the Airport terminal where gates could be better utilized. The Commuter Concourse would continue to be underutilized and no improvements would be made to the RON Parking or pavement. The composition of the apron would not be improved to accommodate larger aircraft than the Group III aircraft. The International Terminal would not be improved beyond the current construction of the International Baggage Screening area, and the first phase of the Concourse E extension would not be constructed. No additional gates, passenger boarding bridges or interior hold rooms would be provided.

The No Action Alternative does not meet the purpose and need described in *Section 3, Project Purpose and Need*.

Explanation

The Proposed Action Alternative, discussed in *Section 2, Project Description*, includes demolition of the Commuter Concourse in favor of additional gate capability at the International Terminal (Concourse E) and at Concourse D. This action would improve the airport's ability to provide its customers with appropriate facilities, without adding to the existing number of total gates at BWI Marshall. The Proposed Action Alternative meets the purpose and need for the Proposed Action, is consistent with the Airport's long term planning goals, and also provides the most flexibility for future development since the Concourse E extension is a phased improvement. The Proposed Action Alternative also improves the efficiency of gate usage, better utilizes the Terminal Area and provides BWI Marshall customers with appropriate facilities.

Therefore, Alternative 1 and Alternative 2 for the expansion of Concourse E were eliminated from further consideration, as discussed above, and the alternatives for the project are limited to the Proposed Action and No Action alternatives as there are no unresolved conflicts concerning alternative uses of available resources.

**6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in Appendix A of 1050.1E and the Airports Desk Reference for more information and direction. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).**

**(A) AIR QUALITY** (Please note this analysis must meet requirements for both NEPA review and Clean Air Act (CAA) requirements).

**Clean Air Act**

(a) Is the proposed project located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and does it result in direct emissions (including construction emissions)?(If **Yes,** go to (b), **No,** go to the NEPA section below.

The Proposed Action site is located in Anne Arundel County in Maryland, which is presently designated by the EPA as moderate nonattainment for the pollutants of ozone ($O_3$) and particulate matter equal to or less than 2.5 micrometers (fine particulates or $PM_{2.5}$). Yes, the proposed project would result in direct emissions during construction.

(b) Is the proposed project an "exempted action," under the General Conformity Rule or Presumed to Conform (See FRN, vol.72 no. 145, pg 41565)? (If **Yes**, cite exemption and go to NEPA section below; **No,** go to (c)).

The Proposed Action is Presumed to Conform under *Category #3 – Non-Runway Pavement Work* and *Category #6 – Terminal and Concourse Upgrades*. The square footage required for the Proposed Action projects is within the Terminal Upgrades limits and the New Airfield Work (non-runway) limits set forth in *Table III-1: Presumed to Conform Limits for Selected Projects* in FRN, vol.72 no. 145. The additional approximately eight acres (341,000 SF) of new pavement proposed for aircraft parking and circulation at the International Terminal is within the $PM_{2.5}$ presumed to conform limits (26,050,568 SF) and the most stringent moderate nonattainment Ozone presumed to conform limits for $NO_x$ and VOC (2,193,881 SF and 11,916,560 SF, respectively) under New Airfield Work (non-runway). Additionally, the Concourse E extension is proposed to include a 19,000 square foot addition to the building, which is within the $PM_{2.5}$ presumed to conform limits (1,698,110 SF) and the most stringent moderate nonattainment Ozone limits for $NO_x$ and VOC (185,891 SF and 770,658 SF, respectively) under Terminal Upgrades.

(c) Would the proposed project result in a net total of direct and indirect emissions that exceed the threshold levels of the regulated air pollutants for which the project area is in non-attainment or maintenance? (Attach emissions inventory). (If **Yes,** consult with ADO).

No. The Proposed Action is Presumed to Conform under Categories #3 and #6. Further validation of conformance is provided in the air emissions inventory update and the construction emissions inventory developed for BWI Marshall's *Air Quality Assessment* (September 2013). Since BWI Marshall is located in both an $O_3$ and $PM_{2.5}$ nonattainment area, an applicability analysis was conducted under the General Conformity Rule for construction-related emissions associated with the short-term and long-term improvement projects. Construction-related emissions associated with the proposed short-term (2013-2015) and long term (2016-2020) improvement projects were identified and segregated by year and pollutant type. The demolition of the commuter concourse

and the international terminal extension and RON pad are included as long-term airport improvement/construction projects (anticipated 2018) in the air emissions inventory update and the construction emissions inventory.

As shown on **Table 1**, the maximum annual emissions during the long-term airport improvements are expected to occur in 2018. The maximum annual construction emissions during the long-term airport improvements are estimated to be 10.6 tons of CO, 12.6 tons of VOC, 21.0 tons of NOx, 0.07 tons of $SO_2$, 101 tons of $PM_{10}$, and 11.0 tons of $PM_{2.5}$. Annual emissions presented on Table 1 do not exceed any applicable *de minimis* thresholds for VOC, NOx, $SO_2$ or $PM_{2.5}$ for any construction year, and hence, construction related emissions resulting from the BWI Marshall short-term and long-term airport improvements would conform to the $O_3$ and $PM_{2.5}$ SIPs designed to attain the NAAQS in the Baltimore area. The connected action of adding an additional 0.5 acres of apron pavement was not included in the 2013 construction emissions inventory summarized in Table 1. However, doubling the highest construction emissions year analyzed, which included the International Terminal expansion and approximately 13.2 acres of pavement, would still not exceed any applicable *de minimis* thresholds. Therefore it can be presumed that the addition of approximately 0.5 acres of apron pavement to the Proposed Action would not exceed any annual air emissions thresholds. Therefore, the short-term and long-term airport improvement projects at BWI Marshall result in construction emissions which are below the applicable *de minimis* thresholds for General Conformity. Thus, for NEPA purposes the construction emissions of the Proposed Action conform to the SIP and no further analysis is necessary.

**Table 1**

Construction Emissions Inventory Results (tons per year)

| **Pollutant** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
|---|---|---|---|---|---|---|---|---|---|
| Carbon Monoxide (CO) | 6.36 | 3.28 | 39.9 | 5.05 | 0.00 | 1.97 | 10.6 | 1.47 | 1.61 |
| Volatile Organic Compounds (VOC) | 1.01 | 0.59 | 5.07 | 1.24 | 0.00 | 0.52 | 12.6 | 1.80 | 2.82 |
| Nitrogen Oxides (NOx) | 4.23 | 3.25 | 36.5 | 3.70 | 0.00 | 3.79 | 21.0 | 2.57 | 2.50 |
| Sulfur Dioxide ($SO_2$) | 0.37 | 0.55 | 0.10 | 0.01 | 0.00 | 0.01 | 0.07 | 0.01 | 0.01 |
| Particulate Matter 10 micrometers ($PM_{10}$) | 31.4 | 34.6 | 94.5 | 50.6 | 0.00 | 7.98 | 101 | 5.87 | 6.43 |
| Particulate Matter 2.5 micrometers ($PM_{2.5}$) | 3.45 | 3.84 | 12.1 | 5.31 | 0.00 | 0.99 | 11.0 | 0.70 | 0.75 |

**Note**: Short-term construction improvement projects are from 2012 through 2015. Long-term construction improvement projects are from 2016 through 2020.

