HANCOCK COUNTY – BAR HARBOR AIRPORT

Environmental Assessment

Avigation Easement and Obstruction Removal Project

Federal Aviation Administration
Maine Department of Transportation
March 2022

Environmental Assessment

Avigation Easement & Obstruction Removal Project Hancock County – Bar Harbor Airport Trenton, Maine

Prepared for

Prepared by

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March 2022

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

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Responsible FAA Official

March 17, 2022

Date

AIP No. **3-23-0006-047-2019**

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List of Acronyms

AC	Advisory Circular
ACOE	Army Corps of Engineers
ALP	Airport Layout Plan
ASDA	Accelerate Stop Distance Available
ASOS	Automated Surface Observing System
AVGAS	100 Low Lead Aviation Fuel
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
EA	Environmental Assessment
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
GA	General Aviation
GIS	Geographic Information System
LDA	Landing Distance Available
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NAVAID	Navigational Aids
NEPA	National Environmental Policy Act
NLEB	Northern Long-eared Bat
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OFA	Object Free Area
OHW	Ordinary High Water
RCRA	Resource Conservation and Recovery Act
REILs	Runway End Identifier Lights
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RW	Runway
SRE	Snow Removal Equipment
SPCCP	Spill Prevention Control and Countermeasures Plan
STP	Stormwater Treatment Plan
SWPPP	Storm Water Pollution Prevention Plan
TERPS	U.S. Standard for Enroute Terminal Instrument Procedures
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Runway Available
TSS	Threshold Siting Surface
TW	Taxiway
USDA	US Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VALE	Voluntary Airport Low Emissions Program
VASI	Visual Approach Slope Indicator

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Chapter 1 Overview

1.1 Introduction

This Environmental Assessment (EA) evaluates the potential impacts of safety improvement projects proposed by Hancock County to meet Federal Aviation Administration (FAA) design criteria and ensure the safety of flights at the Hancock County – Bar Harbor Airport (BHB).

The EA has been prepared in compliance with National Environmental Policy Act (NEPA) requirements, the Council on Environmental Quality (CEQ) Regulations 40 Code of Federal Regulations (CFR) 1500 & 1508, FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions, FAA Order 1050.1F; Federal Aviation Administration Environmental Impacts: Policies and Procedures.

As noted in the current Hancock County - Bar Harbor Master Plan prepared by Hoyle, Tanner & Associates Inc. in 2011, there are numerous trees and man-made structures that penetrate the airspace at BHB. A follow-on approach survey was completed in 2018 by Martinez Geospatial after the FAA identified penetrations to the approach light surfaces. This EA will address obtaining avigation easements and conducting tree clearing on the parcels shown in Figure 1-1.

1.2 Proposed Project

The proposed actions considered in this Environmental Assessment (EA) are based on the recommendations presented in the Hancock County - Bar Harbor Airport Master Plan dated July 2011. Figures 1-2, 1-3, and 1-4 provide a project overview of the areas where trees penetrating the airspace need to be mitigated. The study identified and analyzed alternatives and presented recommended actions concerning each project. They include:

- Obtain (15) avigation easements over (11) properties situated off-airport where tree removal needs to occur to provide for safe approaches to each of the Airport's runway ends;
- Remove or trim trees that have been identified as hazards to air navigation;
- Clear on-airport vegetation that penetrates the Part 77 airspace. Off-airport easement acquisition and obstruction clearing will be to TERPS (FAA Order 8260.3C) and/or Threshold Siting Surface (FAA Advisory Circular 150/5300-13A) criteria and Engineering Brief 99, whichever is more restrictive. The majority of the penetrations are vegetative or terrain rather than manmade.
- The County of Hancock has a Memorandum of Understanding (MOU) with the FAA to keep the Runway 22 approach light surfaces clear (FAA Advisory Circular 150/5300-

13A). The MOU is dated March 27, 2008 and provides the FAA with the right to remove all obstructions from the premises which may constitute a hindrance to the maintenance of navigational aid systems. The MOU term is from 2008 to September 30, 2028.

1.3 Project Phasing

The Project is proposed to be completed in multiple phases over the 10-year Capital Improvement Program (CIP). Since obstruction removal is a high priority safety related project, preparing the environmental assessment and acquiring avigation easements are scheduled as short-term projects on the CIP.

FY 2020

Prepare Environmental Assessment – easement acquisition and obstruction removal

FY 2021/2022

On-airport tree removal. Acquire Easements for obstruction removal.

FY 2022/2023

Off-airport tree removal

1.4 Airport Overview

Hancock County - Bar Harbor Airport (BHB) is located in Trenton, Maine, halfway between the City of Ellsworth and the Town of Bar Harbor. The Airport is publicly owned, operated, and maintained by Hancock County and is governed by the Board of County Commissioners.

The Airport is designated by the FAA as a "Local Service Airport", which accommodates a variety of different types of general aviation (GA) activity from business and corporate aircraft, to public service including medical helicopters, law enforcement agencies, and privately owned/owner-flown aircraft. The FAA notes that "local airports are located near larger population centers but not necessarily in metropolitan areas. They also accommodate flight training and emergency services. These airports account for 39 percent of all NPIAS airports and have moderate levels of activity with some multiengine propeller aircraft. About 73 of these airports have limited air carrier service."

BHB has two asphalt paved runways that are in good condition. Runway 4/22 is 5,200' long by 100' wide. Both ends of Runway 4/22 are RNAV (GPS) equipped, additionally Runway 22 end is equipped with an ILS/DME which provides a precision instrument approach. Runway 17/35 is 3,363' long by 75' wide and is a visual approach runway. There are trees off the approach end of Runway 17 which have an operational impact on the Airport resulting in displacing the threshold by 684'. Runway 35 has a displaced threshold of 111'. One full service Fixed Base Operator (FBO)

offers community aircraft storage, private individual hangars, tie-down apron space, and fueling and maintenance services. Other accommodations offered at BHB include a terminal/administration building, two rental car counters which are located in the terminal building, flight instruction, scenic flight tours, and a seaplane ramp providing access to the airport off the Mt Desert Narrows.

1.5 Permits and Approvals

Federal and State environmental regulations were reviewed to identify those that are applicable to the Project. It is anticipated that the Project will require the permits and approvals listed in **Table 1-1.**

Table 1-1: Permits and Approvals Summary

Permit/Review	Issuing/Reviewing Agency	Type of Permit/Review	Status
NEPA Clearance	FAA	Finding of No Significant Impacts (FONSI)	Completed
National Historic Preservation Act, Section 106	FAA /ME State Historic Preservation Officer	Letter of no impact from Maine Historic Preservation Commission	Phase 1 survey completed. No findings.
Clean Water Act Section 404	Army Corps of Engineers	Maine General Permit	Not applicable as no filling or dredging of wetlands will occur. Nor will any stumps be pulled or adjustments to grading.
Clean Water Act Section 401	Maine Department of Environmental Protection	Federal Water Quality Certification	As long as the project does not require an Individual permit from the Army Corps of Engineers, the 401 water quality certification is provided concurrently with the State wetlands permit.
Federal Endangered Species Act	U.S. Fish & Wildlife Service	Streamlined Section 7 Consultation	The Northern Long-Eared bat and Atlantic salmon are Federally listed species that could occur within the project area according to the IPaC database.

			Consultation was initiated with USFWS regarding these species. No impact.
Maine Department of Environmental Protection (MDEP)	Environmental Protection Agency	Multisector General Permit for stormwater associated with industrial activities	Not applicable.
NPDES (Clean Water Act)	Environmental Protection Agency	Construction Notification	Not applicable.
Maine Natural Resource Protection Act	Maine Department of Environmental Protection	Natural Resource Protection Act (NRPA)	NRPA covers activities in, on and over protected natural resources, including freshwater wetlands and streams. Activities adjacent to some protected natural resources are also jurisdictional. Tree cutting in the wetlands will likely require a State permit.
Maine Shoreland Zoning	Maine Department of Environmental Protection and Town of Trenton	Shoreland Zoning permit	The Jordan River and Mount Desert Narrows are lie to the east of the Airport. Portions of the Airport and work areas may lie within the 250-foot shoreland zone of these bodies of water. The project likely requires shoreland zoning approval.
Maine Site Location of Development Act	Maine Department of Environmental Protection (MDEP)	Site Location of Development Act	The Airport has a Site Law permit. The Airport will need a minor modification or amendment of this permit for the project.
Maine Stormwater Management Law	Maine Department of Environmental Protection (MDEP)	Stormwater Management Law	If the project will disturb greater than one acre of ground (ie, grading or removal of stumps), a MDEP Stormwater permit is needed. If the Airport has a Site Law permit, a Minor Modification of that

			permit (described above) would cover this approval.
Maine Forest Practices Act	Maine Forest Service – Department of Agriculture, Conservation and Forestry	Forest Operations Notification	Timber harvested on a Site where the harvested wood will delivered to a mill or offered for sale most often requires that a Forest Operations Notification (FON) is completed. Generally completed by contractor responsible for harvest.

The permits for elements of the Project will be obtained as funded, during the design phase. The project elements will be designed and constructed in compliance with the various Federal and State environmental requirements. Potential impacts and mitigation are discussed in Chapter 6.

1.6 Coordination

Coordination has been carried out with several Federal, State and local agencies as well as other stakeholders during the development of the draft EA. Coordination has included informal phone/email exchanges, door-to-door notification to abutting property owners and scheduled public meetings.

- Letters were sent to 25 property owners on September 18, 2019 to inform them of a public meeting on October 10, 2019.

- A formal public meeting was conducted on October 10, 2019 at the Airport terminal building to discuss the project location, background, description of the project, and a general schedule. The meeting minutes are included within the appendix. Communication channels were provided for the public to contact either the Airport or the assembled consulting team regarding the project.

- Door-to-door visits were conducted on October 29, 2019 to discuss the EA and request property access from property owners.

- A second letter was sent out to property owners on October 23, 2019 with project information and a request temporary property access. Property owners were asked to provide a signature and mail back an approved request for temporary property access.

- An interagency meeting was held on March 5, 2020 with representatives from Maine DEP, USFWS, FAA and MDIFW. The agencies present indicated concurrence with the purpose and need of the Project.

- An MS Teams meeting was held with property owners on January 4, 2022 to brief affected property owners on the final draft EA and allow for questions. Comments were received from one property owner and those comments along with responses are included in Appendix 10.

Coordination meetings with Hancock County, Maine Department of Transportation (MEDOT), Maine Department of Environmental Protection (MEDEP), US Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife (ME IF&W), and the FAA have assisted in identifying key issues and concerns.

Figure 1-1: Impacted Properties

Figure 1-2 Project Overview Runway 22

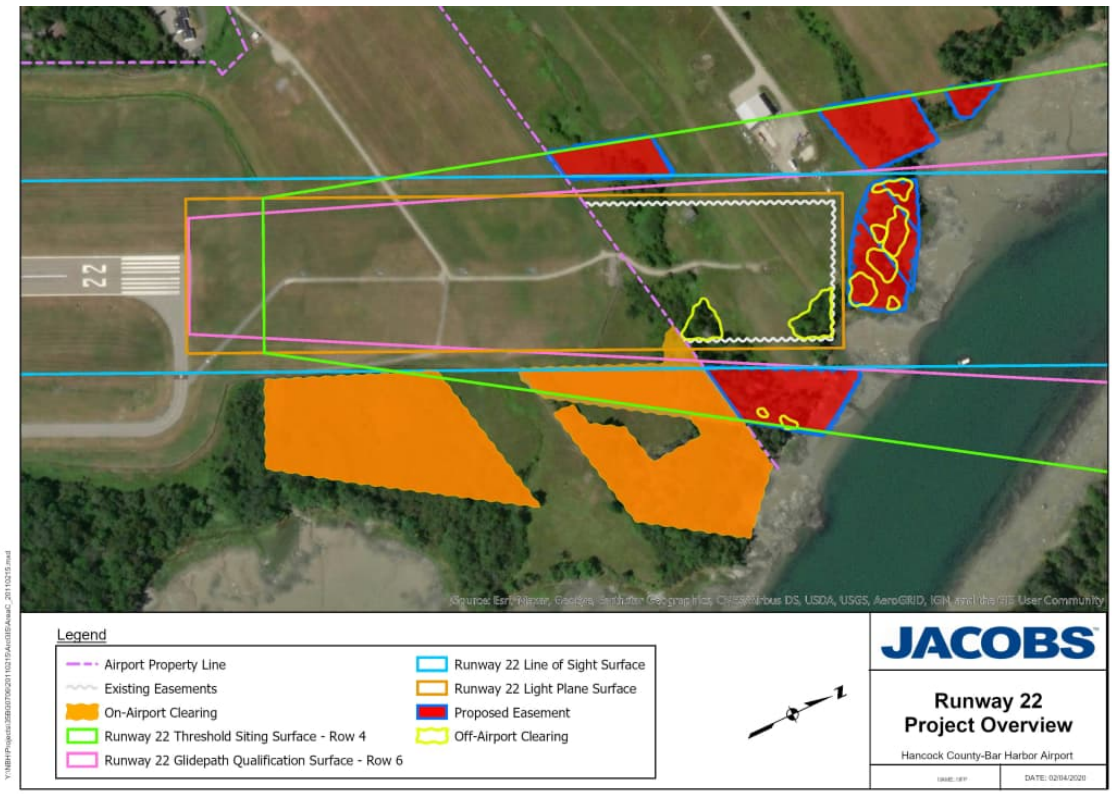


Figure 1-3 Project Overview Runway 4

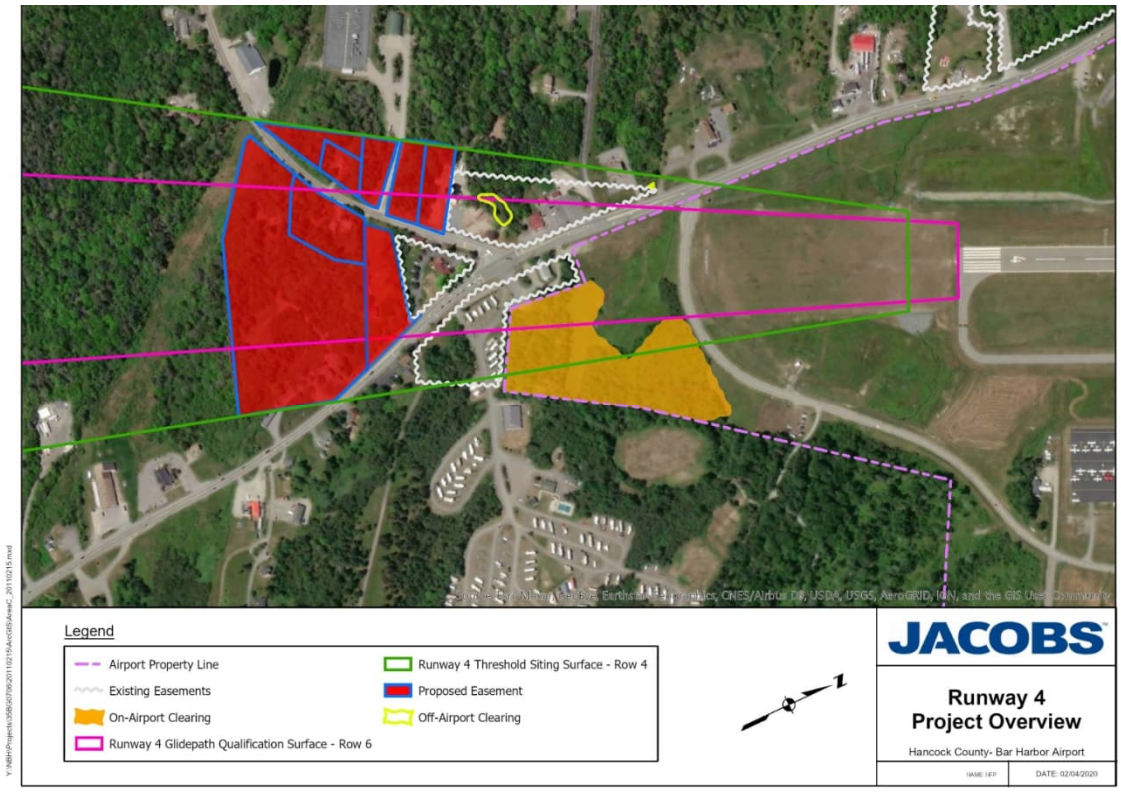
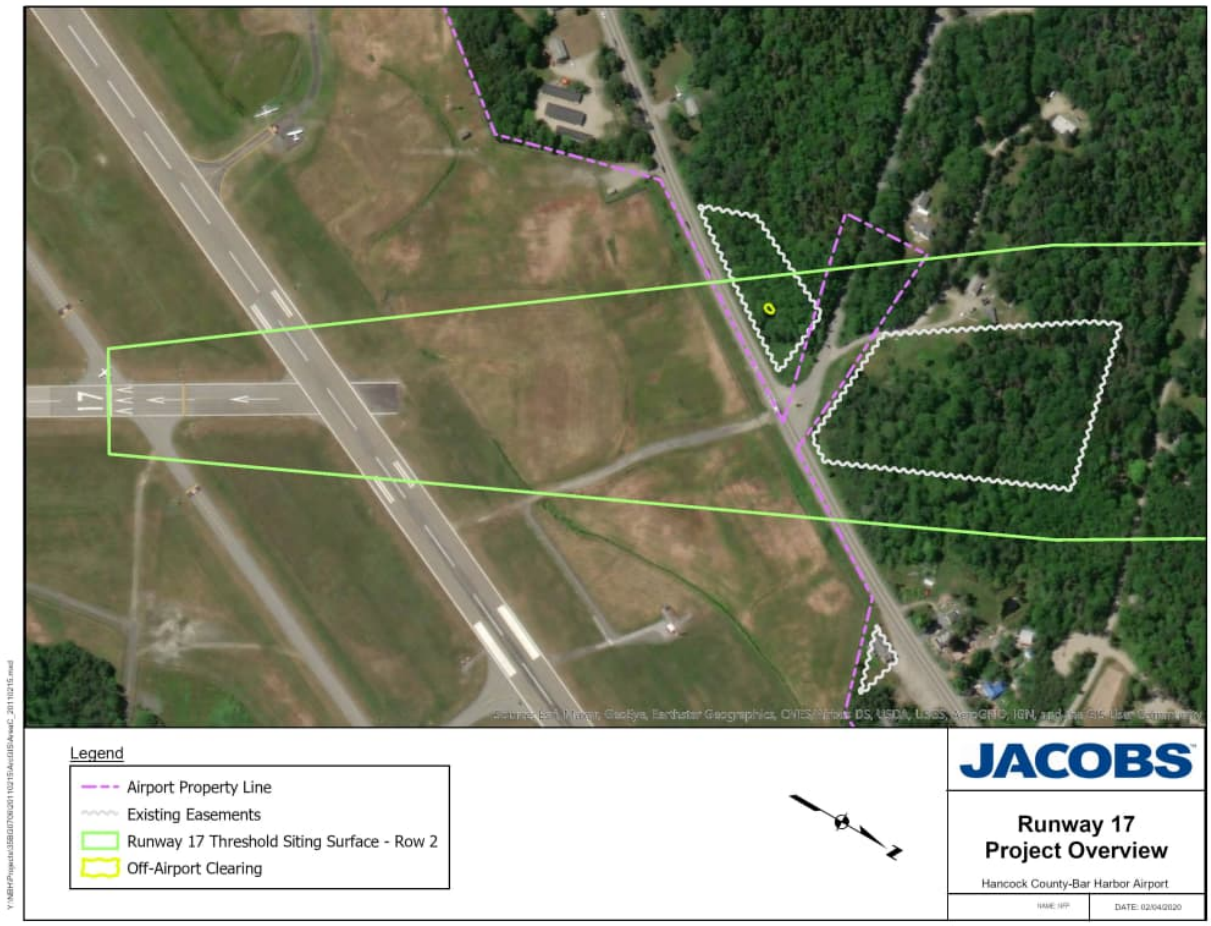


Figure 1-4 Project Overview Runway 17



Chapter 2 Purpose and Need

Purpose

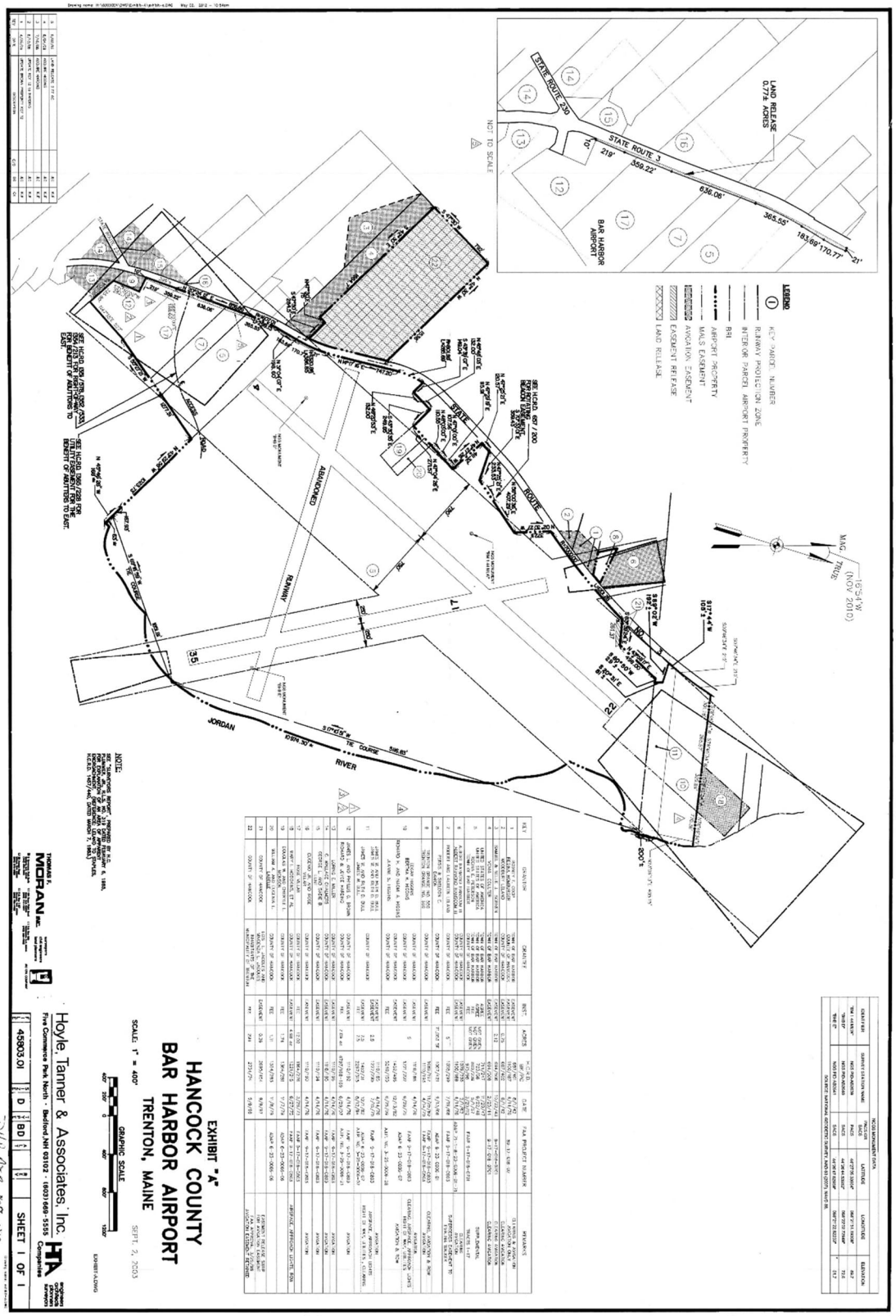
The purpose of this project is to enhance airport safety at Hancock County – Bar Harbor Airport by providing, to the maximum extent practicable, airspace that is free of hazardous obstructions. The project seeks to do the following:

- Provide the Airport with perpetual rights obtained by acquiring easements from adjacent landowners to maintain airspace surfaces as free from hazardous obstructions, and;
- Enhance the safety of all aircraft operations at the Airport by having airspace surfaces that are free from hazardous obstructions.

Need

This project is needed because there are numerous trees and man-made structures which penetrate the airspace surfaces that preclude night instrument flights and higher than normal instrument approach minimums to Runway 4/22. Flights by larger aircraft are restricted at night on Runway 4. The Airport is required to take appropriate action to comply with FAA obligations associated with receiving Federal grant funds that are enumerated in the FAA Sponsor Grant Assurances and FAA Order 5190.6B, Airport Compliance Manual. The Airport currently lacks the legal authority to maintain the full extents of airspace surfaces given that many properties outside of the Airport's boundaries are privately owned. The Airport has acquired numerous avigation easements in the past (see figure 2-1), as early as 1969, and these easements have not been updated to reflect the current FAA standards. This EA also addresses obstruction clearing of the threshold siting surfaces defined in FAA AC 150/5300-13A Table 3-2 and Engineering Brief 99.

Figure 2-1: Existing Avigation Easements



Chapter 3 Project Description (Proposed Action)

3.1 Introduction

This section presents a description of each of the elements of the proposed project that were analyzed for this Environmental Assessment. The alternatives analysis which identified the preferred alternative is described in Chapter 4.

3.2 Obtain Avigation Easements

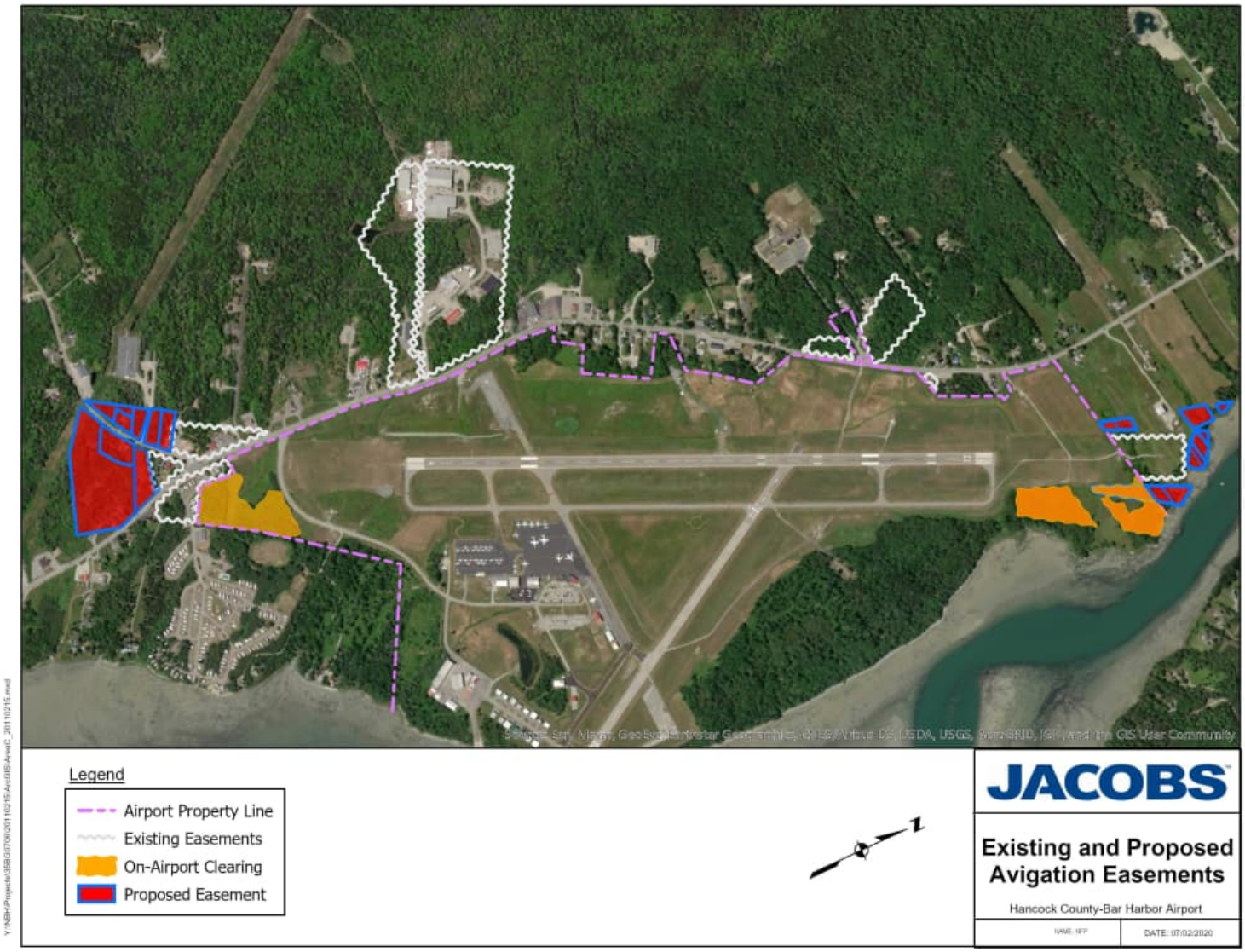
The Airport has acquired multiple avigation easements dating back to 1969. As part of an Obstruction Identification process during the 2011 Airport Master Plan conducted by Hoyle, Tanner & Associates Inc., potential hazards to air navigation were identified on airport property and off airport property under the Airport approaches. Avigation Easements are usually required to protect Airport approaches and shall comply to the appraisal and compensation requirements established by FAA Advisory Circular 150/5100-17: Land Acquisition and Relocation Assistance for AIP Assisted Projects, a guidance document that provides a framework for the Avigation Easement acquisition process if FAA funding is sought to purchase easements or remove obstructions. Jacobs recently completed an obstruction analysis (2020) to verify and update the 2011 analysis performed by Hoyle, Tanner & Associates Inc. As part of that analysis. Jacobs added 100' to a digital surface model to simulate future tree growth and compared it to the applicable surfaces in Engineering Brief 99. This analysis helps to ensure that the airspace is protected into the future. Through a review of the existing Avigation Easements and current parcel boundaries identified using the Parcel Mapping Viewer from the Maine Office of GIS, fifteen (15) additional Avigation Easements over eleven (11) parcels are recommended to be obtained (see **Figure 3-1** on the following page). A comprehensive list of the proposed and existing Avigation Easement boundaries reflecting the parcel boundaries as of 2020 is compiled in **Appendix 1 - Existing and Proposed Easement Summary** of this document. An analysis of the previously obtained easements was needed to ensure that all boundaries, dimensions, and height of obstructions still concur with the requirements necessary to keep the airspace surrounding the Airport safe for arriving and departing aircraft.

3.3 Clearing Penetrations

The proposed action of acquiring an additional fifteen (15) easements will facilitate tree clearing where obstruction removal must occur. In locations where tree clearing cannot be accomplished, trimming vegetative obstructions may be considered as an alternative option. Additional alternatives for tree clearing are considered in the next chapter of this Environmental Assessment.

