Appendix J: Coastal Zone Management Act Federal Consistency Certification Checklist

Federal Consistency Certification Checklist and Support Materials
Manassas Regional Airport
Part 139 Certification and Terminal Redevelopment
Programmatic Environmental Assessment
City of Manassas, Prince William County, Virginia

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May 4, 2026 (4th Draft)

The content of this document is organized using the section and subsection headers laid out in the Virginia Department of Environmental Quality (VADEQ) Federal Consistency Certification Checklist (May 2025). The Manassas Regional Airport (HEF) Part 139 Certification and Terminal Redevelopment Programmatic Environmental Assessment (PEA) has been in development since December 2023. The undertaking is located in northern Viriginia, Prince William County ("County"), and the City of Manassas ("City") (**Attachment A, Figures 1 and 2**). The PEA is being prepared pursuant to the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts that may result from the Federal Aviation Administration's issuance of Part 139 certification, changes to the HEF Airport Layout Plan (ALP)[1] and FAA's approval of commercial airline operations, including the Airport Terminal Redevelopment.

The FAA, the Airport, and the Airport's franchisee Avports, have identified 16 projects that would be required for HEF to accommodate commercial service (**Attachment A, Figure 3**), although all 16 are not necessary for commercial service to begin. Some of the projects would need to be completed within a five-year period (2026-2030) to initiate commercial airline operations beginning in 2026. Other projects are not needed to initiate commercial airline operations but are needed to accommodate future growth and can be completed over a longer term, specifically, from 2032 to 2036.

This document is included as an Appendix to the PEA. The Virginia Coastal Zone Management (CZM) Program Network will provide this response to this document to the following Virginia agencies who administer enforceable laws, regulations and advisory policies that protect Virginia's coastal resources: VADEQ, Department of Conservation and Recreation (VDCR), Marine Resources Commission (VMRC), Department of Wildlife Resources, Department of Health, Department of Agriculture and Consumer Services, Department of Forestry, Department of Historic Resources (VDHR, DHR), Department of Energy, Department of Transportation (VDOT), Virginia Economic Development Partnership, and the Virginia Institute of Marine Science.

Following are the responses to the Consistency Certification Checklist.

[1] The ALP serves as a critical planning tool that depicts both existing facilities and planned development at the Airport. Airports that receive Federal assistance must maintain a current Airport Layout Plan.

SECTION A.1

A.1.a Project Name

Manassas Regional Airport Part 139 Certification and Terminal Redevelopment Programmatic Environmental Assessment (PEA)

A.1.b Applicant Name and Contact Information

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SECTION A.2 NAME OF FEDERAL APPROVAL

Before commercial airline operations can begin, the FAA must certify that the Airport meets FAA standards and must issue an Airport Operating Certificate under Part 139 to serve scheduled operations. As part of the Part 139 certification process, the FAA will identify airfield safety and standards projects that must be completed before the FAA issues the operating certificate.

SECTION A.3 PROJECT DESCRIPTION

Manassas Regional Airport (HEF) occupies 888 acres and it is located in wide valley bounded on the west by Broad Run, on the east by Cannon Branch, and on the south by the combined streams. The Airport is owned by the City of Manassas and is operated and managed by the Manassas Regional Airport Commission. HEF is a general aviation (GA) airport and serves a variety of GA operations including single-engine light aircraft used for training and corporate jet aircraft.

While currently designated as a GA airport, between 1971 and 1986 commercial service was provided at the Airport (1). Commercial service ended due to population growth in the DC Metropolitan area however, the Airport and the City have continued to work toward re-establishing commercial airline operations at HEF. In the Spring of 2023 and in concert with the City, the Commission issued a Request for Proposals (RFP) for a provider to enter into a

Franchise Agreement to re-establish commercial airline operations at HEF. AFCO Avports[2] Management ("Avports") was awarded the Franchise Agreement by the City of Manassas, based on Avports' demonstrated ability to initiate airline service and manage commercial airline operations at other airports. Avports and the City entered into a Franchise Agreement in July 2023. As part of this agreement, Avports proposed to redevelop and expand the existing terminal building, expand the terminal parking lot, build an economy parking lot, provide support for the reconstruction and strengthening of Runway16L/34R, and construct a new Snow Removal Equipment (SRE) building.

The Franchise Agreement included the lease of parcels A through F by the City to Avports (**Attachment A, Figure 4**). These parcels currently contain the existing terminal (Parcel A); vacant land north of the terminal (Parcel B); the existing Building 13 (Parcel C); the East Apron (Parcel D); the terminal parking lot (Parcel E); and a wooded area on the east side of the Airport (Parcel F).

The environmental impacts of the 16 projects are evaluated in the PEA using a programmatic approach. The 16 projects have been divided into the following two tiers:

- Tier 1 projects have sufficient planning to support development and construction within the next five years or less and are necessary for FAA to issue a Part 139 certificate to HEF and for commercial airline operations. Construction of Tier 1 projects is projected to begin in 2026.
- Tier 2 projects are those with conceptual planning completed but with designs that are not yet finalized. For Tier 2 projects, design assumptions are made in the PEA so that potential impacts may be assessed and disclosed. Prior to construction, the FAA may require a reevaluation of these projects to determine if the assumptions contained in the Final EA and environmental determination remain valid and accurate. If the FAA determines that the information is no longer valid, a supplemental NEPA analysis may be needed once the planning process for these facilities has been completed, and they are sufficiently designed for analysis. Construction of Tier 2 projects is projected to begin in 2032.

The tiered approach in this PEA would allow the FAA to render a determination on those projects that have sufficient design completed (short term) while providing a review of the long-term projects that do not yet have sufficient design completed. Error! Reference source not found.**1** lists the 16 projects considered in this PEA along with associated tiering and construction year.

[2] Avports, founded in 1927 as a division of Pan American Airways (formerly known as Pan World Services), was acquired by Aviation Facilities Company (AFCO) in 2009 (166). Avports invests in, develops, manages, and operates various airports: commercial and general/corporate aviation airports, passenger terminal facilities, military bases, joint-use airports, heliports, NASA facilities, and spaceports (167).

Table 1 – PEA Tier 1 and Tier 2 Projects.

PEA Tier: Construction Year Start-End	PEA Project Number	PEA Project Name
Tier 1: 2026-2026	1	Terminal Building Expansion (north, south, and west)
Tier 1: 2026-2026	2	West Ramp GA Tie-Down Relocation
Tier 1: 2026-2028	3	East Ramp Strengthening, Reconfiguration, and Rehabilitation
Tier 1: 2026-2026	4	Terminal Parking Lot Rehabilitation and Expansion
Tier 1: 2026-2026	5	Economy Parking Lot Construction
Tier 1: 2026-2027	6	Bridge Rehabilitation – Runway 16L/34R and Taxiway Bravo
Tier 1: 2027-2028	7	Construction of a new SRE Building
Tier 1: 2027-2028	8	Taxiway Bravo Widening
Tier 1: 2027-2029	9	Runway 16L/34R Reconstruction and Strengthening
Tier 1: 2027-2029	10	Taxiway Echo Fillet Widening
Tier 1: 2029-2030	11	Taxiway Bravo Reconstruction and Strengthening (south of the bridge)
Tier 2: 2032-2034	12	Construction of a new East Ramp Taxiway
Tier 2: 2033-2033	13	Runway 16L/34R Widening
Tier 2: 2033-2034	14	Construction of an Aircraft Deicing Pad and Apron Expansion between Taxiways Delta and Echo
Tier 2: 2033-2036	15	Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
Tier 2: 2035-2036	16	Construction of new ARFF Facility

Construction work on the Tier 1 Projects (Years 2026-2030) would begin after the FAA environmental determination is issued on the PEA and appropriate permits are issued by responsible agencies. The Tier 1 projects are expected to be constructed within five years after the FAA issues its determination.

Virginia's Coastal Zone consists of all of Virginia's Atlantic coast, encompassing 29 counties, 17 cities and 42 towns. Prince William County is one of these counties; however, the City of Manassas is excluded from the Coastal Zone (per VADEQ). CZM Consistency is required for actions that fall within the Coastal Management Zone and/or have reasonably foreseeable effects on a coastal use or resource. Of the 16 proposed projects, only Project #5 (Economy Parking Lot) is within Prince William County. Project #6 (Bridge Rehabilitation – Runway 16L/34R and Taxiway Bravo) crosses Broad Run, which flows into Prince William County when it exits the Airport, downstream of the action area. These two projects are described below.

Project #5 - Economy Parking Lot Construction

Project #5, the Economy Parking Lot, would be constructed in a currently undeveloped area of the Airport (**PEA Appendix B**) between Wakeman Dr (west), Cannon Branch (east), Harry J. Parrish Blvd (south), and the Airport Fuel Farm (north) (**Attachment A, Figure 5**). The proposed location was subject to a previous environmental review in 2018 as part of an EA for West Side Corporate Development and East Parcel Development EA (2) for a proposed corporate hangar, vehicular parking and apron development. A FONSI was issued by the FAA

in March 2018. The proposed parking lot would encompass approximately 221,112 SF and would accommodate 647 parking spaces (including 13 that are ADA accessible) and a shuttle bus station. A stormwater detention system will be constructed below ground in the Economy Lot to manage stormwater flows from the added impervious surfaces. The project will include the construction of six retaining walls to protect the Resource Protection Area (RPA) that occurs on the east and south side of Project #5. Access to the Economy Parking Lot would be from the east side of Wakeman Dr (**Attachment A, Figure 5**). This Project would be constructed in 2026.

Project #6 - Bridge Rehabilitation: Runway 16L/34R and Taxiway Bravo

The bridges for Runway 16L/34R and Taxiway Bravo span Broad Run. While the existing bridges were widened in 2014-2015 to meet FAA design standards[3], they were not designed with sufficient strength to accommodate routine operations by 737-800 aircraft, which are expected to operate from the Airport in connection with commercial operations. Specifically, the existing bridges would be strengthened by constructing a Mechanically Stabilized Earth (MSE) wall beneath the runway and taxiway bridges.

In order to complete the proposed stream bank and under bridge work, the stream waters from Broad Run would be maintained at the seasonal low flow level. A bypass channel would be used to divert waters from Broad Run during construction. A detailed description of construction methods and the December 12, 2025 memo from Walter P Moore, Inc. titled: *HEF Manassas Airport Bridge Assessments Structural Evaluation Results for the Bridge Rehabilitation Project* and associated coordination with federal and state agencies are included in **PEA Appendix C**. The memo describes the temporary measures used to facilitate construction and maintain low flow through Broad Run to preserve mussel species downstream of the Bridges (see **Attachment A, Figure 6**). This Project would be constructed between 2026 and 2027.

The PEA Affected Environment and Environmental Consequences chapters contain information pertinent to the Consistency Certification topics. Section A.7 of this document contains that information.

[3] The Runway and Taxiway Bridges were widened to accommodate FAA design standards for Runway Safety Areas (RSA) and Taxiway Safety Areas (TSA). The RSA and TSA provide a clear area in the event an aircraft veers off the runway or taxiway. RSA and TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, must be drained by grading or storm sewers to prevent water accumulation, must be capable under dry conditions of supporting snow removal and aircraft rescue and firefighting equipment and of supporting the occasional passage of aircraft without causing major damage to the aircraft, no objects may be located in any safety area, except for objects that need to be located in a safety area because of their function. These objects must be constructed, to the extent practical, on frangible mounted structures of the lowest practical height, with the frangible point no higher than 3 inches above grade.

SECTION A.4 FEDERAL APPROVAL BEING SOUGHT

A Finding of No Significant Impact (FONSI) that provides the Part 139 Airport Operating Certificate and allows the ALP changes and their connected actions.

SECTION A.5 FEDERAL AGENCY CONTACT

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SECTION A.6 CONSISTENCY – ENFORCEABLE POLICIES

The enforceable policies are detailed in the 2021 Virginia Coastal Zone Management Enforceable Policies. Twelve topics concerning specific settings, resources or conditions are presented in the policies list. The 12 settings, resources or conditions that are considered; sub classes and types of these; the policies; and the administrating agency with oversight, are listed next in Section A.7.

SECTION A.7 FINDINGS – ENFORCEABLE POLICIES

PEA Project #5 is within Prince William County and Project #6 is within the City of Manassas. Both projects are within the Airport (HEF) boundary. The area surrounding the Airport consists of high density commercial and suburban development to the north, agricultural and rural residential development to the southwest and forest and rural residential development to the southeast. The Nokesville, Virginia United States Geological Survey (USGS) 7.5' Topographic Quadrangle (1994, 10-ft contours) (**Attachment A, Figure 7**) indicates that the area of the existing Airport runways and taxiways has been leveled to approximately 170-185 ft above mean sea level (msl), whereas the surrounding topography consists of low hills that peak at approximately 250 above msl.

Soils within the two projects are shown on **Attachment A, Figure 8** and are mapped by the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO). Observations in the field confirmed that Airport soils had a fine loamy texture (silt loam, silty clay loam and/or clay loam) and were largely derived from red parent materials. Portions of the Airport soils appeared to contain numerous textures and colors within a single profile, indicating they were likely derived from fill deposited during the construction of the Airport.

The Airport encompasses 888 acres, of which approximately 75 percent has been developed with runways, taxiways, other roadways, parking lots, and buildings. Among these areas, the majority of the ecological communities consist of maintained (mowed) grasslands; forest; small, disturbed wetlands; riverine wetlands; ditches and concrete lined drainage channels interspersed within paved surfaces.

The southern portion of the Airport is maintained by mowing but contains larger swaths of grassland and wetlands. In this area, Broad Run flows to the east and is bridged under Runway 16L/34R and Taxiway Bravo. Near the east side of Taxiway Bravo, Broad Run merges with Cannon Branch and the resultant Broad Run flows south then southwest along the Airport's southern boundary.

The 12 consistency topics are discussed below. The narratives in each topic are prefaced with a table that lists the topic name; the classes and types of settings, resources, or conditions considered in the topic; the enforceable policies listed in the 2021 Virginia Coastal Zone Management Enforceable Policies; and the administering agency, as listed in the 2021 document as well as the actual enforceable policies.

Subsection A.7.a: Tidal and Non-Tidal Wetlands

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
I) Tidal and Non-Tidal Wetlands include	1a) Wetlands: Tidal Wetlands	*Va. Code Ann. § 28.2-1301 and -1308; 4 Va. Admin. Code § 20-390-20 through 50.*	Virginia Marine Resources Commission (VMRC), VADEQ, USACE
	1b) Non-Tidal Surface Waters, including Wetlands	*Va. Code Ann. §§ 62.1-44.15:20 and -44.15:21; and 9 Va. Admin. Code §§ 25-210-10, -210-45, 210-80, 260-10, -380, -390.*	

The PEA Projects were evaluated for wetland resources between March 11 to 14, 2024, June 4 and 5, 2025, and July 7 and 8, 2025 (**PEA Appendix O.1**)[4]. Seven of the delineated wetlands occur within Prince William County adjacent to Project #5 and are summarized in Table 2 (**Attachment A, Figure 9**). Only offsite riparian wetlands in Prince William County have the potential to be impacted by the Bridge Rehabilitation work for Project #6.

[4] Throughout this CZM Checklist, reference is made to PEA Appendices. These appendices are part of the Programmatic Environmental Assessment (PEA) and not specifically included with the CZM Checklist (Appendix J). Refer to the PEA Table of Contents for a full list of the PEA appendices.

Table 2: Wetlands Occurring Within Project #5 and Project #6 Affected Environment.