General Conformity *de minimis* thresholds are 100 tons per year of ozone precursors of VOC and $NO_x$ and $PM_{2.5}$ and its precursors of $NO_x$ and $SO_2$.

Source: KB Environmental Sciences, Inc., 2013.

Because there are no anticipated changes to aircraft operations (e.g., number of operations, fleet mix, delay periods) or motor vehicle traffic attributable to the implementation of the proposed airport improvements, air emissions associated with the operation of the airport are expected to remain unchanged.

**NEPA**

(a) Is the airport's activity levels below the FAA thresholds for requiring a NAAQS analysis? (If **Yes**, document activity levels and go to Item 2, **No,** go to (b)).

Based on FAA guidance, even though airport activity levels exceed FAA thresholds, because the project's direct emissions are presumed to conform and there is no consequent increase in the volume of aircraft operations, a NAAQS assessment is not necessary.

(b) Do pollutant concentrations exceed NAAQS thresholds? (Attach emissions inventory).

No. See *Clean Air Act Sections (b) and (c).*

(c) Is an air quality analysis needed with regard to state indirect source review?

No. Indirect source review requirements are state specific, and Maryland is not one of the states that require such reviews.

## (B) BIOTIC RESOURCES

Describe the potential of the proposed project to directly or indirectly impact plant communities and/or the displacement of wildlife. (This answer should also reference Section 19, Water Quality, if jurisdictional water bodies are present).

Because the Proposed Action is in the vicinity of aircraft movement areas in the highly developed North and Central Terminal areas of the Airport, the Proposed Action site is devoid of trees and plant communities that could potentially attract wildlife. Wildlife hazard restrictions are in place and no open water is permitted within 10,000 feet of aircraft movement areas. Therefore there is no potential to directly or indirectly impact plant communities and/or to displace wildlife due to the Proposed Action. A stormwater channel (Channel B14) would be filled in and paved over as part of the new apron pavement construction, however the channel does not function as habitat to wildlife species as it is designed to meet vegetation requirements to avoid creating potential wildlife hazard attractants. Any BMPs to meet stormwater management requirements within the project watershed would be subject to wildlife hazard restrictions.

## (C) COASTAL RESOURCES

(a) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Explain.

Yes, BWI Marshall 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. However the proposed project would not affect the use of a coastal resource and would not impact wetlands, waterways or forest, as defined by the Maryland CZMP.

(b) If **Yes**, is the project consistent with the State's CZMP? (If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification).

Yes. The MAA submitted a request to the MDE Federal Consistency Coordinator on 9/10/14 seeking a Coastal Zone Consistency determination for this project, pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended (CZMA). Correspondence with the Federal Consistency Coordinator will be included in ***Attachment 1: Agency and Public Consultation*** of the Draft EA.

(c) Is the location of the proposed project within the Coastal Barrier Resources System? (If **Yes**, and the project would receive federal funding, coordinate with the FWS and attach record of consultation).

No.

**(D) COMPATIBLE LAND USE**

(a) Would the proposed project result in other (besides noise) impacts that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

No. The Proposed Action site is in the highly developed North and Central Terminal areas of the Airport, just south of the Airfield area and North Cargo Complex, as shown on Exhibit 5. The Terminal Area includes the main terminal building, six concourses, a commuter terminal, and all associated gates. The Airfield consists of the runways, taxiways, aircraft parking aprons, and all safety areas associated with the airfield. This category also includes navigational aids, lighting, and a description of the airspace operating environment. The Cargo Facilities to the west include cargo processing facilities, cargo aircraft parking areas, and cargo auto parking and truck docks. The Proposed Action site is surrounded by airport-related uses as described above and would occur entirely on airport property. Aircraft noise would not change as a result of the proposed projects, as there is no anticipated change to aircraft or vehicle operations.

The Proposed Action is consistent with the existing land uses in the terminal, airfield and cargo areas of the airport, and is consistent with land uses identified in the 2011 BWI Marshall Master Plan. The project would not disrupt communities or require relocation of residences or businesses, or impact any natural resource areas.

(b) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards On and Near Airports"? Explain.

No. Due to the Proposed Action site location in the Critical Zone (area within 10,000 feet of the runway centerline) as defined by FAA AC 150/5200-33, Section 1, the Proposed Action site is subject to wildlife hazard considerations during demolition, construction and development. In accordance with the BWI Wildlife Hazard Management Plan (WHMP) (Updated May 2013), habitat management control efforts would be implemented to actively reduce wildlife attractions to the Proposed Action site during and after construction. Additionally, construction sites and soil storage areas would be managed in accordance with the WHMP to reduce their potential to attract wildlife.

## (E) CONSTRUCTION IMPACTS

Would construction of the proposed project increase ambient noise levels due to equipment operation; degrade local air quality due to dust, equipment exhausts and burning debris; deteriorate water quality when erosion and pollutant runoff occur; and/or disrupt off-site and local traffic patterns? Explain.

The Proposed Action Alternative would result in temporary impacts during construction to ambient noise levels, air quality, and potentially localized water quality if runoff occurs. Noise impacts during construction are expected, but noise impacts would be localized in the vicinity of the construction site. Construction equipment and vehicles would create localized increases in noise levels, but these temporary noise impacts would not disrupt normal airport operations.

Although construction-related emissions associated with the Proposed Action are considered presumed to conform and are 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.

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.

Overall, the Proposed Action is expected to create minor and temporary impacts during construction at the Proposed Action site and in the immediate vicinity. These impacts would be short-term in nature, lasting for the duration of construction activities. Temporary contractor staging areas would be required throughout construction to store construction equipment and materials. All impacts associated with construction of the Proposed Action 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.

## (F) SECTION 4(f) RESOURCES

Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? (If **Yes**, contact FAA, contact appropriate agency and attach record of consultation).

No. The Proposed Action site is on BWI Marshall property and would not impact any Section 4(f) resources. The Proposed Action site is screened from the National Register listed Benson Hammond House located in the northeast corner of the BWI Marshall campus, just south and west of Aviation Boulevard. Therefore there would be no visual impacts as a result of the proposed projects. The proposed projects are not changing existing aircraft operations or procedures, therefore there would be no changes to the noise environment in the vicinity of any Section 4(f) properties.

The MAA requested concurrence from the Maryland Historical Trust (MHT) on 8/21/14 that based on the Historic Preservation Plan (HPP) that MAA prepared in 1996 in coordination with MHT, the areas of these proposed projects fall within areas designated in the HPP as previously evaluated and thus no additional study is required. Correspondence with the MHT will be included in *Attachment 1: Agency and Public Consultation* of the Draft EA.