Each alternative considers potential impact to the environment and property owners and seeks to mitigate negative impacts to the greatest extent possible.

Figure 3-1: Existing and Proposed Avigation Easements



Chapter 4 Alternatives Analysis

4.1 Introduction

This chapter provides a description of the protected airspace surfaces and a discussion of each of the four alternatives considered to meet the project purpose and need which is to maintain safe access to BHB.

4.2 Obstruction Removal/Mitigation Alternatives

Part 77 Surfaces

FAA concurs that it is not feasible to clear or seek easements to clear FAR Part 77. The same applies for the Departure Surface; however, it would find in favor of clearing the Departure Surface if obstacles impact departures.

An analysis of the airspace regulations defined under 14 CFR FAR Part 77 (commonly referred to as "Part 77") and FAA Order 8260.3B United States Standard for Terminal Instrument Procedures (referred to as TERPS) was conducted for the airspace surfaces around the Airport to determine the extent of obstructions (trees, structures, terrain), that may penetrate the surfaces and be deemed hazards to air navigation.

Airspace surfaces defined in Part 77 consist of five geometrical planes centered on the runway. These surfaces are referred to as protected airspace surfaces. The five surfaces are graphically illustrated in **Figure 4-1** and described in further detail below:

- **Primary Surface**: a rectangular surface centered on the runway centerline and conforming to the runway centerline profile;
- **Approach Surface**: a surface longitudinally centered on the extended runway centerline and extending outward and upward from the periphery of the Primary Surface;
- **Transitional Surface**: a surface that extends outward and upward from the periphery of the Primary and Approach surfaces and at right angles to the runway centerline;
- **Horizontal Surface**: a horizontal plane situated 150' above the highest elevation on the landing surface of the Airport;
- **Conical Surface**: a surface that extends outward and upward from the periphery of the Horizontal Surface.

The dimensions of the various Part 77 surfaces are determined by the type of aircraft using the Airport, the instrument approach to the runway, if any, and runway classification as either a "utility runway" or an "other than utility runway." A utility runway is defined as a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500-pound maximum

gross weight and lighter. Other than utility runways refer to runways servicing aircraft greater than 12,500-pound maximum gross weight, such as larger propeller driven aircraft and turbine (jet) aircraft. Obstructions that cannot be removed are required to be lowered, marked, or lighted. For the purpose of FAR Part 77 obstruction clearing, Runway 4/22 at BHB is defined as an "other-than-utility" runway and Runway 17/35 is defined as a "utility" runway. Due to the large area covered by the Part 77 protected airspace surfaces, the FAA determined that vegetation removal to these standards would be limited to that which occurs within Airport property.

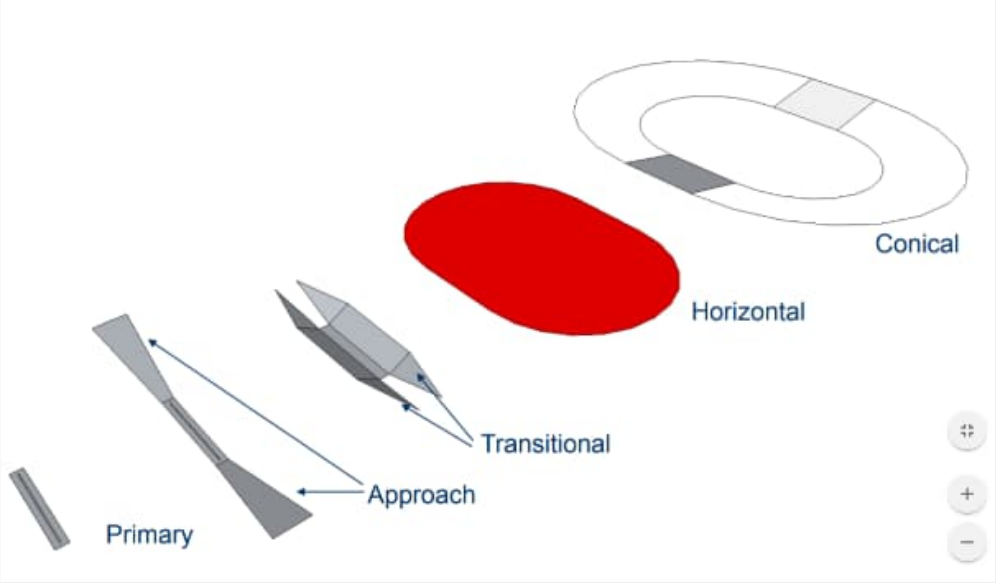


Figure 4-1: Part 77 Airspace Surfaces (Source: Port of Seattle, WA)

Operational Airspace Surfaces (TERPS and Threshold Siting Surface)

Hancock County – Bar Harbor Airport is a public-use airport and receives grants from the FAA and is thus obligated to keep operational airspace surfaces free and clear of obstructions (FAA grant assurance #'s 19, 20, & 21). The vegetation, structures, and terrain outside of the Airport property boundary are to be evaluated against meeting applicable criteria in TERPS and Engineering Brief 99 (**Table 4-1** see page 26).

Operational impacts are imparted on runway ends that have obstructions to these surfaces that cannot be mitigated. This is currently the case with Runway 17 and Runway 4 where night landings are restricted under certain conditions due to existing vegetation and terrain obstacles. In such cases, additional operational airspace surfaces are evaluated to determine a mitigation measure and restore the Airport to its highest and best operational use. To avoid adverse operational effects on the Airport and comply with Federal grant obligations, the primary goal of this project is to provide the Airport with perpetual rights to maintain the FAA protected airspace surfaces as free of hazardous obstructions. Four alternatives were evaluated to meet the project purpose and need:

1. **Clear All On-Airport Obstructions** *(to Part 77 Standards)* **and Obstructions to Operational Airspace Surfaces (***Engineering Brief 99)*

2. **Trimming of All Off-Airport Obstructions**

3. **No Action**

4. **Hybrid –** Partial obstruction clearing to mitigate hazards. Clear all on-airport obstructions.

Table 4-1 Approach and Departure Standards Table (Source: FAA Engineering Brief 99)

Runway Type		DIMENSIONAL STANDARDS* Feet (Meters)					Slope
		A	B	C	D	E	
1	Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night).	0 (0)	120 (37)	300 (91)	500 (152)	2,500 (762)	15:1
2	Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. (Visual runways only, day/night).	0 (0)	250 (76)	700 (213)	2,250 (686)	2,750 (838)	20:1
3	Approach end of runway expected to serve large airplanes. (Visual runways only, day/night).	0 (0)	400 (122)	1,000 (305)	1,500 (457)	8,500 (2591)	20:1
4	Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile. [3]	200 (61)	400 (122)	3,400 (1036)	10,000 [4] (3048)	0 (0)	20:1
5	Approach end of runways expected to accommodate instrument approaches having visibility minimums less than 3/4 statute mile.	200 (61)	800 (244)	3,400 (1036)	10,000 [4] (3048)	0 (0)	34:1
6 [5]	Approach end of runways expected to accommodate instrument approaches with vertical guidance.	0 (0)	Runway width + 200 (61)	1520 (463)	10,000 [4] (3048)	0 (0)	30:1
7	Departure runway ends used for any instrument operations.	0 [6] (0)	See Figure 3-4.				40:1

* The letters are keyed to those shown in Figure 3-2 of AC 150/5300-13A.

4.1.1 Alternative 1 – Clear All On-Airport Obstructions and Obstructions to Operational Airspace Surfaces (*FAR Part 77 and Engineering Brief 99)*

Obstructions **on Airport property** are expected to be removed or mitigated to FAR Part 77 standards as the Airport Sponsor has more autonomy to mitigate obstructions within their property boundaries. Clearing of obstructions is the preferred alternative as a permanent solution to provide safe approaches with limited operational impacts to the Airport. Additionally, as a result of clearing the Part 77 Approach Surface, the majority of the obstructions that are located towards to inner portion of the Departure Surface are also removed as a secondary benefit.

When it is not possible to remove or mitigate obstructions to Part 77 standards, the FAA allows Airport sponsors to apply a criterion known as the Threshold Sighting Surface (as described in FAA Advisory Circular 150/5300-13A, Table 3-2, and Engineering Brief 99, Table 3-2) otherwise known as "operational surfaces" to determine obstructions. These surfaces dictate the location of the runway threshold and often use narrower and steeper trapezoids when compared to Part 77 criteria which helps to minimize the impact to private property owners that may have an obstruction on their property. The Threshold Siting Surface criteria is detailed in **Table 4-1** above. By comparison, there are far fewer obstructions and impacted private property owners when identifying obstructions using the operational surfaces. Areas of obstructions are indicated below in **Figures 4-2, 4-3, and 4-4**. These areas may be cut as a group of trees or by selective tree removal, utilizing a phased approach over two to three years. On-Airport vegetation will be removed in a manner that allows the Airport to maintain those areas through annual maintenance such as mowing and/or the application of herbicides. All obstruction removal (both on and off airport) will occur using best management practices. Any vegetation removal that takes place near the shoreland protection zone may need to be stabilized. The removal will take place in the winter when the ground is frozen to minimize impacts to the ground surface and disturbance of any wildlife. The FAA has stated that they **will not** participate in the grubbing of vegetation. Extensive coordination between MEDOT and private property owners will occur to define easements (where necessary) and discuss the tree removal process and schedule. **Table 4-2** below provides a summary of the obstructions identified at the end of each runway at the Airport and indicates how many properties would be affected if penetrations were to be cleared to FAA requirements under Alternative 1.

Table 4-2: Analysis of Engineering Brief 99 "Operational Surface" Penetrations

Runway	Number of Vegetative Penetrations On and Off Airport	Number of Parcels with Existing Easements	Number of Parcels with Proposed Easements	Total Easement Acres (+/-) Sq. Footage (+/-)	Estimate to Clear Vegetative Penetrations Including On-Airport ($7,245/acre)
RW 4	200+ (from within -10' to .78' of penetration)	9 Parcels	7 parcels (8 Areas of Proposed Easements)	26 acres 1,132,124.4 sq. ft.	$53,613 (7.4 Acres +/-)
RW 22	300+ (from within -10' to 11'+ of penetration)	1 parcels + Airport Property	4 Parcels (7 Areas of Proposed Easements)	6 acres 265,280.4 sq. ft	$62,451 (8.62 Acres +/-)
RW 17	1 (from within -10' penetration)	4 parcels with existing easements	none	7.7 acres 335,412 sq. ft.	$72.45 (.01 Acres +/-)

Figure 4-2: Obstructions to Operational TERPS Surfaces and TSS, Runway 22

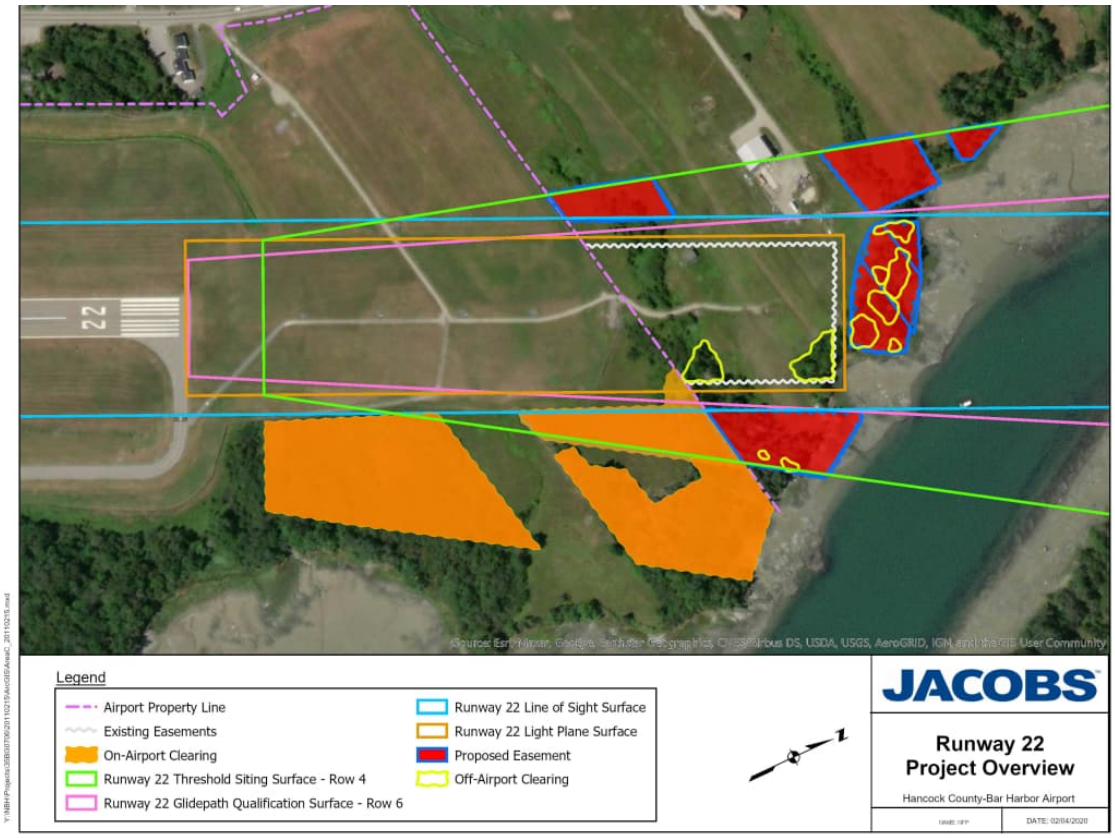


Figure 4-3: Obstructions to Operational TERPS Surfaces and TSS, Runway 4

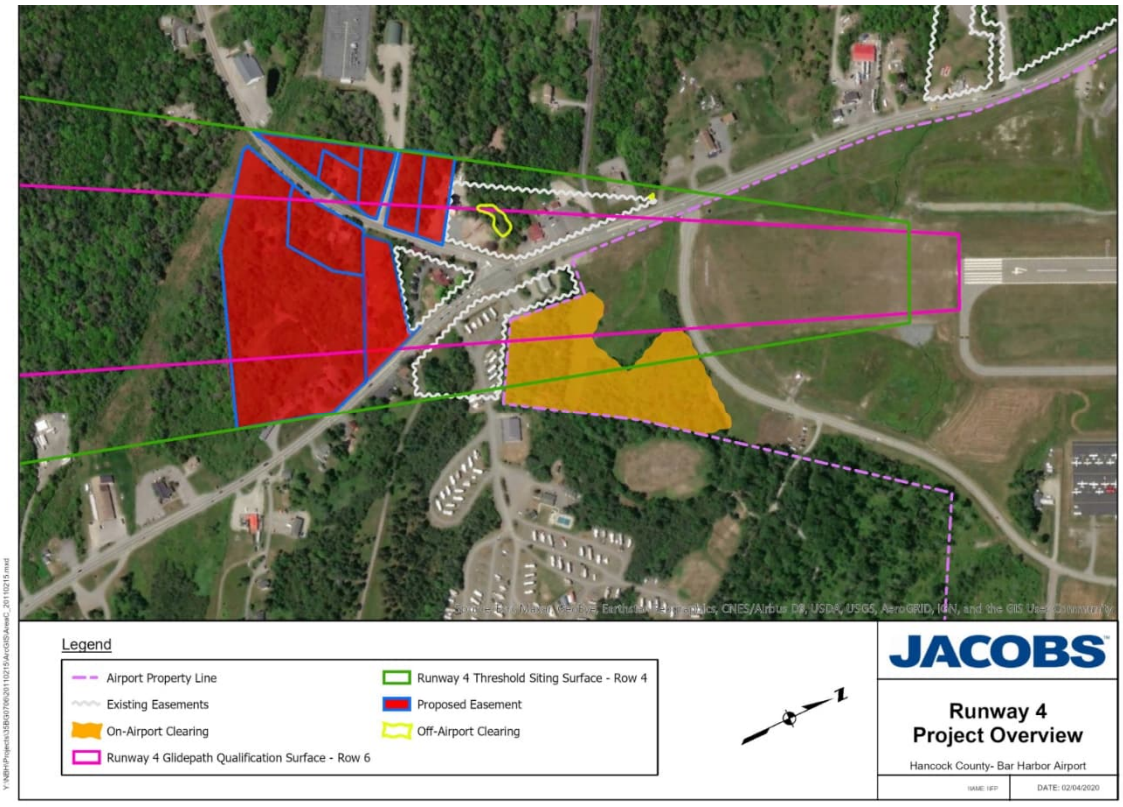
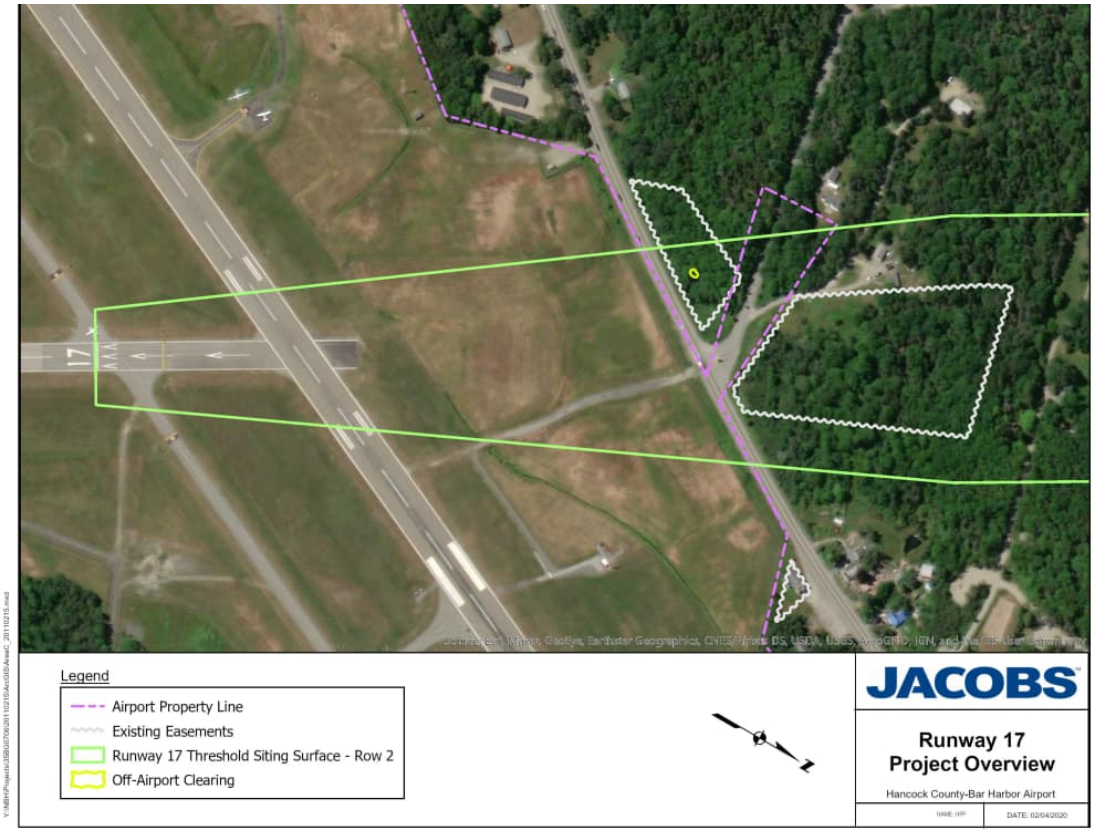


Figure 4-4: Obstructions to TSS, Runway 17



4.1.2 Alternative 2 – Trimming of All Off-Airport Obstructions

As discussed in Section 4.1.1, there are vegetative obstructions at both ends of Runway 4/22 and Runway 17 that penetrate the operational surfaces (EB 99 Rows 2, 4, 6 & 7) and the US Standard for Terminal and Enroute Procedures (TERPS). Avigation Easements that allow the Airport Sponsor to conduct obstruction removal have already been obtained on many properties adjacent to the Airport. **Figures 4-2, 4-3, and 4-4** above, depict where additional avigation easements are proposed on select properties where tree obstructions occur. In the event that the vegetative obstructions cannot be removed, the trimming of trees below the airspace surfaces may be a viable solution. In this alternative, only the portion of the tree that is above the airspace surface is removed, leaving the remainder of the tree intact.

4.1.3 Alternative 3 – *No Action*

The No Action alternative would allow vegetative obstructions to remain on Airport property and on private property within the protected airspace surfaces.

This alternative would cause the least amount of environmental disturbance by not altering or mitigating any vegetative penetrations to the protected airspace surfaces. The result of not clearing obstructions will impact the Airport operationally, limiting the amount of take-off and landing distances available to aircraft, and displacing runway threshold at both ends of Runway 4/22 as well as decreasing poor weather accessibility. A landing threshold is ideally located at the end of the runway and is intended to provide proper clearance for landing aircraft over existing objects while on approach to landing. In this "no action" alternative, runway thresholds would need to be relocated and moved farther down the runway until all obstructions to the surfaces are avoided, reducing the runway length available for landing aircraft. This would have the biggest impact on existing corporate jet aircraft already using the Airport, as the high-performance aircraft require the most amount of runway length for takeoff and landing. This also limits the Airport from operating at its highest and best use, a tenet of grant assurances required by the FAA for Airports that have received grant funding from the Airport Improvement Program (AIP). Currently, night landings are not authorized on Runway 17 due to vegetative obstructions to several operational surfaces.

The no action alternative is not recommended as an appropriate mitigation measure. As vegetation continues to grow, an even greater safety hazard will occur. Night landings would continue to be restricted and the length of available runway for takeoff and landing would be reduced, limiting the Airport from operating at its highest and best use and meeting the needs of existing aircraft users. Additionally, departure procedures may need to be revised and/or developed.

4.1.4 Alternative 4 – *Hybrid Action*

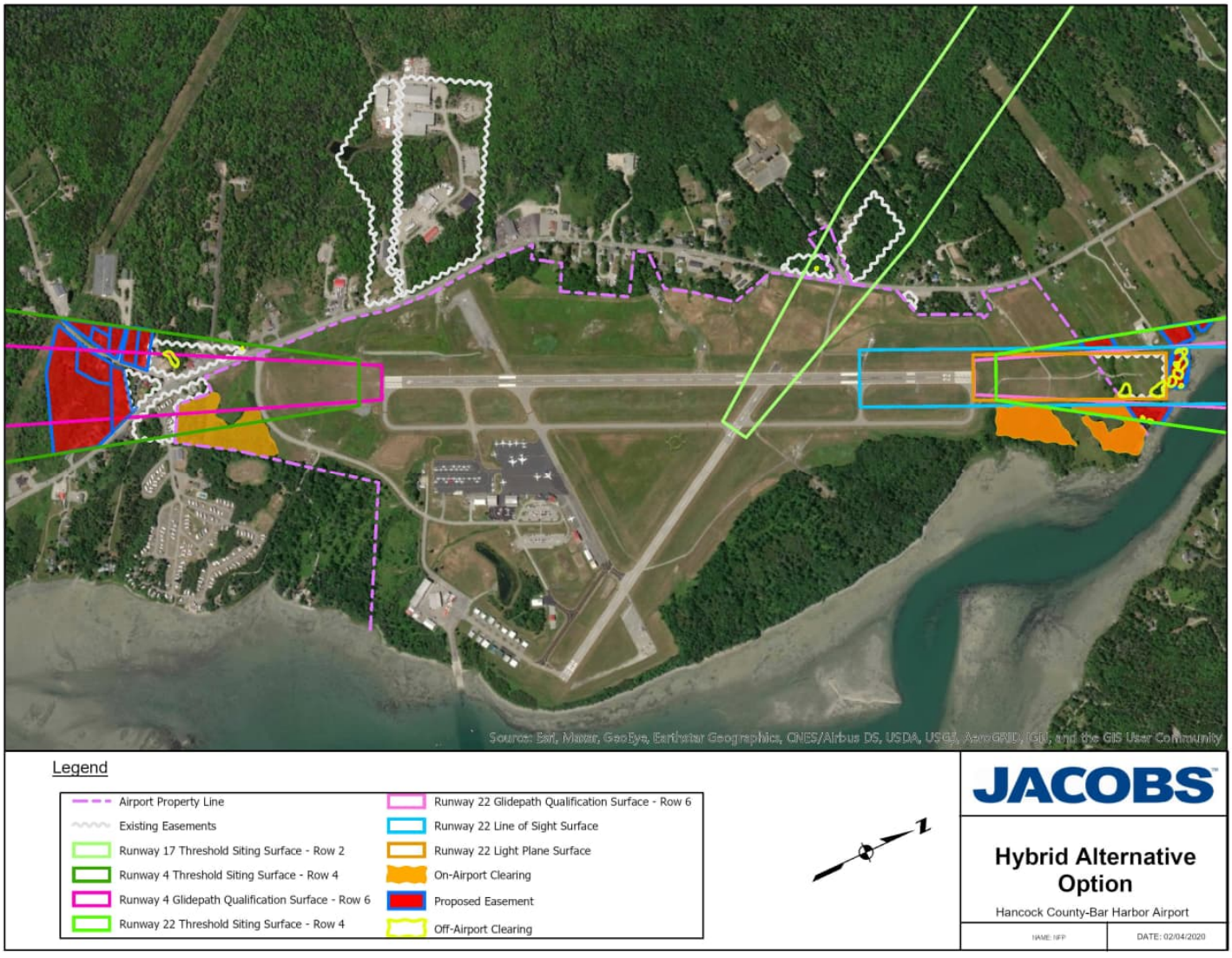
This alternative considers trimming *off-airport* vegetative obstructions where obstructions are unable to be removed within the operational surfaces and the clearing of *on-airport* obstructions to Part 77 standards. Although the permanent removal of obstructions by tree clearing is considered as an alternative, obtaining the necessary avigation easements and/or clearing each tree penetrating an operational surface may not be feasible. Avigation easements have been acquired on a number of properties in the past, however additional avigation easements must be obtained at both ends of Runway 4/22 to achieve completely unobstructed airspace surfaces to the Airport's primary runway using FAA funds.

Under this alternative, vegetative obstructions across 11 off-airport properties would be mitigated by obtaining aviation easements and trimming vegetation on properties that do not currently have easements as shown on **Figure 4-5** on the following page. The use of trimming vegetative obstructions would follow a determination by the FAA that trimming would be allowed as an approved mitigation option. Avigation easements will be obtained over properties where easements do not currently exist. The easement allows "at the sole option of the condemner, the

right to trim or clear any tree or other vegetative object that intrudes above the imaginary planes, as an alternative to removal."

Vegetation that exists on off-airport properties with existing avigation easements would be addressed through the removal of trees, either by topping the trees or complete removal. These areas are shown on **Figure 4-5**. One group of trees which are on properties with existing avigation easements are located off the approach end of Runway 17. There are three existing easements off the approach end of Runway 4 which encompass two smaller areas of trees to be addressed. Additionally, one existing easement is located off the approach end of Runway 22 which covers two smaller groupings of vegetation.

Figure 4-5: Hybrid Alternative



Chapter 5 Affected Environment (Existing Conditions)

5.1 Introduction

This chapter describes existing environmental resources within the project area. FAA Orders 5050.4B and 1050.1F were reviewed to screen environmental categories.

To determine what resources were present, Geographic Information System (GIS) natural resources layers from the Maine Office of GIS website were reviewed, on-site field surveys were carried out, and environmental/cultural studies and reports previously prepared for the Airport were reviewed. To make an initial assessment of the environmental setting, a natural resource assessment was prepared and is provided in **Appendix 2 - Natural Resources Report.**

Some categories are not present at the Airport or are not likely to have impacts associated with planned improvements as discussed below.

Table 5-1 Identification of Potential Impact Categories

Environmental Impact Category	Determination
Air Quality	No impacts [1.]
Coastal Resources	No impacts
Land Use Compatibility	No impacts
Dept. of Transportation Act Section 4(f)	No impacts
Energy Supplies, Natural Resources, and Sustainable Design	No impacts
Environmental Justice	No impacts
Farmlands	No impacts
Floodplains	Evaluated in EA
Hazardous Materials / Solid Waste	No impacts
Induced Socioeconomic	No impacts
Light Emissions and Visual Effects	No impacts
Noise	No impacts
Socioeconomic Impacts	No impacts
Wild and Scenic Rivers	No impacts
Federally-listed Endangered and Threatened Species	Evaluated in EA
State-listed Species, Significant Natural Communities and Necessary Wildlife Habitat (Biotic Communities)	Evaluated in EA
Historic and Archeological Resources	No impacts
Water Quality (Drinking Water)	No impacts
Cumulative Impacts	No impacts
Wetlands and Water Resources	Evaluated in EA
Construction Phase Impacts	Evaluated in EA

Stormwater Management	Evaluated in EA
Source: Adapted from FAA Order 1050.1F, Appendix A and Environmental Desk Reference for Airport Actions, October 2007 [1.] Dismissed from further analysis.	

5.2 Airport Facilities

Hancock County – Bar Harbor Airport is comprised of approximately 469 acres of land and consists of airside and landside facilities. Airside facilities have restricted access and consist of runways, taxiways, navigational aids, hangars, an FBO (Fixed Based Operator), aircraft parking aprons, airport maintenance facility, county storage building, the fuel farm and the aircraft rescue and firefighting facility. Landside facilities include the terminal/administration building, terminal parking lots, the Civil Air Patrol (CAP) building, and the seaplane ramp.

5.2.1 Airside Facilities

Runways

The Airport has two paved runways. Runway 4/22 is 5,200' long by 100' wide with a Runway Design Code of C-II while Runway 17/35 is 3,364' long by 75' wide with a Runway Design Code of B-II. Runway 4/22 is the primary runway, extending in a southwest-northeast direction. Runway 17/35 is the crosswind runway which extends in a southeast-northwest direction. Runway 4/22 provides pilots with an Area Navigation approach RNAV (GPS). Additionally, Runway 22 offers precision instrument approach capabilities because it is equipped with an Instrument Landing System/Distance Measuring Equipment (ILS/DME). As noted in the Airport Master Plan, Runway 17 has a displaced threshold of 684' due to manmade and vegetative obstructions to the northwest. Runway 35 also has a displaced threshold of 111' due to vegetation on the edge of the shoreline off the end of the runway. The crosswind runway is a visual approach only. The threshold of Runway 17 intersects with Runway 22 approximately 1,800' to the southeast. No vegetation clearing needs to take place within the runway areas.