Field Designation	Vegetative Cover	Hydrogeomorphic Position	Acreage	Connectivity/Location
Wetland A	Forest	Riverine	3.050	Non-Isolated/Floodplain of Cannon Branch
Wetland P	Forest	Riverine	0.097	Non-Isolated/Floodplain of Cannon Branch
Wetland R/S	Forest	Riverine	0.213	Non-Isolated/Floodplain of Cannon Branch
Wetland T	Herbaceous	Depression/Riverine	0.395	Non-Isolated/Floodplain of Cannon Branch
Wetland U	Herbaceous	Riverine	0.047	Non-Isolated/Floodplain of Cannon Branch
Wetland V	Herbaceous	Depression/Riverine	0.007	Isolated/Floodplain of Cannon Branch
Wetland W	Forest	Depression/Riverine	0.011	Isolated/Floodplain of Cannon Branch

PEA Project #5: The Economy Parking Lot has been designed specifically to avoid impacts to wetlands adjacent to Cannon Branch.

PEA Project #6: Effects from Project #6 that may affect wetlands within Prince William County only are discussed. During the runway and taxiway bridge rehabilitation work, water levels would be minimized to maintain only the seasonal low flow as measured by BioSurvey Group (**PEA Appendix I.6**). Downstream and within Prince William County, a VDOT wetland mitigation bank (hereafter referred to as the "VDOT Mitigation Site") occurs immediately adjacent to the Airport, to the east of the confluence of Cannon Branch and Broad Run (**Attachment A, Figure 9**). Farther downstream, the Virginia Natural Landscape Assessment (VaNLA) maps Ecological Core areas (**Attachment A, Figure 9**) on the non-airport side of Broad Run, of which one potentially contains wetlands based on the NWI mapping (**Attachment A, Figure 10**). The VDOT Mitigation Site and Ecological Core mapped wetland areas occur downstream from Project #6; however, no reduction to the hydrology of these areas is anticipated because standard low-flow conditions would remain in the stream. Additionally, the prime hydrology source for these areas appears to be adjacent unnamed tributaries from the non-airport side to the east (**Attachment A, Figure 10**), or from Cannon Branch, which would not have reduced water levels and would provide sustained flow in Broad Run. In addition, these areas occur at a higher elevation than Broad Run; therefore, direct flow into these areas from Broad Run would only be expected during high flood stages.

Subsection A.7.b: Subaqueous Lands

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
II) Subaqueous Lands	Bay, river, and creek beds and seashores of the Commonwealth	*Va. Code Ann. §§ 28.2-1200, -1203, -1204 and -1205*	VMRC

Subaqueous lands include all the beds of the bays, rivers, creeks and the shores of the sea within the jurisdiction of the Commonwealth and shall remain the property of the Commonwealth. The Airport is situated in the Middle Potomac-Anacostia-Occoquan Hydrologic Unit Code Watershed (HUC 02070010), which also includes Cedar Run. At the sub-watershed level, the Airport occurs within the Rocky Branch-Broad Run sub-watershed (HUC 020700100504). These are depicted on **Attachment A, Figure 10**. This watershed is characterized by urban and suburban development (61.7 percent). Major surface waters within the sub- watershed include Rocky Branch (approximately 4.4 miles upstream of the Airport), Dawkins Branch (approximately 4.4 miles upstream of the Airport, Broad Run (crosses through the Airport), and Cannon Branch (to the immediate east of the Airport) (**Attachment A, Figure 10**). Unnamed tributaries to these waters are also located within the Airport. These waters ultimately outlet into the Potomac River and then the Chesapeake Bay before entering the Atlantic Ocean.

In addition to mapping wetland systems, **Attachment A, Figure 10** identifies "riverine" surface water systems, based on National Wetland Inventory (NWI) data. Within the Project Areas, the USFWS NWI layer indicated two major riverine systems (Broad Run and Cannon Branch) and four minor tributaries to Broad Run.

The PEA Projects were evaluated for surface water resources concurrent with the wetland delineation discussed in Section A.7.a (**PEA Appendix O.1**). Two major perennial surface waters (Cannon Branch and Broad Run) flow adjacent to Project #5 and through Project #6 (**Table 3**; see **Attachment A, Figure 9**). Four intermittent surface waters were observed flowing into Cannon Branch within the Prince William County portion of the Airport (**Table 3**; **Attachment A, Figure 9**). As discussed in more depth in section A.7.d, an RPA buffer of 100 ft extends from Cannon Branch (Stream O) (**Attachment A, Figure 11**).

Table 3: Surface Waters Occurring Within Project #5 and Project #6 Affected Environment.

Field Designation	Cowardin Code Name	Stream Type	Waters Type Description	Delineated Length (ft)
Stream H	Broad Run	Perennial	Lower Perennial River	1,170
Stream O	Cannon Branch	Perennial	Lower Perennial River	2,648
Stream OA	Unnamed Tributary to Cannon Branch	Intermittent	Flows from Wetland T	283
Stream OB		Intermittent	Flows from Wetland R/S	56
Stream OC		Intermittent	Flows from Wetland U	166
Stream OD		Intermittent	Flows from Stormwater Outfall east of Wakeman Drive	56

PEA Project #6 will result in temporary bank and bed modifications to Broad Run. The rehabilitation of the bridges would involve the permanent installation of an 8-inch thick mechanically stabilized earth (MSE) wall and secured into the channel banks with dowel nails beneath each bridge (**PEA Appendix C**). Existing rip-rap would be removed during construction and replaced afterward. No permanent changes to the stream channel or bed and banks are proposed; however, construction equipment would need to work within, above and adjacent to the stream (**Table 4**).

Table 4: Impacted Subaqueous Lands.

Field Designation	Impact Type	Mitigation Requirement	State Permit Required	Federal Permit Required	Approximate Length (ft)
Stream H	Temporary	Double-tee removal, replace rip-rap	VADEQ IP	NWP or SPGP	1,170

To accomplish the bridge rehabilitation actions and maintain water quality, precast concrete double-tees would be temporarily installed within the approximately 1,170 ft stretch of streambed where work would take place. The double-tees will allow the waters of Broad Run to continuously flow as it would during seasonal low-flow conditions, which was determined to be between 7-8 cubic feet per second (cfs) (**PEA Appendix I.6**). Furthermore, the double-tees will allow construction equipment to work without disturbing the streambed or requiring "in-water" work, which helps to maintain water quality. As a contingency, should the minimum flow not be able to be maintained due to unforeseen limitations, Broad Run's base flow would be pumped around the work area and released back to Broad Run immediately downstream of the work area through a gravity flow through system or mechanical pumping with backup. The construction methods are detailed in **PEA Appendix C**.

Subsection A.7.c: Dunes and Beaches

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
III) Dunes and Beaches	None present	*Va. Code Ann. §§ 28.2-1401 and -1408*	VMRC

No coastal primary sand dunes are present in the project study area.

Subsection A.7.d: Chesapeake Bay Preservation Areas

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
IV) Chesapeake Bay Preservation Areas (CPBA)	None present	*Va. Code Ann. §§ 28.2-104.1, 62.1-44.15:24, -44.15:51, -44.15:67, -44.15:68, -44.15:69, -44.15:73, -44.15:74, and -44.15:78; 9 Va. Admin. Code §§ 25-830-30, -40, -80, -90, -100, -120, - 130, -140, and -150*	VADEQ, Water Division; Prince William County

Consultation was initiated with Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Agency (NOAA), USFWS, VADEQ, and Prince William County for CZM on August 8, 2025. As of this writing, responses have been received from FEMA, NOAA, USFWS, VDEQ, and Prince Wiliam County (**PEA Appendix E**).

The Airport is within the state's Northern Virginia Coastal Planning District which includes both the City of Manassas and Prince William County (6). Virginia Title 9, Chapter 830, regulations pursuant to the Chesapeake Bay Preservation Act (CBPA) designate (9VAC25-830-80) Resource Protection Areas (RPAs) to tidal wetlands, the land adjacent to perennial water bodies and non-tidal wetlands that are connected by surface flow and contiguous to perennial water bodies (7). RPAs consist of a buffer of no less than 100 ft from the aforementioned features. Prince William County has adopted the CBPA, but the City of Manassas has not and, therefore, RPAs only exist within the portions of the Airport that are on County land.

PEA Project #5 is proximate to a 100-foot RPA off of Cannon Branch. The economy parking lot and attendant features (including retaining walls) was designed to occur outside of the RPA, (see Section A.7.b for detail), and as long as the RPA is protected from effects of the project during the construction and operations phases, no impact to the RPA are anticipated Per correspondence with PWC on September 12, 2025, RPAs would not extend from contiguous wetlands within the PWC portions of the Airport (**PEA Appendix E**); however, a Preservation Area Site Assessment (PASA) must be submitted to PWC before construction. The Prince William County Department of Environmental Management accepted the conclusion that the RPA in Project #5 would be avoided based on the submitted designs (**PEA Appendix E**). The other PEA projects are in the City of Manassas and not subject to CZM.

Subsection A.7.e: Marine Fisheries

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
IV) Marine Fisheries	None defined	*Va. Code Ann. §§ 28.2-101, -201, -203, -203.1, -225, -551, -600, -601, -603 -618, and -1103, - 1203 and the Constitution of Virginia, Article XI, Section 3*	VMRC, DGIF

There are no commercial or recreational fisheries in the Airport or immediately adjacent to it. The Virginia Department of Conservation and Recreation (VDCR), Division of Natural Heritage (DNH) database maps Broad Run through the Airport as potential habitat for freshwater mussels but no marine fish or shellfish habitat is present.

Based on a report generated from the NOAA National Marine Fisheries Service (NMFS) database on May 22, 2024 and April 28, 2025 (**PEA Appendix I.2**), no habitat for NMFS-managed federal species or critical habitat occurs within or immediately adjacent to the Airport. Further, the Airport occurs 13.3 miles west of the nearest area mapped for Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum)* by the NOAA ESA Section 7 mapper.

Subsection A.7.f: Wildlife and Inland Fisheries

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
VI) Wildlife and Inland Fisheries	Defined below	*Va. Code Ann. §§ 29.1-501, -564, -566, -567, and -568; 4 Va. Admin. Code §§ 15-20-130 and -140*	DGIF
	6a) Wildlife and Fish	*Va. Code Ann. §§ 29.1-501, -512, -521, -530.2, -531, -533, -542, -543.1, -545, -548, -549, -550, - 552, -554, -556, -569, and -574; 4 Va. Admin. Code §§ 15-30-10, -20, -50, and 15-290-60;*	
	6b) Threatened and Endangered Species	*Va. Code Ann. §§ 29.1-501, -564, -566, -567, and -568; 4 Va. Admin. Code §§ 15-20-130 and -140*	
	6c) Use of Drugs on Vertebrate Wildlife	*Va. Code Ann. § 29.1-501 and -508.1*	
	6d) Nonindigenous Aquatic Nuisance, Predatory, or Undesirable Species	*Va. Code Ann. §§ 29.1-501, -542, -543.1, -545, -569, -571, -574, and -575; 4 Va. Admin. Code §§ 15-20-210, -30-20, -30-40, and 15-290-60*	

The USFWS Information, Planning and Consultation (IPaC) "Official Species List" was most recently reviewed on February 2, 2026 (**PEA Appendix I.2**). The IPaC Report did not identify critical habitats, rare natural communities, or rare plants within the Airport; but the Official Species List included the proposed endangered tri-colored bat (*Perimyotis subflavus*) and proposed threatened monarch butterfly (*Danaus plexippus*)). The IPaC also addresses the need for compliance with the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act.

The birds of conservation concern with potential to occur in the Project Site, per the USFWS IPaC report, are listed in **Table 5.**

Table 5: Birds of Conservation Concern with Potential to Occur in the HEF Program Project Locations.

Species	Breeding Season in Study Area*
Bald eagle (*Haliaeetus leucocephalus*)	Breeds September 1 to July 31
Black-billed cuckoo (*Coccyzus erythropthalmus*)	Breeds May 15 to October 10
Cerulean warbler (*Setophaga cerulea*)	Breeds April 28 to July 20
Chimney swift (*Chaetura pelagica*)	Breeds March 15 to August 25
Grasshopper sparrow (*Ammodramus savannarum perpallidus*)	Breeds Jun 1 to August 20
Prairie warbler (*Setophaga discolor*)	Breeds May 1 to July 31
Prothonotary warbler (*Protonotaria citrea*)	Breeds April 1 to July 31
Red-headed woodpecker (*Melanerpes erythrocephalus*)	Breeds May 10 to September 10
Rusty blackbird (*Euphagus carolinus*)	Breeds elsewhere, present late fall until spring
Wood thrush (*Hylocichla mustelina*)	Breeds May 10 to August 31
*A listed breeding season implies the bird may breed in the project area within the timeframe specified, which is a very liberal estimate of the dates inside which the bird breeds across its entire range. "Breeds Elsewhere" indicates that the bird does not likely breed in the project area but may be present during the window indicated.	

In addition to the IPaC results, no sensitive natural communities mapped by the Natural Communities of Virginia (2021) (3) were identified at the Airport. The Virginia Department of Game and Inland Fisheries (VDGIF) information tool (VaFWIS) was consulted and resulted in a list of 24 sensitive or protected species and/or varieties potentially occurring within a two-mile radius of the center of the Airport. An output from the database review is enclosed in the Habitat Assessment Report located in **PEA Appendix I.2**. These species that also have threatened or endangered status are summarized discussed in **Table 6**. Numerous segments of Broad Run as a threatened and endangered water (4) and Broad Run through the Airport is associated with a Stream Conservation Unit (SCU) with a biodiversity significance ranking of B4, which represents moderate significance (**PEA Appendix E**).

Table 6: Virginia Species with Wildlife Action Plan (WAP) Tier and Threatened or Endangered Status Associated with the Airport.

Tier/ Rank	Common Name	Scientific Name	Status	Class
Ia	Bat, little brown	*Myotis lucifugus*	State Endangered	Mammal
Ia	Bat, northern long-eared	*Myotis septentrionalis*	Federal Endangered, State Endangered	Mammal
Ia	Bat, tricolored	*Perimyotis subflavus*	Federal Proposed, State Endangered	Mammal
IIIa	Butterfly, monarch	*Danaus plexippus*	Federal Proposed Threatened	Insect/Butterfly
Ia	Falcon, peregrine	*Falco peregrinus*	State Threatened	Bird
Ib	Floater, brook	*Alasmidonta varicosa*	State Endangered	Mussel
IIa	Lance, yellow	*Elliptio lanceolata*	Federal Threatened, State Threatened	Mussel
Ia	Shrike, loggerhead and migrant	*Lanius ludovicianus* and *Lanius ludovicianus migrans*	State Threatened	Bird
Ia	Sparrow, Henslow's	*Centronyx henslowii*	State Threatened	Bird
Ib	Sturgeon, Atlantic	*Acipenser oxyrinchus*	Federal Endangered, State Endangered	Fish

The PEA Projects were evaluated for habitats for biological resources from March 11 to 14, 2024, June 4 and 5, 2025, and July 7 and 8, 2025 (**PEA Appendix I.2**).

In general, bat species utilize caves/mines, trees, structures or bridges for roosting or hibernating. No caves or known overwintering areas (hibernaculum) were noted or are known at or within 0.5 miles of the Airport. However, trees present within the forest that occurs where Project #5 is proposed may be used for roosting/foraging.

The brook floater (*Alasmidonta varicosa*) and the yellow lance (*Elliptio lanceolata*) mussel species have been documented previously in Broad Run within two miles of the Airport bridge crossings (Project #6); however, they have not been detected within the Airport boundary (**PEA Appendix I.2**). In a letter dated August 21, 2025, from the VDCR, concern about the presence of brook floater in Broad Run was noted and a request was made by VDCR for "an inventory of all native mussels in the project area" (**PEA Appendix E**). This survey was conducted in October 2025 (**PEA Appendix I.4**), resulting in the observation of a significant number (10,227) of live mussels from two non-threatened or endangered species within the study area: eastern elliptio (*Elliptio complatanata*) and northern lance (*Elliptio fisheriana*).