## (G) ENDANGERED AND THREATENED SPECIES

(a)Would the proposed project impact any federally or state-listed or proposed, endangered, or threatened species (ESA) of flora and fauna, or impact critical habitat? (Attach record of consultation with federal and state agencies as appropriate).

No. Activities from the implementation of the Proposed Action would occur within the built-up Terminal core area of the Airport, which is well out of range of any threatened or endangered species. The Proposed Action would not have an impact on any known or suspected threatened or endangered species or critical habitat. The U.S. Fish and Wildlife Service Information, Planning, and Conservation System (IPaC) tool was used to confirm that there are no State or Federal records for rare, threatened or endangered species in the vicinity of the Proposed Action site.

(b)Would the proposed project affect species protected under the Migratory Bird Act? (If **Yes**, contact FAA).

No.

## (H) ENERGY SUPPLIES, NATURAL RESOURCES AND SUSTAINABLE DESIGN

What effect would the proposed project have on energy or other natural resource consumption? (Attach record of consultations with local public utilities or suppliers if appropriate)

The Proposed Action would not require any activities that would have a measurable effect on local supplies of energy or natural resources. The Proposed Action would require additional energy use to provide water, heating, air conditioning and electricity to the 150-foot extension of Concourse E and to enhance security in the North Cargo Complex buildings; however, the anticipated increase in

additional energy consumption required by the proposed extension to the terminal and the security enhancements to the North Cargo Complex buildings would not amount to a significant percent of total airport energy use, and current energy supplies at the Airport could meet the additional demand.

The Proposed Action would require fuel for the construction vehicles and equipment during demolition and construction of the Proposed Action site; however, the anticipated energy consumption required for the Proposed Action would not amount to a significant percent of total airport energy use, and current energy supplies at the Airport could meet the additional demand.

The Proposed Action 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 Proposed Action site that would be affected by the Proposed Action.

The demolition of the Commuter Concourse, the reconstruction of the RON parking apron, the Concourse E extension and new pavement area, as well as all connected actions would use sustainable techniques wherever feasible such as recycling and reuse of materials; access to affordable energy; and use of sustainable source materials. Building design would consider sustainable technologies such as groundsource heat pumps, energy efficient appliances, doors and windows, combined heating/cooling and power systems, and passive solar gain.

**(I) ENVIRONMENTAL JUSTICE**

Would the proposed project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Explain.

The Proposed Action would occur on Airport property within the Terminal and Cargo areas, near the Airfield, and would not impact the economic development or health and safety of the communities that exist in the vicinity of the Airport. No neighborhoods or populations would be impacted by the Proposed Action and no disproportionately high and adverse impacts on minority and low-income populations with respect to human health and environment would occur.

**(J) FARMLANDS**

Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? (If **Yes**, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

No.

**(K) FLOODPLAINS**

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?

No.

(b) If Yes, attach the corresponding FEMA Flood Insurance Rate Map (FIRM) and describe the measures to be taken to comply with Executive Order 11988.

Not applicable.

## (L) HAZARDOUS MATERIALS

Would the proposed project involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials? (If **Yes**, attach record of consultation with appropriate agencies). Explain.

The Proposed Action does not involve any land that is known to contain hazardous materials and is not expected to cause contamination from hazardous materials. An asbestos-containing building materials (ACBM) survey has been conducted at the Commuter Concourse to identify the location of the ACBMs. Small quantities of ACBMs were identified in a number of rooms in the Commuter Concourse, primarily in the form of fire doors in restrooms, storage rooms and utility rooms. The quantity, location and detailed material descriptions of the identified ACBM in the Commuter Concourse are included as ***Attachment 2: ACBM Survey***.

The three federal statutes most applicable are the Resource Conservation and Recovery Act (RCRA), as amended by the Federal Facilities Compliance Act of 1992, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and the Toxic Substances Control Act (TSCA). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides remedies for uncontrolled and abandoned hazardous waste sites. In Maryland, the regulation of toxic substances falls under the purview of the TSCA (under the EPA) and by MDE. In accordance with these federal statutes, federal regulations under 29 CFR Parts 1910 and 1926, 40 CFR Parts 61 and 761, 49 CFR Parts 171-173, and Code of Maryland Regulations (COMAR) 26.11.21 and 26.13.10, proper removal of all ACBMs will be conducted in accordance with current abatement industry standard removal techniques prior to demolition of the concourse; therefore no release or exposure of hazardous materials is anticipated. The MDE also recommends that any contract specifying “lead paint abatement” complies with COMAR 26.16.01 – Accreditation and Training for Lead Paint Abatement Services.

The procedures that will be used and adhered to for the proper removal of ACBM materials include the following: (1) pre-abatement activities including inspection, notifications, permits, submittals and approvals, work area preparations (removal of equipment from the work area), emergency arrangements, and standard operating procedures; (2) Abatement activities including removal and disposal of hazardous materials, contaminated waste, recordkeeping, security, and inspection and monitoring; and (3) Cleaning, encapsulation, and decontaminating activities including final inspection, testing, and certification. The Contractor, job supervisors, foremen, and abatement workers must be certified and licensed as required by the State of Maryland.

The existing facilities and land uses in the project area are typical of a commercial airport and therefore involve the storage, use, and transport of hazardous materials and the generation of hazardous wastes. A search of Federal and state regulatory databases did not reveal any sites or facilities in the vicinity that are included on the National Priority List (NPL). The RCRA listing of

Hazardous Waste Facilities that generate, manage, ship and/or receive hazardous waste materials includes Northrop Grumman Systems Corporation. Northrop Grumman Systems Corporation adjoins the airport along the northwesterly property line near the approach to Runway 15R. Similarly, there are no reported landfills, large-scale industrial or chemical facilities, or sites of widespread contamination in the vicinity of the airport.

The Proposed Action includes the piping and drainage infrastructure for the glycol collection system that would ultimately connect to the proposed glycol collection system for the east side of the terminal complex. This infrastructure would have no impacts on hazardous materials since the upgraded collection system is not yet in place and there is no chance of glycol leakage since only "stubs" are being put in place for later connection.

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 above ground or underground petroleum storage tanks are found on site, the contents and tanks along with any contamination would be removed.

BWI Marshall has developed an *Airport Integrated Contingency Plan (ICP)* and *Spill Prevention, Control and Countermeasure (SPCC) Plan*. The ICP describes the actions that should be taken in the event of a release of hazardous materials or a spill that threatens to enter the stormwater management system. The ICP also includes emergency contacts and reporting procedures. This ICP, and other applicable documents such as tenant-specific plans, should be considered when preparing for hazardous or emergency situations. In addition, a separate SPCC plan has been developed for BWI Marshall, in accordance with regulatory requirements.

## (M) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL OR CULTURAL PROPERTY

(a) Describe any impact the proposed project might have on any properties in or eligible for inclusion in the National Register of Historic Places. (Include a record of your consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

No impacts to historic, architectural, archeological, or cultural property. In 1996, MAA prepared a Historic Preservation Plan (HPP) with input and coordination from MHT that provided an overview of the history and prehistory of BWI Marshall, including an inventory of all recorded archeological 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 Action site is located in a "previously evaluated/no additional study required" area of the Airport.