Approach end of Runway 22

Taxiways

Two main taxiways with eight additional stub taxiways provide circulation and apron access. Taxiway A is one of the main taxiways that provides access from the terminal area and eastern aprons to Runway 4 and Runway 35. Three stub taxiways connect Runway 35 to private and individual hangars located on the very southeast side of the airfield. Taxiway H is parallel to Runway 4/22 and intersects with both Taxiway A and the threshold of Runway 17. Three stub taxiways on the east side of Runway 4/22 create additional access points from Taxiway H. Two stub taxiways on the west side of the airfield provide access to Runway 4/22. No vegetation clearing needs to take place within the taxiway areas.

Aircraft Parking Apron

There are four aircraft parking aprons which include the Terminal Area Ramp, the Based Aircraft Apron, the Itinerant Aircraft Apron, and the Seaplane Ramp. The Terminal Area Ramp is located in front of the Terminal/Administration building and encompasses 157,232.6 sf. There is a lead in line painted on the Terminal Area Ramp which is used for scheduled air carrier aircraft. Cape Air and Silver Airways operate scheduled airline service out of the Airport and utilize the Terminal Area Ramp. The Based Aircraft Apron covers an area of 135,747.6 sf and is connected to the

Terminal Area Ramp by a stub taxilane. This apron has 38 tie-down parking spots suitable for single prop and smaller twin engine aircraft. The Itinerant Aircraft Apron consists of 14,766.9 sf and six tie-down parking spots located off the south edge of Taxiway A perpendicular to the Terminal/Administration building. No vegetation clearing needs to take place within the aircraft parking aprons.

The seaplane ramp is a unique feature to BHB which provides access to the airport from Mt. Desert Narrows situated directly to the east of the airport. Located landside, the Seaplane Ramp is perpendicular to Runway 35. Seaplanes can access the airport by taxiing up a ramp from the water and passing through an access gate leading to an apron with private and individual hangars.

Fuel Farm

The aviation fuel farm is located to the east of the lower General Aviation Apron/Based Aircraft apron. Columbia Air Services FBO owns and maintains two above ground fuel tanks which store Jet A fuel and 100LL aviation fuel (Avgas). Additionally, Columbia Air Services owns and maintains fuel trucks for mobile fueling.

Also located at the Airport is Acadia Air Tours (AAT), a company that provides scenic air tours of Acadia National Park from Hancock County-Bar Harbor Airport. AAT owns and maintains a small above ground self-serve fuel tank to support their operations. The tank is located next to the AAT hangar on the east side of the airfield.

Navigational Aids

Navigational Aids (NAVAIDs) include any visual or electronic devices, either airborne or on the ground, that provide point to point guidance or position data to aircraft. BHB has the following:

- 1,400-foot medium intensity approach lighting system with sequenced flashers (MALSF) located at the approach end of Runway 22. Potential tree clearing may take place within the MALSF Light Plane.
- Runway 22 is equipped with an ILS/DME, RNAV (GPS), and a four box Visual Approach Slope Indicator (VASI)
- Runway 4 is equipped with RNAV (GPS), four box VASI, and Runway End Identifier Lights (REILs)
- An Airport rotating beacon is located parallel to runway 4/22 on the west side of the airfield

Aircraft Storage Hangars

BHB offers community, private, and individual aircraft storage hangars. Hancock County manages the leases for tie-down space and community aircraft storage. Private hangars are owned by the

tenant who occupies them, but the land which the hangar is on is leased to the tenant by Hancock County. The existing hangars are in the form of conventional box type hangars capable of storing aircraft of various sizes.

Fixed Base Operator's (FBO's)

Columbia Air Services is a full service FBO located at the Airport. In addition to fueling and aircraft maintenance, the FBO offers sales and management of jet, turboprop, and piston aircraft. Columbia Air Services is located directly south of the Terminal Building on the eastern edge of the Terminal Area Ramp.

Airport Maintenance Building and Equipment

The Airport employs a Maintenance Department that operates out of a Maintenance Building which is located on the eastern edge of the Based Aircraft Apron. There is an access gate on the east side of the building which allows for entrance to the facility from landside. Outside of the Maintenance Building is a yard where equipment is stored such as mowers, plows, trucks, and other various larger pieces of equipment. Airport Maintenance is responsible for snow removal both airside and landside. Snow removal equipment includes two rotary sweepers, two loaders, two graders, a skidsteer, a snow blower with loader mount, a backup snowblower, a snowmobile, and two pickup trucks with plow attachments.

5.2.2 Landside Facilities

Terminal/Administration Building

The Terminal Building is between Runway 4/22 and Runway 17/35 and on the east edge of the Airport's Terminal Apron Ramp. The terminal is accessible by Caruso Drive. Cape Air and Silver Airways (seasonal) provide scheduled commercial service out of the Terminal Building. Ground services are also available from the Terminal Building, both Enterprise and Hertz rental car agencies maintain counters inside the building and a seasonal bus service runs from the Airport to several locations around Mount Desert Island. The Airport Administration Building and Airfield Rescue and Fire Fighting (ARFF) are combined in a building located to the south of Taxiway A and to the east of the terminal.

Automobile Parking

There are two paved parking lots on the east side of the terminal building, which provide both short-term and long-term parking free of charge. The short-term lot is closest to the Terminal Building which is available for airport patrons to park for up to fourteen (14) days. The long-term lot is intended for airport patrons who will be parking for up to sixty (60) days at the airport. Additionally, the FBO parking lot is located to the South of the Terminal Building. Automobile parking by the hangar tenants is allowed in their respective hangars, but only for the duration when the aircraft owners or pilots are at the Airport or the aircraft has been pulled out of the hangar.

Limited automobile parking is available to FAA navigational aid maintenance crew at both the localizer antenna and approach light system.

Civil Air Patrol Building

The Civil Air Patrol Building (CAP) Building is primarily utilized for meetings and training activities. The Civil Air Patrol is the official auxiliary of the United States Air Force and is tasked with conducting the majority of civilian search and rescue missions in the US. The CAP also had a cadet program which introduces youth to aviation. The location of this building does not provide access to the airside facilities such as taxiways and aprons. CAP does not have an aircraft based at the Airport, this location is primarily used for meeting space.

5.3 Environmental Impact Categories

The proposed actions were evaluated against the significance thresholds listed in FAA Order 1050.1F Exhibit 4-1 for each category below.

5.3.1 Air Quality

The assessment of the potential for air quality impacts followed the FAA Aviation Emissions and Air Quality Handbook Version 3 Update 1, January 2015 and the Airports Desk Reference, October 2007. US environmental Protection Agency (EPA) and the State of Maine Department of Environmental Protection are responsible for managing air quality within the State of Maine. The State maintains the Federally-required Air Monitoring Program (AMP) that seeks to collect ambient air data for six (6) criteria pollutants and implement reduction strategies for air pollution. The EPA has set air quality standards for six common "criteria pollutant":

- Particulate matter (PM, PM2.5, PM10)
- Ozone (O3)
- Sulfur dioxide (SO2)
- Nitrogen dioxide (NO2)
- Carbon monoxide (CO)
- Lead (Pb)

Potential sources of emissions for these criteria pollutants at Hancock County – Bar Harbor Airport include ground aircraft, ground transportation vehicles, ground support equipment, ground access vehicles, and emissions caused through construction activities. Air Quality Monitoring has not detected any notable emissions of criteria pollutants based on the 2015 Five Year Assessment Report published by the State of Maine Department of Environmental Protection.

Based on the operations forecast for BHB during this planning period and the proposed actions impact on future operations, no detailed air quality analysis is required (2014 Aviation Emissions and Air Quality Handbook Version 3).

5.3.2 Coastal Zone Resources

Coastal Zones include areas adjacent to the Great Lakes as well as the Atlantic and Pacific coastlines. Maine's coastal zone includes the inland line of coastal towns on tidewaters and all islands. The project is in Trenton, Maine which is considered inside the Maine Costal Zone. The project has the potential to affect coastal resources.

5.3.3 Land Use Compatibility

Land use decisions that conflict with aviation activity and Airport facilities can result in undue constraints being placed on an Airport. It is vitally important that Airports operate in an environment that maximizes compatibility of the Airport with off-airport development. This can be achieved through the adoption of a local land use plan, zoning codes, and coordination of stakeholders. Airport Master Plans provide a means to promote land use compatibility around an Airport by guiding development patterns to avoid uses that may impact an Airport's airspace or be otherwise generally unsuitable neighbors to an Airport.

Land use zones in the vicinity of the Airport consists of residential rural, rural commercial, village, business park, and rural development. Hancock County – Bar Harbor Airport owns avigation easements on several properties in the vicinity of the Airport and the 2011 Airport Master Plan recommends that additional easements be required. The Town of Trenton Land Use Ordinance helps to ensure compatible uses within the vicinity of the Airport by regulating building height, size, and connection to the area through the use of zoning. The zone in which the Airport is located is defined as "Airport Commercial/Industrial District", also referred to as ACI. Restrictions related to this zone are meant to provide land for air transportation and municipal services where conditions are favorable for fostering the development of commerce and industry while preventing conflict amongst industrial development, business, and residential uses.

An additional zone known as the Airport Hazard Overlay Land Use District exists to insure against safety hazards, noise and obstruction problems related to aircraft utilizing the Airport. The Airport Hazard Overlay Land Use District corresponds with the 60 LDN noise contour and within this contour is the 65 LDN noise contour. Land uses within this district are regulated to mitigate their compatibility with airport operations, safety, and noise which conform to the standards recommended by the Federal Aviation Administration's Advisory Circular, 150/5190-4A, "A Model Zoning Ordinance to Limit Height of Objects Around Airports". The proposed project will not alter the fleet mix, therefore, there is no anticipation for an increase in noise levels and Land Uses in the vicinity will remain compatible. Given that adjacent land uses are generally compatible within the 65 LDN contour of the Airport Land Use compatibility has been dismissed as an impact category for more detailed study.

5.3.4 Construction Impacts

Potential impacts from construction activities include noise, dust, and vibration from heavy equipment traffic, disposal of construction debris, and possible air and water pollution. As noted by the FAA in Oder 1050.1.F: "Construction impacts alone are rarely significant pursuant of NEPA." The Airport or its consultant will prepare a description of the type, nature, and duration of construction activity for each project, and measures that can be taken to minimize the potential adverse effects, such as designates haul routes and times of day during the design phase of the obstruction removal project.

5.3.5 Dept. of Transportation Act Section 4(f)

Section 4(f) of the DOT Act of 1966 was originally set forth in Title 49 United States Code (U.S.C.). A similar provision was added to Title 23 U.S.C. Section 138, which applies only to the Federal-Aid Highway Program. Section 4(f) stipulates that the Federal Highway Administration and other Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use
- The Administration determines that the use of the property will have a *de minimus*, or

This project will not impact any park, recreational area, or wildlife refuge. This project will not result in any change of flight patterns, fleet mix, or noise levels. Further Section 4(f) analysis has been dismissed as an impact category for more detailed study.

5.3.6 Farmlands

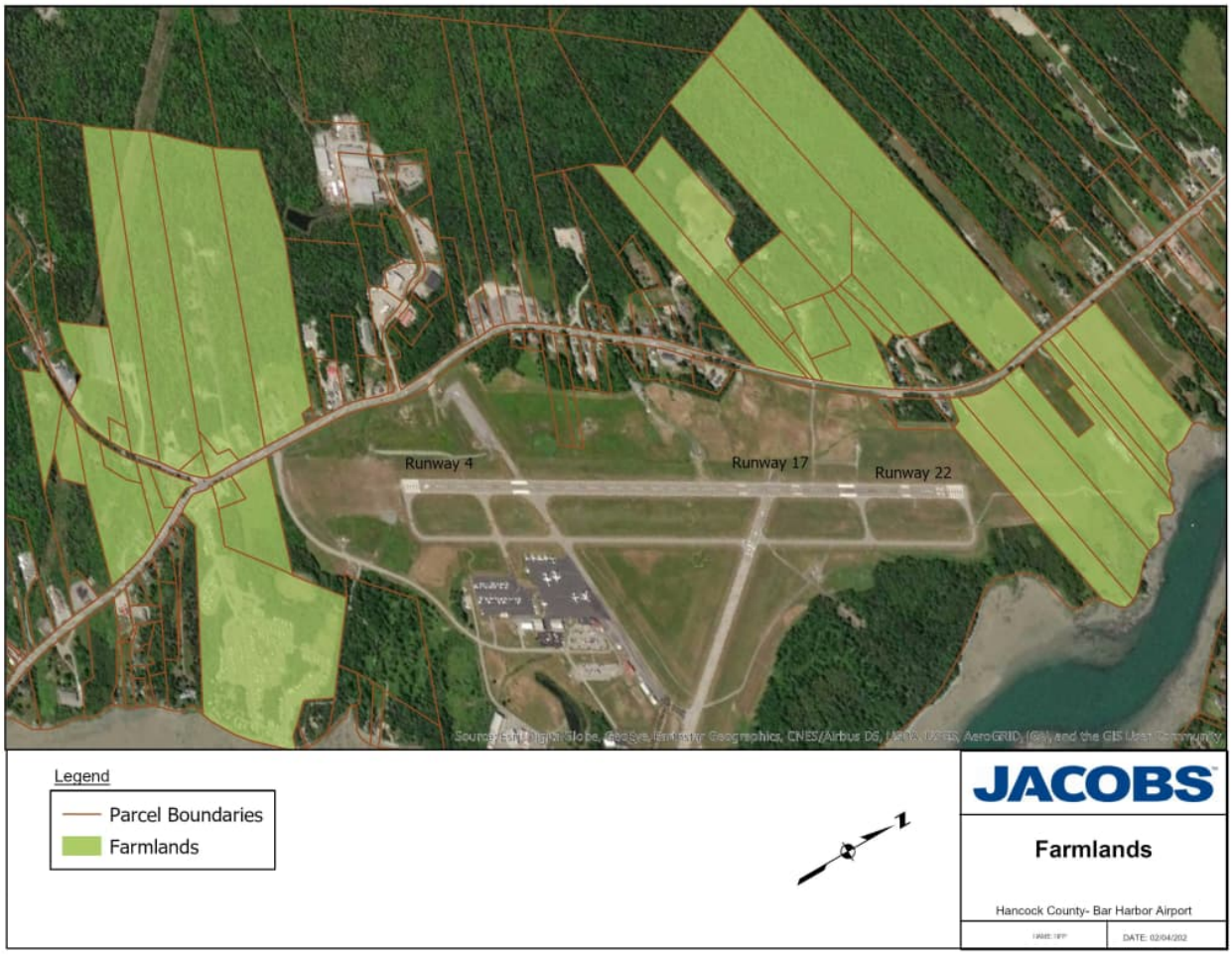
The Farmland Protection Policy Act (FPPA), Public Law 97-98, as amended, directs Federal agencies, such as the FAA, to identify and consider the adverse effects of Federal programs on the preservation of farmland. Prime farmlands are lands that have been identified as having an optimal combination of physical and chemical characteristics for producing food, feed, forage, fiber, or oilseed crops. Such lands contain the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming and water management practices. Proposed actions should consider alternative actions that could lessen such adverse effects and assure that Federal programs, to the extent practicable, are compatible with State, local, and private programs to protect farmland.

Some areas that lie off of the approach ends of Runway 4/22 and Runway 17 have been identified as Prime Farmlands or Farmlands of Local Significance by appropriate agencies. These affected

areas (**Figure 5-1**) are proposed to be mitigated through the use of trimming and/or clearing to remove vegetative obstructions.

Given that no development or soil disturbing activities are proposed in any of the areas containing unique farmlands and that effects will be further mitigated through the use of best management practices for tree clearing where acceptable and appropriate, further study of this category has been dismissed for more detailed study.

Figure 5-1: Identification of Prime and Unique Farmlands



5.3.7 Fish, Wildlife and Plants

The Federal and State Endangered or Threatened Species that have been found are addressed below.

Federally-listed Endangered and Threatened Species

Bald Eagle

Based on a review of the USFWS Maine Bald Eagle nest database, a Bald Eagle nest (Nest ID 773A) is located on the north end of Runway 22. The Bald and Golden Eagle Protection Act (Eagle Act; 16 U.S.C. 668 et seq.) protects Bald Eagles from a wide range of adverse human impacts, including disturbance and destruction of nests. At the direction of US Fish and Wildlife Services (USFWS), the Eagle nest was monitored by a team of professional biologists from Haley Ward from May through July 2021 (see report in **Appendix 9**). The purpose of the monitoring was to determine the status of the nest and the next steps in the permitting process if the removal of the nest is necessary for the safe operation of the airport. The project will pursue an eagle incidental take permit (50 CFR 22.26) or eagle nest take permit (50 CFR 22.27), respectively in the interest of safety for the flying public and the eagles.

Northern Long-eared bat

As of April 2015, the Northern Long-eared Bat (NLEB) is listed by the United States Fish and Wildlife Service (USFWS) as a threatened species under the 4(d) Rule. This listing also applies statewide in Maine with the Northern Long-eared Bat being protected under the Maine Endangered Species Conservation Act. During winter, the Northern Long-eared Bat hibernates in caves and abandoned mine portals (hibernaculum) and in summer they roost in cavities, underneath bark, crevices, or hollows of live and dead trees (typically greater than 3 inches diameter at breast height).

The United States Fish and Wildlife Service (USFWS) data check indicates that the Federally-listed Northern Long-Eared Bat species may occur within the project area. After consulting with USFWS, it has been determined that if obstruction removal should take place it shall occur during the winter when the Northern Long-Eared Bat is not active. Meeting minutes from that consultation with USFWS and other state agencies is attached to this report in its entirety in **Appendix 3.**

Atlantic Salmon

As of June 2009, the Atlantic Salmon has been listed by the USFWS as an Endangered species but is not protected by the 4(d) Rule. Maine is the only state remaining with Atlantic Salmon populations in the United States, this population is also referred to as Atlantic Salmon Gulf of Maine Distinct Population Segment (GOM DPS). The Atlantic Salmon is an anadromous fish species that spends most of its adult life in the ocean and returns to freshwaters to reproduce. Forty-five (45) specific areas of coastal rivers occupied by the Atlantic Salmon GOM DPS are classified as critical habitat.

State-listed Species

The State of Maine lists the Federally-threatened Northern Long-eared Bat as an Endangered Species. The Northern Long-eared Bat has been known to exist in the few hibernaculua sites in Maine. There are currently no identified hibernacula in the project area or near the Hancock County-Bar Harbor Airport.

The Atlantic Salmon GOM DPS is not classified as threatened or endangered by the State of Maine although certain areas of its habitat are recognized as critical habitat. There are no Atlantic Salmon GOM DPS habitats identified around in the project area or near the Hancock County-Bar Harbor Airport.

Significant Natural Communities

CES, Inc. provided a planning level wetland identification effort that included a review of aerial photography, National Wetlands Inventory (NWI) maps, Natural Resource Conservation Service (NRCS) Soils maps (through Web Soil Service), and other publicly available resources for the obstruction removal locations provided by Jacobs Engineering.

The presence or absence of wetlands, streams, and potential vernal pools was determined by a CES Certified Wetland Scientist in the field in November 2019. Depressions that appeared capable of functioning as vernal pools were identified, however none exist within or around the project area (**Figure 5-2**). Wetland boundaries were identified and delineated in the project areas located off the approach end of each Runway (**Figures 5-3 to 5-5**). Global Positioning System (GPS) points were collected at approximate wetland edges, stream channels, and potential vernal pools and were recorded during the field visits.

Figure 5-2: Vernal Pools

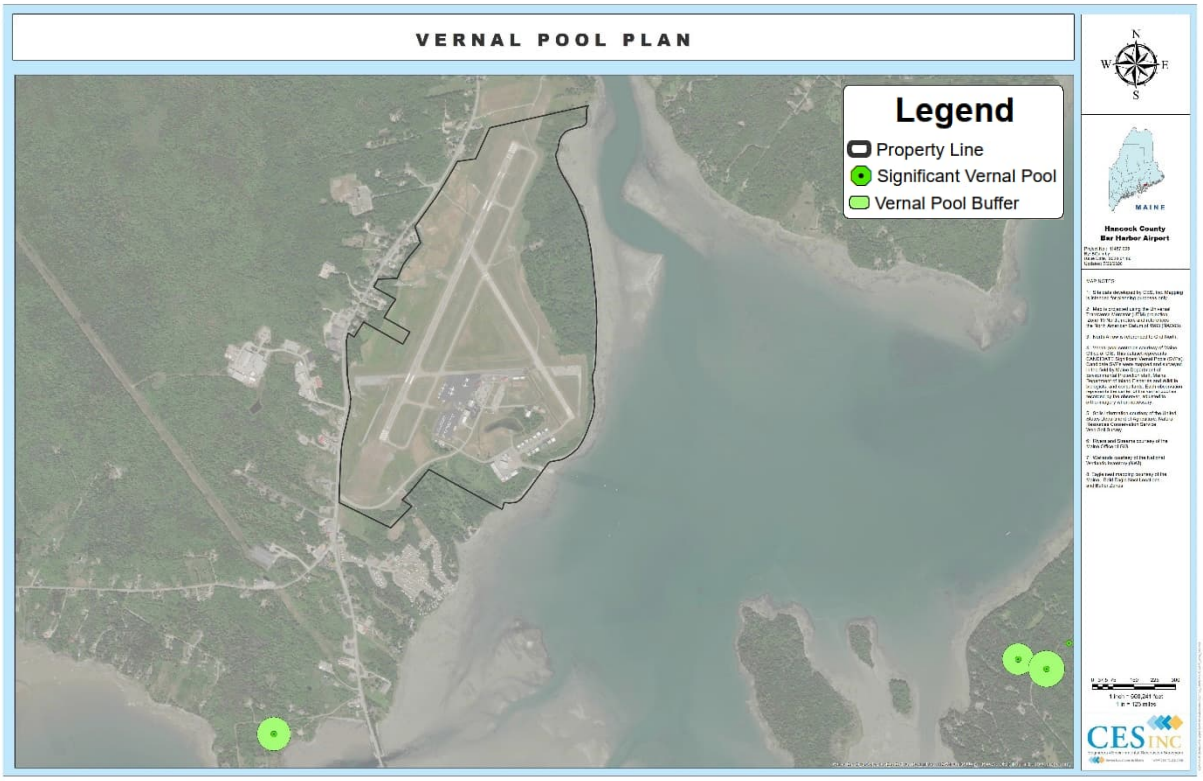


Figure 5-3: Delineated Wetland Boundary Runway 22 Work Area

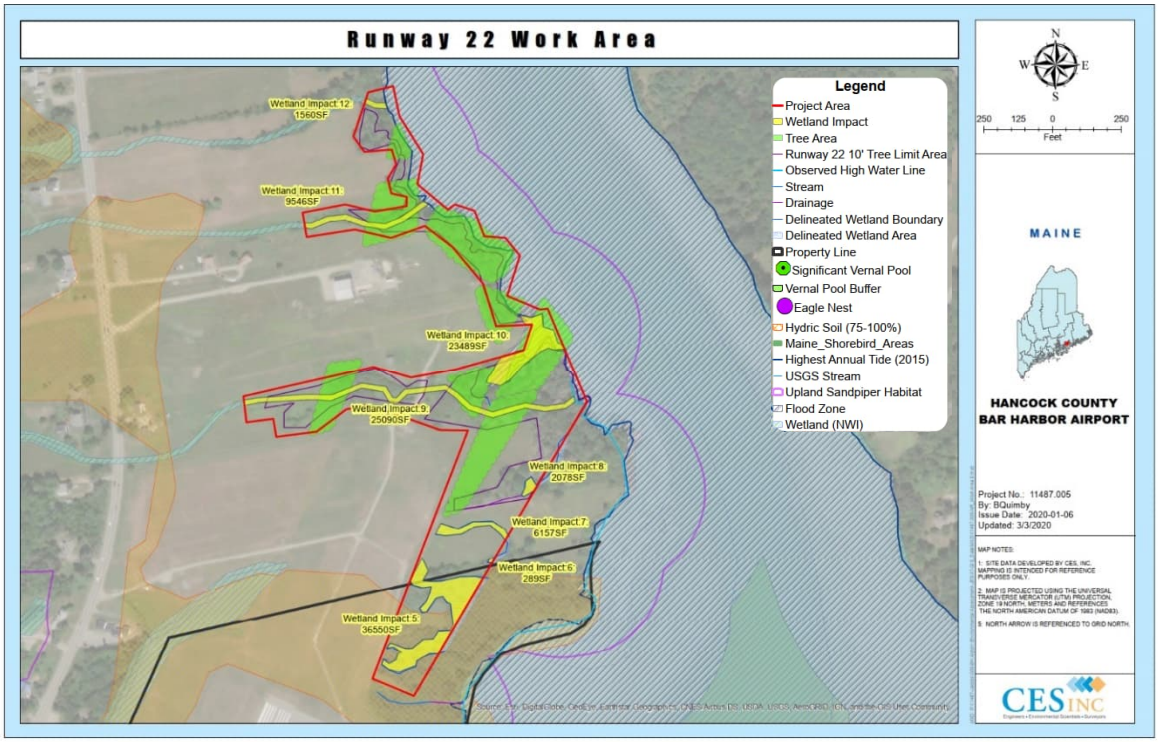


Figure 5-4: Delineated Wetland Boundary Runway 4 Work Area

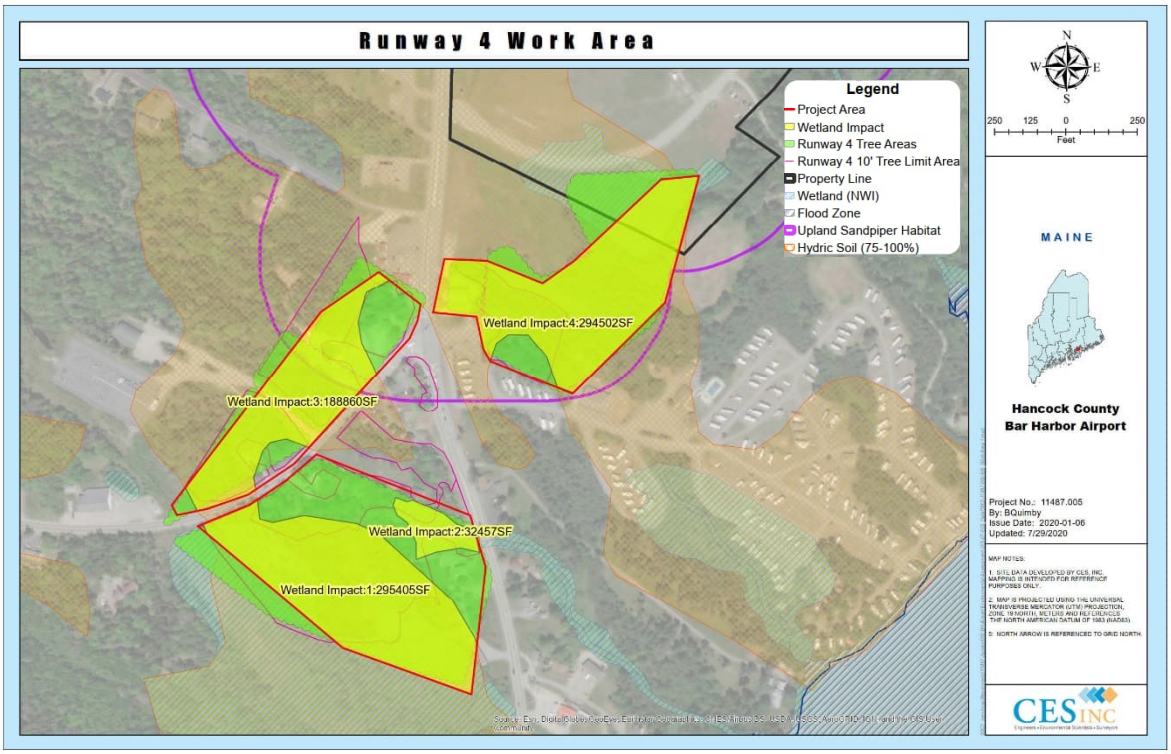
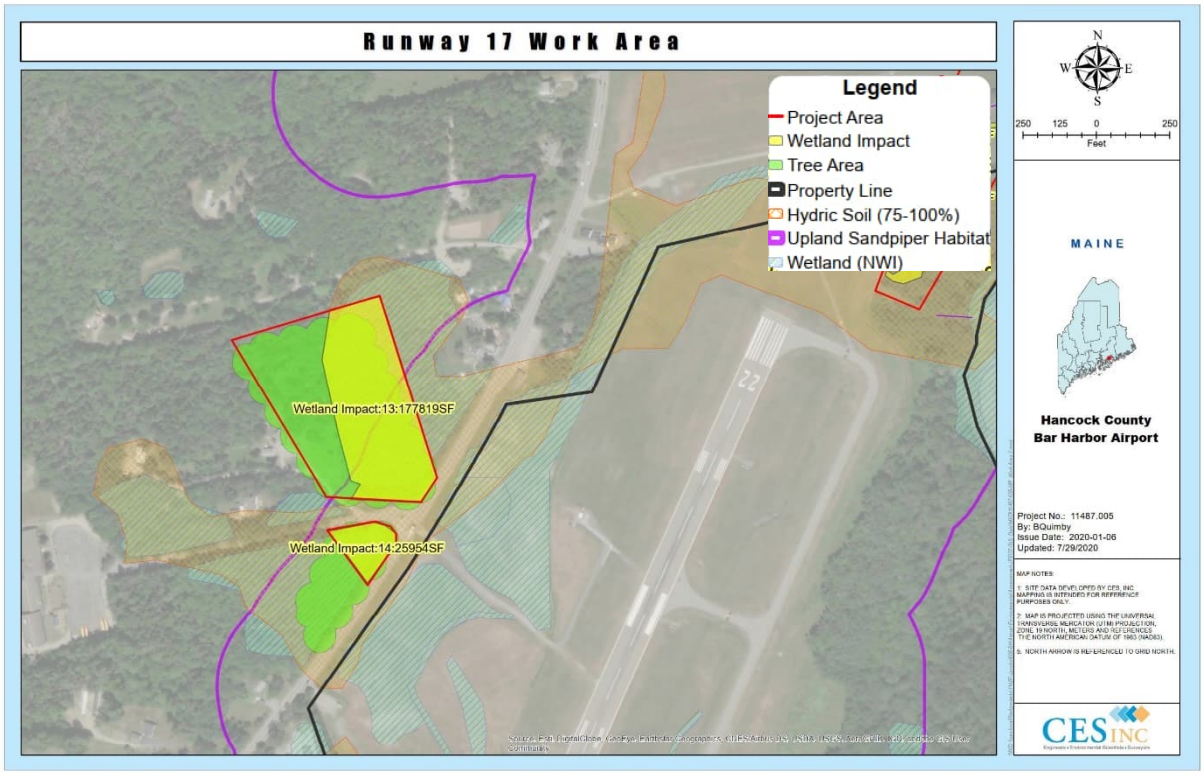


Figure 5-5 Delineated Wetland Boundary Runway 17 Work Area



Necessary Wildlife Habitat

The Northern Long-Eared Bat (NLEB) may occur within the project area, however after consulting USFWS it was determined that any incidental take of the NLEB for this project is not prohibited if tree removal is conducted during the winter months when the NLEB is not active.