Although bald eagles are known to occur in the vicinity of the Airport (5), no known nests were observed within the Prince William County portion, nor were any peregrine falcon nests. Habitat for migratory birds is present within the forest associated with Project #5 as could monarch butterfly also in in any edge or less frequently managed areas where milkweed (*Asclepias* spp.) are allowed to establish.

Populations of protected species (federal and state), including migratory birds, are impacted the most by construction projects when their habitat is removed or altered. This includes the removal of existing trees, shrubs, and/or herbaceous vegetation that the species utilize for feeding, nesting, resting, and for cover or through the introduction of noxious weeds and pests (Section A.7.g). Similarly, aquatic species can be negatively impacted when water quality or substrate conditions are altered. Additionally, protected species can be impacted by noise, light pollution, and chemical pollution resulting from spills or sediment pollution from improper stormwater management.

Bats present within the forested area of Project #5 or utilizing the bridge over Broad Run for Project #6 may be able to relocate to similar habitats that would remain to the east of these projects (but with lower carrying capacity fewer individuals would be supported). For the bridge over Broad Run (Project #6), bats would have the opportunity to repopulate this area when construction is complete. Building 13 is proposed to be demolished in Project #7 and thus any bats roosting in this area would also need to relocate to new buildings or the adjacent forest. A request for comment and information was submitted to the USFWS Virginia Field Office on August 4, 2025. As "proposed" endangered species are not protected by the "take" prohibitions of Section 9 of the ESA until the final rule to list is published and becomes effective; the USFWS indicated (via follow-up emails) that conferencing is not required (**PEA Appendix E**). The Determination Key (DKey) indicated a result of "may affect" (**PEA Appendix I.5**). Therefore, potential impacts will be avoided by restricting impacts to the clearing of woody vegetation, structure removal or bridge work between April 1 and November 15.

The initially proposed construction methods associated with Project #6 would have diverted and dewatered Broad Run causing significant freshwater mussel mortality. As this was not a favorable outcome for the Virginia Department of Wildlife Resources (VADWR), the project was redesigned to allow a minimum flow (determined to be 7-8 cubic feet per second (**PEA Appendix I.6**) to continue in Broad Run. Flows in excess of the minimum flow would be diverted into an existing bypass channel shown on **Attachment A, Figure 6**. **PEA Appendix C** provides a detailed description of the proposed construction methods to preserve mussel habitat during Project #6. Concurrence on this methodology was received from VADWR on December 18, 2025 (**PEA Appendix C**). In addition, VADWR requested to have an opportunity to review and comment on the final Project #6 plans before construction to verify the flow monitoring plan. Given this, no significant impacts to the mussel population in Broad Run would occur.

With regards to the MBTA, the PEA projects would disturb a total of approximately 24.3 acres of potential grassland habitat; however, the only PEA project area that experiences infrequent mowing where State protected grassland bird populations (specifically loggerhead shrike and Henslow's sparrow) could be supported is Project #6. Other grassy portions of the Airport are mowed too frequently and kept too short to provide significant habitat (**PEA Appendix I.2**). Migratory birds have the potential to be impacted by the removal of woody vegetation within Project #5 as well as the taller vegetation within Project #6. For these reasons, the restriction to clearing woody vegetation for bats will be extended to begin

on March 15 to further protect migratory and nesting bird species. Areas with non-woody vegetation will be avoided from April 1 to August 31 to protect grassland bird species, unless continuous mowing has occurred prior to April 1 and would continue through August 31.

Table 7 summarizes the six threatened and endangered species (including proposed species) that have the potential to occur in the project areas. The table also summarizes potential impacts and remedies to avoid these impacts. For a species-specific habitat analysis, please see **PEA Appendix I.2**.

Table 7: Summary of Impacts to Threatened or Endangered Species.

Common Name	Scientific Name	Status	Potential Impact	Impact Remedy
Bat, little brown	*Myotis lucifugus*	State Endangered	#5 Tree Removal; #6 Bridge Rehabilitation	Timing restriction for clearing/structure or bridge disturbance from April 1 to November 15.
Bat, northern long-eared	*Myotis septentrionalis*	Federal Endangered, State Endangered	#5 Tree Removal; #6 Bridge Rehabilitation	Timing restriction for clearing/structure or bridge disturbance from April 1 to November 15.
Bat, tricolored	*Perimyotis subflavus*	Federal Proposed, State Endangered	#5 Tree Removal; #6 Bridge Rehabilitation	Timing restriction for clearing/structure or bridge disturbance from April 1 to November 15.
Butterfly, monarch	*Danaus plexippus*	Federal Proposed Threatened	Minor, Little Habitat for *Asclepias* spp. Mainly in Project #6 Bypass Channel	N/A – The action would not jeopardize the continued existence of the species.
Floater, brook	*Alasmidonta varicosa*	State Endangered	Project #6 - Water quality during construction – Recent survey did not detect threatened or endangered species.	N/A – Double-tees would allow minimum flow and stringent erosion and sediment control measures would be implemented.
Lance, yellow	*Elliptio lanceolata*	Federal Threatened, State Threatened	Project #6 - Water quality during construction – Recent survey did not detect threatened or endangered species.	N/A – Double-tees would allow minimum flow and stringent erosion and sediment control measures would be implemented.

Subsection A.7.g: Plant Pests and Noxious Weeds

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
VII) Plant Pests and Noxious Weeds	7a) Quarantines	*Va. Code Ann. §§ 3.2-700 and -703; 2 Va. Admin. Code §§ 5-315-10 to -130, -318-10 to -140, -330-10 to -90, and -440-10 to -70, -100, and -110*	Board of Agriculture and Consumer Services (VDACS)
	7b) Importation of Regulated Articles	*Va. Code Ann. § 3.2-704*	
	7c) Plant Pests and Noxious Weeds	*Va. Code Ann. §§ 3.2-712 and -804; 2 Va. Admin. Code §§ 5-315-10 to -130, -317-10 to -100, -318-10 to -140, -330-10 to -90, and -440-10 to -70, -100, and -110*	

As noted in Section A.7.f, populations of protected species (federal and state), including migratory birds, can be negatively impacted through the introduction of noxious weeds and pests.

Best management practices will be utilized to prevent the introduction and spread of noxious weeds and pests during project site preparation, construction, and implementation. The Virginia Board of Agriculture and Consumer Services (VDACS) administers enforceable policies that concern the quarantine of specific species; the importation of regulated goods that may inadvertently introduce harmful pests or diseases; and plant pests and noxious weeds that are potentially harmful to endangered, threatened, or species of special concern and their habitats. It is recommended in PEA Section 5.2.6 that the most effective tools to prevent the introduction of such harmful actors will be to follow the protocols summarized in the "The Virginia Plants and Plant Products Inspection Law and Quarantine Requirements Affecting the Interstate and Intrastate Movement of Nursery Stock, Other Plants, and Plant Products" (8) which focuses on transmittable plant diseases and the pests that may infect or forage on the plants.

Also considered is the need to have a Construction Management Program (CMP) that has detailed Environmental Controls. Typically, the environmental controls might include routine construction truck tire and underbody cleaning prior to truck movement into a construction zone, building material crate checks, and checks of the VDACS quarantine

lists prior to each construction period. The CMP should also include the use of certified recycling and disposal sites.

Subsection A.7.h: Commonwealth Lands

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
VIII) Commonwealth Lands			
VIIIa) Virginia Department of Game and Inland Fisheries	8a1) Dams and Fish Passage	*Va. Code Ann. § 29.1-532*	VDGIF
	8a2) Back Bay	*Va. Code Ann. § 29.1-103(10); 4 Va. Admin. Code § 15-20-90*	
	8a3) Damage to Boundary Enclosures and Entry to Refuges	*Va. Code Ann. § 29.1-554*	
	8a4) Protection of Aquatic and Terrestrial Habitats Use or Owned by DGIF	*Va. Code Ann. § 29.1-554; 4 Va. Admin. Code §§ 15-20-150 and -320-100*	
VIIIb) Virginia Department of Conservation and Recreation	8b1) Protection of Virginia State Parks	*4 Va. Admin Code § 5-30-10; 4 Va. Admin. Code §§ 5-30-50 to -80*	VDCR
	8b2) Fire Prevention	*4 Va. Admin. Code §§ 5-30-70 and -220*	
	8b3) Hunting and Fishing in State Parks	*4 Va. Admin. Code §§ 5-30-240 to -250*	
	8b4) Feeding Wildlife in State Parks Prohibited	*4 Va. Admin. Code § 5-30-422*	
	8b5) Boating and Vehicles in State Parks	*4 Va. Admin. Code §§ 5-30-190, -290, and -330*	

Commonwealth lands are administered by VDGIF and VDCR. Each of the agencies has purview over specific settings, resources, and conditions. None of these pertain to locations within the Airport or immediately adjacent to the Airport.

No dams in Cannon Branch or Broad Run occur within the immediate vicinity of the Airport and the PEA Project #5 will not create permanent dams that may prevent the passage of fish. Temporary dams may be utilized in PEA Project #6 during construction but will still allow the minimum flow to continue, as discussed in **PEA Appendix C**. As such, no impacts to migratory fish (e.g. American eel (*Anguilla rostrata*)) are anticipated.

The Airport is 208 miles north/northwest of the Back Bay National Wildlife Refuge and the larger Back Bay watershed which is confined to the southeast corner of Virginia. No land owned by the DGIF is immediately adjacent to the Airport. Similarly, there are no VDCR managed State Parks adjacent to the Airport. Per the enforceable policy, state parks include all designated state parks, parkways, historical and natural areas, natural area preserves, sites, and other areas managed by VDCR. No Commonwealth lands will be affected by the proposed PEA projects.

Subsection A.7.i: Point Source Air Pollution

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
IX) Point Source Air Pollution	See below	*Va. Code Ann. § 10.1-1308*	State Air Pollution Control Board
IXa) Asphalt paving operations (Applies to VOC Emissions Control Areas Only)	None defined	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-20-206 and -45-780*	
	9a1) Standards for Visible Emissions	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-45-790 and -40-80*	
	9a2) Standard for Fugitive Dust/Emissions	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-45-800 and -40-90*	
	9a3) Standard for Odor	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-45-810 and -40-140*	
IXb) Open Burning (Criteria for VOC Emissions Control Areas and Statewide)	9b1) Permissible Open Burning in VOC Emissions Control Areas	*No EPs Listed*	
	9b2) Open Burning Prohibitions in VOC Emissions Control Areas	*No EPs Listed*	
	9b3) Permissible Burning Throughout the Commonwealth of Virginia (Including VOC Emissions Control Areas)	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-80-1105, -130-10, -130-30*	

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
		to - 50, 20-60-30, and 5-60-200	
IXc) Fugitive Dust Emissions (Applies to New/Modified Source and Existing Sources)	None defined	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-50-90 and -40-90*	
IXd) State Operating Permits (SOP) (Applies State-Wide)	None defined	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code § 5-80-800*	
IXe) New Source Review (Applies State-Wide)	None defined	*Va. Code Ann. §§ 10.1-1308 and -1322; 9 Va. Admin. Code §§ 5-80-1100, -1400, -1605, and -2000*	

The proposed improvements at HEF would occur in an area designated as moderate nonattainment and as maintenance for the 2015 and 2008 O_3 standards, respectively. Therefore project-related emissions would be compared to *de minimis* levels for the O_3 precursors NO_X and Volatile Organic Compounds (VOCs). The CAA General Conformity *de minimis* thresholds for NO_x and VOCs, in a moderate nonattainment area inside an Ozone Transportation Region are 100 and 50 tons per year, respectively. Construction and operational emissions inventories were prepared for NO_X and VOCs for Alternative #1 and Alternative #2. Alternative #1 consists of three projects needed for general aviation only and is confined to City of Manassas. Alternative #2 consists of 16 projects needed for both general aviation and commercial service and occurs in both the City and County. Additionally, for disclosure purposes under NEPA, emissions of all criteria air pollutants are also presented.

The proposed Alternative #2 (**PEA Section 5.1.3**) includes PEA Projects #5 and #6. The Alternative #2 projects are expected to generate air emissions associated with construction and operational activities. The construction phase is scheduled to occur from 2026 through 2036, and therefore, operational emissions, stemming from aircraft operations and motor vehicle use, were analyzed for that same timeframe. In addition to this, operational emissions have also been estimated for the future build-out year 2041.

Total construction-related emissions of CO, NO_x, VOCs, SO_2, PM_{10} and $PM_{2.5}$ are provided in **Table 8** along with the applicable *de minimis* thresholds for comparison.

Table 8: Alternative #2 Air Pollutant/Pollutant Precursor Construction and Operational Emissions Inventories (tons/year).

Year	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	VOC
2026	71.6	43.9	3.3	9.6	1.5	5.7
2027	83.0	52.0	4.5	5.4	1.1	6.5
2028	82.5	55.1	5.0	4.1	0.9	6.6
2029	84.3	63.9	5.8	3.9	1.0	7.6
2030	85.6	71.6	6.6	2.8	0.9	8.0
2031	87.3	76.9	7.3	1.1	0.7	8.1
2032	89.4	78.5	7.4	1.2	0.8	8.2
2033	96.5	81.2	7.6	2.8	1.0	9.0
2034	94.5	82.1	7.8	1.7	0.8	8.8
2035	89.7	83.2	7.9	1.3	0.8	8.7
2036	83.1	81.3	7.7	1.3	0.8	8.9
2041[a]	88.4	92.4	8.7	1.3	0.9	9.2
CAA de minimis thresholds	--	*100*	--	--	--	*50*
Exceeds CAA *de minimis*?	--	No	--	--	--	No

Note: 40 CFR Section 93.153(b)(1) (general conformity *de minimis* thresholds).
Criteria pollutants and their precursors include carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOCs), and particulate matter with diameters of 10 and 2.5 microns (PM_{10} and $PM_{2.5}$).
Emissions reflect construction and the change between Alternative #2 and the No Action Alternative.
"**--**" denotes *de minimis* levels do not apply.
Motor vehicle emissions were analyzed based on the VMT for peak traffic year 2036 and applied to all years equally.
[a] Only operational emissions occur in 2041, no construction.

Alternative #2 would result in a change in aircraft operations at HEF compared to the No Action and Alternative #1. Specifically, the aircraft operations reflect the anticipated introduction of commercial airline activity beginning in 2026. In 2026, approximately 11 average daily commercial flights are anticipated, growing to 26 and 29 average daily commercial flights in 2036 and 2041, respectively. The general aviation aircraft operations at HEF are not expected to increase as a result of this alternative. Due to these changes, operational aircraft emissions along with auxiliary power units (APUs), ground support equipment (GSE), were estimated for the years 2026 through 2036, and the future build-out year 2041. Emissions associated with changes in passenger motor vehicle activities were also estimated for Alternative #2.

The operational emissions inventories for aircraft, APUs, and GSE were prepared using AEDT (version 3f). AEDT is a software system that models aircraft performance in space and time to estimate fuel consumption, emissions, noise, and air quality consequences. Operational emissions associated with motor vehicles were estimated using vehicle miles travelled (VMT), and emission factors from MOVES.