Additionally, the Proposed Action site is screened from the National Register listed Benson Hammond House located in the northeast corner of the BWI Marshall campus, just south and west of Aviation Boulevard. Therefore there would be no visual impacts as a result of the proposed projects. The proposed projects are not changing existing aircraft operations or procedures, therefore there would be no changes to the noise environment in the vicinity of any historic properties. The MAA requested concurrence from the MHT on 8/21/14 that based on the Historic Preservation Plan (HPP) that MAA prepared in 1996 in coordination with MHT, the areas of these proposed projects fall within areas designated in the HPP as previously evaluated and thus no additional study is required. Correspondence with the MHT will be included in *Attachment 1: Agency and Public Consultation* of the Draft EA.

(b) Describe any impacts to archeological resources as a result of the proposed project. (Include a record of consultation with persons or organizations with relevant expertise, including the S/THPO, if applicable).

No impacts. Refer to (M)(a) above.

## (N) INDUCED SOCIOECONOMIC IMPACTS

Would the proposed project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as change business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.? Explain.

The Proposed Action would occur on Airport property within the Terminal and Cargo areas and would not cause any impacts to surrounding communities or shift any business or economic activity in the community. The projects would also not induce any shifts in population movement or growth. The Commuter Concourse gates are being demolished and repurposed for more efficient gate usage in other areas of the Airport. The repurposing of gates is not expected to have any impact on the number of aircraft operations or induce additional demand. No changes in economic or business activity at the airport or in the community are anticipated as a result of the Proposed Action. Although gates would be added where they will be better utilized in Concourses D and E, the overall number of gates at the Airport would be reduced.

## (O) LIGHT EMISSIONS AND VISUAL EFFECTS

Would the proposed project have the potential for airport-related lighting impacts on nearby residents? Explain.

The Proposed Action site is located in the highly developed North and Central Terminal areas of the Airport. No impacts to light emissions would result from implementing the proposed projects. The lighting of the repurposed gates at Concourses D and E would be consistent with existing gate and airport Terminal Area lighting. Any work area lighting needed during construction would be temporary and minimal in comparison to the existing light emissions in the Airport's Terminal Area.

The primary visual changes as a result of the Proposed Action include the demolition of the Commuter Concourse and repurposing of gates at Concourse D and the extension of Concourse E. The RON parking area would be paved in place of the Commuter Concourse and Concourse E

would be extended 150 feet. Channel B14 (the stormwater channel) would be filled and paved as part of the additional apron area needed for aircraft parking and circulation after the phased Concourse E extensions, which would result in more pavement visible from the Terminal Area, cargo area and the Runway 15L end. Checkpoint Juliet would also be removed, however this would not result in any changes to visual quality. The proposed development associated with the Proposed Action would be in keeping with the appearance of a modern international airport and would not detract from the area's visual quality. No exterior changes would occur with security enhancement to the cargo buildings or the abandonment of the PIDS line. Furthermore, the changes to the visual appearance of the Terminal Area as a result of the Proposed Action would only be visible from the Terminal Area, Cargo area and Airfield area and would not have visual impacts to nearby residents.

## (P) NOISE

Will the project, when compared to the No Action alternative for the same timeframe, cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least DNL 1.5 dB? (Use AEM as a screening tool and INM as appropriate. See Airports Desk Reference, Chapter 17, for further guidance).

No. The Proposed Action does not induce aircraft activity nor change operational levels/fleet mix at BWI Marshall; therefore, there would be no difference between the No Action and Proposed Action noise exposure for aircraft activity. Any temporary noise during construction would be temporary, localized, and only incremental to the existing noise of aircraft and vehicle operations in the vicinity.

## (Q) SOCIAL IMPACTS

Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease in Level of Service?

No surface traffic patterns would change as a result of the Proposed Action, and the existing roadways and parking areas serving the airport would remain the same. The Proposed Action also would not induce additional passenger activity that would result in additional surface traffic. The VSR supporting the International Terminal would be modified to accommodate the Concourse E extension. The VSR is used by on-airport permitted vehicles only, such as baggage tugs and other ground support equipment vehicles. The subject VSR extends north to south, parallel to the terminal behind Gates E1 and E3, and is proposed to be routed to circumvent the area utilized for aircraft parking at the gates and would connect to the VSR on the east side of the International Terminal, as shown on Exhibit 3.

## (R) SOLID WASTE

Would the operation and/or construction of the project generate significant amounts of solid waste? If **Yes**, are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

The Airport currently produces and collects solid waste. The operation of the Proposed Action, once constructed, would not generate a significant amount of solid waste compared to solid waste already generated by airport operations.

For demolition of the Commuter Concourse and during the construction phase of the Proposed Action, MAA's non-hazardous solid wastes would be removed for disposal by licensed and approved private contractors. In accordance with COMAR 26.04.07, BWI Marshall uses contracted permitted commercial waste haulers to dispose of wastes and ensure wastes are disposed of in properly permitted facilities. Additionally, MAA uses best management practices (BMPs) for waste management and is involved in waste minimization and recycling programs at BWI Marshall, which requires special handling of materials and reporting. As part of this, MAA would recycle and reuse salvaged building materials as feasible with the use of segregated dumpsters in order to minimize construction and demolition debris waste from entering the landfills. In accordance with MDE recommendations, any solid waste including demolition and land clearing debris would be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible.

MAA will consider Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance,* during implementation of the Proposed Action. The Order sets forth Federal energy requirements in several areas and states that Federal agencies should enhance efforts toward sustainable buildings and communities.

## (S) WATER QUALITY

(a) Does the proposed project have the potential to impact water quality, including ground water, surface water bodies, and public water supply system or federal, state or tribal water quality standards? (If **Yes**, contact appropriate agency and include record of consultation).

Yes, however in accordance with Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects (February 2015) and the Stormwater Management Act of 2007 (the Act), environmental site design (ESD) to the maximum extent practicable (MEP) must be implemented for all development. The intent of ESD is to restore, enhance, and maintain the chemical, physical, and biological integrity of streams, minimize damage to public and private property, and reduce the adverse impacts of land development.[4] Adherence to the Act will require that best management practices to control water quantity and quality be designed to meet ESD to the MEP. The MDE reviews stormwater quantity and quality control plans in three stages: concept plan, site development plan, and final plan. Upon initiation of design for the Proposed Action Alternative a concept plan will be submitted to MDE for initial review of best management practices to meet ESD to the MEP.