Due to negotiations related to avigation easements the field survey was confined to on Airport property. Areas slated for potential removal of obstructions that are located off Airport property were surveyed using planning level data from desktop research. The project areas located off Runway 4/22 and Runway 17 each had habitat features present that are associated with the Northern Long-Eared Bat, however no hibernaculum was present, and the project will not alter the comprehensive environment of the area. Given that USFWS recommends tree removal occur during the winter when the NLEB is not active, no further evaluation is required.

5.3.8 Floodplains

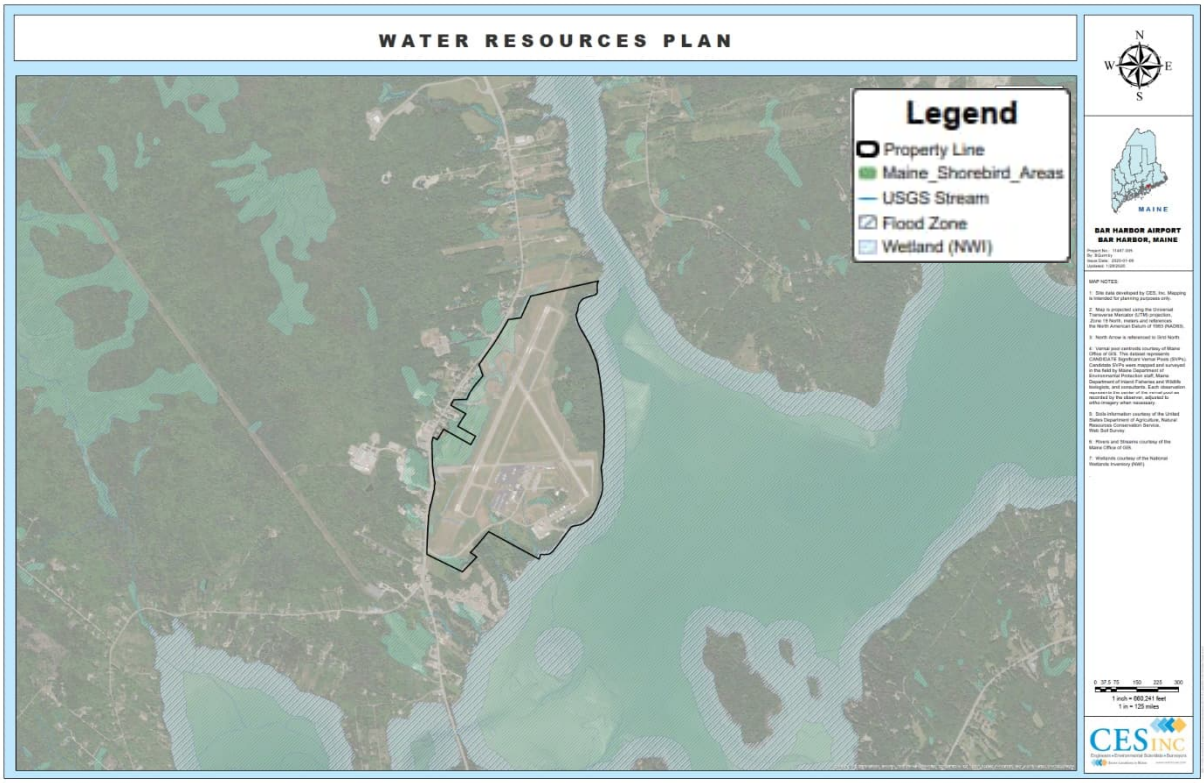
Airport development actions must avoid impacting floodplains as per Executive Order 11988 in addition to the U.S. Department of Transportation (USDOT) Order 5650.2 *Floodplain Management and Protection*. Floodplains are lowland areas adjacent to coastal or inland waters, and also include areas prone to flooding during 100-year flooding events as defined by the Federal Emergency Management Agency (FEMA).

Portions of Hancock County-Bar Harbor Airport fall within special flood hazard areas as defined by the Federal Emergency Management Agency (FEMA) and represented on FIRM (Flood Insurance Rate Maps) for the Town of Trenton, Hancock County, Maine area 23009C0978D, maps revised July 20, 2016 by FEMA. **Figure 5-6** below depicts flood zones present on the East side of Airport property.

The National Flood Insurance Program aims to reduce the impact of flooding on private and public structures by providing affordable insurance to property owners and encouraging communities to adopt and enforce floodplain management regulations. The Town of Trenton has formally adopted a Flood Insurance Program in concurrence with a Flood Management Ordinance which provides standards for development within Flood Zones.

The majority of the proposed obstruction removal and or easement acquisition falls within Zone X (areas determined to be outside 500-year floodplain) and a small portion is within Zone VE (areas subject to inundation by the 1% annual chance of flood event with additional hazards due to storm-induced velocity wave action) on the FIRM for the Town of Trenton. Given the nature of the proposed action where no development is proposed and where the floodplain will not be altered, it is not expected that any adverse impacts within the designated floodplain areas will occur.

Figure 5-6: Flood Zones



5.3.9 Hazardous Materials, Pollution Prevention, and Solid Waste

It will be documented whether any significant impacts from hazardous materials or solid waste generation are anticipated from any of the proposed projects. As a tree clearing project, no hazardous or solid waste will be generated.

5.3.10 Historical, Archeological, and Cultural Resources

Architecturally and culturally significant projects are federally recognized by inclusion as listed properties on the National Register of Historic Places and recognized at the State level by inclusion on the State Register of Historic Places. Properties listed on the National Register are evaluated and found significant within a historic context of criteria which seek to capture a place's historic integrity and connection to a community's past. Historic criteria encompass both the tangible and intangible elements of history. Physical characteristics such as a building's form, style, engineering

technique, or artistic value are considered in addition to a place's information potential, association with an important person, or site of significant events deemed historically important to society.

Historic properties must also retain sufficient integrity to merit a listing, assessing a property's location, design, setting, materials, workmanship, and a community's feelings or association which is used in tandem with additional Department of the Interior criterion to determine significance. The National Register of Historic Places in addition to the Maine State Register of Historic Places were reviewed to determine the presence of historically significant properties/structures within the project limits.

The proposed actions at Hancock County-Bar Harbor Airport do not impact any Federally or State listed properties, or potentially listed properties based on the Department of the Interior's priority criterion.

A Phase 1 investigation was performed in May 2021 within the proposed areas of tree clearing in the northeastern most section of the airport within 100 yards of the shore of the Jordan River (see **Appendix 8**). A total of 43 shovel test holes were excavated to an average depth of 41.2 cm below the surface. No cultural material was found in the 43 test holes excavated or on the ground surface within the project area of potential effect. Therefore, the proposed project actions would not disturb any previously identified archaeological sites and would be limited to the removal and/or trimming of naturalistic obstructions within the airspace surfaces of the Airport.

The results of the Phase 1 archaeological investigation were submitted to the Chief of Historic Preservation, Prehistoric Archaeology, Maine Historic Preservation Commission (MHPC) and no further investigation is required.

5.3.11 Light Emissions and Visual Impacts

The proposed project is unlikely to create a visual nuisance or interfere with normal activities on impacted properties. No lighting is proposed as part of this project. Penetrations to airspace surfaces will be trimmed and/or removed. Tree trimming and removal has the potential to change the visual character of impacted properties, however it is not anticipated that any changes would be significant. Visual resources can be discussed with property owners and conducted in a minimally invasive way to remove obstructions while preserving the aesthetic value that is provided by the remaining tree canopy. As a result, Light Emissions and Visual Effects have been dismissed as a category for further review.

5.3.12 Natural Resources, Energy Supply, and Sustainable Design

The actions proposed in the project areas will not result in significant impacts on energy demands or other natural resource consumptions. No additional analysis is required.

5.3.13 Noise

An Airport's noise levels are primarily measured through the Day-Night Sound Level (DNL) which is based on sound levels measured in relative intensity of sound, or decibels (dB), on the "A" weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to sound stimuli. The higher the number on the dBA scale, the louder a sound is perceived. To capture the true sound impact of an Airport's operations, an average all noise exposure events within a 24-hour period is represented by the DNL.

The proposed project does not create any nonconforming land use, change any runway's location, or recommend any runway extension. Nor does it change the fleet mix of aircraft operating at the Airport or frequency of aircraft operations. As such, no additional noise analysis is required in addition to the active and existing noise plan approved for the Airport.

5.3.14 Secondary (Induced) Impacts

The actions proposed in the project areas will not result in any significant secondary or induced impacts.

5.3.15 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

Environmental Justice

Executive Order 12898 requires Federal agencies to provide meaningful opportunities for public participation by minority and low-income populations. It requires a demographic analysis to identify and address potential impacts that are disproportionately high on these populations.

To understand the population living near the Hancock County-Bar Harbor Airport, aggregate socioeconomic data was retrieved from the U.S. Census Bureau. This data can be used to better understand how the proposed actions would be dispersed among minority and low-income populations living near the Airport. Census data for Trenton, Maine was used to analyze the project areas and is compared to census data on the County, State, and National levels. The data provides the most focused population profile of the residential and commercial areas adjacent to the Airport. **Table 5-2** indicates that low-income populations are lower in Trenton, Maine than in other areas

of Hancock County, the State of Maine, and the Country. Minority populations are slightly higher which is due to a larger Asian population in Trenton. Environmental justice was measured by percentage of non-white racial origins, percentage of individuals below the poverty level, and the percentage of individuals unemployed within the area. Additional financial considerations were evaluated to determine the extent of income and housing-cost hardships on the populations, if any. Median household values and incomes are significantly higher than the other study areas and indicate that residential populations near the Airport are proportionately more affluent than other areas of the County.

In the Town of Trenton and Greater Hancock County, the impacts of the proposed projects are not expected to be borne predominately by minority or low-income populations. These populations are not anticipated to experience any disproportionate impact by the effects of the proposed project when compared to other non-minority or higher income populations.

Table 5-2: Environmental Justice Impacts on Selected Demographic

	Trenton town*	Hancock County	State of Maine	United States of America
Socioeconomic Characteristics				
% Minority	8%	5%	5.52%	41.8%
% Below Poverty Level	6.4%	11.2%	12.5%	14.1%
% Unemployed	3.6%	3.9%	3.4%	3.6%
Financial Characteristics				
Median Gross Rent	$ 758	$ 810	$ 831	$ 779
Median Household Value	$ 223,800	$ 221,700	$ 184,500	$ 204,900
Median Household Income	$ 61,194	$ 53,068	$ 55,425	$ 60,293

*Trenton town is a U.S. Census geographic area that encompasses the area of BHB.

Source: Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates. Data derived from Selected Economic Characteristics, Rental Housing, Owner Occupied Housing, and Race

Children's Health and Safety Risks

Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks," requires Federal agencies to "identify and assess the environmental health risks and safety risks that may disproportionately affect children" and "ensure that policies, programs, activities, and standards address disproportion risks to children" that can result from such environmental risks.

The proposed projects (with the exception of tree clearing on privately owned property) takes place on property on and owned by the Airport. The proposed avigation easement acquisition and clearing of vegetative penetrations to airspace surfaces will not result in an increase in air emissions, or an increased discharge of any criteria pollutants. Given that this project will not cause disproportionate health and safety impacts on children, additional analysis of Children's Health and Safety Risks have been dismissed as an impact category for more detailed study.

5.3.16 Surface and Ground Water Quality (Drinking Water)

The Federal Water Pollution Control Act, commonly called the Clean Water Act (CWA) requires submittal of a report describing the quality of State surface waters and the undertaking of an analysis to determine the extent at which such waters provide for the protection of a balanced population of shellfish, fish, wildlife, and allow for recreational activities on the waters. In addition to this report, a 303(d) List, so called as it is a requirement of Section 303(d) of the CWA is required. This list includes surface waters that are:

- Impaired or threatened by a pollutant or pollutants;
- Not expected to meet water quality standards within a reasonable time even after application of best available technology standards for point sources or best management practices for nonpoint sources; and
- Require development and implementation of a comprehensive water quality study (called a Total Maximum Daily Load or TMDL study) that is designed to meet water quality standards.

The 2016 Integrated Water Quality Report prepared by Maine Department of Environmental Protection (MDEP) does not indicate any Federally listed 303(d) Impaired Waters in the vicinity of the Airport or project area. Additionally, streams within the project area are not listed as Impaired Waters. Also required by the Water Pollution Control Act, the MDEP maintains a list of impaired waters that do not meet water quality standards per the requirements of the Clean Water Act. As no streams or bodies of water within the project area are classified as Impaired Waters, no additional studies are required per State law, and the project is not anticipated to produce any pollutant or pollutants that would impair water quality to change this determination.

Maine Geological Survey maintains a Significant Sand and Gravel Aquifer Map using digital data depicting geologic and well information, seismic-line information, and significant sand and gravel aquifers. According to the map, which has been most recently updated in February of 2019, there is not a significant sand and gravel aquifer located on or around Airport property.

This project will not alter the built environment of the Airport, and the proposed action of tree removal will be conducted such that the felled trees are removed so that tannis leaking from the

felled trees doesn't damage water quality and will not alter any existing storm water structures or infrastructure. Therefore, the effects the project may have on the quality of surface and ground waters, and ultimately the drinking water quality in the project area is dismissed for further review.

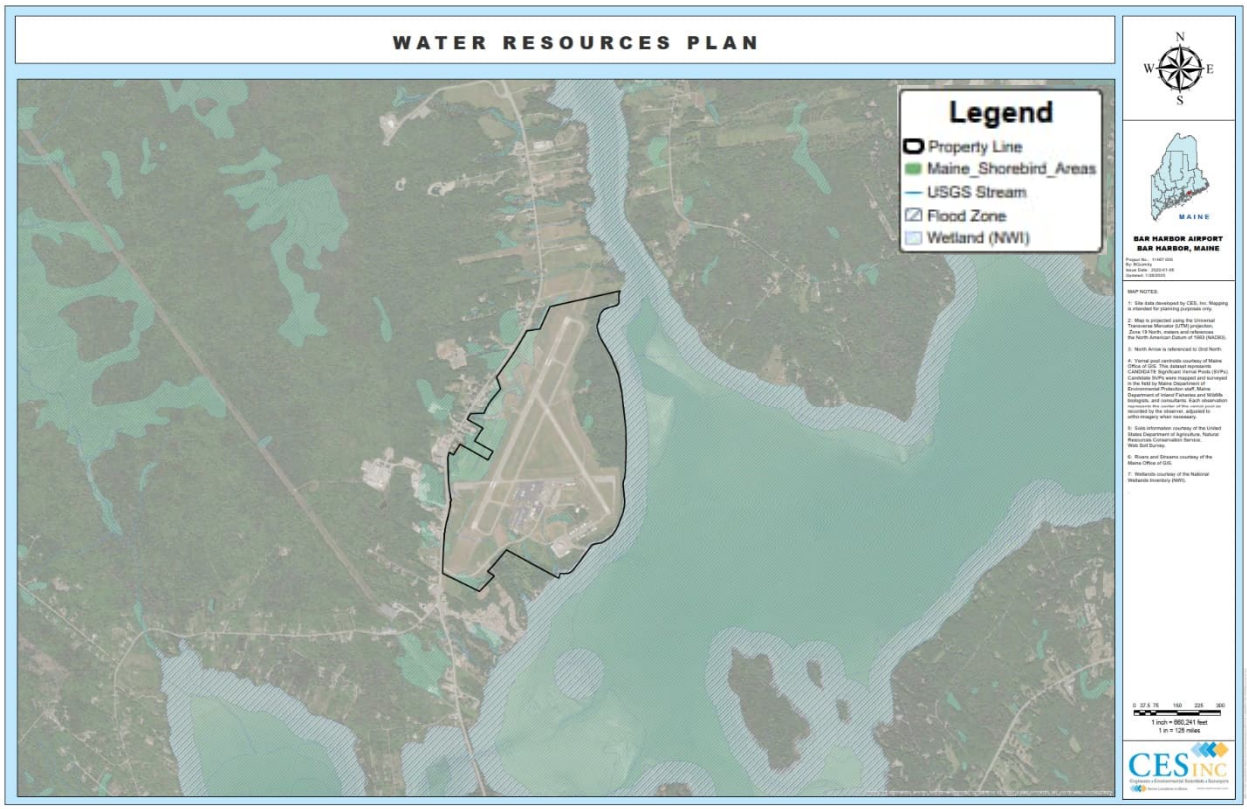
5.3.17 Wetlands and Water Resources

Maine Department of Environmental Protection provides four (4) categories of wetlands which include Costal Wetlands, Forested Wetlands, Floodplain Wetlands, and Freshwater Wetlands. According to the 1987 ACOE Wetlands Delineation Manual, wetlands are "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Maintaining wetlands are of high priority to protect their unique functions that can range from their use as a source of municipalities' water supply, to flood control, and for their important role as a critical habitat for fish and wildlife."

In Maine, wetlands are protected on the state level under the Natural Resources Protection Act (NRPA). Maine enacted the NRPA in 1988 to prevent any unreasonable impact, degradation, and/or destruction of natural resources and encourages their protection or enhancement. The NRPA applies to: coastal wetlands and sand dunes, freshwater wetlands, great ponds, rivers, streams and brooks, fragile mountain areas, and significant wildlife habitat. There is a permitting process under the NRPA which establishes state regulatory authority over wetlands. A permit is required when an "activity" (in this case defined by removing vegetation) will occur in, on, or over any protected natural resource or is adjacent to (A) a coastal wetland, great pond, river, stream or brook, or significant wildlife habitat contained within a freshwater wetland, or (B) certain freshwater wetlands.

Based on the obstruction locations identified within the project area, three primary areas were surveyed to determine the presence and locations of any wetlands that may be disturbed by tree removal. The three areas are known as the Runway 22 Work Area, the Runway 17 Work Area, and the Runway 4 Work Area. Certified Wetland Scientist conducted a field survey for areas on Airport property and desktop surveying for areas off Airport property to determine the presence / absence of wetlands, streams, and potential vernal pools. Wetland and water resources within the project areas include freshwater forested/shrub wetlands, freshwater emergent wetlands, and estuarine and marine wetlands. Additionally, riverine wetlands connect various areas of the Airport and project areas to Mt. Desert Narrows and the Jordan River which are located to the North and East. **Figure 5-7** is a Water Resources Plan depicting the existing conditions of the areas on and around Airport property. **Figure 5-8** depicts streams and significant bodies of water on and around the Airport. Additional wetland resource findings are contained in Chapter 3 of **Appendix 2 - Natural Resources Report**. All wetlands identified in the field survey are common to Maine and efforts will be made to minimize any disturbance to all identified wetlands impacted by the project.

Figure 5-7: Water Resources Plan



Runway 22 Work Area

Protected natural resources were mapped for the on-airport portions of this Project on November 6, 2019. CES identified three freshwater, scrub-shrub, seasonally saturated wetlands (PSS1E) and one unnamed perennial stream in the on-airport portions of this work area.

These wetlands are dominated by speckled alder, honeysuckle, multi-floral rose, and wood ferns, and meadowsweet. Soils in this wetland consisted of a dark, mucky surface horizon underlain by mottled silt loam. This soil meets the requirements of Hydric Soil Indicator F7, *Depleted Dark Surface*. Indicators of wetland hydrology observed were drainage patterns on the ground surface and saturation at the soil surface (Indicators B10 and A3). The unnamed perennial stream drains to the Jordan River, and has a stone and cobble substrate. This stream has the potential to be fish-bearing. Potential vernal pools were not identified in this area.

Off-airport portions of the Runway 22 work area could not be accessed due to property owner permissions. According to the NWI wetland mapping and the USDA soils mapping, riverine wetlands are present in this Project area.

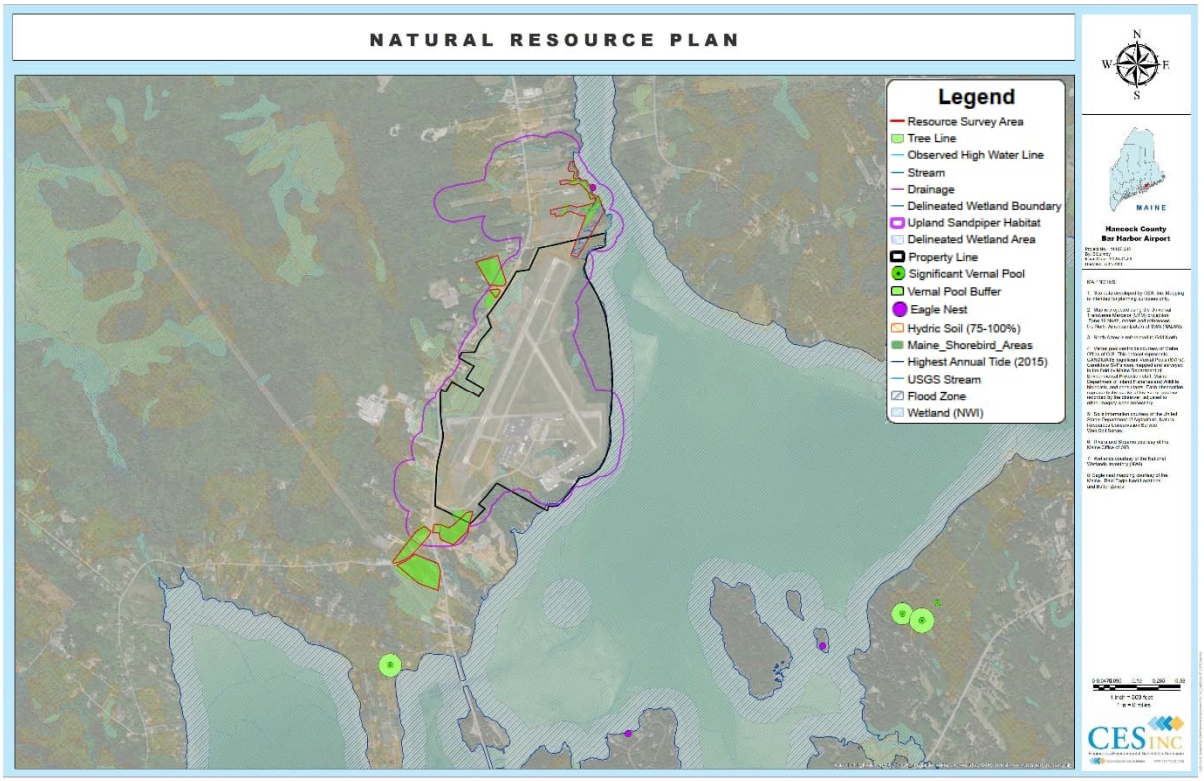
Runway 17 Work Area

This Project area is located wholly off-airport, and these areas could not be accessed due to property owner permissions. According to the NWI wetland mapping and the USDA soils mapping, freshwater forested wetlands and hydric soils are present in this Project area. Mapped vernal pools are not present in this area.

Runway 4 Work Area

This Project area is located largely off-Airport, and these areas could not be accessed due to property owner permissions. According to the NWI wetland mapping and the USDA soils mapping, freshwater scrub-shrub wetlands and hydric soils are present in this Project area. Mapped vernal pools are not present in this area.

Figure 5-8: Streams and Significant Bodies of Water



5.3.18 Wild and Scenic Rivers

Certain rivers with intrinsic natural, cultural, or recreational value and existing in a free-flowing condition are protected under the National Wild and Scenic Rivers System created by Congress in 1968. Currently, there are no rivers near Hancock County-Bar Harbor Airport that have been designated as national wild and scenic rivers. Additionally, there are no rivers in Trenton, Maine where the National Park Service has been authorized to study or area currently under consideration for designation into the System.

No element of the project destroys or alters a river's free-flowing nature. Additionally, this project does not propose to obstruct or impact any body of water and as a result, this category is dismissed as an area for further review.

5.3.19 Cumulative Impacts

Cumulative Impacts are the summation of impacts on a resource resulting from the incremental impact of the action combined with other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or individual undertakes those actions. Cumulative impacts are evaluated to determine the potential of individual minor but collectively significant actions taking place over a period of time within a resource. These actions may occur over a period of time and a distance from the proposed action.

Cumulative effects are evaluated within defined spatial (geographic) and temporal boundaries. The time period for this analysis is a minimum of 5 years past, current activities, and future to 2025. The geographic limits of the analysis include the Airport and adjacent parcels where vegetative obstructions are to be mitigated.

The selection of resource categories for the analysis assumed that if the project will not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on the resource. Environmental categories included in the cumulative impact analysis are the resources where there are direct or indirect impacts associated with the proposed projects.

Chapter 6 Environmental Consequences of the Proposed Action and Proposed Mitigation

6.1 Introduction

The Environmental Consequences of the Proposed Action and Proposed Mitigation Efforts Chapter is to provide a summary of the potential effects of proposed Airport improvements that may be known to cause impact to the environment. The preferred alternative is assessed to determine if the impact to the environment caused by the project would be considered a significant impact under FAA Order 1050.1E or other relevant Federal or State regulations.

After consultation with the FAA, it was determined that alternatives that considered the option of installing a hazard beacon would have a substantially negative and unacceptable impact on the Airport. A hazard beacon would be considered a controlling obstruction. As such, it would cause the instrument approach minimums to the Airport to increase. Any increase in the current instrument approach minimums would reduce access to the Airport under adverse weather conditions and would not meet the project purpose and need.

Therefore, the proposed action as a result of the alternatives analysis is Alternative 1: Clear All On-Airport Obstructions *(to Part 77 Standards)* and Obstructions to Operational Airspace Surfaces (*Engineering Brief 99 Surfaces)*. Off-airport vegetation removal would occur for those areas of vegetation that penetrate operational airspace surfaces and would be cleared using selective clearing methods.

Geographic Information Systems (GIS) natural resource layers from the State of Maine, in addition relevant Federal data sources such as the United States Fish and Wildlife Department's data were downloaded and overlaid onto an aerial image of Hancock County-Bar Harbor Airport and the adjacent areas to determine if the preferred alternative would trigger any environmental impact categories from FAA Order 1050.1E. Natural Resources deemed relevant and are summarized in the following sections:

- Wetland Impacts
- Rare, Threatened, and Endangered Species Impacts
- Cumulative Impacts

6.2 Wetlands Impacts

Limited field survey was performed within the project area (see **Appendix 2 – Natural Resource Report**) to determine the presence/absence of wetlands, streams and potential vernal pools by a Certified Wetland Scientist in November 2019.

Wetland impacts can be direct or indirect. Direct impacts are the result of filling a wetland. Indirect impacts are the result of actions that change the vegetative composition of a wetland but the area still remains a wetland in form and function. Direct wetland impacts (dredge and fill) are regulated by the Army Corps of Engineers (ACOE) under Section 404 of the Clean Water Act. Since dredge or fill activities and grubbing/grading are not associated with the proposed tree clearing, it is not anticipated that consultation or permits would be required by the ACOE.

The Maine Department of Environmental Protection (MEDEP) Wetlands Bureau regulates proposed activity within wetlands in the State of Maine and enforces the provisions of the Shoreland Water Quality Protection Act (SWQPA). There is a limited amount of tree clearing that needs to take place within the protected shoreland. MEDEP provides best management practices to be followed in pruning and/or removing trees within the woodland and waterfront buffers of a water body. There are several areas where tree removal has been identified that may result in an indirect impact to wetlands. These areas are depicted in **Figures 5-3 through 5-5** on pages 43-44 of this document. The figures illustrate the wetland and tree clearing areas, as well as the square footage of wetland impact. In addition, several areas have been identified where permits from MEDEP will be required to remove trees. Photographs and detailed information are included in **Appendix 2 – Natural Resource Report**.

6.3 Rare, Threatened & Endangered (RTE) Species Impacts

Review of existing publicly available data on protected species and habitats identified five protected species and habitats which may occur on or near the Project areas:

1. Upland sandpiper habitat
2. Northern long eared bat
3. Atlantic salmon
4. Tidal wading bird habitat, and
5. Bald eagle nests

The Upland Sandpiper, a State listed threatened species, has habitat which is mapped by the MDIFW as occurring on the grassy areas along the runways and adjacent fields to the north and south. Management of these grassy areas is addressed in the Airport Vegetation Management Plan. Two federally protected species, the Atlantic salmon and Northern long-eared bat, are shown within range of the Project areas. In addition, Tidal wading bird habitat occurs along the Airport shoreline with the Jordan River.

Bald eagle nests were found to the north of the Airport, along the Jordan River. The bald eagle is no longer protected under the Maine Endangered Species Act and the Federal Endangered Species Act, however it is still protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Further consultation with USFWS indicated that a recently active bald eagle (2018) is located north of Runway 22. Wildlife biologists from the firm Haley Ward, Inc. monitored the eagle nesting location on a biweekly schedule beginning on May 5 through July 28, 2021 to determine nest occupancy and nesting success. Their full report can be found in **Appendix 9** Bald Eagle Nest Monitoring Report. In summary, the nest was active, intact and successful, with one fledgling observed.

Nest removal would be conducted for the purpose of public safety as the tree containing the nest lies within the airspace on the approach to Runway 22 at BHB, which is a public use airport. There has already been one documented strike with an eagle on the same approach. Correspondence with the Eagle Coordinator for the USFWS Division of Migratory Birds provides a directive to file an application to remove the nest and tree. Because the project should be classified as safety in nature, compensatory mitigation is not required. Therefore, the airport sponsor should file an online application to remove the nest and trees under a separate project. The nest would be removed in the best interest of the flying public as well as the eagles to avoid any future strikes with aircraft.

6.4 Cumulative Impacts

Cumulative impacts are the summation of impacts on a resource resulting from the incremental impact of the action when combined with other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or individual undertakes those actions. Cumulative impacts are evaluated to determine the potential of individually minor but collectively significant actions taking place over a period of time within a resource. These actions may occur over a period of time from the proposed action.

Cumulative effects are evaluated within defined spatial (geographic) and temporal boundaries. The time period for this analysis is a minimum of 5 years past, current activities, and future to 2025. The geographic limits of the analysis include the Airport and adjacent parcels.

The following projects were completed within the last 5-years (2014-2019).