The inventories are a product of source activity levels (e.g., aircraft operations, vehicle miles traveled [VMT]) combined with appropriate emission factors (i.e., grams of pollutant per operation, grams per mile); and are segregated by pollutant type, and source type for each analysis year. The emission factors, air quality models, and operational data used to prepare the inventories are described in more detail in **PEA Appendix G.**

Total project-related emissions of CO, NO_x, VOCs, SO_2, PM_{10} and $PM_{2.5}$ are provided **PEA Appendix G**, along with the applicable *de minimis* thresholds for comparison. For more detailed information regarding the breakdown of emissions, see **PEA Appendix G.**

Alternative #2 results in higher emissions compared to Alternative #1. Generally, increases in emissions associated with Alternative #2 are driven by changes to future forecasted commercial air carrier operations. The forecasted operations for future years 2026 through 2036 and 2041 (detailed further in **PEA Appendix G** are based on conservatively high estimates of the number of daily operations (i.e., 52 daily arrivals and departures by 2036, and 58 daily arrivals and departures by 2041). Based on the results of the emissions inventories, Alternative #1 and #2 would not generate emissions that exceed the CAA General Conformity *de minimis* thresholds and therefore conform with the approved SIP. As a result, there are no significant air quality impacts for either Alternative #1 or #2 and no further action is required to meet the requirements of the General Conformity Rule. Additionally, conformance with NEPA has been accomplished by disclosing the emissions associated with the Alternative #1 and #2. Therefore, NEPA requirements have been met, and no further analysis is needed.

As stated above, Alternative #2 is expected to result in an increase in operational emissions that is primarily attributable to the introduction of commercial aircraft activities. Secondarily, there will be a rise in passenger-related motor vehicle activities that also contribute to the increase in operational emissions. Construction-related emissions associated with Alternative #2 will end after the year 2036, while operational activities will continue. The introduction of commercial operations and associated passenger activities represents a change in the emissions profile for HEF, which, as stated previously, is in a moderate nonattainment area for ozone. However, as demonstrated in this PEA, the emissions are below the EPA's *de minimis* thresholds. By definition, these thresholds were established as a minimum level, below which, there would no worsening of the area's air quality, nor any significant impact to air quality.

Since the Alternative #1 and #2 would have no significant impact on air quality, no reduction, avoidance nor minimization measures are needed and/or proposed to address potential air quality impacts.

Subsection A.7.j: Point Source Water Pollution

Settings, Resources, Conditions	Classes and Types	Enforceable Policies	Administering Agencies
X) Point Source Water Pollution	None defined	*Va. Code Ann. § 62.1-44.2; 9 Va. Admin. Code § 25-31-20*	State Water Control Board (delegated to VADEQ)

HEF is not in a Groundwater Management Area in Virginia (9). No EPA Sole Source Aquifers occur within or near the Airport (10). All potable water is obtained from City of Manassas water sources and all sewer wastes are discharged to City of Manassas force main and gravity main lines adjacent to and within the Airport. Two water supply wells occur within a 1-mile radius of the Airport, one of which lies 1.2 miles from Project #6 (PWSID 6153668 -

Prince William County Transportation) (11). As both of these wells occur at higher elevation and upgradient from the Airport, no impacts are anticipated.

According to the FEMA Digital Flood Insurance Rate Maps (FIRM), approximately 69 acres of the Airport are mapped within the "one percent annual chance flood" (also known as the 100-year flood) (**Attachment A, Figure 11**). The portion of the Airport to the south of Broad Run within the City of Manassas experiences regular overflow from the flood waters of Broad Run (**PEA Appendix O.1**). Projects occurring in this area (**Table 9**) will be mitigated by soil removal within the bypass channel uplands, resulting resulting in no net rise in flood elevations in the City of Manassas and adjacent Prince William County land (**Attachment A, Figure 9**).

Table 9: Acreage of Program Projects in Flood Mapped Areas.

Program Project	1 Percent Annual Chance Flood (acres)	Encroachment
Project #6 (including the bypass channel)	19.69	Temporary Impact During Construction
Project #6 (MSE wall)	0.004	Permanent Encroachment – MSE Wall

PEA Project #5 avoids all regulated floodway areas associated with Cannon Branch (**Attachment A, Figure 11**). The floodplain boundary associated with Project #5 was submitted to Prince William County on September 12, 2025, as this is the only part of the project under their jurisdiction. Based on this consultation, Prince William County decided that no further floodplain studies are required (**PEA Appendix E**) but that a Flood Hazard Use Permit must be filed prior to construction.

A Phase I Environmental Site Assessment (ESA) covering 13 of the 16 PEA Projects was issued October 14, 2024 (**PEA Appendix K**) and it evaluated existing environmental conditions relating to hazardous materials and solid waste in addition to water pollution prevention,[5] PEA Project #6 was included in the project list after October, 2024, but environmental conditions were evaluated for it with information obtained for the October 2024 Phase I ESA.

Water pollution prevention at HEF is managed through an Airport-specific combined Stormwater Pollution Prevention Plan (SWPPP) and SPCC Plan (**PEA Appendix K**). These plans outline appropriate spill prevention, and cleanup measures as well as Best

[5] It should be noted that 13 PEA Project areas were evaluated in the Phase I ESA. The 13 PEA Project areas described in the Phase I ESA have since been modified and reassigned new project numbers (PEA Projects defined in **PEA Section 1.1**). However, the overall geographic extent of the 13 PEA Project areas evaluated in the Phase I ESA remain similar. As such, the findings of the Phase I ESA for the geographic extents of the 13 Projects evaluated are applicable for the purposes of this PEA.

It should also be noted that the three PEA Tier 1 Projects were not specifically included in the Phase I ESA (including Project #6), as these Tier 1 Projects were added to the proposed HEF improvements after issuance of the Phase I ESA. However, the geographic extent of Project #6 was included in the holistic evaluation of the Airport in the Phase I ESA. As such, information included in the Phase I ESA was utilized to conduct supplemental analyses relating to Hazardous Materials, Solid Waste and Pollution Prevention for Project #6 in the PEA.

Management Practices (BMPs) relating to housekeeping, training and inspections. HEF also adheres to an Oil Discharge Contingency Plan (ODCP) (provided in the Phase I ESA included in **PEA Appendix K**) associated with the fuel farm, which is identified as the greatest potential source for contamination at HEF. The ODCP was prepared to meet the requirements of Article 11 of the State Water Control Law of the Commonwealth of Virginia and provides a list of owners and operators of each tank, as well as roles and responsibilities in the event of a release.

The discharge of stormwater is managed through VPDES General Permit #VAR050985 (provided in **PEA Appendix K**). It should be noted that the VPDES General Permit referenced in the Phase I ESA had expired prior to the issuance of the Phase I ESA; however, the VPDES permit was since renewed with a new expiration date of June 30, 2029. Stormwater runoff is directed to the south through a series of oil-water separators, stormwater swales and ditches and is discharged to Broad Run, Cannon Branch and their tributaries. HEF's VPDES General Permit requires quarterly water quality monitoring of outfall locations, along with the submission of quarterly electronic Discharge Monitoring Reports (eDMRs) to VADEQ. Operational impacts would occur from the effects of increased stormwater volumes associated with the new paved surfaces of Project #5. The increase in additional stormwater would be managed through the existing VPDES permit and through underground detention measures (**Attachment A, Figure 9**).

Because hazardous materials and solid waste, if discharged improperly, can contaminate both point and non-point water sources, consideration is also given to these classes as well. The ESA research indicated that no hazardous materials or hazardous waste storage or disposal are present within the areas within or proximate to the PEA Project areas. Airport personnel interviewed as part of the Phase I ESA indicated that firefighter training exercises are conducted near HEF ARFF Building C3, which is located approximately 500± feet east from the nearest project areas (Projects #1, #3, and #4). Several 55-gallon polyethylene drums containing aqueous film-forming foam (AFFF) containing fluoroalkyl surfactant[6] are present inside the HEF ARFF Building C3. Although AFFF storage is not located within or proximate to the areas around and within PEA Project #5 or Broad Run (which flows downstream into Prince William County), the current and historic use of PFAS-containing AFFF may be present at the Airport.

Individual tenants that occupy hangar spaces at HEF are registered RCRA hazardous waste generators if their operations require generation of hazardous wastes such as ignitables, corrosives and solvents. There are no active RCRA violations associated with the Airport and its tenants.

Airport operations require the use, handling, and storage of hazardous materials (maintenance products), gasoline and diesel fuel for ground support equipment, trucks and

[6] Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are part of a larger group of lab-made chemicals known as perfluoroalkyl and polyfluoroalkyl substances (PFAS). PFOA and PFOS have been designated as hazardous substances under CERCLA. These substances have in the past been used in (AFFF for airport firefighting operations.

other airside vehicles, and aviation fuel for aircraft. Petroleum products are stored in bulk at the HEF Fuel Farm. No aircraft or vehicle maintenance or petroleum storage is present within or adjacent to the PEA Projects. Thirteen petroleum storage tanks are registered to the airport and are associated with the landside Fuel Farm. A list of registered aboveground and underground storage tanks (ASTs/USTs) and current Site conditions are provided in the Phase I ESA in **PEA Appendix K**.

HEF personnel reported all former USTs containing petroleum or hazardous materials were removed, which represents a registration discrepancy in the available municipal records. There are currently no active releases or remediation activities being conducted at HEF. However, residual contaminants in soil and groundwater from documented solvent uses and historical petroleum releases may be present within and/or proximate to the PEA Projects.

HEF has been used for aviation purposes since at least 1965. As such, existing buildings may contain asbestos and electrical components that contain mercury (switches or thermostats), and polychlorinated biphenyls (PCBs), or lead paint coatings. Subgrade drainage infrastructure located within Airport that require alteration and modification may also be constructed of asbestos piping based upon the age. Further, fill materials reportedly sourced from off-site have potential to contain construction and demolition (C&D) debris containing asbestos-containing material, lead-based paint and/or PCBs.

HEF generates multiple solid waste streams from the airfield, fixed-based operators, aircraft maintenance hangars, cargo hangars, and concessions. Non-hazardous solid waste generated exclusively at the Airport is handled and carted off-site under contract by American Disposal Services to the Prince William County Municipal Landfill at Dumfries Road. Airport tenants coordinate with waste disposal services to determine frequency of waste collection on their respective leasehold areas.

C&D debris generated at the airport is staged on the northeastern side of the airport and is recycled off-site in accordance with applicable regulatory requirements. Given the above, it is not anticipated that Broad Run, as it occurs within Prince William County, will experience pollution or contamination from the Airport.

Subsection A.7.k: Nonpoint Source Water Pollution

Settings, Resources, Conditions	**Classes and Types**	***Enforceable Policies***	**Administering Agencies**
XI) Nonpoint Source Water Pollution	None defined	*Va. Code Ann. §§ 62.1-44.15:25, 62.1-44.15:52; 9 Va. Admin. Code §§ 25-840-30, 25-870-20*	VADEQ, VADEQ Water Division, Prince William County

Nonpoint source water pollution is included in the discussion above in Section A.7.j. Future development will be designed in accordance with the VADEQ-approved Standards and Specifications and in accordance with the Virginia Erosion and Stormwater Management Act (Va Code § 62.1-44.15:24 et seq.), and the Virginia Erosion and Stormwater Management

Regulation (VESMR), as applicable. Because of strict compliance with VPDES permitting and use of erosion and sediment control measures during construction, the Proposed Projects are unlikely to have adverse impacts on water quality.

Subsection A.7.l: Shoreline Sanitation

Settings, Resources, Conditions	Classes and Types	*Enforceable Policies*	Administering Agencies
XII) Shoreline Sanitation	None defined	*Va. Code Ann. §§ 32.1-12 and -164; 12 Va. Admin. Code §§ 5-610-20 and -80; also Va. Code Ann. §§ 32.1-12 and -164; 12 Va. Admin. Code §§ 5-610-20, -120, -240, -320, -330, -450 to -500, -560, -593, -594, -596, -597, -670, -720 to -770, -810, -815, -870, -880, -890, -960, - 965, -1000, -1010, -1040, -1050, -1060, -1070, -1110, -1120, -1130, -613-10 to -210*	Department of Health

Please refer to Section A.7.j for detailed discussion of pollution prevention approaches and measures.

No new potable water line connections will be required within Prince William County (**Attachment A, Figure 12**). An existing gravity main services the area adjacent to PEA Project #5 (**Attachment A**, **Figure 13**) (12).

SECTION A.8 ADVISORY POLICIES

As noted in 2021, federal agencies should consider CZM recommendations in addition to enforceable policies. Such recommendations include those concerning Coastal Natural Resource Areas, Coastal Natural Hazard Areas, Waterfront Development Areas and its subset titled Waterfront Development Areas of Particular Concern (APC), and a separate set of advisory policies that pertain to Shorefront Access Planning and Protection. The latter advisories break that planning topic into Virginia Outdoors Plan (VOP); Parks, Natural Areas, and Wildlife Management Areas; Waterfront Recreational Land Acquisition; and Waterfront Recreational Facilities. Of these settings, land use locations, and planning classes, Coastal Natural Resource Areas and Public Recreation Areas have applicability to the PEA projects and the Airport in general.

Coastal Natural Resource Areas

As defined in VADEQ's 2021 FEDERAL CONSISTENCY INFORMATION PACKAGE, Coastal Natural Resources Areas "are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline." VADEQ notes the importance of such locations saying they should receive "special attention…because of their conservation, recreational, ecological, and aesthetic values." The Coastal Natural Resources Areas identified are: Wetlands; Aquatic Spawning, Nursery, and Feeding Grounds; Coastal Primary Sand Dunes; Barrier Islands; Significant Wildlife Habitat Areas; Public Recreation Areas; Sand and Gravel Resources; and Underwater Historic Sites.

Of these, the Airport has no Coastal Primary Sand Dunes, Barrier Islands, Sand and Gravel Resources that are mined, nor Underwater Historic Sites. However, wetlands are present and they were discussed in Section A.7.a (Tidal and Non-Tidal Wetlands).

The remaining areas are discussed below. Broad Run is listed as a coastal threatened and endangered species water, and coastal wetlands and coastal conservation lands are mapped within and around the Airport.

Aquatic Spawning, Nursery, and Feeding Grounds

No major fisheries exist within or adjacent to the PEA Project areas, nor is it mapped within a coastal fisheries management area; however, Broad Run may be used for recreational fishing. Aquatic spawning and feeding grounds will not be impacted by the construction of the PEA projects, as flow will be maintained within Broad Run at all times, and proper erosion and sediment controls will be utilized to prevent pollutants from entering the waterway.

Significant Wildlife Habitat Areas

The Airport is not mapped as containing significant coastal wildlife habitat and no significant wildlife habitat exists within the Airport grounds; however, recent studies have documented significant populations of freshwater mussel species in Broad Run and these are discussed in detail in **PEA Appendix I.4**.

Public Recreation Areas

There are no public recreation areas within the Airport boundary. However, the following recreational trails exist and are funded in the Indirect Area of Potential Effect (APE) research for US Department of Transportation Section 4(f) resources. The trails are the Gateway Trail, the Nokesville Trail, and the Greenway Discovery Spur (**Attachment A**, **Figure 14**). Two planned trails also are present in the Indirect APE but they have not been implemented.

The City of Manassas Gateway and Nokesville trails connect to the City's Greenway Trail which is in the City proper. The Nokesville Trail is located on the north side of Route 28 and it connects to the Prince William County Discovery Spur. Both are multi-use trails that allow biking, walking, and running. The Gateway Trail has two branches. One follows Wakeman Dr and the other Observation Road. Both are part of the roads which are so-called site-shared roads. Site-shared roads accommodate vehicles, pedestrians, and cyclists on the same, typically curbless, space.

None of the PEA projects will affect the aforementioned trails.

SECTION A.9 ACTIVITY CONSISTENT WITH ENFORCEABLE POLICIES

Activity consistent with enforceable policies and advisories has been detailed in previous sections. The PEA details the results of agency consultation, outlines the construction and operation impacts that will result if the projects are implemented, and presents any minimization, avoidance, or mitigation options that are appropriate.

SECTION A.10 RECOMMENDATIONS

Although applicants are not required to make findings with respect to the coastal effects of the advisory policies for which the management program does not contain enforceable or recommended policies, applicants should demonstrate adequate consideration of policies which are in the nature of recommendations (see 15 CFR 930.58(a)(3)).