In order to confirm that control of stormwater quantity and quality for the Proposed Action Alternative was feasible, and prior to conceptual plan design, a preliminary study of stormwater was conducted by AECOM to conceptually assess stormwater requirements for removal of a stormwater channel (Channel B14) and addition of new impervious surface. (See ***Attachment 3: International Terminal Expansion – Stormwater Management Impact Study Technical Memorandum***). The study was intended to provide guidance on potential treatment requirements for the land use conversion of pervious to impervious surface and to study the pipe capacity of the main stormwater pipes from Channel B14 to Pond B15 during the five-year design storm. Channel B14 and 0.5-acre grassed island north of the International Terminal, near the North Cargo Complex, would need to be filled in and paved over as part of the Concourse E extension and the associated

[4] Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects, February 2015, p. 1.

new pavement for aircraft parking and circulation. Therefore control of stormwater (both quantity and quality) is needed for the removal of Channel B14 and the grassed island, and the addition of new impervious surfaces.

Since the site is estimated to be more than 40% impervious, the project would be classified as "redevelopment" in accordance with MDE regulations. To comply with MDE regulations, the proposed redevelopment project must provide the water quality volume for 50% of the existing site impervious cover and 100% of new impervious cover. Because the Proposed Action Alternative consists of approximately 13.7 acres of existing impervious and new impervious area, 1.5 ac-ft of treatment would be required in accordance with MDE's redevelopment and new development requirements of ESD to the MEP (See **Table 2**). To meet this requirement, three infiltration trench options were identified, shown on **Exhibit 8**; it was preliminarily determined that two of the options would need to be implemented to meet the 1.5 ac-ft requirements since each option treats only 0.8 ac-ft. Additionally, another option for complying with MDE water quality requirements includes the use of water quality credits within the Muddy Bridge Branch watershed. BWI Marshall currently has approximately 34.84 acres[5] of water quality credits available within the Muddy Bridge Branch watershed, of which approximately 11 acres would be needed to meet water quality requirements.

**Table 2**
Water Quality Treatment Requirements

| Development Type | Impervious Area (ac) | Rainfall Target (in) | Treatment Volume (ac-ft) | |
|---|---|---|---|---|
| | | | ESD | WQ portion |
| Redevelopment | 5.5 | 1 | 0.2 | 0.2 |
| New development | 8.2 | 2 | 1.3 | 0.7 |
| Total | 13.7 | -- | 1.5 | 0.9 |

Source: AECOM, *International Terminal Expansion – Stormwater Management Impact Study Technical Memorandum*, July 2014 and HNTB analysis, 2015.
Note: Table was updated for this EA to reflect additional 0.5-acre of impervious area due to additional apron pavement.

The pipe capacity of the stormwater conveyance pipes was also evaluated due to the increase in peak flows to the storm drain pipe network between Channel B14 and Pond B15 as a result of the Proposed Action Alternative. Two conceptual models were developed due to disparities in available data (MAA GIS and pipe network information from the 1987 as-built drawings), as shown on **Exhibit 9**. The conceptual models indicate that the pipes between Channel B14 and Pond B15 are under capacity for the proposed flows. The MAA currently intends to add a parallel stormwater conveyance pipe to the existing pipe that runs between Channel B14 and Pond B15, however the specific solution to address the need for increased pipe capacity would be further evaluated and verified during final design.

The general water quality treatment options initially developed as part of the AECOM technical memorandum are listed in **Table 3**.

[5] MDE approved Muddy Bridge Branch Water Quality Credit Table, BWI Existing Conditions Stormwater Institutional Management Plan (IMP), January 2015.

Baltimore/Washington International Thurgood Marshall Airport

International Terminal Extension, Commuter Concourse Demolition and Related Improvements