- 2014 – None
- 2015 – None
- 2016 – Replace Airfield Signs, primary wind cone, and segmented circle

- 2017 – Stormwater Basin Improvements for wildlife mitigation
- 2017 – Repaint Airfield Markings
- 2018 – Obstruction Survey and Analysis
- 2018 – Replace Airfield Lighting – MITLS, HIRLS, & Apron Lights
- 2019 – EA tree clearing
- 2019 – Storm water Basin Inspection (follow up inspection on 2017 project)

The following projects are anticipated to occur over the next 5-years (2020 – 2025) and are included in the Airport's Capital Improvement Plan and are listed below.

- 2020 – Investigate and repair as needed airfield stormwater drainage infrastructure;
- 2020 – Rehabilitate old terminal building public bathrooms including ADA compliance and new walkway over septic;
- 2020 – Apron repairs;
- 2021 – Reimbursement for easements to protect Runway 4/22 and Runway 17, includes consultant contract. This project is included in this EA;
- 2021 – Pavement remarking project (maintenance);
- 2021 – PCI survey and development of basic pavement management program (may include purchase of PAVER software for BHB);
- 2022 – Obstruction clearing project to clear approaches as per EB99 Table 3-2. This project is included in this EA;
- 2022 – Purchase SRE equipment.
- 2022 – Master plan and ALP update;
- 2023 – Pavement remarking project (maintenance);
- 2023 – Rehabilitate eligible portion (exclusively aero) section of Caruso Drive and Street parking lot;
- 2024 – Design and permitting for large GA apron expansion;
- 2025 – Pavement remarking project;
- 2025 – Construct large GA apron expansion.

The selection of resource categories for the analysis assumed that if the project will not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on the resource. Environmental categories included in the cumulative impact analysis are the resources where there are direct or indirect impacts associated with the proposed projects.

Cumulative Impacts Summary

In summary, the total impact of the projects in this EA, combined with the other known past and future projects at the Airport and immediate vicinity, will not cause a cumulative significant impact

to environmental resources given the analysis of expected actions as noted above and environmental review detailed by this report.

Chapter 7 Agency Coordination/Public Participation

This Chapter provides a discussion of the correspondence and coordination that occurred with resource agencies, abutters and other stakeholders during the preparation of this Environmental Assessment. Correspondence and documentation that was made available or provided by the any cooperating agencies are included in this Environmental Assessment in **Appendix 3 - Agency Correspondence.**

7.1 Agency Coordination

Local, State and Federal agencies were contacted and notified of the proposed project. A project factsheet was made available to the public at the formal public meeting held on October 10, 2019 with details regarding the project, background and need, and contact information for public outreach and is attached in **Appendix 4 – Public Outreach Materials**.

Consultant staff coordinated with multiple State agencies regarding the criteria analyzed in the Environmental Assessment. The U.S. Fish and Wildlife Service IPaC (Information for Planning and Consultation) Database was consulted for Nongame and Endangered Species, and to research any rare species or exemplary natural communities in the area of the project. Although there was a record (e.g. rare wildlife, plant, and/or natural community) present in the vicinity of known habitat conditions conducive to several protected species and habitats, the U.S. Fish and Wildlife Service did not expect any impacts due to the proposed project. Coordination between agencies can be reviewed in **Appendix 3 – Agency Correspondence.**

As wetlands were identified in the vicinity of the project through a local-level review, a planning level wetland identification effort in the field was conducted that reviewed available aerial photography, National Wetlands Inventory (NWI) maps, Natural Resource Conservation Service (NRCS) Soils maps, and other local and database based resources. In addition to utilizing locally available resources, coordination occurred with the US Fish and Wildlife Service (USFWS) through their IPaC Database, specifically to document if any species, resource, or habitat were found in the intended project area. The results of this data check and IPaC report are included for reference in **Appendix 2 – Natural Resources Report.**

Additionally, a separate contact was made with the USFW regarding habitat that may be suitable for the Northern Long Eared Bat. It is a goal of FAA Order 1050.1F to implement any available streamlined measures to reduce paperwork and delay of a decision of significance or no significance. A Northern Long Eared Bat 4(d) Rule Streamlined Consultation Form was not submitted to USFWS because the agency determined that if tree removal is conducted during the winter months when the NLEB is not active there will be no impact on the species. No additional measures are needed regarding the project and its impact on the Northern Long Eared Bat. Meeting

minutes from this consultation with USFWS and other state agencies regarding obstruction removal can be found in **Appendix 3 – Agency Correspondence.**

The consulting team is committed to updating local, State, and national agencies promptly in the case of a departure from the described activities of the projects and notify the appropriate contacts. After extensive coordination, correspondence, and a field study, the consulting team and its cooperating agencies found no significant impacts to the environment as a result of the proposed action at the time of the drafting of this report in July 2020.

7.2 Public Participation

An informal project kickoff event occurred by mailing letters to 25 property owners on September 18, 2019 to inform them of a public meeting on October 10, 2019.

A formal public meeting was conducted on October 10, 2019 at the Airport terminal building to discuss the project location, background, description of the project, and a general schedule. The meeting minutes are included within the appendix. Communication channels were provided for the public to contact either the Airport or the assembled consulting team regarding the project.

Additional communication was provided directly to impacted property owners for the purposes of conducting a field study to observe environmental conditions through letters sent out to property owners on October 23, 2019 with project information and a request temporary property access. Property owners were asked to provide a signature and mail back an approved request for temporary property access. Door-to-door visits were conducted on October 29, 2019 to discuss the EA and request property access from property owners.

A total of twenty-five (25) impacted property owners were sent letters:

- Daniel E. & Amy E.Cutshall
- Ashley Little
- Nancy D. & Michael Madore
- Town of Trenton (2)
- William & Patricia Howard
- Vanessa Brunton (2)
- R.F&N.P.Gavelek Trustee
- Trenton Fire Department
- Hancock County
- MHC Narrows Too, LLC C/O B &D Equity Property Tax Group
- Richard & Joyce Harding
- Trenton Grance Hall

- David Gavelek
- Bangor Hydro-electric Co.
- Maine Coastal Inns Inc
- Gertrude Pendley
- William Miller
- Dorothy Young
- Elizabeth C. Whitney
- Michael & Kimberly Hodgkins
- Acadia Aqua Farms, LLC
  Jeffery L. & Linda Hodgkins

The Jacobs team held an online briefing and Q/A session via MS Teams with interested property owners on January 5, 2022. The final draft EA was put on the County website for public comment on November 30, 2021 and held a public comment period until January 17, 2022. Public comments were received and responded to and are provided in **Appendix 10.**

7.3. Agencies and Individuals Consulted

The following federal, state, and local agencies, organizations and other stakeholders were consulted during the preparation of the draft EA.

Federal

Federal Aviation Administration

Richard Doucette, Environmental Program Manager, Airports Division, FAA New England Region

US Fish and Wildlife Service

Patrick Dockens, Wildlife Biologist

State/Region

Maine Department of Environmental Protection

Jessica Damon

Maine Department of Inland Fisheries and Wildlife

John Perry

Maine Department of Agriculture, Conservation and Forestry

Local

Hancock County-Bar Harbor Airport

Leroy Muise, Airport Manager

Richard Gray, Interim Airport Manager

Hancock County Board of County Commissioners

Town of Bar Harbor

Chapter 8 List of Preparers

The EA was prepared by Jacobs (Boston, MA and Bedford, NH offices) in association with CES Inc. of Brewer, Maine.

Key participants in the preparation of this document include the following:

Federal Aviation Administration, New England Region, Airports Division
Richard Doucette, Environmental Program Manager
Role: General Consultation/Document Review

Hancock County – Bar Harbor Airport
Leroy Muise, Airport Manager
Role: Document Review
Richard Grey, Interim Airport Manager
Role: Document Review

Jacobs
Heath Marsden, Senior Airport Planner
Role: Project Manager/Project Development
Natalie Pavelock, Aviation Planner
Role: Author / Graphics / Assistant Project Manager
Jason Homiak, Project Manager/Engineer
Role: Project Engineer

CES, Inc.
Johanna Szillery, C.S.S., Senior Project Scientist
Role: Environmental Consultant

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APPENDICES

Appendix 1 Existing and Proposed Easement Summary

Appendix 2 Natural Resources Report

Appendix 3 Agency Correspondence

Appendix 4 Public Outreach Materials

Appendix 5 Field Survey of Environmental Conditions

Appendix 6 Aviation Glossary

Appendix 7 Finding of No Significant Impact

Appendix 8 Phase 1 Archaeological Study

Appendix 9 Bald Eagle Nest Monitoring Report

Appendix 10 Public Comment

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Appendix 1 – Existing and Proposed Easement Summary

Parcels with Existing or Proposed Avigation Easements						
Owners Name	Parcel #	Owner Address	Municipality of Parcel	Property Area +/- (acres)	Avigation Easement	Runway End
Daniel E., and Amy E. Cutshall	020-003	871 Bar Harbor Road, Trenton, ME 04605	Trenton, ME	5.0	Existing	17
Ashley Little	019-013	14 Davis Lane, Mt Desert, ME 04660	Trenton, ME	5.9	Existing	17
Nancy D., and Michael Madore	020-002	13 Mary Kay Lane, Trenton, ME 04605	Trenton, ME	3.83	Existing	17
Town of Trenton	019-009	59 Oak Point Rd, Trenton, ME 04605	Trenton, ME	12.0	Existing	17
Vanessa Brunton	015-006	2694 US Highway 1, Sullivan, ME 04664	Trenton, ME	31.6	Existing	4
Vanessa Brunton	011-018	2694 US Highway 1, Sullivan, ME 04664	Trenton, ME	?	Proposed	4
R.F&N.P. Gavelek Trustee	011-072	51 Old Mill Stream Rd, Sullivan, ME 04664	Trenton, ME	22.9	Existing	4
Trenton Fire Department	011-071	59 Oak Point Rd, Trenton, ME 04605	Trenton, ME	15.7	Proposed (2)	4
Hancock County	015-030	50 State Street, Suite 7, Ellsworth, ME 04605	Trenton, ME	7.11	Proposed	4
MHC Narrows Too, LLC C/O B &D Equity Property Tax Group	011-073	PO Box 6115, Chicago, IL 60606	Trenton, ME	41.0	Existing	4
Richard, and Joyce Harding	015-005	336 Douglas Highway, Lamonie, ME 04605	Trenton, ME	1.17	Existing	4
Trenton Grance Hall	015-031	1134 Bar Harbor Rd,	Trenton, ME	1.15	Existing	4

		Trenton, ME 04605				
David Gavelek	015-004	29 Webber Ave, Bedford, MA 01730	Trenton, ME	0.6	Existing	4
Bangor Hydro-electric Co.	011-069-01	PO Box 932, Bangor, ME 04402	Trenton, ME	7.5	Proposed	4
Maine Coastal Inns Inc	011-020	1147 Bar Harbor Rd, Trenton, ME 04605	Trenton, ME	2.21	Existing	4
Gertrude Pendley	011-070	29 Oak Point Rd, Trenton, ME 04605	Trenton, ME	0.73	Proposed	4
William Miller	011-019	Machias Savings Bank, Machias, ME 04654	Trenton, ME	1.84	Proposed	4
Dorothy Young	011-021	24 Oak Point Rd Trenton, ME 04605	Trenton, ME	1.26	Proposed	4
Unknown	Unknown	Unknown	Unknown	-	Existing	4
Unknown	Unknown	Unknown	Unknown	-	Existing	4
Elizabeth C. Whitney	024-021	591 Douglas Highway, Lamoine, ME 04605	Trenton, ME	5.57	Proposed	22
Michael, and Kimberly Hodgkins	020-012	804 Bar Harbor Road, Trenton, ME 04605	Trenton, ME	4.8	Proposed (2)	22
Acadia Aqua Farms, LLC	020-013	10 Bunchberry Road, Bar Harbor, ME 04605	Trenton, ME	3.0	Proposed	22
Jeffrey L., and Linda Hodgkins	020-016	PO Box 1571, Ellsworth, ME 04605	Trenton, ME	14.14	Existing (1) and Proposed (3)	22

Appendix 2 – Natural Resource Report

NATURAL RESOURCE DUE DILIGENCE

FOR

ENVIRONMENTAL ASSESSMENT OF AVIGATION EASEMENT AND OBSTRUCTION REMOVAL PROJECT

HANCOCK COUNTY – BAR HARBOR AIRPORT TRENTON, MAINE

Report Prepared For:
Jacobs Engineering Group
Two Executive Park Drive
Bedford, New Hampshire 03110

JULY 31, 2020
JN: 11487.005

Report Prepared By:
CES, Inc.
One Merchants Plaza
Suite 701
Bangor, ME 04401
207.989.4824

Corporate Office
One Merchants Plaza
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Bangor, ME 04401
207.989.4824

www.cesincusa.com

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APPENDICES

Appendix A Site Location Map
Appendix B Natural Resource Plans
Appendix C Photographs

1.0 INTRODUCTION

CES, Inc. (CES) has completed natural resource due diligence in support of the Environmental Assessment completed by Jacobs Engineering Group (Jacobs) for the proposed Avigation Easement and Obstruction Removal Project (the Project) at the Hancock County – Bar Harbor Airport (the Airport) in Trenton, Maine.

The purpose of the natural resource due diligence is to support the Environmental Assessment, which aims to ensure consistency with Federal regulations, and to identify resource issues early in the planning process. Guidance on the Environmental Assessment process was provided by the lead Federal agency, the Federal Aviation Administration (FAA).

2.0 PROJECT BACKGROUND

The scope of the Project was developed based on recommendations presented in the Hancock County – Bar Harbor Airport Master Plan, dated July 2011. As detailed in this Master Plan, there are obstructions that penetrate the protected airspace surfaces along the runway approaches at the Airport. Based on the recommendations in the Master Plan, the Project consists of:

- Obtaining avigation easements; and
- Conducting obstruction removal on and off Airport property.

The obstructions and areas of potential obstruction clearing have been identified by Jacobs (herein referred to as Project areas), and are shown, along with the Airport Property, on the Site Location Map, included as **Appendix A**, and on the Natural Resource Plan, included as **Appendix B.**

The current phase of work consists of completing an Environmental Assessment of the Project. In support of this Environmental Assessment, CES completed the following scope of work:

- Natural resource database review and survey on the Project areas;
- Endangered and protected species habitat review;
- Interagency consultation; and
- Reporting on the completed activities.

Future phases of work to complete the Project, with associated timelines, consist of:

- 2021-2022: On Airport obstruction removal and acquiring easement for off Airport work
- 2022-2023: Off Airport obstruction removal.

3.0 METHODOLOGY

3.1 Natural Resource Database Review and Survey

CES reviewed existing publicly available natural resource Geographic Information System (GIS) data available for the Airport and Project areas from several sources including, but not limited to:

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps;
- U.S. Geologic Survey topographic maps;
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils maps; and
- Digital aerial photography from several sources.

CES scientists completed a site visit on November 6, 2019, and identified jurisdictional wetlands based on the 1987 Army Corps *Wetland Delineation Manual* and the routine determination method as outlined in the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. The USFWS Cowardin classification system, outlined in *Classification of Wetland and Deepwater Habitats of the United States,* and the 2012 *Regional Supplement* were then used to characterize the wetlands identified.

Jurisdictional streams were identified using the definition provided in Federal Clean Water Act, Section 404 definitions and Maine's Natural Resources Protection Act (MRSA Title 38 §480-B).

Potential vernal pools were surveyed within the Project areas during the November 2019 field survey. Potential vernal pools were identified in accordance with the current version of the Maine Association of Wetland Scientists *Vernal Pool Survey Protocol* (April 2014) and using Maine Department of Environmental Protection (MDEP) Rule Chapter 335, *Significant Wildlife Habitat,* and using Section 404 of the Clean Water Act definitions as required by the U.S. Army Corps of Engineers (Army Corps).

Identified features were point-located in the field using a sub-meter capable mapping grade GPS. GPS data was post-processed according to manufacturer's recommended settings using National Geodetic Survey Continuously Operating Reference Stations (CORS).

3.2 Endangered and Protected Species and Habitat Review

CES reviewed existing publicly available GIS data available on protected species and habitats for the Airport and Project areas from several sources. The data review included, but was not limited to:

- Maine Department of Inland Fisheries and Wildlife (MDIFW) data on wildlife occurrences and habitats; and

- USFWS data on protected species and habitats in the Project areas, available through the IPaC system (Information for Planning and Consultation System).

3.3 Interagency Consultation Meeting

Following completion of the work described above, CES and Jacobs initiated a meeting with regulatory agencies to describe the Project and to solicit input on the Project and avoidance, minimizations, and mitigation measures that could be incorporated into the Project design or methodology to reduce or mitigate anticipated impacts on protected resources, habitats and species.

4.0 RESULTS AND DISCUSSION

4.1 General Area Description

The Airport is located in Trenton, Maine, approximately seven miles south-southeast of the City of Ellsworth in an area of mixed residential, commercial, and industrial development along the Bar Harbor Road (Route 3). The Airport is located along and west of the Jordan River and Mount Desert Narrows, which are tidal estuaries.

The Airport has two paved runways, Runway 4/22 and Runway 17/35. The runway ends taper from maintained areas to surrounding undeveloped woodland and/or field. The Airport facilities include a terminal/administration building, hangars and aircraft storage, maintenance facilities, and a sea plane ramp.

4.2 Natural Resource Database Review and Survey

The following section briefly describes the wetlands found within the Project areas. Within this discussion, the wetland classification, based on the Cowardin classification system or the Army Corps wetland parameter indicator, follows as capital letters and numbers in parentheses throughout the text. Natural Resource Plans for each work area show the location and extent of the natural resources observed and are included in **Appendix B**. Representative photographs are included in **Appendix C**.

CES completed natural resource survey on portions of the Project areas on November 6, 2019. Due to ongoing negotiations related to avigation easements, off-Airport properties were not accessible. Where on the ground natural resource data could not be obtained, the planning level data described in **Section 3.1** was used for the purposes of mapping resources present, planning, and impact calculations.

Runway 22 Project Area

Protected natural resources were mapped on the on-Airport portions of this Project areas on November 6, 2019. CES identified three freshwater, scrub-shrub, seasonally saturated wetlands (PSS1E) and one unnamed perennial stream in the on-Airport portions of this Project area.

These wetlands are dominated by speckled alder, honeysuckle, multi-floral rose, and wood ferns, and meadowsweet. Soils in this wetland consisted of a dark, mucky, surface horizon underlain by mottled silt loam. This soil meets the requirements of Hydric Soil Indicator F7, *Depleted Dark Surface*. Observed indicators of wetland hydrology included drainage patterns on the ground surface and saturation at the soil surface (Indicators B10 and A3). The unnamed perennial stream drains to the Jordan River, and has a stone and cobble substrate. This stream has the potential to be fish-bearing. Potential vernal pools were not identified in this area.

Off-Airport portions of the Runway 22 work area were not accessible at the time of the site visit. According to the NWI wetland mapping and the USDA soils mapping, riverine wetlands are present.

Runway 17 Project Area

This Project area is located wholly off-Airport and was not accessible at the time of the site visit. According to the NWI wetland mapping and the USDA soils mapping, freshwater forested wetlands and hydric soils are present in this Project area. Mapped vernal pools are not present in this area.

Runway 4 Project Area

This Project area is located largely off-Airport, and was not accessible at the time of the site visit. According to the NWI wetland mapping and the USDA soils mapping, freshwater scrub-shrub wetlands and hydric soils are present in this Project area. Mapped vernal pools are not present in this area.

4.3 Endangered and Protected Species and Habitat Review

Review of existing publicly available data on protected species and habitats identified five protected species and habitats which occur on or near the Project areas.

The Airport and Project areas occur within the range of two federally protected species, the Atlantic salmon and northern long eared bat. In addition, a bald eagle nest is present at the northern end of the Runway 22 project area, along the Jordan River. Discussion with Airport staff and neighbors indicates this nest may have been abandoned since the 2018 USFWS bald eagle nest surveys.

Two State protected habitats occur on or near the Airport, upland sandpiper and tidal wading bird habitat. Upland sandpiper is a grassland bird that is a State listed threatened species. Habitat for this species is mapped by the MDIFW as occurring on the grassy areas along the runways and adjacent fields to the north and south of the runways. Tidal wading bird habitat is present along the Airport shoreline with the Jordan River.

Upon completion of this data review, CES reviewed the proposed Project and impacts in consideration of the species and habitats present. As related to Atlantic salmon, neither stream crossings nor in-stream work is proposed as part of the Project. Where clearing is proposed with riparian buffers, scrub-shrub vegetation will be allowed to remain, to protect stream habitat.

As related to northern long eared bat, the Project is not located within proximity of a northern long-eared bat hibernacula. Known maternity roost trees are not known to occur on the Project areas. Recent MDIFW guidance on bat roosting areas indicates that rocky features, such as talus slopes, boulder outcrops, and similar features may serve as habitat. These rocky features were not observed on the Project areas. Finally, the clearing will be completed during winter months, when bats are not active, which further reduces potential impacts to this species.

As related to upland sandpiper and tidal wading bird habitat, the distance of the Project areas from these habitats, and the Project timing is such that adverse impacts to these species and habitats is not anticipated.

As related to bald eagles and the mapped bald eagle nest, the Project is likely to impact the tree in which this nest is located. Additional consultation was completed with USFWS and is described in the following section.

Where specific polygons showing habitats or occurrences of species were available, such as for upland sandpiper habitat and tidal wading bird habitat, these are shown on the Natural Resource Plan included in **Appendix B.**

4.4 Interagency Consultation Meeting

Following the completion of the natural resource database review and field survey; and the endangered and protected species habitat review, CES and Jacobs initiated an interagency consultation meeting with the relevant State and Federal resource regulatory agencies to describe the Project, the purpose and need, and to solicit input on avoidance and mitigation measures that could be incorporated into the Project design or methodology to avoid, reduce or mitigate anticipated impacts on protected natural resources, protected species and protected habitats.

The interagency meeting was held on March 5, 2020, with representatives from the following agencies participating: MDEP, USFWS, FAA, and MDIFW. The Agencies present concurred with the purpose and need of the Project. The MDEP will permit the Project though the Site Location of Development Act (SLODA), under which the Airport is already permitted and regulated. Alterations to wetlands, such as vegetation clearing, will be permitted concurrently through the Natural Resource Protection Act (NRPA). MDIFW indicated they will provide input and comment through the SLODA process.

The Agencies indicated that the Project can be permitted and offered some comments on the process. The MDIFW noted that where streams exist, scrub-shrub vegetation should be left in place to maintain quality of the riparian habitat. MDEP noted that vernal pools should be mapped, and clearing within Significant vernal pool habitat, if they are found on the Project areas, would be considered an impact. USFWS discussed avoidance and minimization of obstruction removal activities related to the bald eagle nests identified in the area. Additional consultation with USFWS indicated that monitoring of the bald eagle nest for activity is the next step in the consultation process. Permitting related to the removal of the tree in which the nest is located should be initiated approximately one year before proposed activity. Results of the monitoring efforts on this next will determine the permitting course of action. The USFWS did not anticipate lengthy Project reviews related to Atlantic salmon or northern long eared bat.

5.0 SUMMARY

Natural resource due diligence has been completed by CES in support of the Environmental Assessment completed by Jacobs for the proposed Obstruction Removal and Avigation Easement Acquisition Project at the Hancock County – Bar Harbor Airport, located in Trenton, Maine. CES completed natural resource database review; natural resource survey; endangered and protected species and habitat review; and an interagency consultation meeting. The database review and natural resource survey identified forested and scrub-shrub wetlands and streams present within the Project areas. Review of existing publicly available data on protected species and habitats identified five protected species and/or habitats which may occur on or near the Project areas. Consultation with State and Federal resource agencies indicated concurrence with the purpose and need of the Project. The Agencies indicted that the Project can be permitted and offered input on the permitting process. Additional consultation will with USFWS regarding the presence of bald eagle nests will likely be needed as Project plans progress.

6.0 REFERENCES

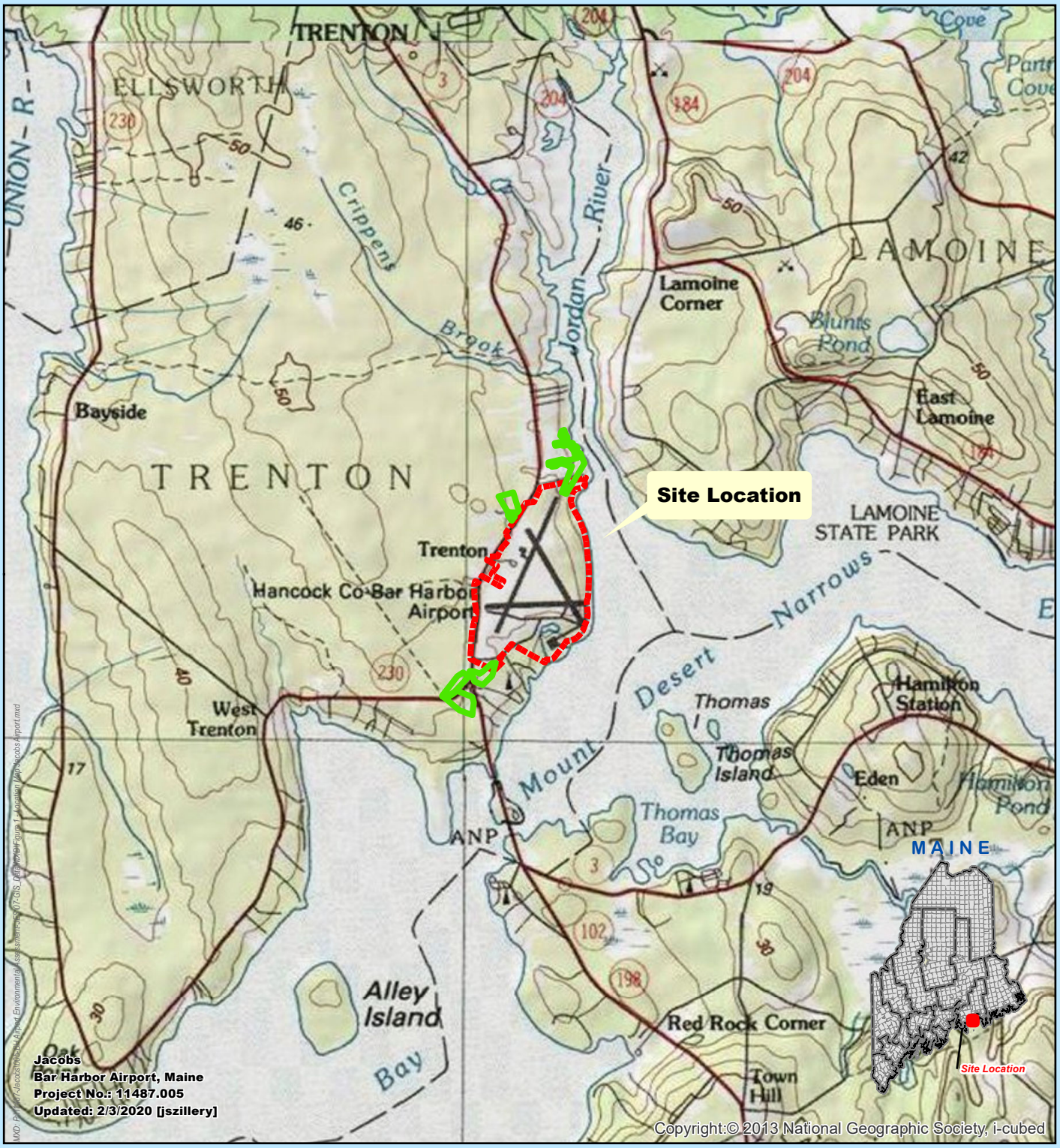
1. Environmental Laboratory. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.* ERDC/EL Technical Report TR-12-1, U.S. Army Engineer Research and Development Center, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199.

2. Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. (Version 04DEC98).

APPENDIX A

SITE LOCATION MAP

Figure 1 - Location Map



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Legend

- Approximate Project Areas
- Airport Property Boundary

MAP NOTES:

1: ADMINISTRATIVE BOUNDARIES COURTESY OF THE MAINE OFFICE OF GIS (MEGIS).

2: BASE MAP COURTESY OF ESRI.

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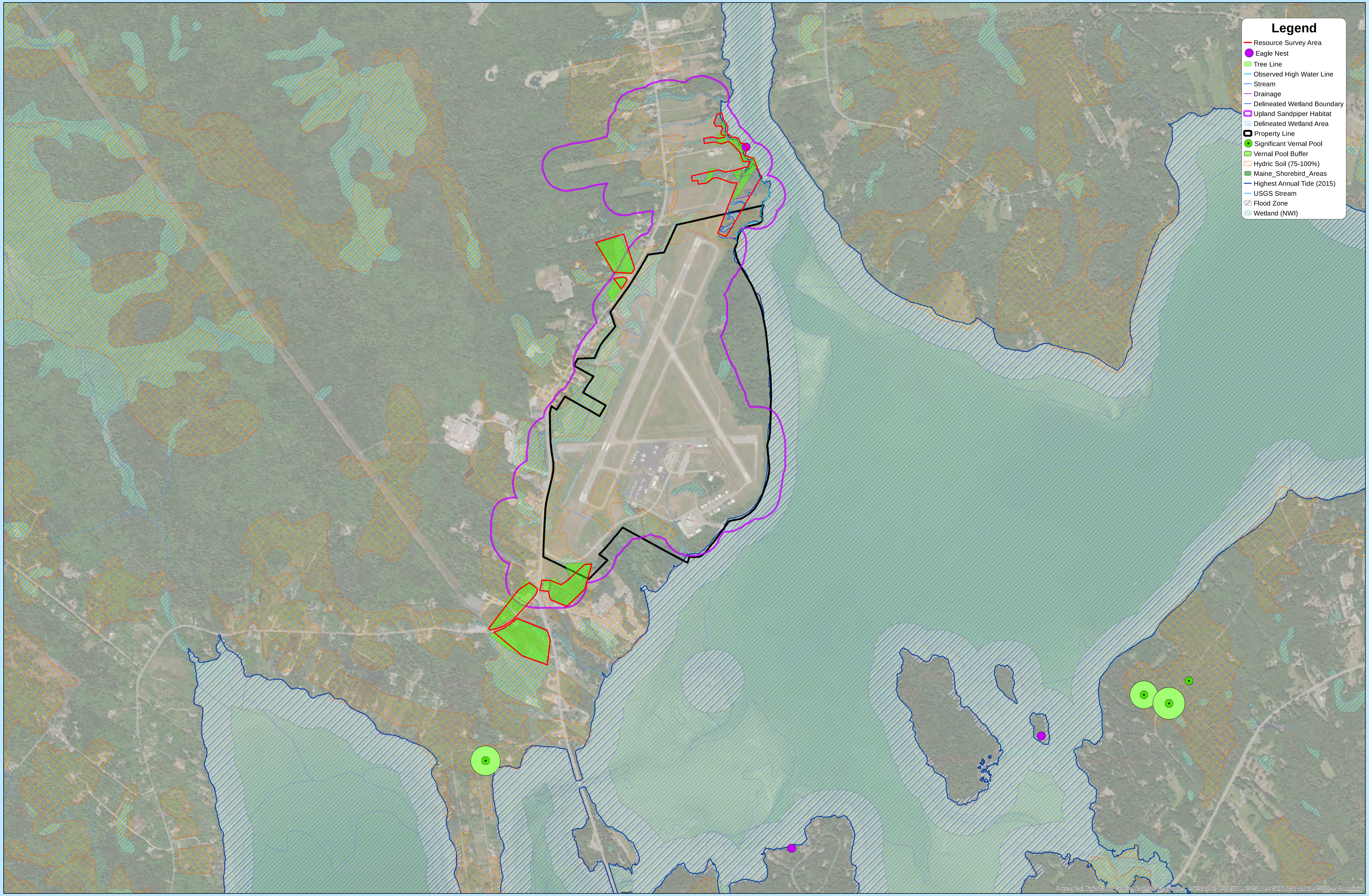
Engineers • Environmental Scientists • Surveyors

MXD: P:\11487-Jacobs\005-BH Airport Environmental Assessment-JES\07-GIS_Data\MXD\Figure 1 - Location Map_Jacobs Airport.mxd

APPENDIX B

NATURAL RESOURCE PLANS

NATURAL RESOURCE PLAN



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MAINE

Hancock County
Bar Harbor Airport

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/31/2020

MAP NOTES:

1: Site data developed by CES, Inc. Mapping is intended for planning purposes only.