Pursuant to 15 CFR §930.41, the State agency has 90 days from the receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR §930.41(b). Virginia's concurrence will be presumed if its response is not received by the FAA on the 90th day from receipt of this determination. The State's response should be sent to:

Mr. Juan Rivera, Director **Manassas Regional Airport** **8500 Public Works Drive** **Manassas, VA 20110** **1.703.257.8261** **jrivera@manassasva.gov**	**Marie C. Jenet,** **Environmental Program Manager,** **Federal Aviation Administration** **Eastern Regional Office, 159-30 Rockaway Blvd,** **Jamaica, New York 11434** **1.718.553.2511** **marie.jenet@faa.gov**

SECTION A.11 CERTIFICATION

The Manassas Regional Airport certifies that the proposed activity complies with the enforceable policies of Virginia's Coastal Zone Management Program (CZM Program) and will be conducted in a manner consistent with the CZM Program.

REFERENCES CITED

1. RS&H. Manassas Regional Airport Master Plan Update Working Paper 1 Version 6.0. Manassas, Virginia : s.n., July 1, 2024.

2. RS&H, Inc. *Final Environmental Assessment - West Corporate Development and East Parcel Development.* 2018.

3. Fleming, Gary P. and Patterson, Karen D. *The Natural Communities of Virginia: Ecological Groups and Community Types.* Richmond, Virginia : Virginia Department of Conservation and Natural Heritage, 2021.

4. Virginia Department of Game and Inland Fisheries, Wildlife Diversity Division, Fish and Wildlife Information Services. Virginia Institute of Marine Sciences. *Threatened and Endangered Waters Metadata.* [Online] 2002. https://cmap2.vims.edu/BlueInfrastructure/metadata/Threatened%20and%20endangered%20waters.htm.

5. Manassas Regional Airport. *Wildlife Hazard Management Plan.* 2023.

6. Northern Virginia Regional Commission. [Online] August 6, 2024. https://www.deq.virginia.gov/our-programs/coastal-zone-management/coastal-planning-districts/northern-virginia.

7. Commonwealth of Virginia. Administrative Code. *9VAC25-830-80. Resource Protection Areas.* [Online] https://law.lis.virginia.gov/admincode/title9/agency25/chapter830/section80/.

8. Virginia Department of Agriculture and Consumer Services. *The Virginia plants and plant products inspection law and quarantine requirements affecting the interstate and intrastate movement of nursery stock, other plants, and plant products.* [Online] February 28, 2026. https://www.vdacs.virginia.gov/pdf/plantprodinsplaw.pdf

9. State of Virginia. Administrative Code. *9VAC25-600-20. Declaration of groundwater management areas.* [Online] https://law.lis.virginia.gov/admincode/title9/agency25/chapter600/section20/.

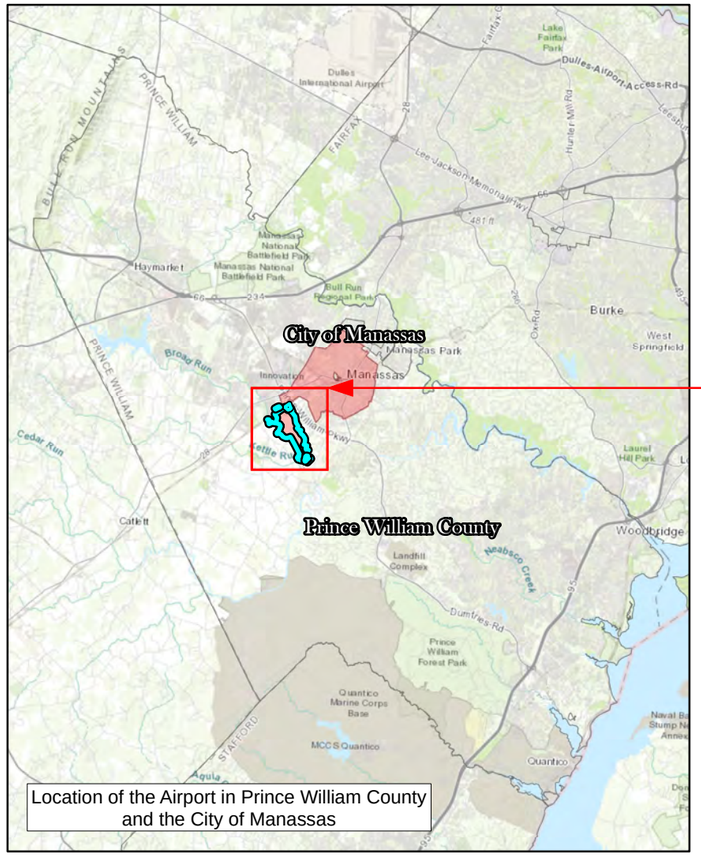
10. United States Environmental Protection Agency. *Sole Source Aquifers for Drinking Water.* [Online] March 12, 2024. https://www.epa.gov/dwssa.

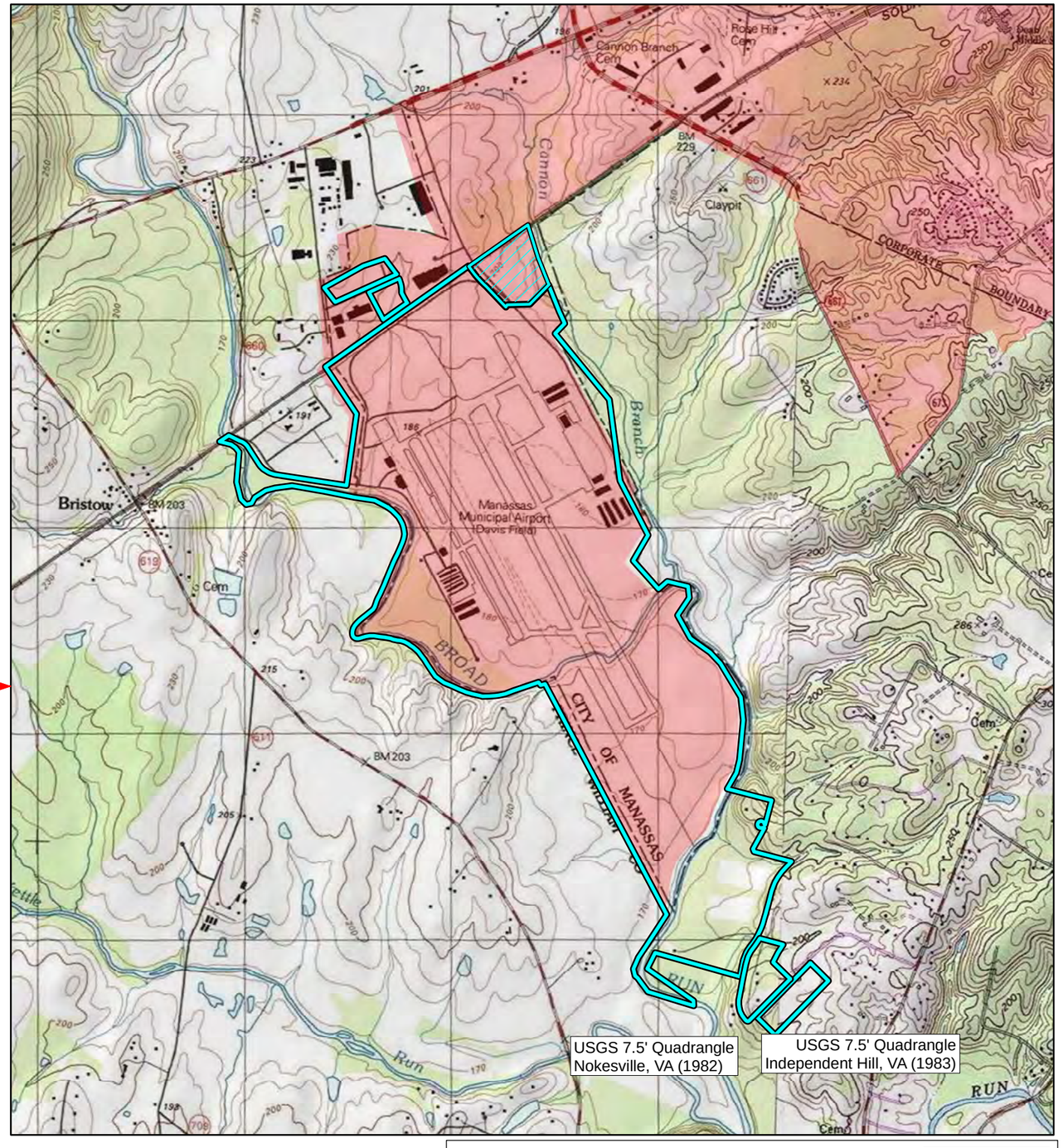
11. Kimley-Horn. *Manassas Regional Airport Water and Sanitary Sewer Utilities Improvements Basis of Design Report.* 2021.

12. Virginia Department of Health (VDH) Office of Drinking Water (ODW). [Online] March 19, 2026. https://www.vdh.virginia.gov/drinking-water/

Attachment A

FIGURES





LEGEND

- Airport Property
- Amazon Data Center Parcel
- City of Manassas

0 500 1,000 Meters

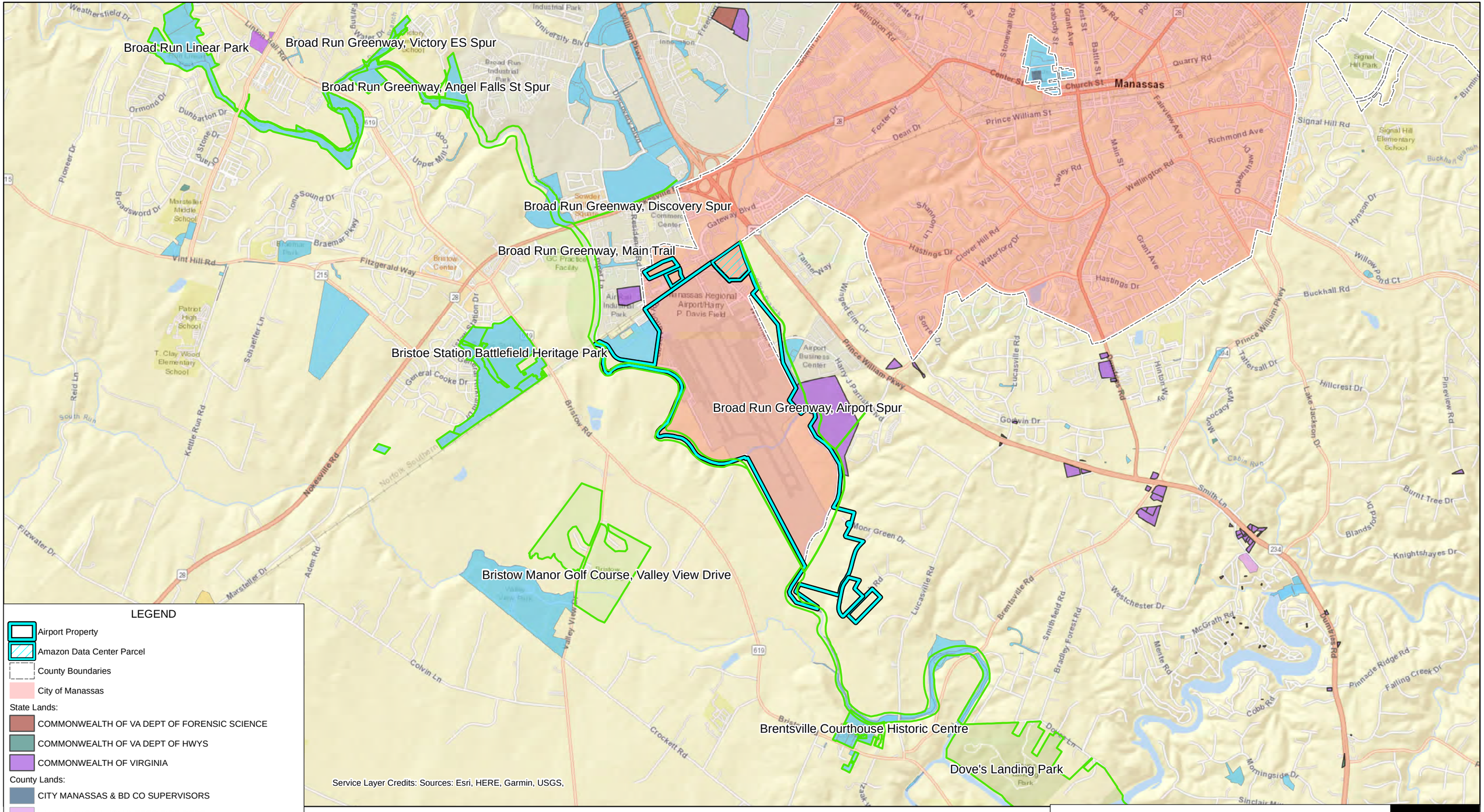
0 2,000 4,000 Feet

AVION SOLUTIONS GROUP LLC

Figure 1

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Location of the Airport



LEGEND

- Airport Property
- Amazon Data Center Parcel
- County Boundaries
- City of Manassas

State Lands:

- COMMONWEALTH OF VA DEPT OF FORENSIC SCIENCE
- COMMONWEALTH OF VA DEPT OF HWYS
- COMMONWEALTH OF VIRGINIA

County Lands:

- CITY MANASSAS & BD CO SUPERVISORS
- LAKE JACKSON VOLUNTEER FIRE DEPT
- NOKESVILLE VOLUNTEER FIRE DEPT
- PWC BOARD OF COUNTY SUPERVISORS
- PWC BOARD OF COUNTY SUPERVISORS
- PWC BOCS & NOKESVILLE VOLUNTEER FIRE & RESCUE DEPT
- PWC SERVICE AUTHORITY
- Park Boundaries

0 500 1,000 Meters

0 2,000 4,000 Feet

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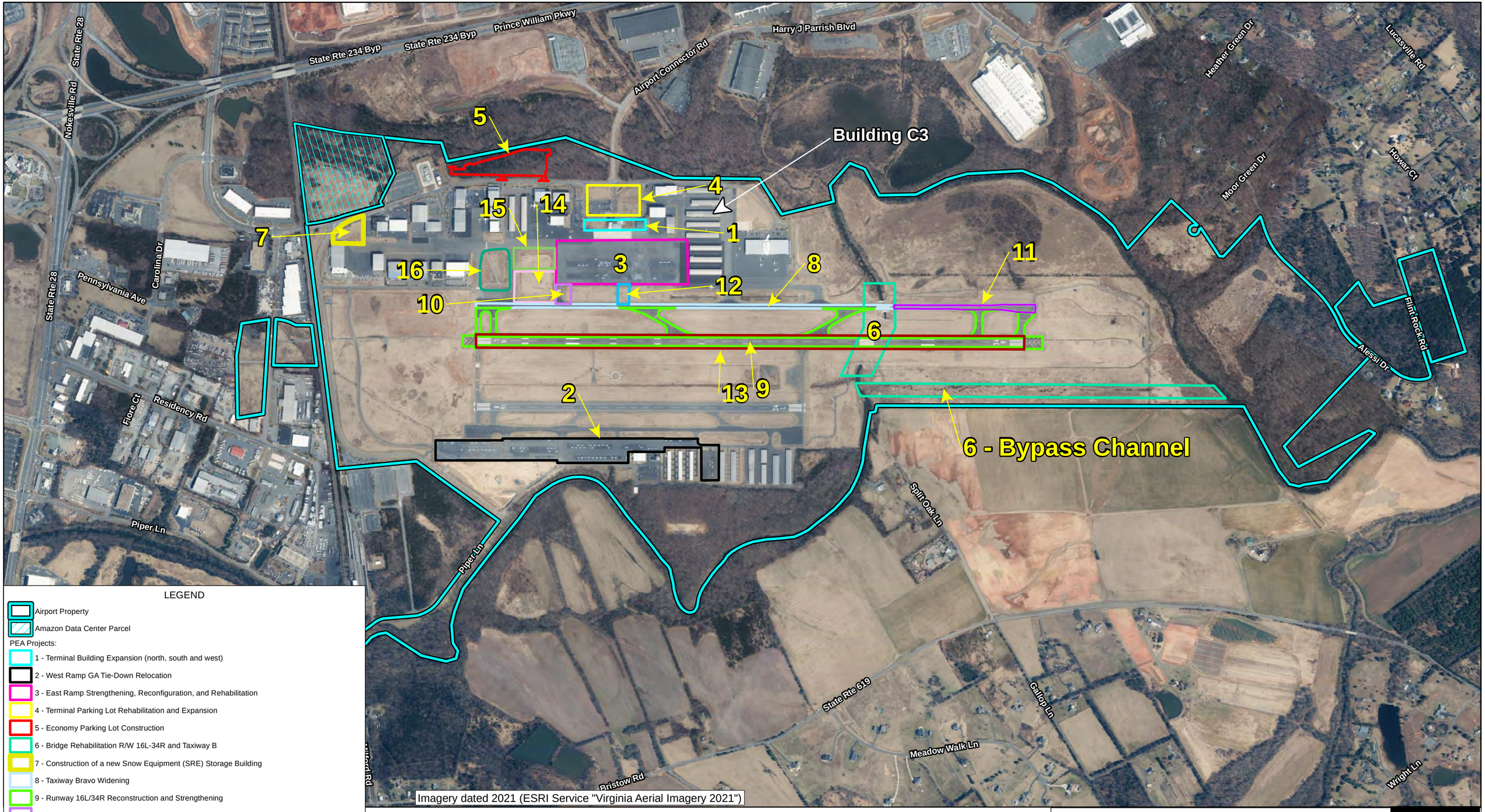
Figure 2