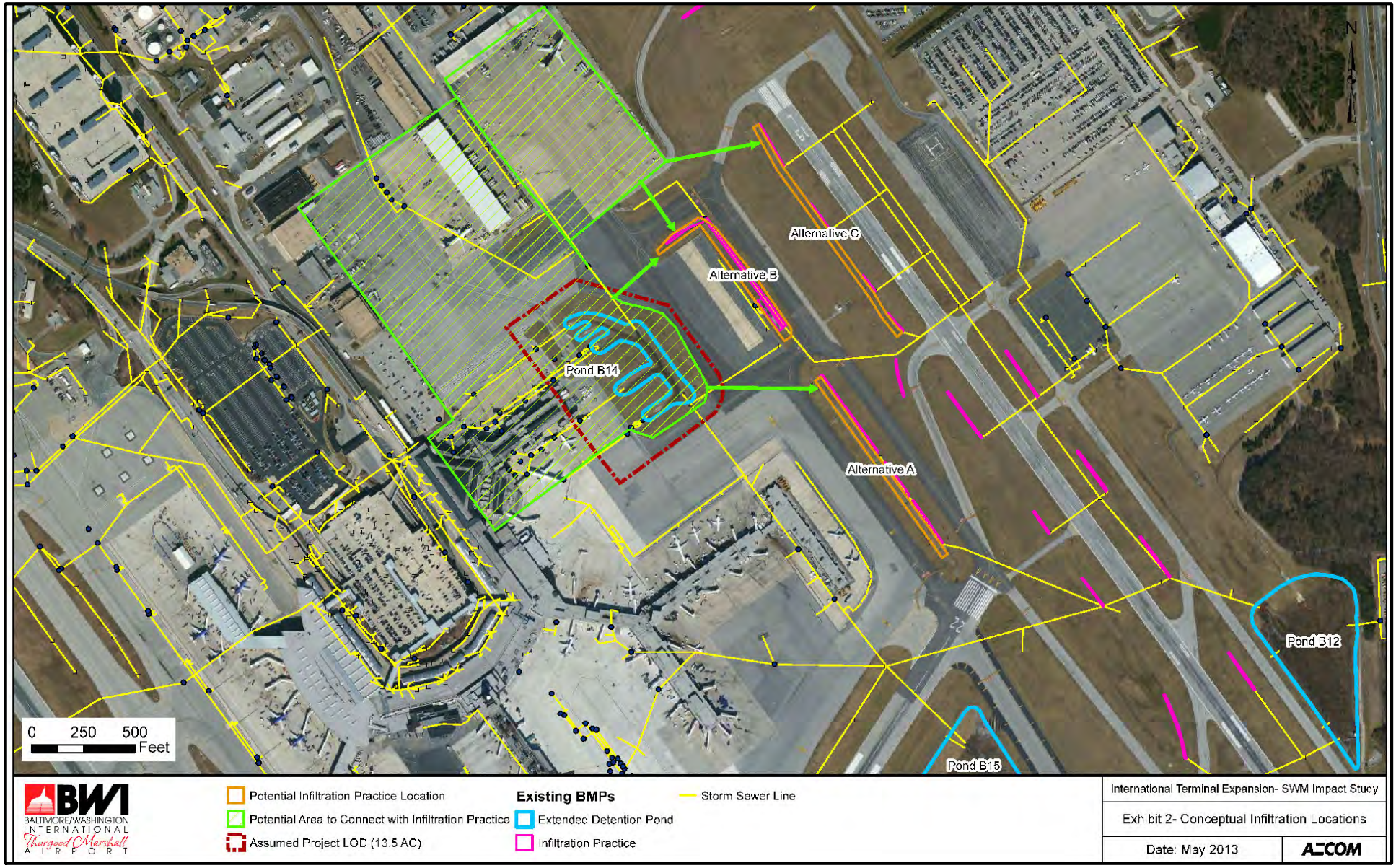
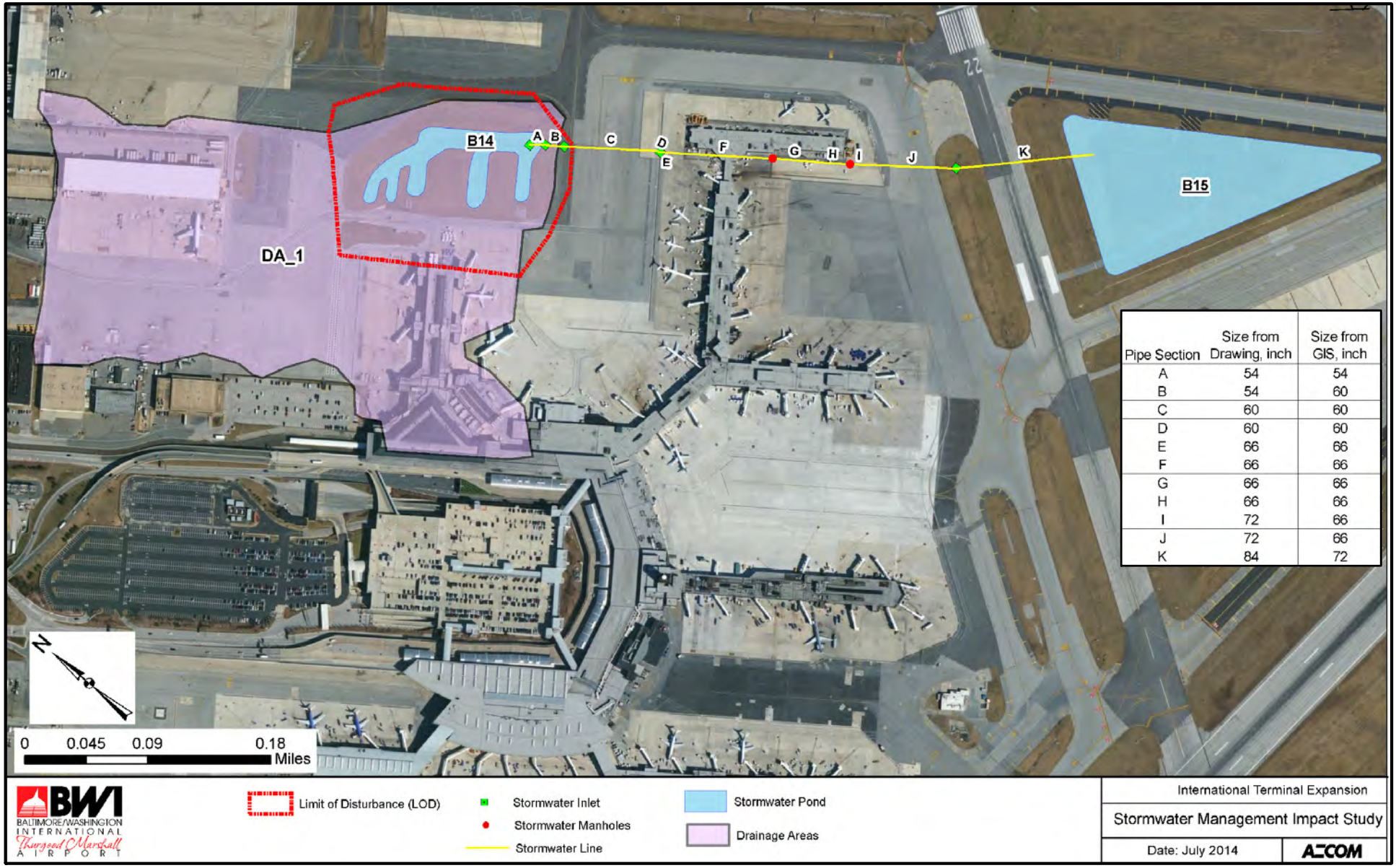



Exhibit 8

Conceptual Infiltration Locations

Source: AECOM 2013




| Pipe Section | Size from Drawing, inch | Size from GIS, inch |
|---|---|---|
| A | 54 | 54 |
| B | 54 | 60 |
| C | 60 | 60 |
| D | 60 | 60 |
| E | 66 | 66 |
| F | 66 | 66 |
| G | 66 | 66 |
| H | 66 | 66 |
| I | 72 | 66 |
| J | 72 | 66 |
| K | 84 | 72 |

Exhibit 9
Stormwater Management Impact Study

Source: AECOM 2014

**Table 3**
Water Quality Treatment Options

| Option | Potential Treatment Scenario |
|---|---|
| Option 1 | ESD treatment for 2.3 ac-ft[a] (infiltration trenches, or equal)<br>No pipe modifications |
| Option 2 | ESD treatment for 1.5 ac-ft (infiltration trenches, or equal)<br>Detention of 0.9 ac-ft (underground detention)<br>No pipe modifications |
| Option 3 | ESD treatment for 1.5 ac-ft (infiltration trenches, or equal)<br>Increase pipe size, or equal |
| Option 4 | Water quality credits<br>Channel protection treatment in Pond B15<br>Increase pipe size, or equal |

Source: AECOM, *International Terminal Expansion – Stormwater Management Impact Study Technical Memorandum*, July 2014 and HNTB analysis, 2015.
Note: Table was updated for this EA to reflect additional 0.5-acre of impervious area due to additional apron pavement.
[a] AECOM, International Terminal Expansion – Stormwater Management Impact Study Technical Memorandum, July 2014, page 2, "Depending on the method used to calculate the estimated storage volume, the 2.3 ac-ft of storage is the minimum estimate for the five-year storm. Storage volumes of up to 3 ac-ft were calculated using more conservative estimates. The storage volume depends on routing the detention system, which was not modeled in this analysis."

Because the Proposed Action Alternative is conceptual in nature, detailed information regarding the ESD and specific type of stormwater treatment are yet to be determined, however the stormwater management design determined during final design will be designed in accordance with Maryland regulations for quantity and quality control for stormwater. Stormwater quality control will also be designed in accordance with the Airport's MS4 permit, which takes into account the TMDLs developed for the impaired water bodies and mandates that the project will not result in a net increase of any impairing substances in the impaired waters. In order to meet permitting requirements, the Proposed Action Alternative will be designed to ensure that all water quality standards are met and that TMDL implementation plans established through the MS4 permit are adhered to.

(b) Is the project to be located over a designated Sole Source Aquifer? (If **Yes**, attach record of consultation with EPA).

No.

**(T) WETLANDS**

(a) Does the proposed project involve federal or state regulated or non-jurisdictional wetlands? (Contact USFWS or state agency if protected resources are affected) (Wetlands must be delineated using methods in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual. Delineations must be performed by a person certified in wetlands delineation).

No. There are no federal or state regulated wetlands or non-jurisdictional wetlands in the area considered for the Proposed Action.