2: Map is projected using the Universal Transverse Mercator (UTM) projection, Zone 19 North, meters and references the North American Datum of 1983 (NAD83).

3: North Arrow is referenced to Grid North.

4: Vernal pool centroids courtesy of Maine Office of GIS. This dataset represents CANDIDATE Significant Vernal Pools (SVPs). Candidate SVPs were mapped and surveyed in the field by Maine Department of Environmental Protection staff, Maine Department of Inland Fisheries and Wildlife biologists, and consultants. Each observation represents the center of the vernal pool as recorded by the observer, adjusted to ortho-imagery when necessary.

5: Soils information courtesy of the United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey.

6: Rivers and Streams courtesy of the Maine Office of GIS.

7: Wetlands courtesy of the National Wetlands Inventory (NWI).

8: Eagle nest mapping courtesy of the Maine - Bald Eagle Nest Locations and Buffer Zones

0 0.0475 0.095 0.19 0.285 0.38

1 inch = 800 feet
1 in = 0 miles

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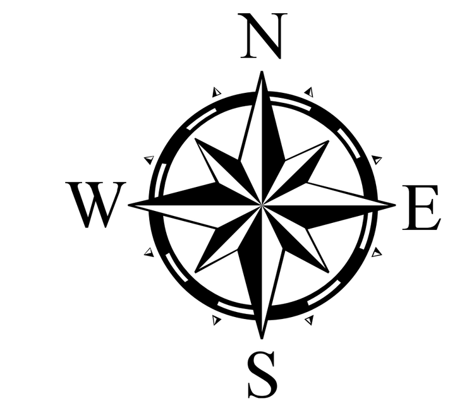
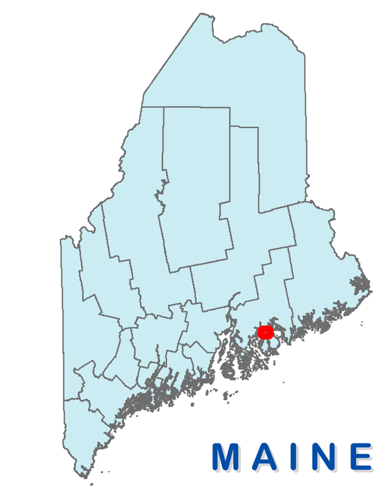
MXD: P:\11487-Jacobs\005-BH Airport Environmental Assessment-JES\07-GIS_Data\MXD\11487.005-NR_Map.mxd

VERNAL POOL PLAN





Hancock County
Bar Harbor Airport

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020

MAP NOTES:

1: Site data developed by CES, Inc. Mapping is intended for planning purposes only.

2: Map is projected using the Universal Transverse Mercator (UTM) projection, Zone 19 North, meters and references the North American Datum of 1983 (NAD83).

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4: Vernal pool centroids courtesy of Maine Office of GIS. This dataset represents CANDIDATE Significant Vernal Pools (SVPs). Candidate SVPs were mapped and surveyed in the field by Maine Department of Environmental Protection staff, Maine Department of Inland Fisheries and Wildlife biologists, and consultants. Each observation represents the center of the vernal pool as recorded by the observer, adjusted to ortho-imagery when necessary.

5: Soils information courtesy of the United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey.

6: Rivers and Streams courtesy of the Maine Office of GIS.

7: Wetlands courtesy of the National Wetlands Inventory (NWI).

8: Eagle nest mapping courtesy of the Maine - Bald Eagle Nest Locations and Buffer Zones

0 37.5 75 150 225 300

1 inch = 660,241 feet
1 in = 125 miles

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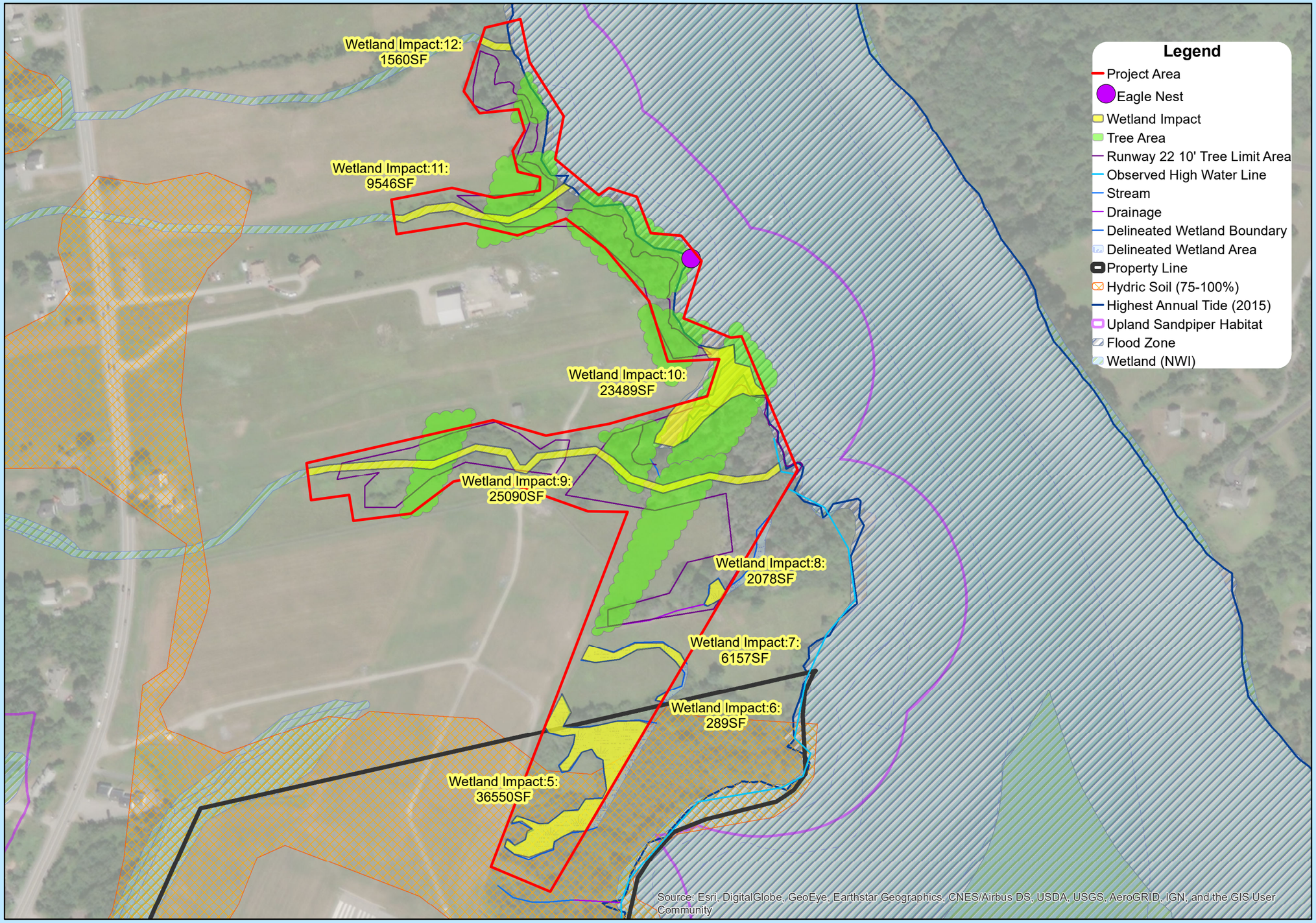
MXD: P:\11487-Jacobs\005-BH Airport Environmental Assessment-JES\07-GIS_Data\MXD\11487.005-NR_Vernal_Pools.mxd

Runway 22 Work Area



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MAINE

HANCOCK COUNTY
BAR HARBOR AIRPORT

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020

MAP NOTES:

1: SITE DATA DEVELOPED BY CES, INC. MAPPING IS INTENDED FOR REFERENCE PURPOSES ONLY.

2: MAP IS PROJECTED USING THE UNIVERSAL TRANSVERSE MERCATOR (UTM) PROJECTION, ZONE 19 NORTH, METERS AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

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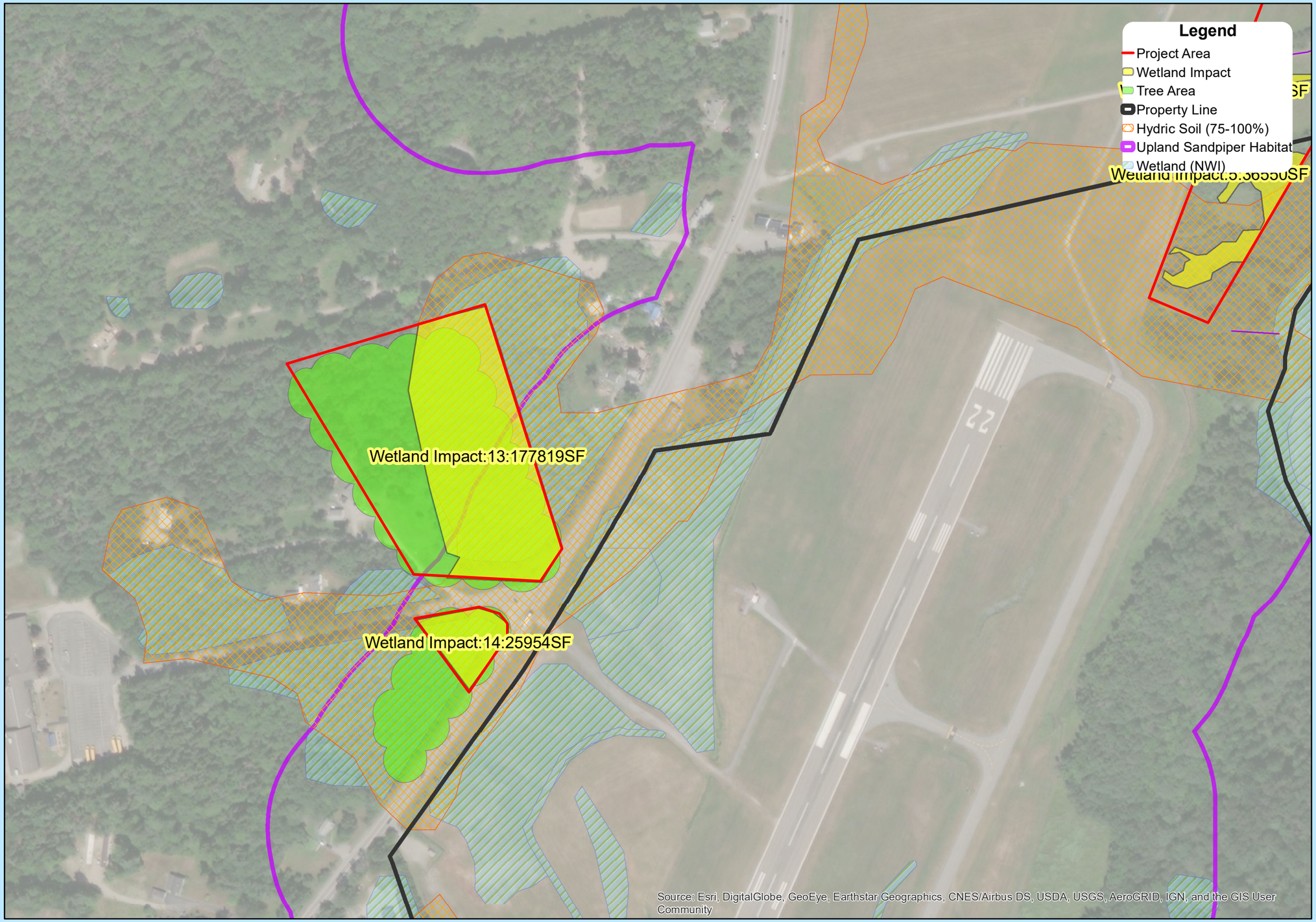
Runway 17 Work Area



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Feet

MAINE

Hancock County
Bar Harbor Airport

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020

MAP NOTES:

1: SITE DATA DEVELOPED BY CES, INC. MAPPING IS INTENDED FOR REFERENCE PURPOSES ONLY.

2: MAP IS PROJECTED USING THE UNIVERSAL TRANSVERSE MERCATOR (UTM) PROJECTION, ZONE 19 NORTH, METERS AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

CES INC
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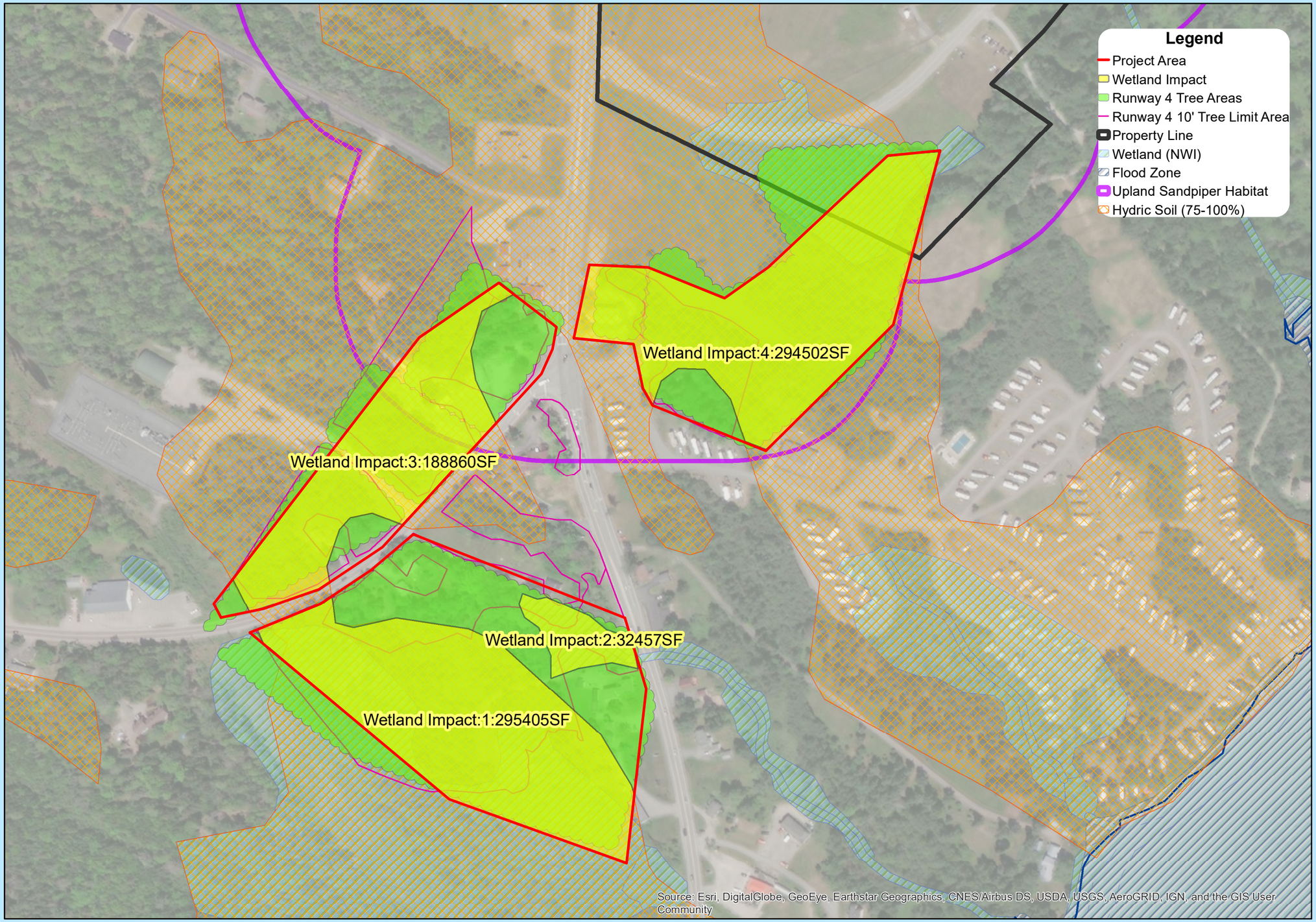
MXD: \\ces1.local\files\projects\11487-Jacobs\005-BH Airport Environmental Assessment-JES\07-GIS Data\MXD\11487.005-NR Work Area 2.mxd

Runway 4 Work Area



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MAINE

Hancock County
Bar Harbor Airport

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020

MAP NOTES:

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5: NORTH ARROW IS REFERENCED TO GRID NORTH.

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MXD: \\ces1\local\files\projects\11487-3acds\005-BH Airport Environmental Assessment-JES\07-GIS Data\MXD\11487.005-NR Work Area 1.mxd

APPENDIX C

PHOTOGRAPHS

Photo No. 1

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Existing maintained area along the runways.

Photo By: JES

Photo No. 2

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Looking south at the Jordan River, a tidal estuary located east of the Airport

Photo By: JES

Photo No. 3

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Typical forested upland located within the Project areas

Photo By: JES

Photo No. 4

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Typical intermittent stream located in the Project area

Photo By: JES

Photo No. 5

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Scrub-shrub wetland located in the Project area

Photo By: JES

Photo No. 6

Photo Date:
November 6, 2020

Site Location:
Trenton, Maine

Description:
Scrub shrub wetland located in the Project area

Photo By: JES

Appendix 3 – Agency Correspondence

1. Maine DEP – Ms. Jessica Damon
2. Hancock County – Bar Harbor Airport – Mr. Brad Madeira
3. Maine Historic Preservation Commission – Ms. Megan Rideout
4. Agency Meeting Minutes March 5, 2020

From: Homiak, Jason
Sent: Tuesday, July 12, 2016 7:56 AM
To: Bradley Madeira (bmadeira@bhbairport.com)
Subject: FW: Segmented Circle Permit.

Brad,
Please see correspondence below with the Maine DEP regarding tree clearing & trimming.

Jason Homiak | Jacobs |Project Manager |Airports|603.518.1790 | Jason.Homiak@jacobs.com | Two Executive Park Drive, Suite 205, Bedford, NH 03110 USA www.jacobs.com

-----Original Message-----
From: Damon, Jessica [mailto:Jessica.Damon@maine.gov]
Sent: Tuesday, July 12, 2016 7:42 AM
To: Homiak, Jason
Subject: RE: Segmented Circle Permit.

Jason,

1) You would need to do a site minor revision and a NRPA application. The fee would be based on the square footage of the cutting area. We would not require ILF as long as you aren't grubbing/grading these areas (since this will not impact wetlands functions/values).
2)We would prefer work is done in the winter.
3) You can certainly manage the vegetation, just let us know what has to be done and we will let you know what permits are required.
4)5) and 6) You need to talk to the CEO regarding the local shoreland zoning requirements. If you top the trees, you will still need a permit from us but it may help with the shoreland zoning requirements. There is also a shoreland zoning coordinator here at the DEP, Dawn Abbott at 356-8318.

Let me know what other question you have!
Jessica

-----Original Message-----
From: Homiak, Jason [mailto:Jason.Homiak@jacobs.com]
Sent: Monday, July 11, 2016 5:18 PM
To: Damon, Jessica
Subject: RE: Segmented Circle Permit.

Yes I do. Basically the Airport has several easements with surrounding land owners to cut/trim trees when they begin to interfere with airspace. We believe this is primarily governed by the Town of Trenton Land Use Ordinance and trees may be cut or trimmed as allowed in the Ordinance and must be coordinated with the building inspector. We would like to verify this is correct.

The tricky part is what to do when trees are along the Jordan River (shoreland protection along tidal waters) or in freshwater wetlands. This creates many questions including but not limited to:
1) What permits are required for selective cutting of trees in freshwater wetland areas? Minor Revision with ILF with permit through MEDEP and ACOE?

2) If selective tree cutting in wetlands occurs in the winter when the ground is frozen (i.e. minimal impact) how is ILF calculated?
3) What are the Airport's options for managing vegetation in freshwater wetlands?
4) Confirm the shore land protection zone along the Jordan River is 250-feet from the normal high tide mark.
5) Is there a way for the Airport to permit clearing within the tidal water shore land zone beyond the allowable "point system"? Ideally they would like to clear (cut to the ground and remove stumps) the problem areas and replant with vegetation that won't grow tall enough to become a problem. Is this a possibility? Would this be permitted with the MEDEP and ACOE?
6) What permitting process is required, if any, for topping trees in the shore land zone and/or the wetlands?

This is a lot to cover. I'm available by phone all week. Again, this discussion is for project planning purposes in the 2018-2020 timeframe.

Thanks,
-Jason

Jason Homiak | Jacobs |Project Manager |Airports|603.518.1790 | Jason.Homiak@jacobs.com | Two Executive Park Drive, Suite 205, Bedford, NH 03110 USA www.jacobs.com

-----Original Message-----
From: Damon, Jessica [mailto:Jessica.Damon@maine.gov]
Sent: Monday, July 11, 2016 2:22 PM
To: Homiak, Jason
Subject: RE: Segmented Circle Permit.

Jason,

I am sorry I was out most of Thursday and Friday. Did you still have questions on clearing trees?

Thank you,
Jessica

JACOBS

Memorandum

2 Executive Park Drive
Suite 205
Bedford, NH 03110
603.666.7181

www.jacobs.com

Subject	**EA for tree clearing and avigation easements**	**Project Name**	Hancock County - Bar Harbor Airport
Attention	Mr. Brad Madeira		
From	Heath Marsden		
Date	September 11, 2019		
Copies to	**Jason Homiak** **Files**		

Brad,

This memo has been prepared as a summary of the effort to determine the required tree clearing and associated avigation easements that should be sought to comply with FAA Advisory Circular 150/5300-13 and FAA Engineering Brief 99 (EB99) and be included in an Environmental Assessment (EA). The final recommendations on the extent of tree clearing and number of affected parcels is presented at the end of this memo.

Jacobs analyzed obstruction mapping collected through aerial photogrammetry in 2018 for the purpose of identifying tree clearing and the need for avigation easements to provide safe aeronautical access to BHB. Per FAA guidance, there are several protected airspace surfaces that are applicable to Runways 4-22 and 17 at BHB. The approach/departure path on Runway 35 is predominantly over water and thus was not included in the analysis. The analysis identified penetrations to the FAR Part 77 Approach Surfaces and FAA Engineering Brief 99 (EB99) surfaces.

It was determined through discussions with the FAA and yourself that the airport would seek avigation easements and tree clearing only for those protected airspace surfaces (operational surfaces) that may affect the placement of the runway thresholds, affect instrument approach/departure procedures and/or takeoff or landing distances. In an email dated 8/7/2019 the FAA concurred that they only require clearing of surfaces with operational impacts. If practical to accomplish, the FAA supports easement acquisitions to reference the more demanding Part 77 surface with the ability to clear 10' below it. The number of parcels that would require an easement as well as extent of tree clearing is greatly reduced by clearing only to EB99 surfaces. The extent of the EB99 surfaces are noted in the **Table 1** on the following page.

Drawings 1, 4 & 11 (attached) illustrate the extent of obstruction removal that would be required to be addressed in an Environmental Assessment (EA) prior to obtaining avigation easements and clearing off-airport airport obstructions to meet the standards of EB99. The Airport already has avigation easements on six parcels that have been identified as needing obstruction removal and they are illustrated on the attached drawings. Additionally, Jacobs obtained ground elevations for the project area and provided an

Table 1 – Approach/Departure Standards

Runway	Type App.	EB99 criteria	Dist. From Thresh	Inner Width	Outer Width	Length	Length	Slope
4	LPV 1mi	Row 4 - Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile.	200	400	3,400	10,000	0	20:1
		Row 6 - Approach end of runways expected to accommodate instrument approaches with vertical guidance.	0	RW width +200	1,520	10,000	0	30:1
22	ILS ¾ mi	Row 4 - Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile.	200	400	3,400	10,000	0	20:1
		Row 6 - Approach end of runways expected to accommodate instrument approaches with vertical guidance.	0	RW width +200	1,520	10,000	0	30:1
17	Visual	Row 2 – Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. (Visual runways only, day/night).	0	250	700	2,250	2,750	20:1

analysis where 100' was added to the ground elevation to represent maximum tree growth and then compared to the EB99 surfaces. Easement acquisition/tree clearing is suggested in any areas where there may be the potential for a tree to grow within 10' of the EB99 surfaces. The attached drawings illustrate areas where the airport has already obtained avigation easements and areas of suggested tree clearing and avigation easement acquisition.

Jacobs used the online parcel mapper from Maine Geolibrary Parcel Viewer Application to obtain owner/address information for the parcels (**Table 2** attached) requiring avigation easements. See **Figure 1**.

To advance the EA project forward, the next steps will be to:

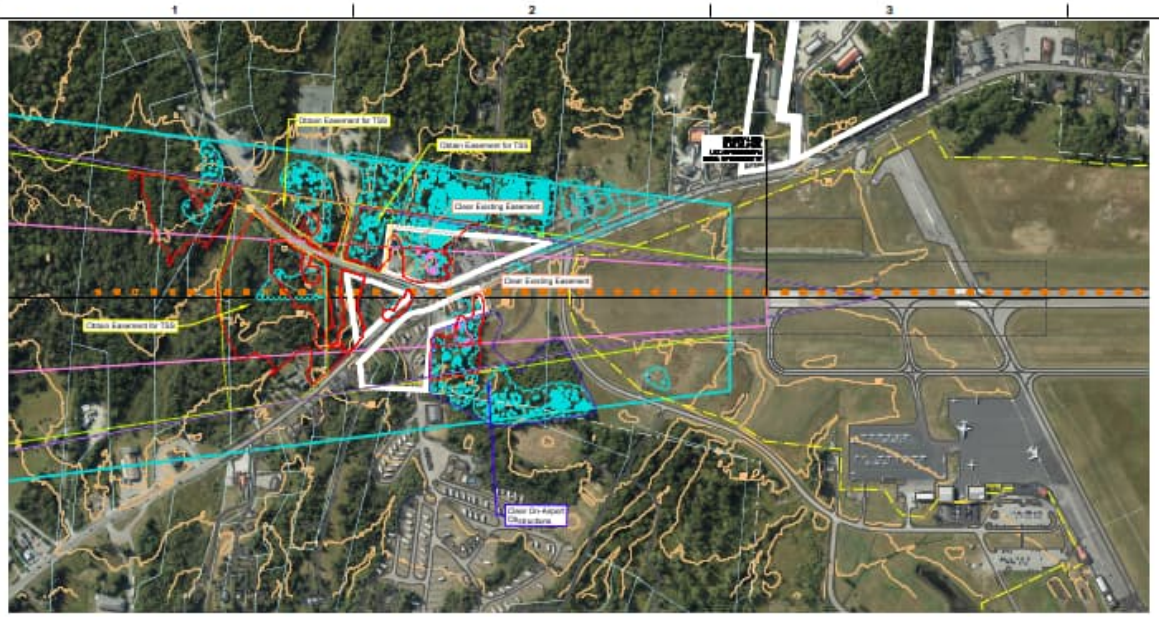
1. Contact property owners of affected parcels to setup project briefing (suggest Sept. 26th or Oct. 1st)
2. Have property owners provide written notice to allow wetland/habitat field mapping (permission forms will be provided at the property owner briefing on Sept. 26th or Oct.1st)
3. Wetland/Endangered species field work – week of Oct. 7.
4. Coordinate with Maine Environmental agencies and draft EA.