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

State, County, and Local Jurisdictions

Project 23-98001.002, Version: 2/20/2026 @ 11:52:18 AM



LEGEND

- Airport Property
- Amazon Data Center Parcel

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
- 5 - Economy Parking Lot Construction
- 6 - Bridge Rehabilitation R/W 16L-34R and Taxiway B
- 7 - Construction of a new Snow Equipment (SRE) Storage Building
- 8 - Taxiway Bravo Widening
- 9 - Runway 16L/34R Reconstruction and Strengthening
- 10 - Taxiway Echo Fillet Widening
- 11 - Taxiway B Reconstruction and Strengthening (South of the Bridge)
- 12 - Construction of a new East Ramp Taxiway
- 13 - Runway 16L/34R Widening
- 14 - Aircraft Deicing Pad and Apron Expansion between Taxiways D and E
- 15 - Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
- 16 - Construction of a new ARFF Facility
- Project #6 - Bypass Channel

0 200 400 Meters

0 500 1,000 Feet

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Figure 3

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

PEA Projects

Project 23-98001.002, Version: 4/19/2026 @ 1:53:14 PM

0 25 50 Meters

0 100 200 Feet

LEGEND

Airport Property

New Lease Parcel Boundary

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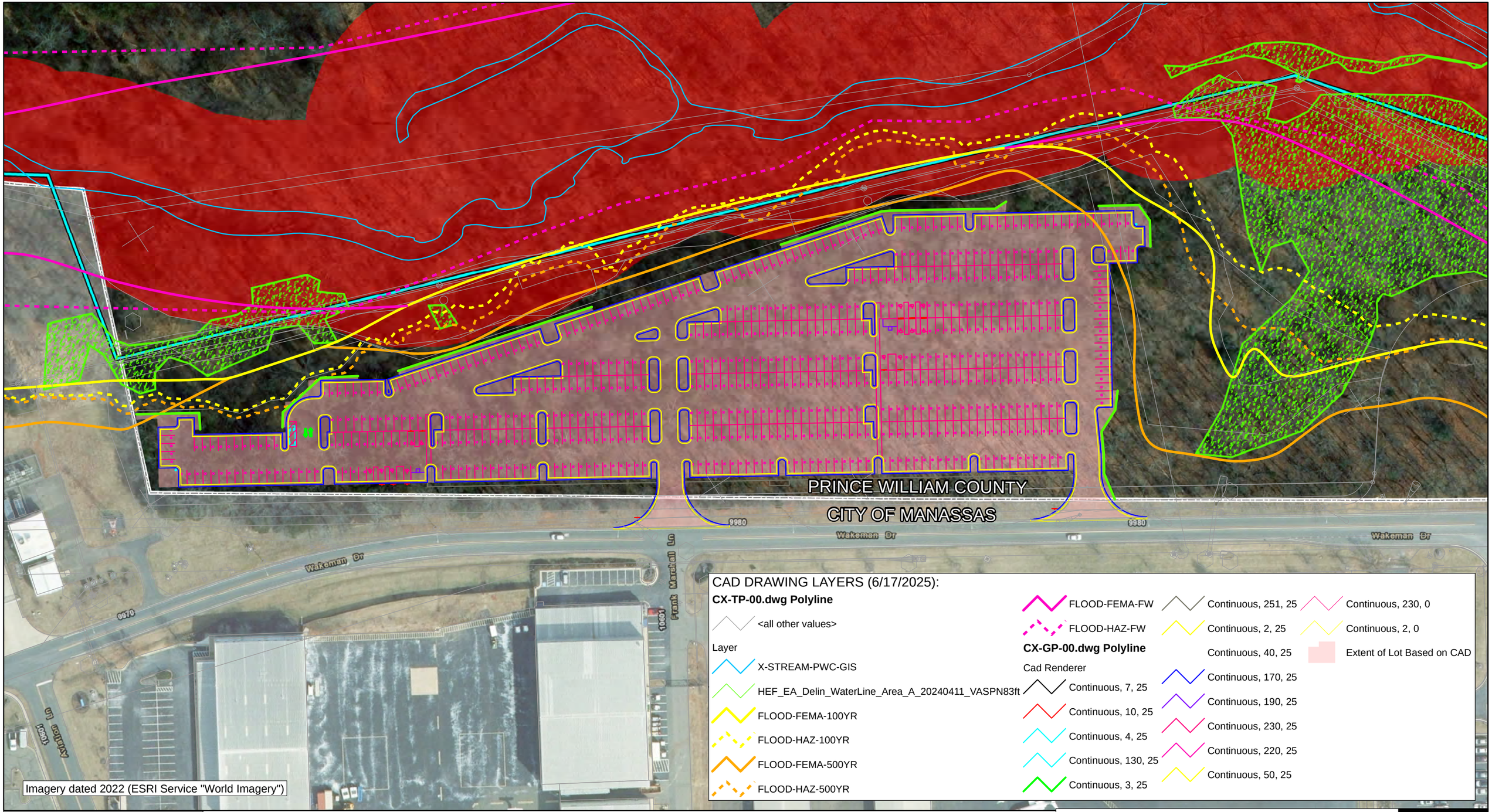
Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Franchise Agreement Lease Parcels
A, B, C, D, E. F

Figure
4

Project 23-98001.002, Version: 2/20/2026 @ 11:57:28 AM



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- FLOOD-FEMA-100YR
- FLOOD-HAZ-100YR
- FLOOD-FEMA-500YR
- FLOOD-HAZ-500YR
- FLOOD-FEMA-FW
- FLOOD-HAZ-FW

CX-GP-00.dwg Polyline

Cad Renderer

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- Continuous, 10, 25
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- Continuous, 251, 25
- Continuous, 2, 25
- Continuous, 40, 25
- Continuous, 170, 25
- Continuous, 190, 25
- Continuous, 230, 25
- Continuous, 220, 25
- Continuous, 50, 25
- Continuous, 230, 0
- Continuous, 2, 0
- Extent of Lot Based on CAD

LEGEND

- Airport Property
- City of Manassas Boundary
- Extent of Lot Based on CAD
- Retaining Wall
- Delineated Wetland Area
- Resource Protection Area (RPA, PW Co.)

0 25 50 Meters

0 100 200 Feet

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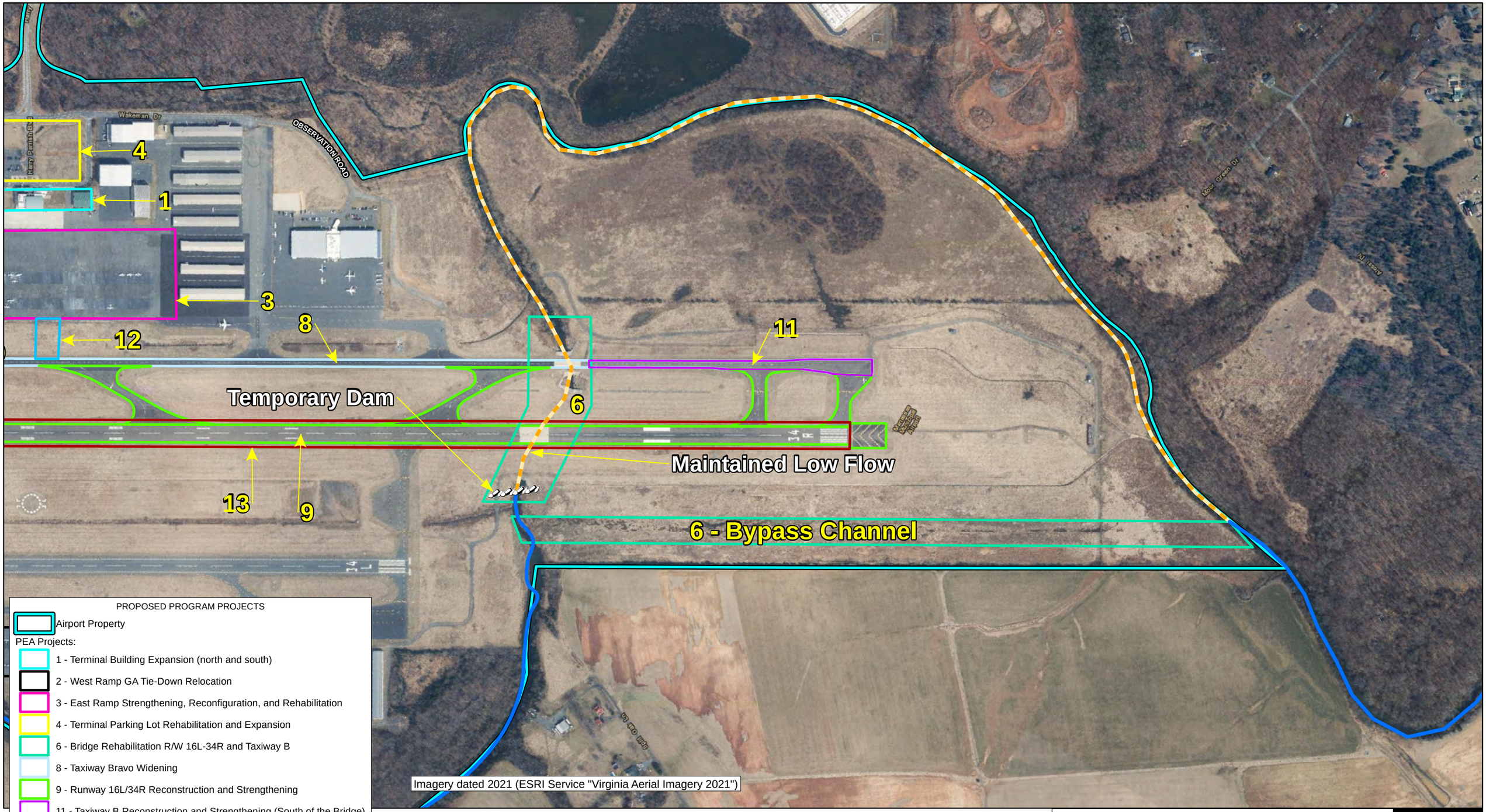
Figure 5

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Economy Parking Lot Layout



PROPOSED PROGRAM PROJECTS

- Airport Property

PEA Projects:

- 1 - Terminal Building Expansion (north and south)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
- 6 - Bridge Rehabilitation R/W 16L-34R and Taxiway B
- 8 - Taxiway Bravo Widening
- 9 - Runway 16L/34R Reconstruction and Strengthening
- 11 - Taxiway B Reconstruction and Strengthening (South of the Bridge)
- 12 - Construction of a new East Ramp Taxiway
- 13 - Runway 16L/34R Widening

Broad Run Temporary Bypass:

- Broad Run
- Maintained Low Flow
- Temporary Dam

0 100 200 Meters

0 250 500 Feet

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Figure 6

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

2025 R/W 16L/34R and T/W B Bridge Strengthening Action Areas

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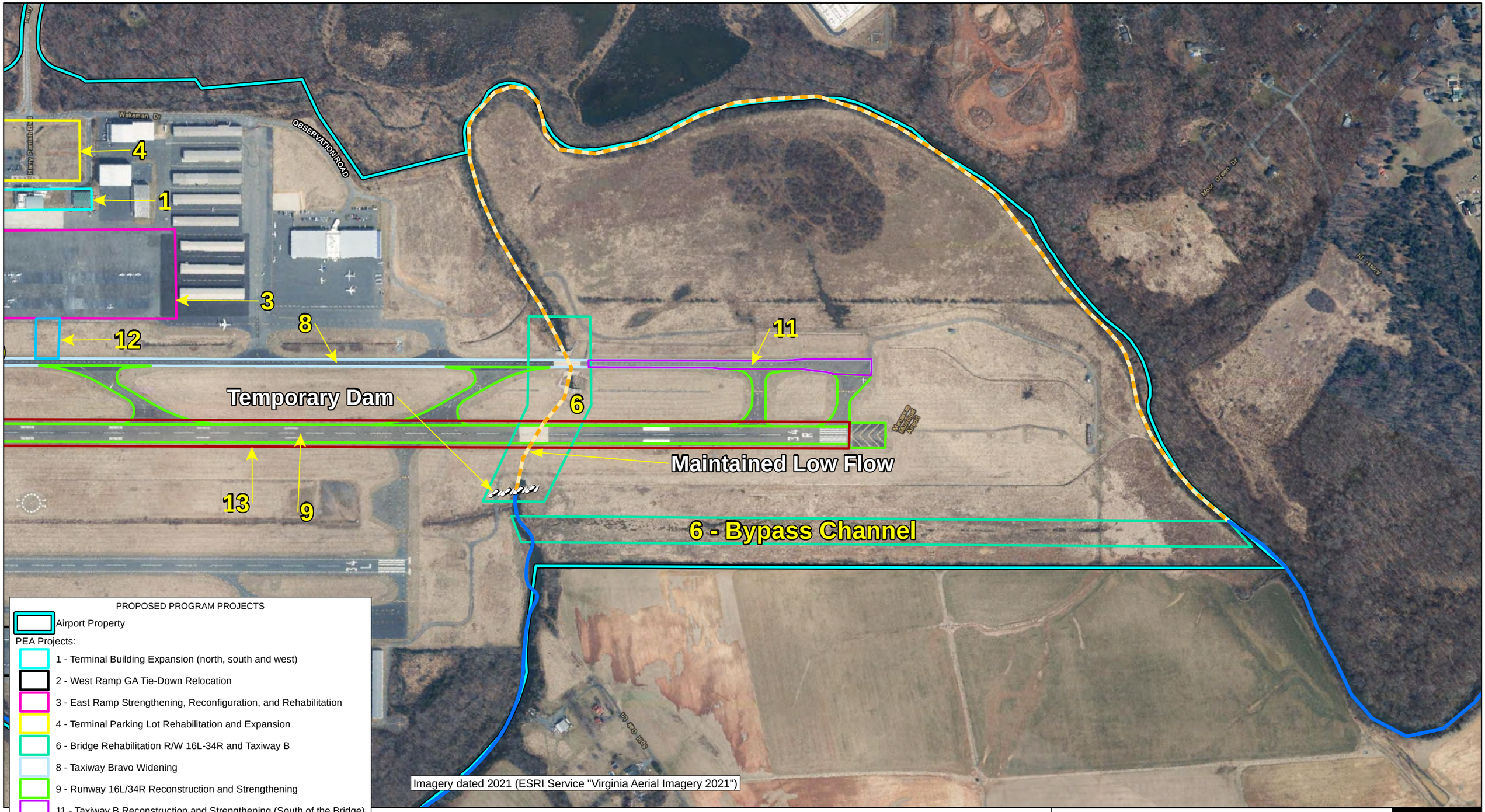