(b) If yes, does the project qualify for an Army Corps of Engineers General permit? (Document coordination with the Corps).

Not applicable.

## (U) WILD AND SCENIC RIVERS

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or National Rivers Inventory? (If **Yes**, coordinate with the jurisdictional agency and attach record of consultation).

No.

## (V) CUMULATIVE IMPACTS

Discuss impacts from past, present, and reasonably foreseeable future projects both on and off the airport. Would the proposed project produce a cumulative effect on any of the environmental impact categories above? Consider projects that are connected and may have common timing and/or location. For purposes of this Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

A review of several information sources was conducted to determine past, present, and reasonably foreseeable development actions at BWI Marshall and the surrounding area. The primary source of information used is the *Draft BWI Marshall Airport Layout Plan Update Narrative Report* (July 2014), 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 *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 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.

**On-Airport Projects:**

MAA is responsible for the planning, design and construction of various airport projects on BWI Marshall 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* (July 2014), 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 4** contains a list of recently completed, current and future projects that occur between 2011 and 2020, in order to qualitatively assess potential cumulative impacts.

**Table 4**

BWI Marshall On-Airport Cumulative Projects

| Time | Project Name (Type of Project*) | Year |
|---|---|---|
| **Recently Completed (3 years)** | Reconstruct the C and D aprons (A) | 2009 - 2011 |
| | ASDE-X Installations | 2010 - 2011 |
| | Consolidated Rental Car Facility Improvements (S) | 2010 - 2011 |
| | Gate G Improvements (S) | 2010 - 2011 |
| | Ramp Paving Project (A) | 2011 |
| | Enclosures for U.S. Airways and American Airlines (T) | 2011 |
| | Apron Reconstruction (A) | 2011 |
| | Comprehensive Interior/Exterior Modifications (T) | 2011 |
| | Comprehensive Paving Improvements (A) | 2011 - 2014 |
| | Noise Zone Land Acquisition Program (M) | 2012 - 2013 |
| | Runway 10-28 Improvements (Including Runway 15R-33L Intersection) (A) | 2011-2014 |
| | Concourse B/C Connector Improvements (T) | 2011 - 2014 |
| | Hazardous Remediation at Sheraton Hotel Complex | April 2014 |
| **Current** | 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 |
| **Future (5 years)** | Sheraton Four Points Demolition (L) | 2014-2015* |
| | Hotel Construction, Hourly Garage Expansion, and Sky Bridge E (L) | 2015* |
| | Runway 15L-33R FAA Improvements (A) | 2015* |
| | Runway 15R-33L Improvements (A) | 2015* |
| | Runway 10-28 Improvements (as part of Airfield Capacity Enhancement Project) (A) | 2015* |
| | Taxiway Uniform (U) Relocation (A) | 2015* |
| | Airfield Capacity Enhancement Project (A) | 2015* |
| | Expansion of CUP (S) | 2015* |
| | On-Airport Roadway Improvements (S) | 2015* |
| | Concourse D-E Connector (T) | 2015-2017* |
| | Relocation of Electrical vault (S) | 2016 |
| | Development of a new Northrop Grumman Hangar (P) | 2016 |
| | Snow Removal Equipment Storage Facility (S) | 2016 |
| | Relocate Taxiway Romeo (R) – Phase 1 (A) | 2016* |
| | International Terminal Area Taxiway Fillets/Shoulders (A) | 2016* |
| | Relocate Taxiway Foxtrot (F) – Phase 1 (A) | 2017* |
| | Relocate Airfield Lighting Vault (A) | 2017-2019* |
| | Runway 28 Deicing Pad Expansion | 2018-2019* |

**Table 4**

BWI Marshall On-Airport Cumulative Projects

| Time | Project Name (Type of Project*) | Year |
|---|---|---|
| | 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* |
| | Concourse E (2-Gate Expansion) (Phase 2 of 4-Gate Expansion) | 2020 |
| | Helipad Relocation (A) | Complete by 2020* |
| | Relocate Taxiway Hotel (H) (A) | Complete by 2020* |
| | Relocate Fire Training Facility (S) | Complete by 2020* |
| | Airport Maintenance Complex Relocation and Consolidation (Phase 1) (S) | Complete by 2020* |
| | Northwest Quadrant Perimeter Road Construction (Runway 10) (S) | Complete by 2020* |
| | New Infill Pavement Near Taxiways A, P and Runway 4-22 (A) | Under Construction by 2020* |
| | Taxiway Connectors (between Taxiways A-P) (A) | Under Construction by 2020* |
| | Obstruction Removal Project (M) | Under Construction by 2020* |
| | VSR Section from Runway 33L to Future Fire Training Facility (A) | Under Construction by 2020* |
| | Apron Fill at North Cargo Positions F18/F20 (A) | Under Construction by 2020* |
| | New Sky Bridge C (T) | Under Construction by 2020* |
| | New Terminal Response Fire Rescue Station (L) | Under Construction by 2020* |
| | New Vehicle Service Station (L) | Under Construction by 2020* |
| | Terminal Roadway Widening and Access Improvements (L) | Under Construction by 2020* |
| | Building 113 Demolition (L) | Under Construction by 2020* |
| | New Aircraft Maintenance Facility (G) | Under Construction by 2020* |
| | New Air Traffic Control Tower (S) | Under Construction by 2020* |
| | Relocate Remote Transmitter Receiver (S) | Under Construction by 2020* |
| | Existing Aircraft Rescue and Firefighting Facility (ARFF) Expansion Bays (S) | Under Construction by 2020* |
| | Runway Deicing Chemical Storage and Access Road (S) | Under Construction by 2020* |

Sources: *Final Environmental Assessment: Proposed Airport Improvements at BWI Marshall*, April 2012, Table 4.16-1 and Draft BWI Marshall ALP Narrative, July 2014.

**Notes:**
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 Draft BWI Marshall ALP Narrative, July 2014. Discussion is ongoing.

## Off-Airport Projects:

In considering cumulative impacts, off-airport projects that are planned for implementation in proximity to the BWI Marshall spatial boundary were also evaluated. The spatial boundary encompasses portions of Anne Arundel County, Hanover, Linthicum, and Ferndale. 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 area. The projects listed are reasonably foreseeable based on state and local planning documentation.

The discussion is presented in terms of significant proposed land development projects. 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 2011-2016 Consolidated Transportation Program and the Baltimore Region Transportation Improvement Program 2011-2014 were reviewed to identify projects that were included for capital improvement funding.

*Land Development*

- BWI/Linthicum Small Area Plan – 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:
    - 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.

**Potential Cumulative Impacts:**

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.

*Water Quality*

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 would be required to utilize onsite water retention and water quality control measures to prevent degradation of water quality in groundwater and receiving bodies.

As described previously, implementation of the Proposed Action would require the removal of a stormwater conveyance channel (Channel B14) and additional impervious pavement. The project would require stormwater management, which would include some combination of water treatment options and the expansion of pipe capacity (specifics to be determined during final design). Several options were analyzed to meet stormwater requirements, as discussed in *Section (S), Water Quality*.