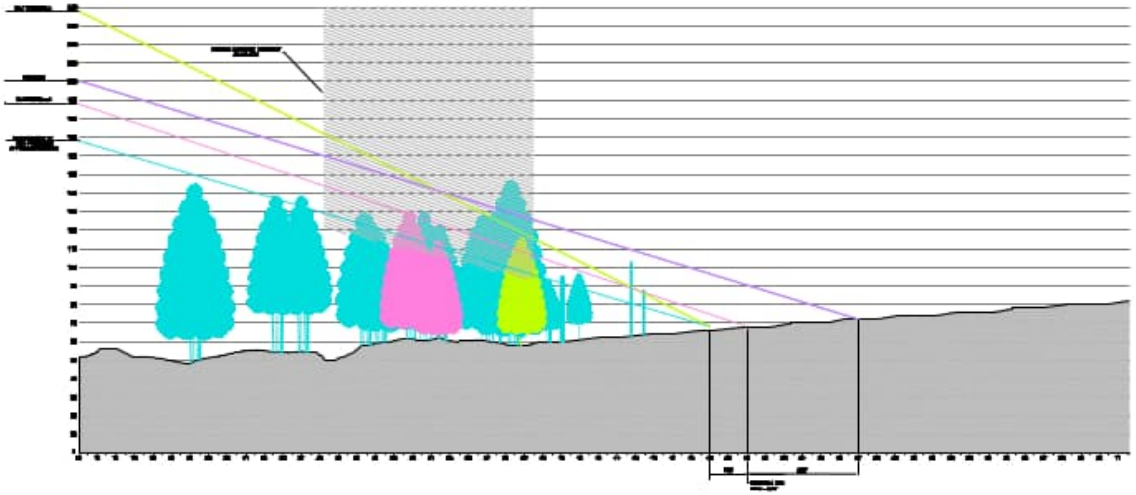
Table 2 - Property Owner Information

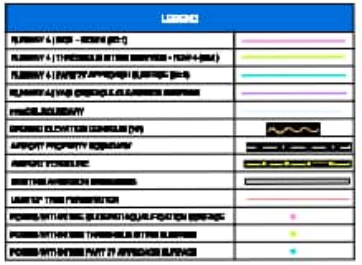
Runway End	Book and Page	First Name	Last Name	Street Number	Street	Town	State	Zip
17	020-003	Daniel E., and Amy E.	Cutshall	871	Bar Harbor Road	Trenton	ME	04605
17	019-013	Ashley	Little	14	Davis Lane	Mt Desert	ME	04660
17	020-002	Nancy D., and Michael	Madore	13	Mary Kay Lane	Trenton	ME	04605
17	019-010	Town of Trenton		59	Oak Point Rd	Trenton	ME	04605
17	019-012	William & Patricia	Howard	25	School Road	Trenton	ME	04605
17	020-001	no info available						
17	019-009	Town of Trenton		59	Oak Point Rd	Trenton	ME	04605
4	015-006	Vanessa	Brunton	2694	US Highway 1	Sullivan	ME	04664
4	011-018	Vanessa	Brunton	2694	US Highway 1	Sullivan	ME	04664
4	011-072	R.F&N.P.Gavelek Trustee		51	Old Mill Stream Rd	Sullivan	ME	04664
4	011-071	Trenton Fire Department		59	Oak Point Rd	Trenton	ME	04605
4	015-030	Hancock County		50	State Street, Suite 7	Ellsworth	ME	04605
4	011-073	MHC Narrows Too, LLC	C/O B &D Equity Property Tax Group	PO Box	6115	Chicago	IL	60606
4	015-005	Richard & Joyce	Harding	336	Douglas Highway	Lamonie	ME	04605
4	015-031	Trenton Grance Hall		1134	Bar Harbor Rd	Trenton	ME	04605
4	015-004	David	Gavelek	29	Webber Ave	Bedford	MA	01730
4	011-069-01	Bangor Hydro-electric Co.		PO Box	932	Bangor	ME	04402
4	011-020	Maine Coastal Inns Inc		1147	Bar Harbor Rd	Trenton	ME	04605
4	011-070	Gertrude	Pendley	29	Oak Point Rd	Trenton	ME	04605
4	011-019	William	Miller		Machias Savings Bank	Machias	ME	04654
4	011-021	Dorothy	Young	24	Oak Point Rd	Trenton	ME	04605
22	024-021	Elizabeth C.	Whitney	591	Douglas Highway	Lamoine	ME	04605
22	020-012	Michael and Kimberly	Hodgkins	804	Bar Harbor Road	Trenton	ME	04605
22	020-013	Acadia Aqua Farms, LLC		10	Bunchberry Road	Bar Harbor	ME	04605
22	020-016	Jeffrey L., and Linda	Hodgkins	PO Box	1571	Ellsworth	ME	04605

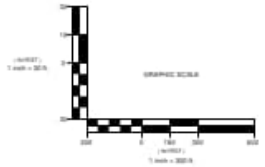

024-021
020-012
020-016
020-003
019-013
020-002
019-012
020-001
019-010
019-009
015-006
011-072
011-071
015-030
015-005
015-031
011-073
011-020
011-009-01
011-019
011-027
011-018
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 1







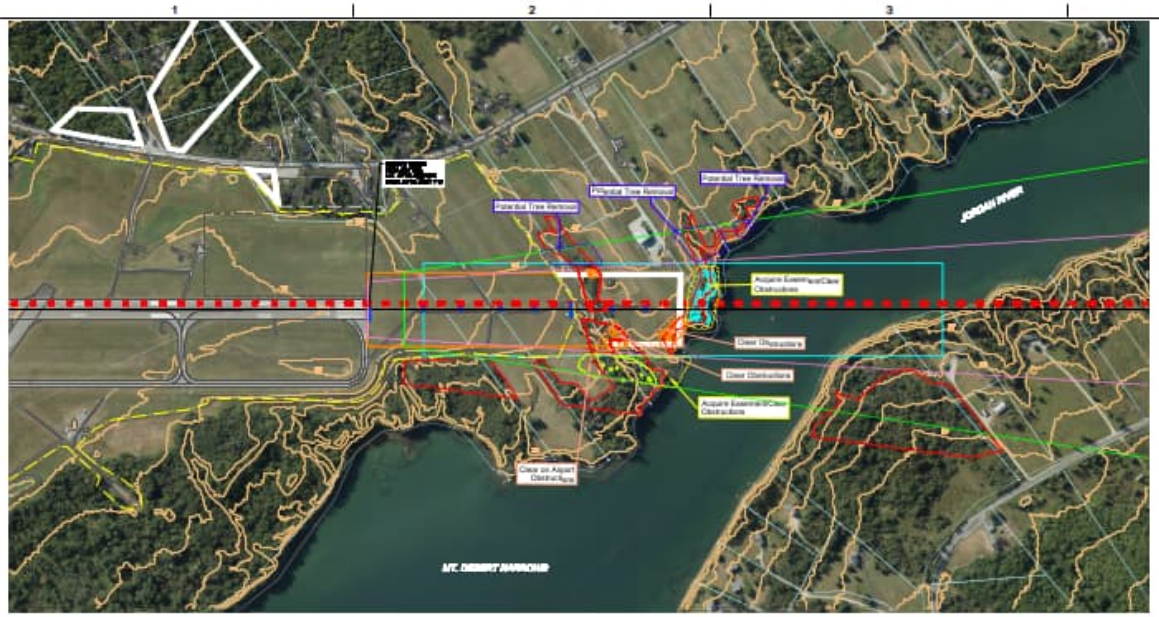


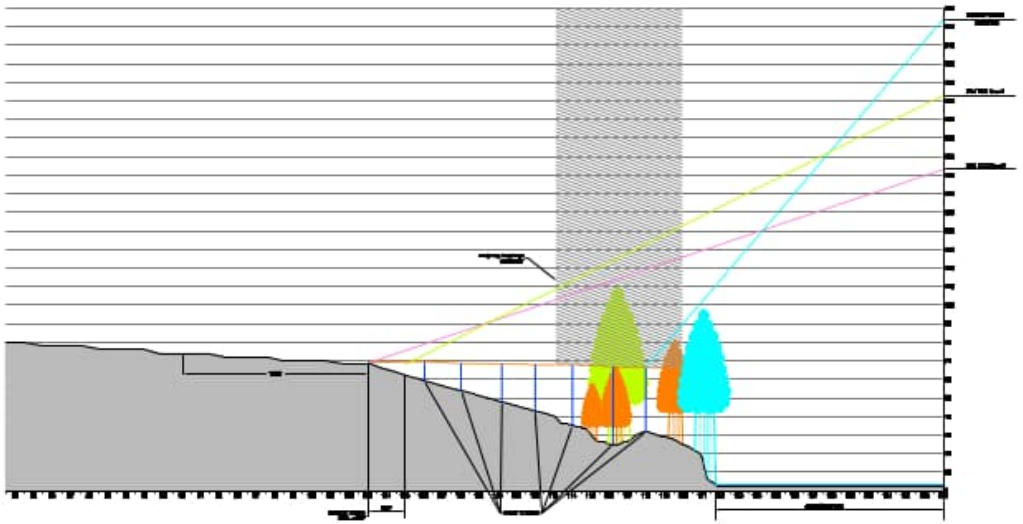
GDE, TSS, PART 77 APPROACH SURFACE, AND OCS RUNWAY 4

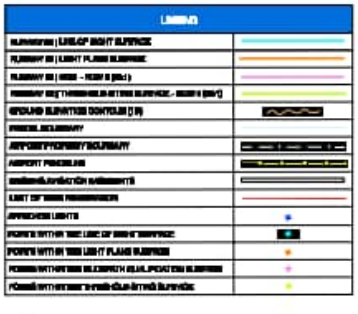
JACOBS

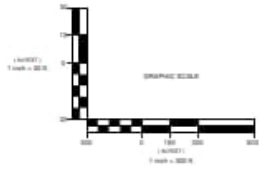
BHB Hancock County Bar Harbor Airport

Sheet reference number: 4



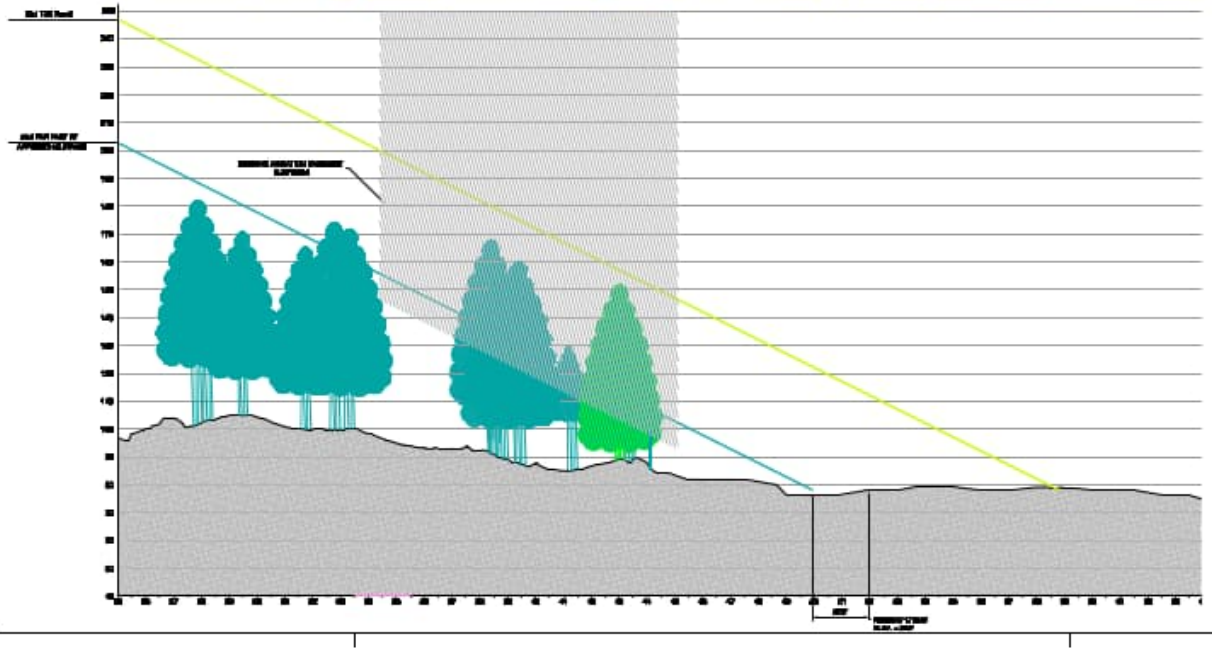


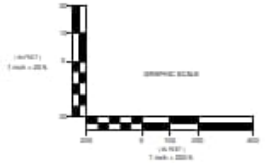


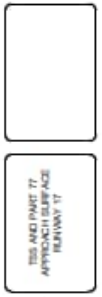


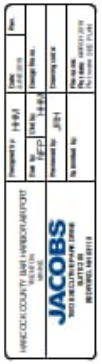
LINE OF SIGHT SURFACE, LIGHT PLANE SURFACE, GLIDEPATH QUALIFICATION SURFACE, AND THRESHOLD SITING SURFACE RUNWAY 22

Sheet reference number: 1









91

CES INC Engineers • Environmental Scientists • Surveyors

February 11, 2020

Ms. Megan Rideout
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333-0065

Re: Hancock County Bar Harbor Airport | Environmental Assessment for Proposed Obstruction Clearing Project, Trenton, Maine

Dear Ms. Rideout:

Hancock County – Bar Harbor Airport is in the design process of conducting an FAA funded Environmental Assessment for proposed tree clearing near the airport in Trenton, Maine. The project site is located at the Hancock County – Bar Harbor Airport. The Environmental Assessment will look at various environmental impacts (if any) to clearing vegetation that has been identified as obstructions to protected FAA defined airspace surfaces. These surfaces extend outward and upward from each runway end at various slopes. Please see the enclosed map for the project's location.

We are submitting this request to your office to determine if any historical sites of concern are located within the project area. Please forward your response to our office located at 465 South Main Street, P.O. Box 639, Brewer, ME 04412 or by email at jszillery@cesincusa.com.

Thank you for your assistance in this matter.

Sincerely,
CES, Inc.

Johanna Szillery, CSS
Senior Project Scientist

JES/
Enc.

Sensible Solutions | www.cesincusa.com
465 South Main Street
PO Box 639
Brewer, Maine 04412
T 207.989.4824
F 207.989.4881

JACOBS

Meeting Minutes

2 Executive Park Drive
Suite 205
Bedford, NH 03110
603.666.7181

www.jacobs.com

Subject	**Agency Meeting**		
Project	Hancock County - Bar Harbor Airport (BHB) Environmental Assessment		
Project No.	E2X75509	**File**	BHB EA Agency Meting - Mar 3 2020.docx
Prepared by	Natalie Pavelock	**Phone No.**	603.666.7181
Location	CES Inc. Office, Brewer, ME	**Date/Time**	March 5, 2020 10:00am
Participants	Richard Gray, Hancock County-Bar Harbor Airport Johanna Szillery, CES Inc. Natalie Pavelock, Jacobs Jason Homiak, Jacobs Heath Marsden, Jacobs Jessica Damon, Maine Department of Environmental Protection Patrick Dockens, US Fish and Wildlife Services Richard Doucette, FAA (via conference call) John Perry, Maine Department of Inland Fisheries and Wildlife		
Copies to	Richard Gray Files		

Notes		Action
1	Introductions Jacobs and CES held an agency meeting at the CES office on Thursday at 10:00 pm, the purpose of which was to collaborate with participating agencies regarding the Environmental Assessment (EA) study which focuses on clearing trees in order to maintain safe access to the airport.	
2	Heath Marsden led the meeting and began with a high-level overview of airspace, hazards, and project goals. Heath also explained potential impacts such as displaced threshold and increased approach minimums if trees are not cleared on the ends of Runway 4/22.	
3	Heath then detailed the clearing required for each runway end and which off-airport properties are going to be impacted. Heath asked the participating agencies to provide input about potential mitigations throughout the meeting.	

4 Johanna Szillery reviewed existing site conditions. Site visits have only been carried out on the North end of the airport (Runway 22 end) due to lack of response from landowners. Johanna was able to walk the high-water shoreline where there is a rocky ledge which drops 3'-10' into a tidal marsh. Silty fine soils with marine sediments are found and perennial streams feed into the Jordan River.

From desktop research, some wetlands are present on properties where permission to access has not yet been given from landowners. Jessica Damon and John Perry voiced their concern for Vernal Pools located on properties that CES could not access to the South. John would also like a "boots on the ground" check for Vernal Pools on the North End. Vernal Pools need to be identified prior to permitting. Jessica suggested putting together a "worst case scenario" of the percentage of Vernal Pools are present. Possibly 60% Vernal Pools, more research will need to be carried out.

It was agreed that clearing in upland areas is not a major concern. Jessica asked if we are clearing rather than grubbing on the North End. Heath responded that we would like to clear and grub on-airport property. Trees located off-airport property would be cleared. John asked what the height limit is for vegetation that can be planted. Heath explained that all of the surfaces off Runway 22 are sloped, except for the Light Plane surface with extends straight out. Anything planted under the Light Plane surface will need to be smaller, John said that may be best for the resources rather than totally grubbing. Richard Doucette added "We typically do not grub in wetlands..." and that there is plenty of room so that we can avoid grubbing. John then suggested that perhaps we just eliminate fast growing species of vegetation.

The discussion moved on to permitting, Jessica wanted to know if the project areas will be maintained (i.e. replanting, support walls). Richard Doucette said unless it is required, landscaping will not be paid for by the FAA. Jessica will need to see what trees will be cut down and if it meets zoning requirements. Jacobs will be working with local code enforcement on clearing within the shoreland zone, that contact will be Angie Chamberlain (code enforcement-points system). Any impacts to wetlands that disturbs the soil will require a permit from the ACOE. Richard Doucette said typically

the soil is not disturbed because stumps are not pulled in wetlands, therefore, we will not need a permit from ACOE. Jessica added in reference to SLODA that minor revisions to tier 3 are expected for permitting.

The discussion moved to mitigating clearing trees in wetlands, shoreline, and streams. It was determined that as much brush, alders, etc. will be left as possible along shoreline and streams. The conversation turned back to wetlands, the FAA does not want to grub in wetlands and grinding stumps was not supported by Richard Doucette. Richard stated that neither pulling or grinding of stumps is carried out in wetlands. John brought up cutting the trees and leaving the stumps to decay. Jessica chimed in by saying it depends what the zoning laws say. The idea of hand-wiping herbicide to kill stumps that may sprout again was brought up by John. Richard Doucette stated the fact that White Pine stumps will not sprout after the tree is cut.

Richard also added that he was looking at a graphic that indicates 100' of clearance, Jessica said perhaps trees that do not grow over 100' can be planted. A timeline for clearing was discussed and it was agreed that the winter would be the optimal time to clear in order to avoid potential impacts on the Upland Sandpiper, Northern Long-Eared Bat, and soil disturbance. Both US Fish and Wildlife and Maine Department of Inland Fisheries and Wildlife have minimal concerns about clearing during the winter.

The Bald Eagle nest off the end of Runway 22 was brought up by John. He believes there is a deprivation permit issued for that nest, a nesting pair was present in 2018. Heath mentioned that during the previous public meeting held in October 2019 it was stated that the Bald Eagle had moved 6,000' North out of the project site. More coordination is needed to mitigate the nest, Richard Doucette wants the tree with the nest located via an onsite visit. Patrick Dockens suggested to monitor the nest in the meantime.

5	Meeting concludes with Johanna recommending a follow-up after being out on the properties to find out what resources and impacts we are facing. Meeting ends at 11:15 am. Materials used during the meeting: Jacobs provided four (4) drawings mounted on 24" x 36" foam core boards: 1) Parcel drawing depicting all the parcels analyzed for tree removal and/or easements 2) Airport overview with operational surfaces shown 3) Airport overview of existing and proposed easements with on and off-airport obstructions 4) A board depicting the project area off each runway end CES Inc. provided a 24" x 36" Water Resources drawing.	

Appendix 4 – Public Outreach

The following items are provided in this appendix:

1. Project fact sheet
2. First letter sent to property owners
3. Public meeting sign-in sheet
4. Public meeting minutes
5. Second letter sent to property owners

Project Factsheet Oct 2019

Project Manager:
Heath Marsden
Senior Airport Planner
Jacobs

Design Consultant:
Jacobs Engineering

Design Subconsultants:
CES, Inc.

PROJECT MILESTONES

Public Meeting
Oct 10, 2019

Project Design
Fall / Winter 2019

Project Completion:
Summer 2020

Project Manager:
Heath Marsden
Senior Airport Planner
Jacobs

Design Consultant:

Hancock County – Bar Harbor Airport Environmental Assessment Project

Public Meeting:
Oct 10, 2019 at 5:30PM at the Hancock County – Bar Harbor Airport
115 Caruso Dr., Trenton, ME

Project Location: The Hancock County – Bar Harbor Airport is located at 115 Caruso Drive in Trenton, ME and is owned and operated by Hancock County.

Project Background: The Hancock County – Bar Harbor Airport is designated by the FAA as a "Non-Hub, Primary Commercial Service Airport", which accommodates a variety of different types of aviation activity. The airport provides residents of Hancock County and the surrounding area with air service by Cape Air and Silver Airways. The airport also supports operations by charter and general aviation aircraft for business and recreational use.

The airport sponsor completed an Airport Master Plan in 2011 and more recently, an obstruction study that identified vegetative obstructions to the airport's protected airspace surfaces which are required to be maintained free and clear by the Federal Aviation Administration (FAA).

Project Description: As a result of these studies, Hancock County – Bar Harbor Airport has identified the need to conduct an environmental assessment to study the environmental effects of acquiring or modifying avigation easements over properties and conducting tree clearing to provide for the long-term protection and continued safety of aircraft approaches and departures to the Hancock County – Bar Harbor Airport.

Project Status: The project is currently in the early design phase, and the project team is preparing drawings to depict the extent of easements and tree removal over each of the properties.

For technical questions regarding this project, please contact the Design Project Manager, Heath Marsden, at 603-518-1779.

For general questions or information regarding project meetings, please contact the Hancock County – Bar Harbor Airport Manager, Brad Madeira (207) 667-7329 or bmadeira@bhbairport.com

Hancock County-Bar Harbor Airport
Airport Manager's Office
115 Caruso Drive [phone] 207-667-7329
Trenton, Maine 04605
bmadeira@bhbairport.com

August 31, 2019

Property Owner Name
Property Owner Address

Re: Hancock County-Bar Harbor Airport
Environmental Assessment

Dear Property Owner:

In order to provide for safe approaches and departures to the Hancock County-Bar Harbor Airport and provide the best air transportation access to the region, it will be necessary for the County to remove certain trees on private properties in the approach path for each runway end at the Hancock County-Bar Harbor Airport. In order to remove these trees that penetrate into protected airspace, the County will need to purchase an avigation easement over your property. You will be notified of a public meeting to take place on October 20 which will provide for a formal overview of the project purpose and need to remove certain trees within the protected airspace surfaces.

We would like to set up a meeting at your convenience sometime in September to provide some basic information about the process so that you will have an idea of what the project is about, how it affects your property, and to meet the design team and airport personnel that will be involved with the project as it progresses.

Our consultant team will contract you in the near future to set up a time when we can meet with you and discuss the project and address any questions you may have.

Please call me if you have any questions at 207-667-7329.

Sincerely,

Brad Maderia,
Airport Manager

Hancock County – Bar Harbor Airport

Environmental Assessment Project
Property Owner Meeting
October 10, 2019
Sign-in Sheet

Name (please print)	Address	Email
Alex de koning	806 Bar Harbor rd	hollander.dekoning@gmail.com
Jeff & Linda Hodgkins	822 " "	lindahodgkins@roadrunner.com
Kim Bunker-Hodgkins	804 Bar Harbor Road	psauctions@myfairpoint.net
Michael Hodgkins	" " "	"
BRAD MADEIRA	BHB	bmadeira@bhbia.com
Jason Homiak	Jacobs	jhomiak@jacobs.com

JACOBS

Meeting Minutes

2 Executive Park Drive
Suite 205
Bedford, NH 03110
603.666.7181

www.jacobs.com

Subject	**Public Meeting No. 1**		
Project	Hancock County - Bar Harbor Airport (BHB) Environmental Assessment		
Project No.	E2X75509	**File**	BHB EA Public Meeting 1 - Oct 10 2019.docx
Prepared by	Heath Marsden	**Phone No.**	603.666.7181
Location	Hancock County – Bar Harbor Airport Terminal Building	**Date/Time**	October 10, 2019 / 5:30pm
Participants	Brad Madeira, Hancock County-Bar Harbor Airport Jason Homiak, Jacobs Heath Marsden, Jacobs Alex de Koning, property owner Jeff Hodgkins, property owner Linda Hodgkins, property owner Kim Bunker-Hodgkins, property owner Michael Hodgkins, property owner		
Copies to	Brad Maderia Files		

Notes		Action
1	Jacobs and BHB held a public information meeting at the BHB airport terminal building on Thursday night at 5:30pm, the purpose of which was to inform affected property owners of the Environmental Assessment (EA) study to clear trees in order to maintain safe access to the airport.	
2	Letters were sent to 25 property owners on September 18, 2019 to inform them of the public meeting on October 10th. The letter is included at the back of these meeting notes.	
3	The meeting was attended by several residents, all of which have property off the approach end of Runway 22. No residents affected under the Runway 4 or 17 approach attended the meeting.	
4	Heath Marsden explained that the purpose of this project was to look at potential environmental impacts, if any, of proposed tree clearing for properties that have	

Notes	Action
been identified as having vegetative obstructions to various protected airspace surfaces. Jacobs provided three (3) drawings mounted on 24" x 36" foam core boards. There was one drawing for each runway end that depicted the applicable protected airspace surfaces per FAA Engineering Brief 99 and FAA Advisory Circular 150/5300-13A. Heath discussed the various protected airspace surfaces shown on the drawings. He went over the dimensions, slopes and consequences of impacts to each surface. Heath said that a packet has been provided to each person in attendance that has a copy of the drawings showing the proposed areas of tree clearing, airspace surfaces and GIS parcel boundaries. In addition, there is a project factsheet and property access request letter included. Mr. Michael Hodgkins stated that there is erosion on the properties on the bank of the Jordan River. He expressed concern that cutting the trees along the shoreline would make this worse. Jason Homiak stated that the shoreland zone is protected and any cutting along the shore would likely require restabilization. This action would be looked at in the EA and require further coordination with state and local authorities. Mr. Jeff Hodgkins asked if someone from the FAA could or should be at these meetings. It was explained that they could be invited to future meetings. He said that he would like to hear from the agency that is promulgating these regulations and studies. Mrs. Linda Hodgkins asked…What are the future plans for the Airport? Are there plans to expand? The Hodgkins expressed concerns that this project is not the end, and that future projects could have additional impacts on their property. They read and are aware of the runway extension depicted in the 2012 masterplan update. Mr. Jeff Hodgkins asked what is new (i.e. new FAA surfaces), or what has changed, that now requires an additional easement and tree clearing on their land. Jason Homiak stated that it is possible that tree growth	

Notes	Action
into the protected surfaces is a major factor. Jason stated that FAA staff has identified several trees that have grown into the light plane/ line of sight for the approach lights for which there is an existing easement to protect. Mr. Alex de Koning asked what the actual above ground height of any future requested avigation easement might be over his property. It was explained that those heights would be determined as part of a separate avigation easement acquisition project and that this project seeks only to determine potential environmental impacts caused by the proposed action and to analyze various alternatives to minimize those impacts. He also asked if the zero-line shown on the drawings was mean high water. Heath answered that it was mean sea level and was not sure about mean high water. The meeting ended at 6:30pm.	

REQUEST FOR TEMPORARY ACCESS TO PROPERTY

The Hancock County – Bar Harbor Airport (BHB) respectfully requests permission for BHB staff, consultants, and/or other authorized representatives to have temporary access to the exterior of your property during the week of November 4th or November 11th for the purposes of conducting a field study to observe the environmental conditions on and within the vicinity of the Hancock County – Bar Harbor Airport as part of an ongoing Environmental Assessment project.

An informational meeting was held on Oct. 10, 2019 at the BHB terminal building to provide an overview of the Environmental Assessment project. Meeting minutes are included with this letter.

The Federal Aviation Administration (FAA) classifies the Hancock County – Bar Harbor Airport as a Non-Hub, Primary Commercial Service Airport that provides all the services and facilities of a local airport while providing more advanced accommodations for a greater variety of aviation users, including commercial air service and corporate business. Safety is of priority concern for the Airport, Hancock County, and the Federal Aviation Administration. Such parties have all been stakeholders to a variety of studies to ensure the safe operating conditions for users and neighbors of BHB.

As a result of these studies, BHB and its consultants have identified several safety and facility improvements to protect Airport Approach Surfaces that are critical to the safe operation of aircraft at BHB. Airport surfaces are established for each runway at an airport with the size of each surface categorized by the approach available or planned for each end of a runway. In addition to these runway specific surfaces, general horizontal and conical shaped surfaces exist directly above an airport and its approaches. The purpose of these is to limit or prevent obstructions that may encroach or penetrate these protected surfaces and preserve airspace that is vital to the safe operation of airport users in the area. BHB seeks to protect these airport surfaces to meet the safety goals and criteria recommended by the Federal Aviation Administration.

This project is currently in an early design phase, and the project team is completing National Environmental Policy Act (NEPA) documentation to determine if any sensitive environmental areas or potential critical wildlife habitat exists near the Hancock County – Bar Harbor Airport. With this letter, BHB and its partners request temporary access to conduct an observation of these environmental conditions on your property.

PLEASE REVIEW THIS REQUEST FOR TEMPORARY ACCESS TO YOUR PROPERTY DURING THE WEEKS BEGINNING NOVEMBER 4, 2019 & NOVEMBER 11, 2019. PLEASE PROVIDE A SIGNATURE ON THE FOLLOWING PAGE TO ALLOW ACCESS TO YOUR PROPERTY AND RETURN IN THE SELF-ADDRESSED STAMPED ENVELOPE.

Your cooperation in assisting with this environmental study at Hancock County – Bar Harbor Airport is greatly appreciated. If you have any questions, please do not hesitate to contact me at the number listed below.

Sincerely,

Heath Marsden, Senior Airport Planner
Jacobs Engineering Group
(603) 518-1779
Two Executive Park Drive
Suite 205
Bedford, NH 03110
Heath.Marsden@jacobs.com

The Hancock County – Bar Harbor Airport (BHB) respectfully requests permission for BHB staff, consultants, and/or other authorized representatives to have temporary access to the exterior of your property during the week of November 4th or November 11th for the purposes of conducting a field study to observe the environmental conditions on and within the vicinity of the Hancock County – Bar Harbor Airport as part of an ongoing Environmental Assessment project.

If you agree with the parties listed above having temporary access to your property during weeks of November 4th or November 11th for the purposes of conducting a field survey to determine the presence of wetlands and/or Rare, Threatened or Endangered Species, as part of an Federal Aviation Administration (FAA) Environmental Assessment (EA) study, please sign below and return in the self-addressed stamped envelope or provide a written email to Heath.Marsden@jacobs.com stating your approval to access the exterior of your property as noted above.