PROPOSED PROGRAM PROJECTS

- Airport Property

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
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- 8 - Taxiway Bravo Widening
- 9 - Runway 16L/34R Reconstruction and Strengthening
- 11 - Taxiway B Reconstruction and Strengthening (South of the Bridge)
- 12 - Construction of a new East Ramp Taxiway
- 13 - Runway 16L/34R Widening

Broad Run Temporary Bypass:

- Broad Run
- Maintained Low Flow
- Temporary Dam

0 100 200 Meters

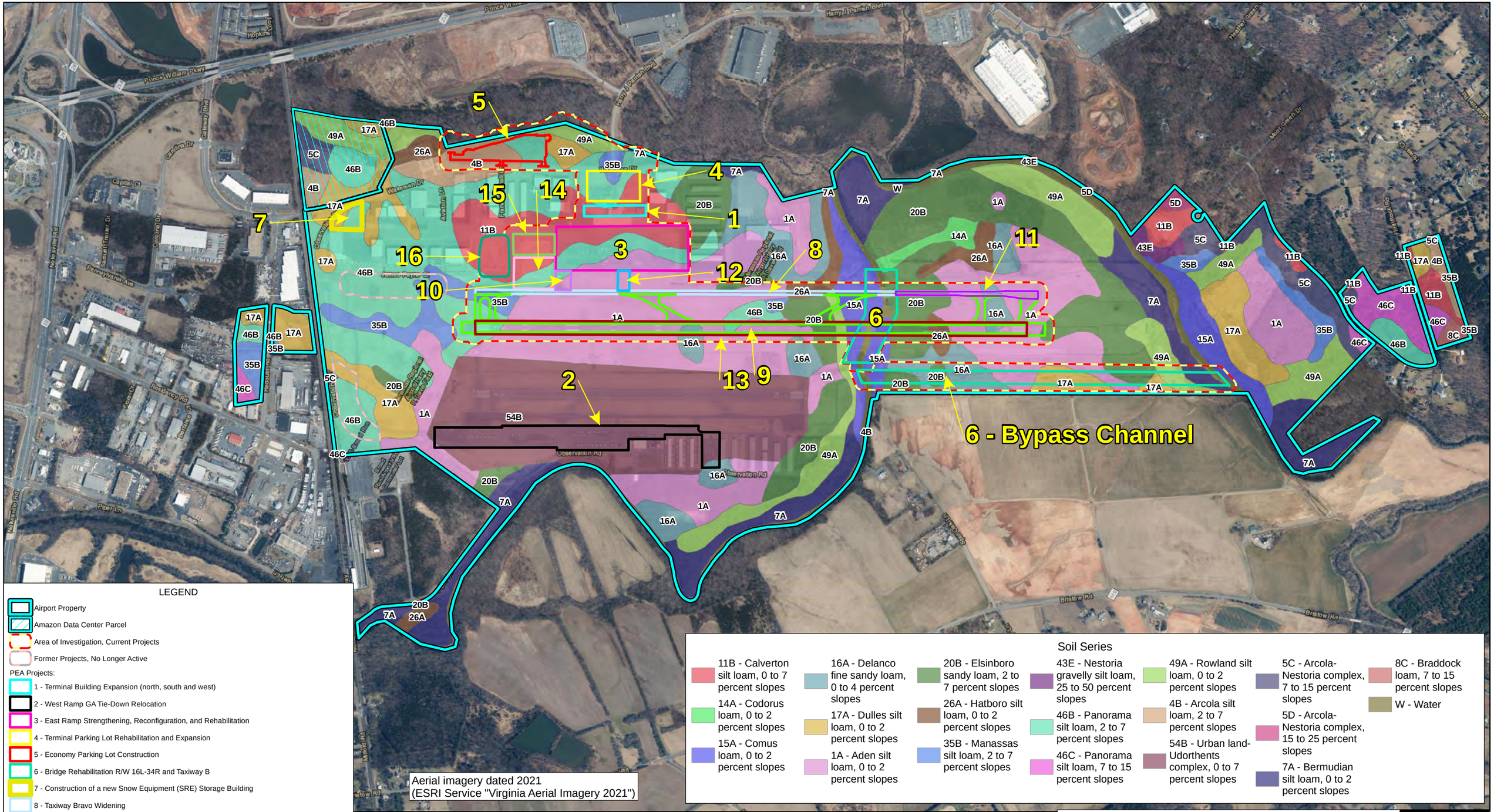
0 250 500 Feet

AVION SOLUTIONS GROUP LLC

Figure 7

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

R/W 16L-34R and T/W B
Bridge Strengthening Action Areas



LEGEND

- Airport Property
- Amazon Data Center Parcel
- Area of Investigation, Current Projects
- Former Projects, No Longer Active

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
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- 14 - Aircraft Deicing Pad and Apron Expansion between Taxiways D and E
- 15 - Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
- 16 - Construction of a new ARFF Facility

Soil Series

- 11B - Calverton silt loam, 0 to 7 percent slopes
- 14A - Codorus loam, 0 to 2 percent slopes
- 15A - Comus loam, 0 to 2 percent slopes
- 16A - Delanco fine sandy loam, 0 to 4 percent slopes
- 17A - Dulles silt loam, 0 to 2 percent slopes
- 1A - Aden silt loam, 0 to 2 percent slopes
- 20B - Elsinboro sandy loam, 2 to 7 percent slopes
- 26A - Hatboro silt loam, 0 to 2 percent slopes
- 35B - Manassas silt loam, 2 to 7 percent slopes
- 43E - Nestoria gravelly silt loam, 25 to 50 percent slopes
- 46B - Panorama silt loam, 2 to 7 percent slopes
- 46C - Panorama silt loam, 7 to 15 percent slopes
- 49A - Rowland silt loam, 0 to 2 percent slopes
- 4B - Arcola silt loam, 2 to 7 percent slopes
- 54B - Urban land-Udorthents complex, 0 to 7 percent slopes
- 5C - Arcola-Nestoria complex, 7 to 15 percent slopes
- 5D - Arcola-Nestoria complex, 15 to 25 percent slopes
- 7A - Bermudian silt loam, 0 to 2 percent slopes
- 8C - Braddock loam, 7 to 15 percent slopes
- W - Water

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Figure 8

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Airport Soils,
Natural Resource Conservation Service (NRCS)
Soil Survey Geographic Database (SSURGO)

SEE INSET

CANNON BRANCH

BROAD RUN

37931

38133

37850

2 - Paved Construction Area, No Assessment Required

6 - Bypass Channel

Observation Rd

Wakeman Dr

Aviation Ln

Frank Maloney Dr

James Payne Ct

Wetland A
Wetland B
Wetland C
Wetland D
Wetland E
Wetland F
Wetland G
Wetland I
Wetland K
Wetland L
Wetland M
Wetland N
Wetland P
Wetland QA
Wetland QB
Wetland QC
Wetland R/S
Wetland T
Wetland U
Wetland V
Wetland W
Wetland X
Wetland XA
Wetland XB
Wetland XC
Wetland XD

Stream H
Stream J
Stream O
Stream OA
Stream OB
Stream OC
Stream OD
Stream HB

SS-1 Wetland
SS-2 Upland
SS-3 Upland
SS-4 Wetland
SS-5 Upland
SS-6 Wetland
SS-7 Upland
SS-8 Wetland
SS-9 Upland
SS-10 Wetland
SS-11 Upland
SS-12 Wetland
SS-13 Upland
SS-14 Wetland
SS-15 Upland
SS-16 Wetland
SS-17 Upland
SS-18 Wetland
SS-19 Upland
SS-20 Wetland
SS-21 Upland
SS-22 Wetland
SS-23 Upland
SS-24 Upland
SS-25 Wetland
SS-26 Upland
SS-27 Wetland
SS-28 Wetland
SS-29 Upland
SS-30 Wetland
SS-31 Wetland
SS-32 Upland
SS-33 Wetland
SS-34 Upland
SS-35 Wetland
SS-36 Upland
SS-37 Wetland
SS-38 Upland

PEM Wetland Area Outside of AOI

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Results of Investigation

- Area of Investigation, Current Projects
- Former Projects, No Longer Active
- Sample Station
- Open Water Boundary (Current Project Area)
- Wetland Area (Current Project Areas)
- Wetland Area (Outdated Project Areas)
- PEM Wetland Area Outside of AOI

LEGEND

- Airport Property
- Amazon Data Center Parcel
- Ecological Core C5: General
- VDOT Wetlands Mitigation Bank

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
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- 13 - Runway 16L/34R Widening
- 14 - Aircraft Deicing Pad and Apron Expansion between Taxiways D and E
- 15 - Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
- 16 - Construction of a new ARFF Facility
- Project #6 - Bypass Channel
- Approximate Location of Proposed Underground Detention Area for New Hardscaped Surfaces
- Approximate Location of Soil Removal for Floodplain Balancing

0 200 400 Meters

0 500 1,000 Feet

Selected Area Detail

0 25 50 Meters

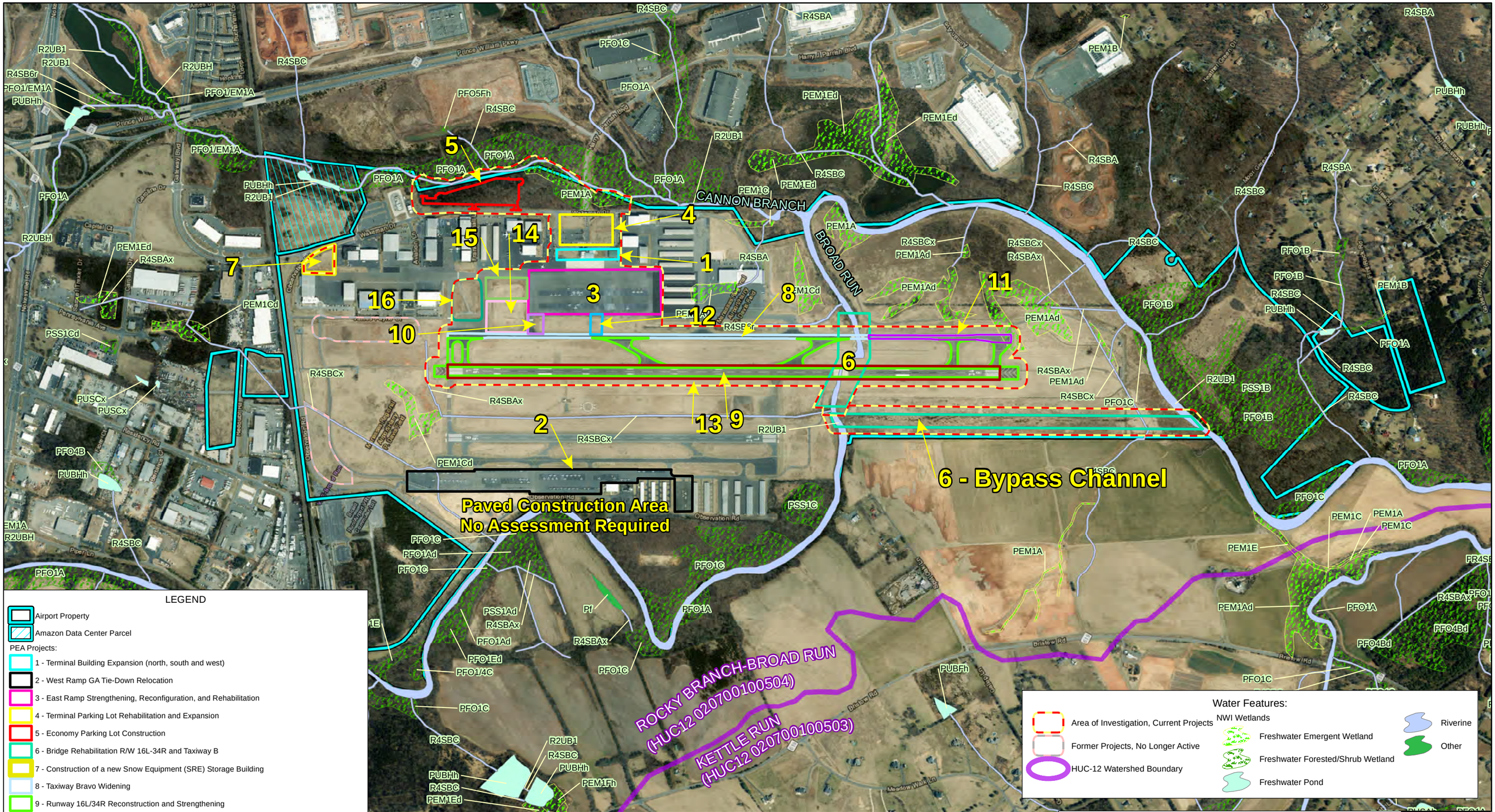
0 100 200 Feet

AVION SOLUTIONS GROUP LLC

Figure 9

Manassas Regional Airport (HEF) Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Delineated Features



LEGEND

- Airport Property
- Amazon Data Center Parcel

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
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- 13 - Runway 16L/34R Widening
- 14 - Aircraft Deicing Pad and Apron Expansion between Taxiways D and E
- 15 - Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
- 16 - Construction of a new ARFF Facility
- Project #6 - Bypass Channel

Water Features:

- Area of Investigation, Current Projects
- Former Projects, No Longer Active
- HUC-12 Watershed Boundary

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Other

Wetland classification for NWI based on Cowardin, L.M., V. Carter V., F.C. Golet, and E.T. LaRoe.
1979 Classification of Wetlands and Deepwater Habitats of the United States.
U.S. Fish and Wildlife Service Report No. FWS/OBS/- 79/31. Washington, D.C.