Because the eight acres of additional pavement in the Concourse E extension area is designed to include the second phase of the concourse extension (2 additional gates), no cumulative water quality impacts would occur as a result of the next phase of the extension. The filling and paving of Channel B14 and the additional impervious surface for the apron would require stormwater and pipe capacity improvements; however the amount of impervious apron surface would not change for the next phase of the Concourse E extension. The International Terminal Bag Screening Improvements (current project), when combined with the Proposed Action, would not result in a cumulative impact on water quality once completed since the project involves a 90-foot extension of the terminal building, with no changes to the impervious surface area of the apron.

All stormwater management facilities would 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 resources impacts of the Proposed Action and cumulative projects would be minimized. Furthermore, the final stormwater management design for these airport improvement projects will take into account the TMDLs developed for the impaired water bodies and ensure that the projects would not result in a net increase of any impairing substances in the impaired waters.

Therefore, implementation of the Proposed Action and past, present and reasonably foreseeable future projects is not anticipated to result in a significant cumulative impact to the environment surrounding BWI Marshall.

*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 would result in temporary impacts to ambient noise levels, air quality, and potentially localized water quality when runoff occurs.

As shown in *Section (A), Air Quality*, although construction-related emissions associated with the Proposed Action are considered Presumed to Conform and are temporary in duration, these

emissions can 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 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 would 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 and cumulative projects is not anticipated to result in a significant cumulative impact to the environment surrounding BWI Marshall.

*Summary of Potential Cumulative Impacts*

Through the use of BMPs and mitigation measures, the potential impacts of the Proposed Action 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, MAA has concluded that the implementation of the Proposed Action Alternative along with the cumulative projects would not result in a significant cumulative impact.

## 7. PERMITS

List all required permits for the proposed project. Has coordination with the appropriate agency commenced and what is the expected time frame of receiving a permit?

It is anticipated that permits would be needed for stormwater, construction, erosion and sediment control and demolition. The MAA will obtain all necessary permits and coordinate with the appropriate agencies for the permits needed for the Proposed Action.

## 8. MITIGATION

Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project, and include a discussion of any impacts that cannot be mitigated.

No significant impacts are anticipated as a result of the Proposed Action Alternative. However, 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. Proposed measures to ensure minimal environmental impacts are included under the relevant impact category, if applicable.

## 9. PUBLIC INVOLVEMENT

Describe the public review process and any comments received.

The MAA submitted information regarding the Proposed Action to the MDE Federal Consistency Coordinator on 9/10/14 seeking a Coastal Zone Consistency determination for this project, pursuant to Section 307 of the CZMA. The Federal Consistency Coordinator responded on 10/30/14 that the proposed project is consistent with the Maryland Coastal Zone Management Program (CZMP). The MAA also requested concurrence from the MHT on 8/21/14 that the areas of these proposed projects fall within areas designated in the HPP as previously evaluated and thus no additional study is required. The MAA received concurrence from the MHT dated 9/15/14 confirming that no further coordination or historic preservation review is warranted for the proposed project. See *Attachment 1: Agency and Public Consultation* for agency correspondence.

The public and agencies were provided an opportunity to review and comment on the Draft Short EA Form during a public review period from March 6th through April 17th, 2015. A Notice of Availability (NOA) was published in *The Baltimore Sun* on Friday, March 6th and Sunday, March 8th, 2015 (Refer to ***Attachment 4: Notice of Availability***). Notice of availability of the draft and links to the document were also available on the MAA website. The initial end date of the 30-day review period (April 6th) was extended through April 17th due to an Errata issued to the Draft EA on March 16th, 2015, in order to allow 30 days of review from the time the Errata was issued.

Hard copies of the document, including the Errata and a notice of the review period extension, were made available to the public at FAA Washington Airports District Office, MAA offices and two public libraries in Anne Arundel County. The notice of the Errata and the Errata contents were also posted on the MAA website, with a notice of the extended comment period. No comments were received from the public in response to the Draft EA. The Errata contents and correspondence with agencies regarding the update to the document are included in *Attachment 1: Agency and Public Consultation*.

The Draft EA and Errata were submitted to the Maryland Department of Planning (MDP) State Clearinghouse for distribution to relevant agencies. Review comments were requested via the State Clearinghouse from the Maryland Department(s) of Natural Resources, Transportation, the Environment and the MDP, including the Maryland Historical Trust; and Anne Arundel County. The State Clearinghouse forwarded comments received by agencies to the MAA on April 10th. The State Clearinghouse recommendation letter, along with agency recommendations, comments, and responses to agency comments are included in *Attachment 1: Agency and Public Consultation.*

## 10. LIST OF ATTACHMENTS

| | |
|---|---|
| Attachment 1: | Agency and Public Consultation |
| Attachment 2: | Asbestos Containing Materials in Commuter Concourse |
| Attachment 3: | *International Terminal Expansion - Stormwater Management Impact Study Technical Memorandum* (AECOM, July 2014) |
| Attachment 4: | Notice of Availability |
| Attachment 5: | Maryland Environmental Assessment Form |

**Project Title:** International Terminal Extension, Commuter Concourse Demolition and Related Improvements

**Identifier:** BWI Marshall

## 11. PREPARER CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct.

Caroline E. Pinegar — 2-3-15

Signature — Date

Caroline E. Pinegar, A.I.C.P.

Name

Environmental Project Manager

Title

MAA Consultant/ HNTB — 703-824-5100

Affiliation — Phone #

## 12. AIRPORT SPONSOR CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.

Paul L. Shank — 2/3/15

Signature — Date

Paul L. Shank, P.E., C.M.

Name

Chief Engineer

Title

Maryland Aviation Administration — 410-859-7061

Affiliation — Phone #

## LIST OF PREPARERS

MARYLAND AVIATION ADMINISTRATION

| Personnel | Title | Years of Experience | Project Responsibilities |
|---|---|---|---|
| Robin Bowie | Manager, Division of Environmental Planning | 25 | Project Manager |

HNTB

| Personnel | Title | Years of Experience | Project Responsibilities |
|---|---|---|---|
| Caroline Pinegar, AICP, Envision SP | Environmental Project Manager | 10 | Project Manager |
| Kim Hughes, PE | Manager of Environmental Services | 28 | Program Manager; Quality Assurance, Quality Control |
| Kent Miller | Senior GIS Analyst | 15 | GIS; Graphics |
| Ryan Carey, EIT | Environmental Planner | 4 | Water Quality |

## LIST OF AGENCIES AND PERSONS CONSULTED

- Anne Arundel County
- Federal Aviation Administration
- Maryland Department of Business and Economic Development
- Maryland Department of the Environment
- Maryland Department of the Environment, Wetlands and Waterways Program
- Maryland Department of Natural Resources
- Maryland Department of Planning
- Maryland Department of Planning, Maryland Historical Trust
- Maryland Department of Planning, State Clearinghouse
- Maryland Department of Transportation