0 200 400 Meters

0 500 1,000 Feet

AVION SOLUTIONS GROUP LLC

Figure 10

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

NWI Water Features and Watersheds on the Airport

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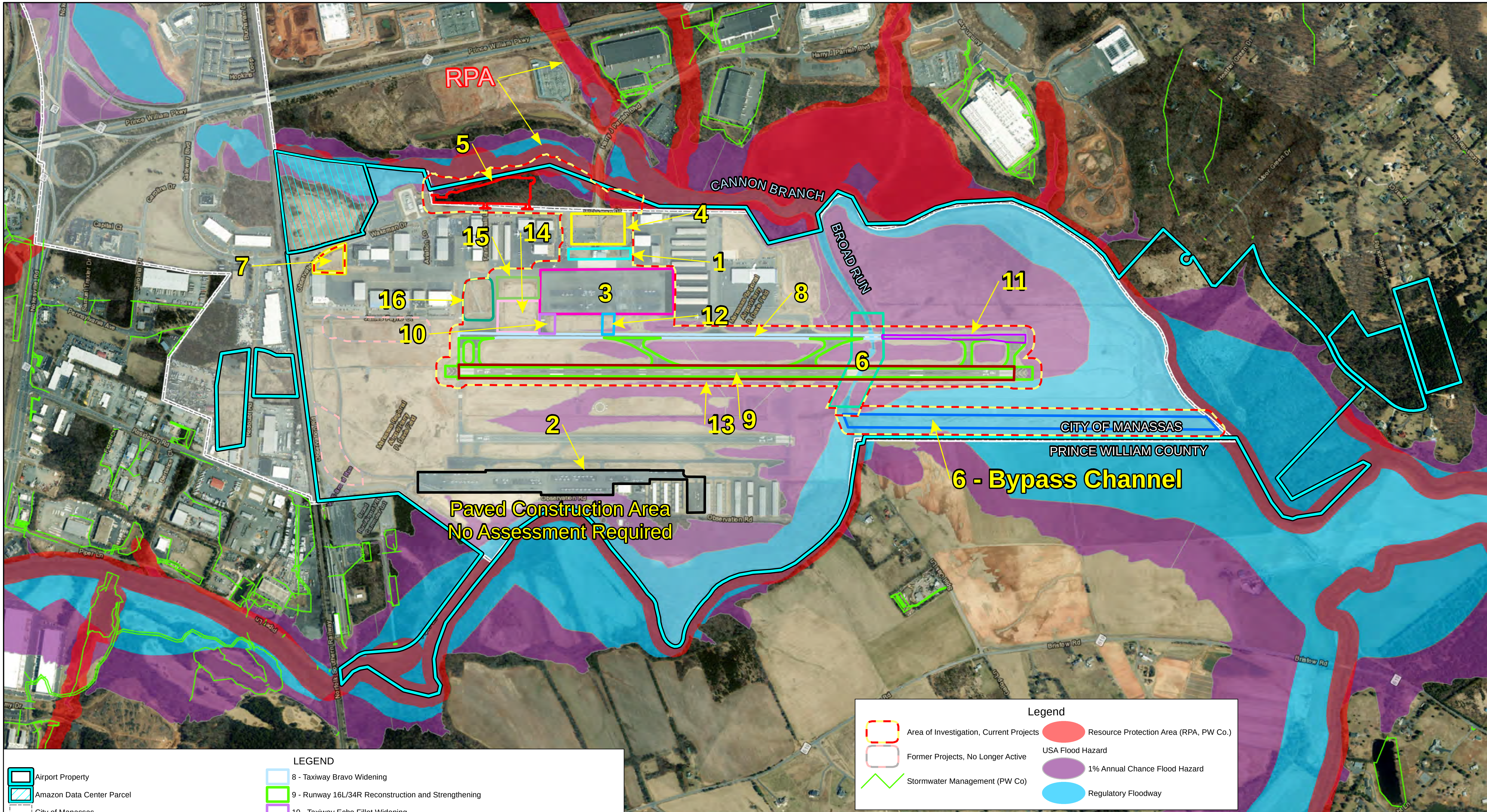

Legend

- Area of Investigation, Current Projects
- Former Projects, No Longer Active
- Stormwater Management (PW Co)
- Resource Protection Area (RPA, PW Co.)
- USA Flood Hazard
- 1% Annual Chance Flood Hazard
- Regulatory Floodway

LEGEND

- Airport Property
- Amazon Data Center Parcel
- City of Manassas

PEA Projects:

- 1 - Terminal Building Expansion (north, south and west)
- 2 - West Ramp GA Tie-Down Relocation
- 3 - East Ramp Strengthening, Reconfiguration, and Rehabilitation
- 4 - Terminal Parking Lot Rehabilitation and Expansion
- 5 - Economy Parking Lot Construction
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- 15 - Construction of new Expanded East Ramp and Taxilane between Taxiways Delta and Echo
- 16 - Construction of a new ARFF Facility
- Project #6 - Bypass Channel

0 200 400 Meters

0 500 1,000 Feet

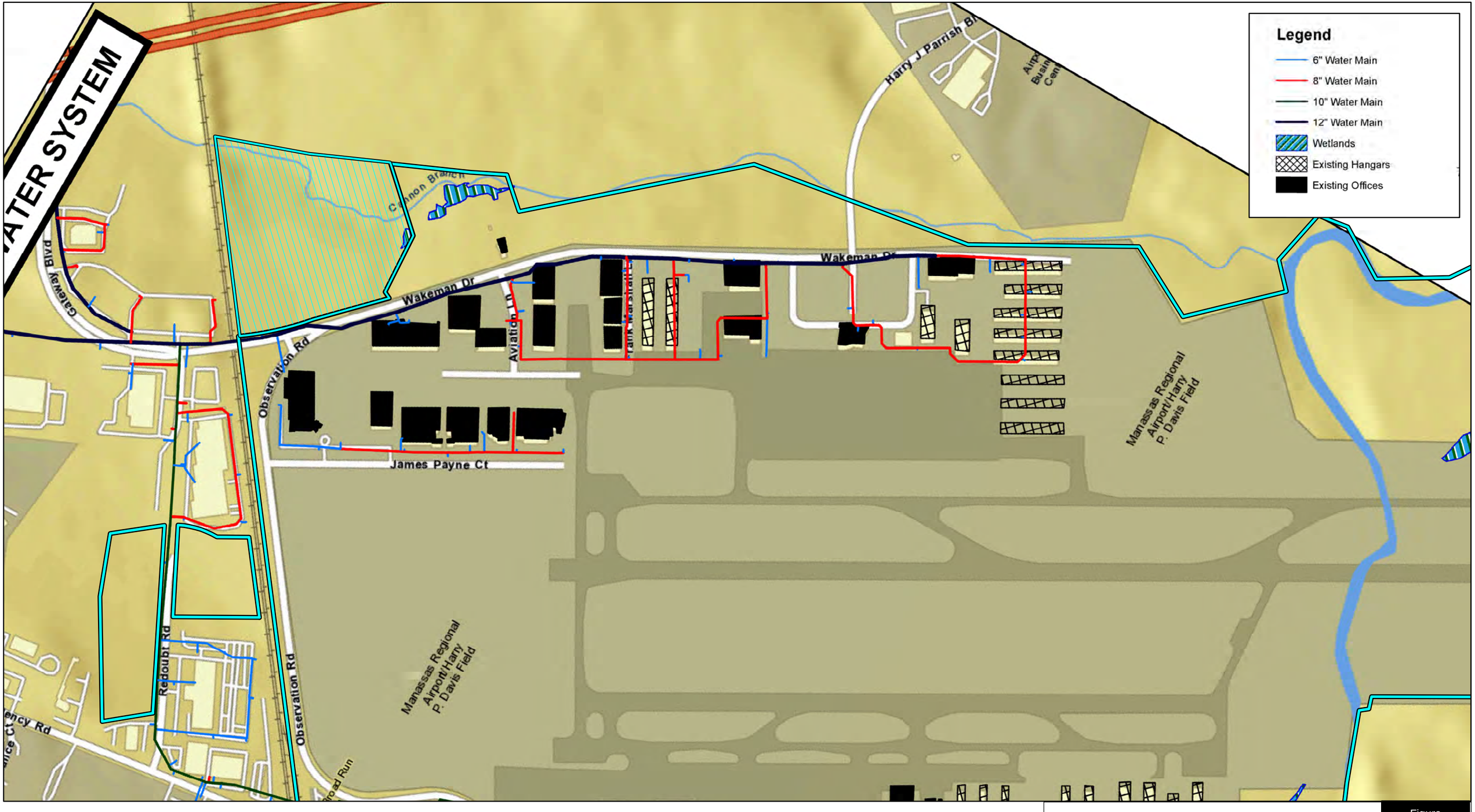
AVION SOLUTIONS GROUP LLC

Figure 11

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

State and Local Water Features in the Vicinity of the Airport

Project 23-98001.002, Version: 4/19/2026 @ 2:34:09 PM



PROPOSED PROGRAM PROJECTS
- Airport Property
- Amazon Data Center Parcel

Figure 2.2 from
Kimley Horn
2021 Manassas Regional Airport
Water and Sanitary Sewer

0 100 200 Meters
0 250 500 Feet

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Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

East Side Water Lines

Figure
12

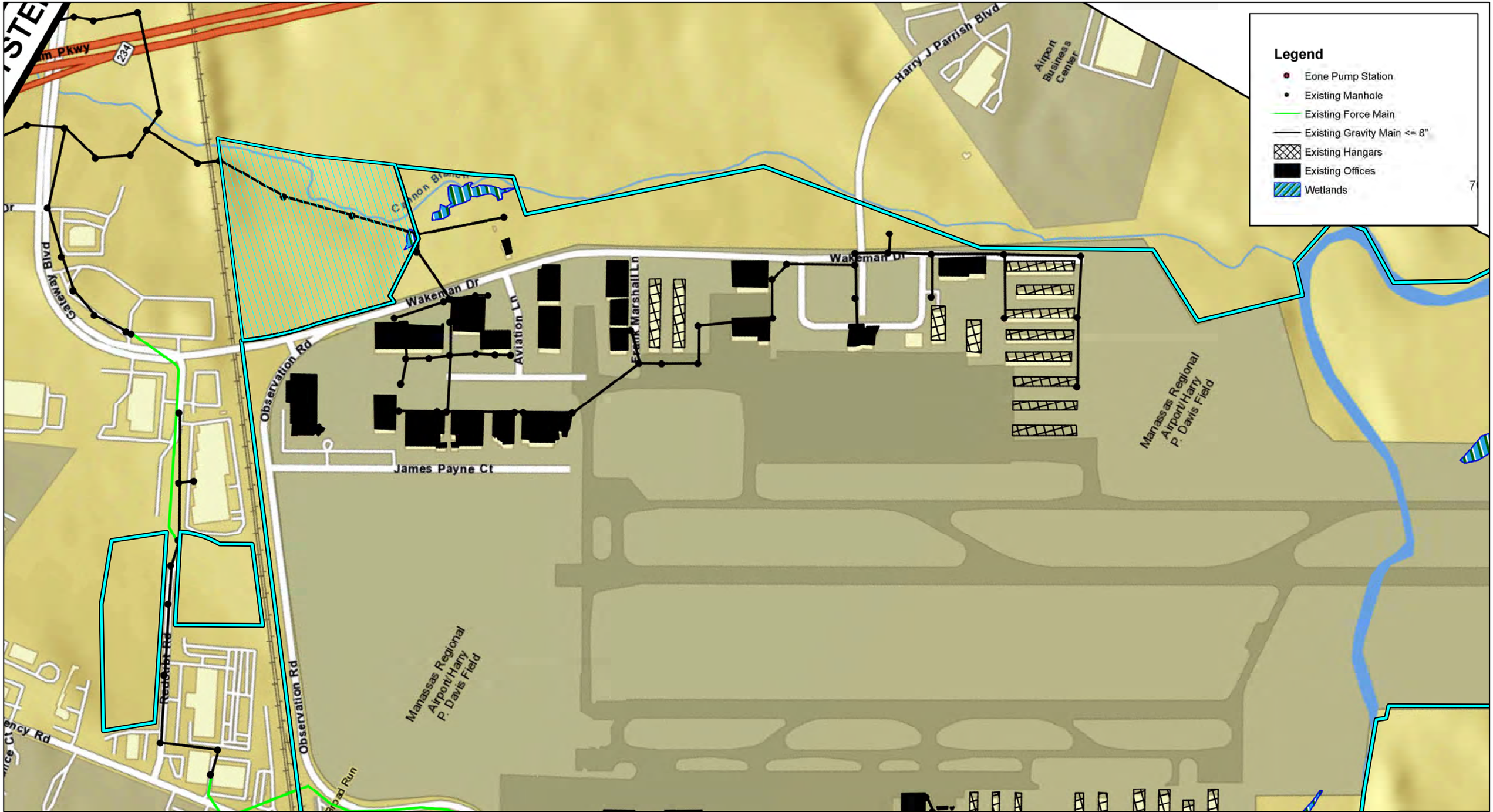

Figure 2.7 from
Kimley Horn
2021 Manassas Regional Airport
Water and Sanitary Sewer

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Figure
13

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Airport Force and Gravity Mains

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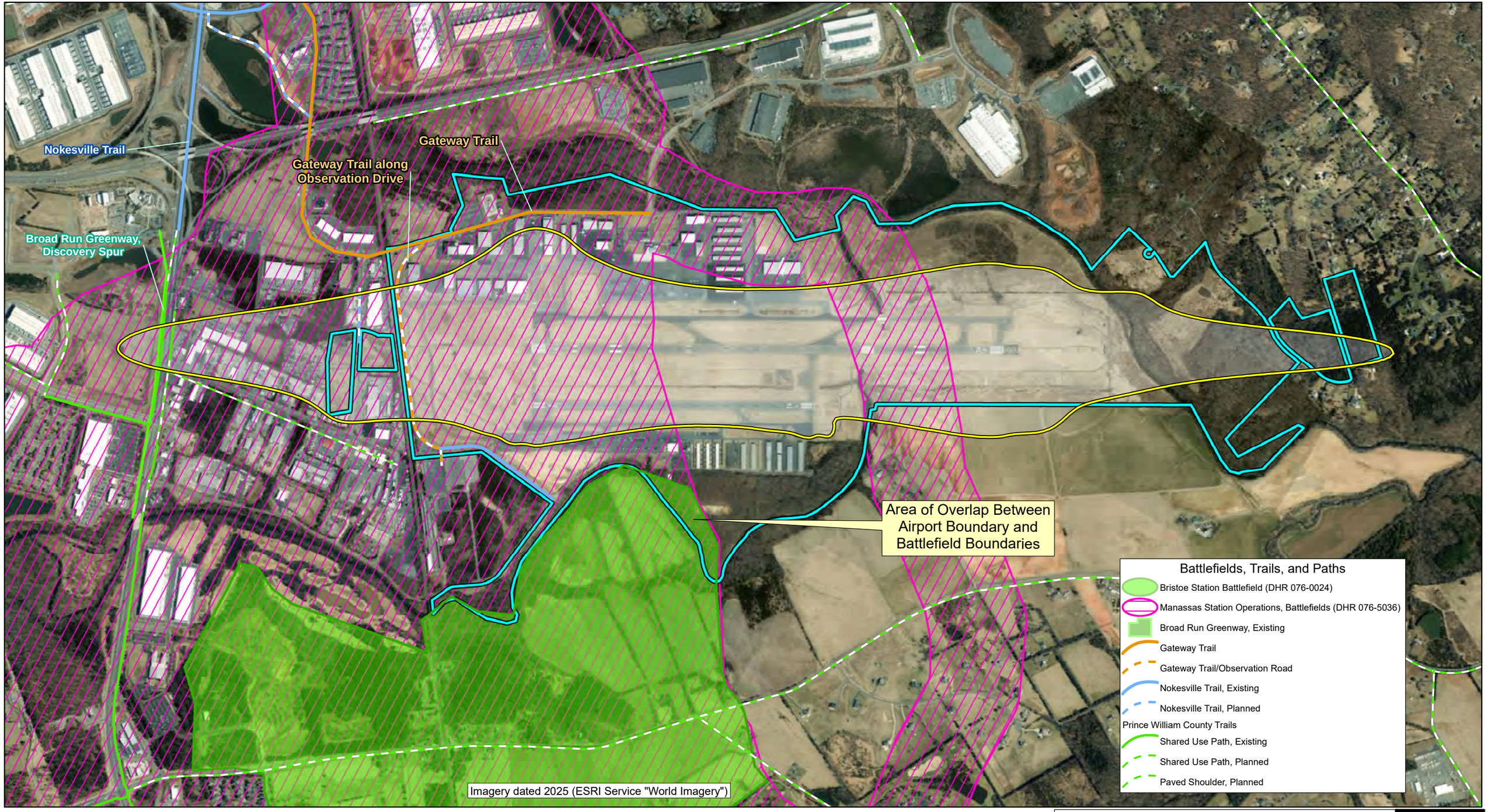

Legend

Airport Boundary – Visual Effects Study Area

65 DNL Preferred Alternative 2041 – Auditory Effects Study Area

0 250 500 Meters

0 1,000 2,000 Feet

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Figure 14

Manassas Regional Airport (HEF)
Proposed Part 139 Certification and Terminal Redevelopment Project Environmental Assessment

Section 4(f) Recreation Areas and HAAC Battlefields in the Study Area

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