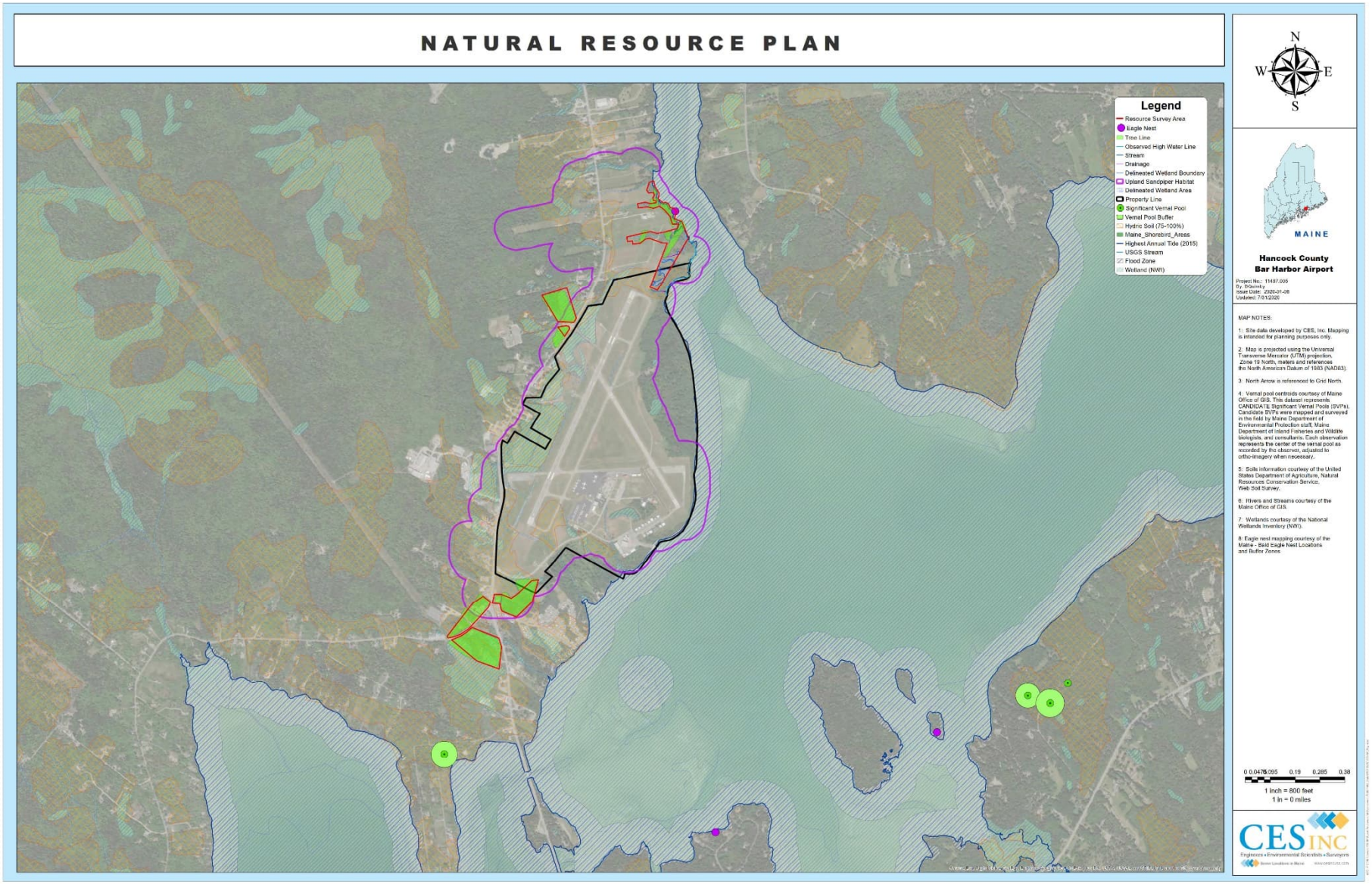
Your Name: _____

Agreed and accepted this _____, 2019.

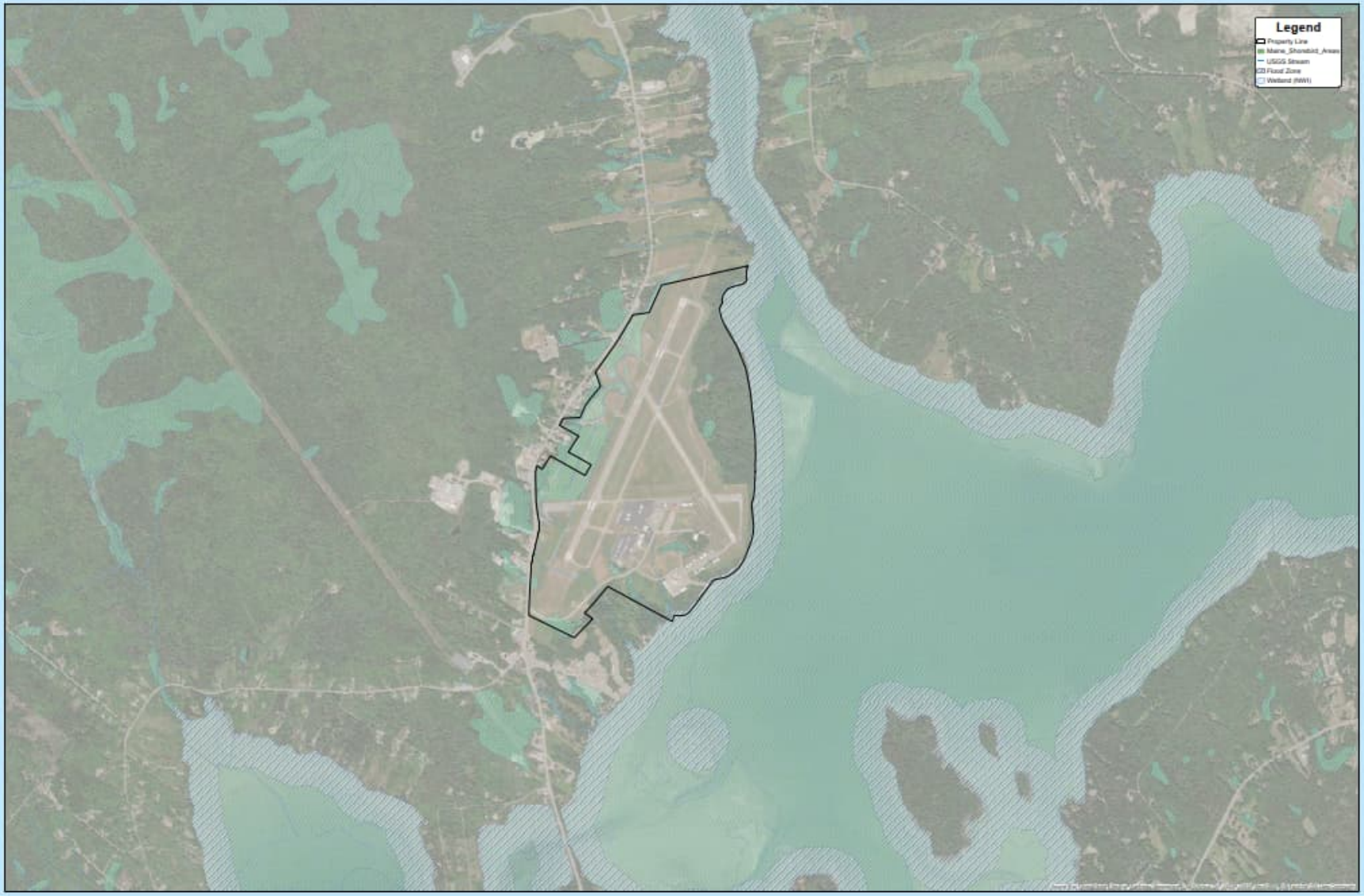
Appendix 5 – Field Survey of Environmental Conditions

1. Overall Natural Resources Plan
2. Overall Water Resources Plan
3. Work Area 1 – Runway 4
4. Work Area 2 – Runway 17
5. Work Area 3 – Runway 22

NATURAL RESOURCE PLAN



WATER RESOURCES PLAN



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BAR HARBOR AIRPORT
BAR HARBOR, MAINE

MAP NOTES:

1. Site data developed by CES, Inc. Mapping is intended for planning purposes only.

2. Map is projected using the Universal Transverse Mercator (UTM) projection, Zone 19 North, meters and referenced the North American Datum of 1983 (NAD83).

3. North Arrow is referenced to Grid North.

4. Vernal pool centroids courtesy of Maine Office of GIS. This dataset represents CANDIDATE Significant Vernal Pools (SVPs). Candidate SVPs were mapped and surveyed in the field by Maine Department of Environmental Protection staff, Maine Department of Inland Fisheries and Wildlife biologists, and consultants. Each observation represents the center of the vernal pool as recorded by the observer, adjusted to ortho imagery when necessary.

5. Soils information courtesy of the United States Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey.

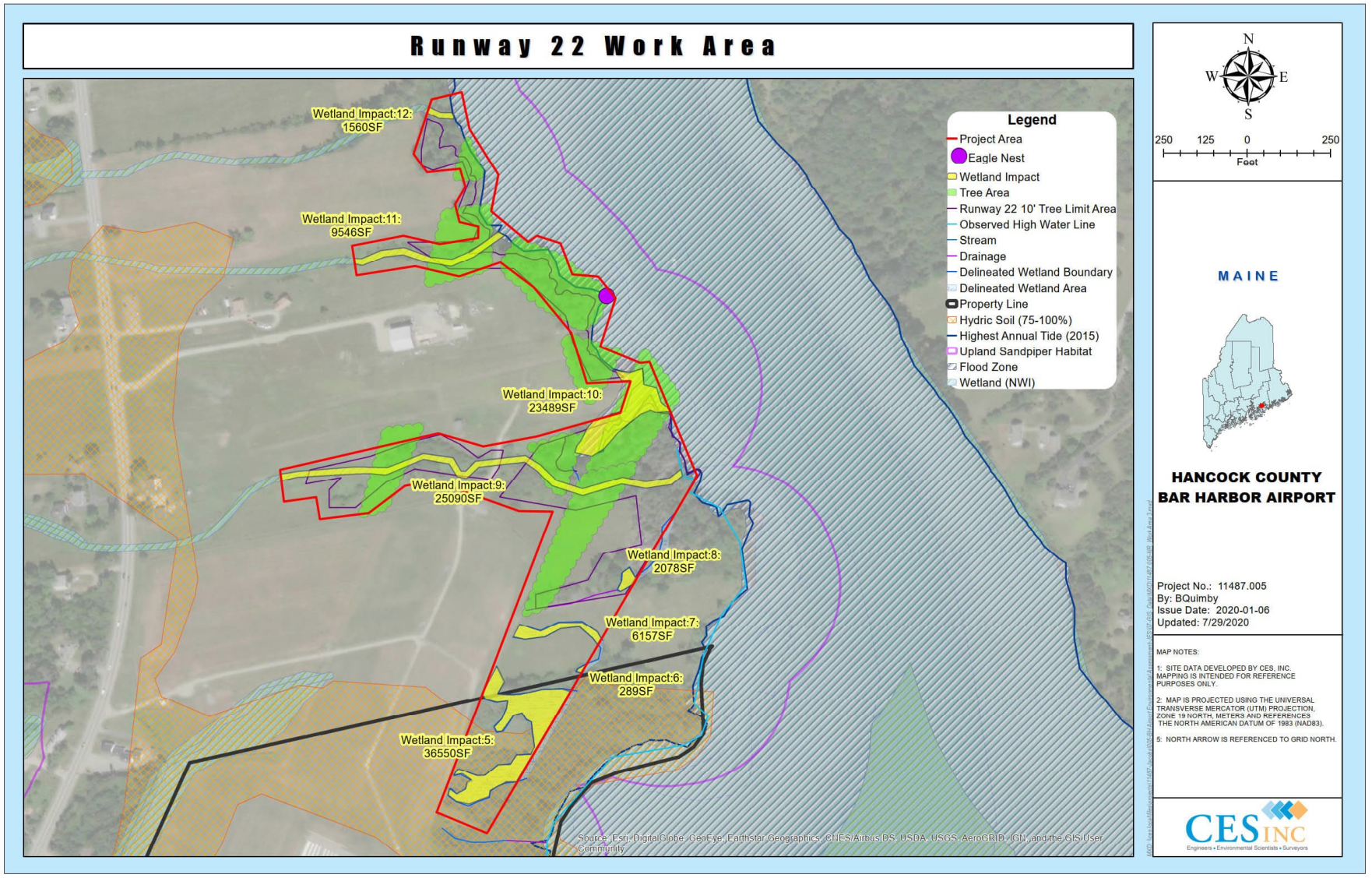
6. Rivers and Streams courtesy of the Maine Office of GIS.

7. Wetlands courtesy of the National Wetlands Inventory (NWI).

0 37.5 75 150 225 300

1 inch = 883.241 feet
1 in = 125 miles

CES INC
Engineers • Environmental Scientists • Surveyors


Runway 22 Work Area
Wetland Impact:12: 1560SF
Wetland Impact:11: 9546SF
Wetland Impact:10: 23489SF
Wetland Impact:9: 25090SF
Wetland Impact:8: 2078SF
Wetland Impact:7: 6157SF
Wetland Impact:6: 289SF
Wetland Impact:5: 36550SF
Legend
Project Area
Eagle Nest
Wetland Impact
Tree Area
Runway 22 10' Tree Limit Area
Observed High Water Line
Stream
Drainage
Delineated Wetland Boundary
Delineated Wetland Area
Property Line
Hydric Soil (75-100%)
Highest Annual Tide (2015)
Upland Sandpiper Habitat
Flood Zone
Wetland (NWI)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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HANCOCK COUNTY
BAR HARBOR AIRPORT
Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020
MAP NOTES:
1: SITE DATA DEVELOPED BY CES, INC. MAPPING IS INTENDED FOR REFERENCE PURPOSES ONLY.
2: MAP IS PROJECTED USING THE UNIVERSAL TRANSVERSE MERCATOR (UTM) PROJECTION, ZONE 19 NORTH, METERS AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).
5: NORTH ARROW IS REFERENCED TO GRID NORTH.
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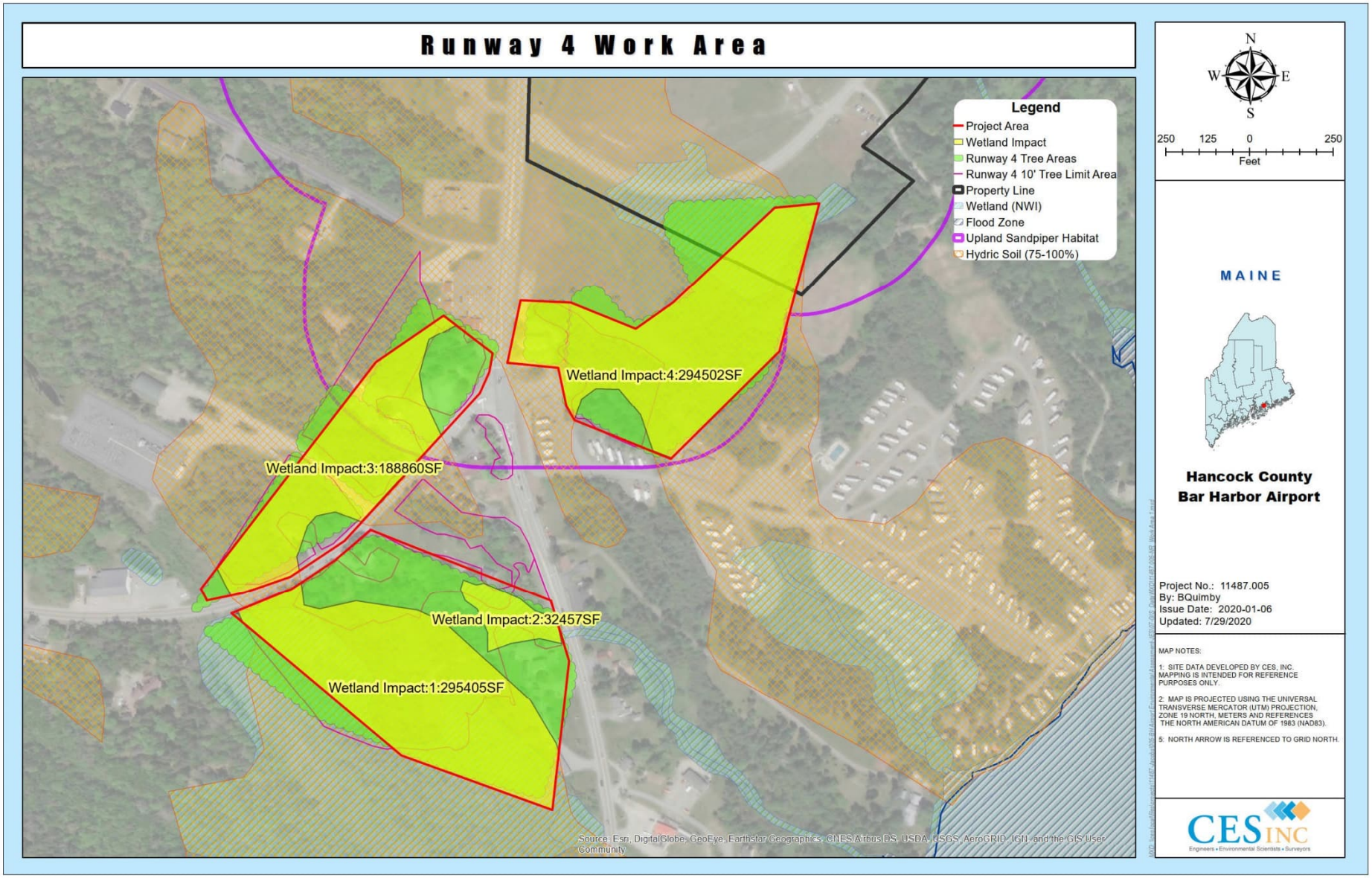
Runway 4 Work Area
Legend
Project Area
Wetland Impact
Runway 4 Tree Areas
Runway 4 10' Tree Limit Area
Property Line
Wetland (NWI)
Flood Zone
Upland Sandpiper Habitat
Hydric Soil (75-100%)
Wetland Impact:4:294502SF
Wetland Impact:3:188860SF
Wetland Impact:2:32457SF
Wetland Impact:1:295405SF
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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5: NORTH ARROW IS REFERENCED TO GRID NORTH.
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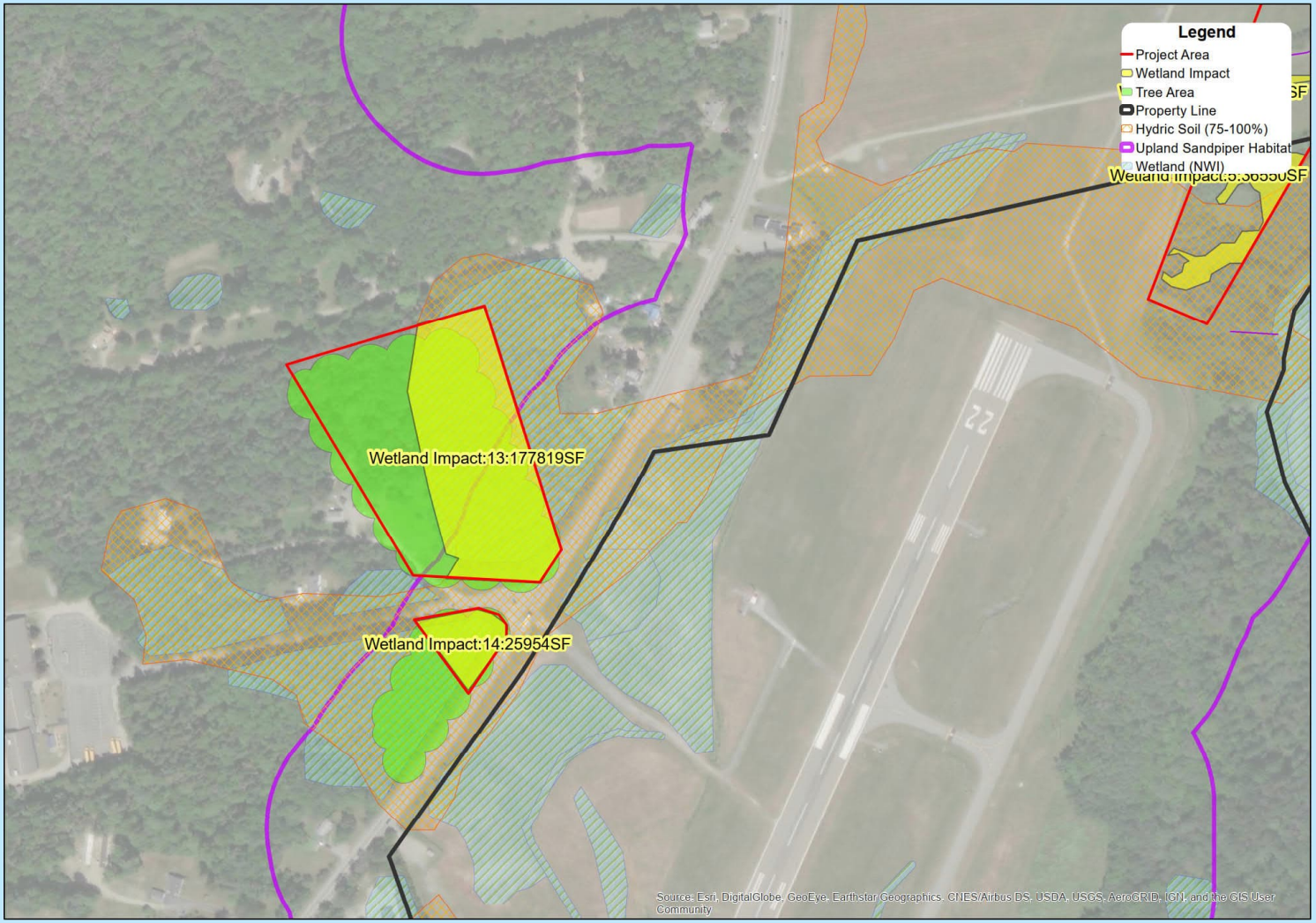
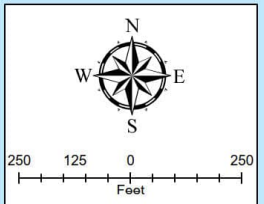
Runway 17 Work Area





MAINE

Hancock County
Bar Harbor Airport

Project No.: 11487.005
By: BQuimby
Issue Date: 2020-01-06
Updated: 7/29/2020

MAP NOTES:

1: SITE DATA DEVELOPED BY CES, INC. MAPPING IS INTENDED FOR REFERENCE PURPOSES ONLY.

2: MAP IS PROJECTED USING THE UNIVERSAL TRANSVERSE MERCATOR (UTM) PROJECTION, ZONE 19 NORTH, METERS AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

5: NORTH ARROW IS REFERENCED TO GRID NORTH.

CES INC
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Appendix 6 – Aviation Glossary

Glossary of Terms

Airport Master Plan Update (AMPU) – A long-range business plan normally updated every 20 years for those Airports in the NPIAS that outlines existing as well as future Airport development.

Airport Reference Code (ARC) – designation used by the FAA to specify a range of planning criteria when planning Airport facilities such as runways, taxiways, aircraft parking aprons, etc. It is comprised of a letter and number designation. The letter represents the approach category, which is based on an aircrafts' approach speed. The number designation represents the aircraft wingspan.

Airside – used generically to include runways, taxiways, navigational aids, aircraft parking aprons, tie-downs, hangars and fuel farms within the Airport environment.

Approach Light Systems (ALS) – Provide a way for pilots to identify the Airport runway environment by using various lighting configurations. Approach light systems may be precision or non-precision and may be in any one of a number of configurations.

Automated Surface Observing System, or ASOS – as defined by the Federal Aviation Administration (FAA) and the National Weather Service (NWS), is a suite of weather sensors which measure, collect and disseminate weather data to help meteorologists, pilots and flight dispatchers prepare and monitor weather forecasts, plan flight routes, and provide necessary information for correct takeoffs and landings. ASOS systems are a joint program between the FAA, NWS, and Department of Defense (DOD) to provide a primary network of surface observing weather stations.

Automated Weather Observation Station (AWOS) – A type of weather reporting station used by Airports to convey weather information to pilots. The most basic AWOS broadcasts current local altimeter via landline, VHF radio or navigational aids. More sophisticated stations can convey additional information such as wind speed and direction, temperature, dew point and density altitude.

Controlled Airspace – That airspace within the National Airspace System (NAS) that pilots must communicate with Air Traffic Control (ATC) and where ATC provides navigational and aircraft separation services to ensure the safety of flight within the NAS.

Critical Design Airplane – Category and class of airplane (as related to ARC) that utilizes the Airport on a regular basis (500 or more operations per year).

Declared Distance – represents the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements for turbine powered aircraft.

Displaced Threshold – A displaced threshold is a threshold located at a point on the runway other than the designated beginning of the runway. Displacement of the threshold reduces the length of runway available for landings. The portion of runway behind a displaced threshold is available for takeoffs in either direction and landings from the opposite direction.

Federal Aviation Administration (FAA) – Government agency responsible for the regulation and oversight of the National Airspace System and pilot and aircraft certification.

Federal Aviation Regulation (FAR) Part 77 – This is the regulation that establishes standards for determining obstructions (i.e. trees, towers, buildings) on and around the Airport. The regulation defines imaginary Airport surfaces that should be cleared within certain heights and maintained to those heights to keep a clear approach path to the runway end.

Fixed Base Operator (FBO) – the term for aviation related businesses on the Airport. Typically, these include aircraft engine repair, painting, avionics installation, fuel sales, flight training etc.

Glide Slope Antenna (GSA) – Provides vertical guidance to a specific runway end. When used with a localizer, it provides the lowest landing minimums of any other navigation aid.

Global Positioning System (GPS) – The GPS utilizes satellite coverage to aid pilots in navigation. Currently, GPS is approved for use in non-precision instrument approaches and it is expected that in the near future, GPS will be able to be used for precision approaches.

Instrument Approach – Any approach to land at an Airport while operating in IMC or under and IFR flight plan.

Instrument Flight Rules (IFR) – This set of flight rules applies when weather minimums fall below those specified under VFR (generally when visibility falls below 1 statute mile and cloud height below 1,000'). Pilots operating under IFR must be certified and maintain a certain level of proficiency to operate safely and within the law.

Instrument Landing System (ILS) – The ILS is a two-part system (glide slope and localizer) providing precision approach guidance to a specific runway end when both the glide slope and localizer are used together. Currently, it is the only approach aid that allows descent below 200' above the Airport surface. The localizer may be used as a sole source for a non-precision instrument approach.

Instrument Meteorological Conditions (IMC) – Used to describe the set of weather minima that constitutes flight under Instrument Flight Rules (IFR).

Landside – generally this term describes Airport access roads, automobile parking areas and the Airport terminal/administration building.

Localizer – One of two parts to an Instrument Landing System (ILS). The localizer provides lateral guidance to the runway and is considered a non-precision approach. When used in conjunction with a glide slope the approach procedure becomes a precision approach.

Medium Approach Light System (MALS-F) – An approach light system with sequenced flashing lights at the runway end that provide a means for the pilot to transition from instrument flight to visual flight.

Non-Directional Beacon (NDB) – Navigation aid that emits a low or medium frequency that a properly equipped aircraft and trained pilot can track and navigate by. When used as part of an instrument approach procedure, the NDB provides a non-precision approach to the Airport.

Non-Precision Approach – An instrument approach procedure that provides only lateral guidance to the runway end.

NPIAS (National Plan of Integrated Airport System) – 10-year plan for Airports as they relate to the entire national system of Airport which is prepared and updated on a biennial basis by the FAA. The plan summarizes development plans for public-use Airports that are eligible for Federal funding.

Precision Approach – An instrument approach procedure that provides lateral and vertical guidance to the runway end.

Precision Approach Path Indicator (PAPI) – Uses light units similar to the VASI but are installed in a single row of either two to four lights.

Runway End Identifier Lights (REILs) – Provides identification of the runway end by using a pair of synchronized flashing lights at the approach end of a runway.

Runway Safety Area (RSA) – A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway. The RSA enhances the safety of aircraft which undershoot, overrun, or veer off the runway, and it provides greater accessibility for firefighting and rescue equipment during such incidents. The RSA must be capable under normal (dry) conditions of supporting

aircraft without causing structural damage to the aircraft or injury to their occupants. The RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations. The RSA must be free of objects, except for objects that need to be located in the RSA because of their function.

Runway Protection Zone (RPZ) - An area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground.

Snow Removal Equipment (SRE) – equipment used for the removal of snow from Airport surfaces. Typically, this includes a pick-up truck with snowplow and loader with attachments.

Threshold - The beginning of that portion of the runway available for landing. In some instances, the threshold may be displaced. "Threshold" always refers to landing, not the start of takeoff.

Uncontrolled Airspace – All airspace that does not fall under the jurisdiction of ATC and does not have a communication requirement for pilots to communicate with ATC prior to entering and operating within.

Very High Frequency Omni-directional Range (VOR) – An upgrade to the NDB, the VOR emits a signal that can be tracked to and from the station from a properly equipped aircraft. When used as part of an instrument approach procedure, the VOR provides a non-precision approach to the Airport.

Visual Approach – Type of approach to land at an Airport while operating under IFR flight when conditions in the vicinity of the Airport allow the pilot to see the Airport visually. Weather at the Airport must be reported as having a cloud ceiling greater than 1,000' and visibility greater than 3 miles.

Visual Approach Aides – Type of ground equipment that allows the pilot to visually acquire the Airport such as a rotating beacon or runway end identifier lights.

Visual Approach Slope Indicator (VASI) – Airport facility that provides visual vertical guidance to landing aircraft by projecting red and white colored lights at a set slope from a specific runway end. The colors alternate patterns depending on the height of the aircraft above or below the projected slope of the VASI light projection.

Visual Flight Rules (VFR) – These are the rules of the sky for those pilots flying in good weather. Depending on the type of airspace (controlled or uncontrolled) generally good weather means visibility greater than 1 mile and clear of clouds during the day and 3 miles, clear of clouds at night.

Visual Meteorological Conditions (VMC)– Used to describe the set of weather minima that constitutes flight under Visual Flight Rules (VFR).

Visibility Minimums – Indicate the minimum forward distance (in statute miles) from the cockpit that a pilot must be able to see.

Appendix 7 – Finding of No Significant Impact

FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT

Obtain Avigation Easements and Conduct Obstruction Removal
Hancock County-Bar Harbor Airport, Bar Harbor, Maine

The proposed project involves removal of trees in the runway approaches at Hancock County-Bar Harbor Airport. Chapter 2 of the EA described the need for the project, and Chapter 3 describes the proposed action in detail.

Proposed Action

On-airport vegetation will be removed from within the Part 77 Approach and Transitional protected airspace surfaces. Off-airport easement acquisition and obstruction clearing will be sought within the Engineering Brief 99 surfaces. The majority of the penetrations are vegetative or terrain rather than manmade.

Alternatives Considered

Chapter 4 of the EA describes in detail the alternatives considered. Three Tree Clearing alternatives were considered: No Build, Clear Part 77, and Clear Engineering Brief 99 Surfaces. The No Build alternative would allow obstructions within the Airport's operational surfaces to remain. This alternative would result in significant impacts to the length of the runway due to the need to relocate the runway thresholds and thereby reducing the runway length available for landing. When it is not possible to remove or mitigate all penetrations within the FAR Part 77 Approach surface, FAA allows Airport sponsors to apply criteria known as Threshold Siting Surface (Engineering Brief 99). If there are penetrations to this protected surface, then the location of the runway threshold must move further down the runway until all obstacles are below the surface.

Assessment

Minimal wetland impacts are anticipated. Tree clearing will be conducted using best management practices. An active bald eagle nest may need to be relocated.

The project was evaluated in an Environmental Assessment. The report was accepted as a Federal document by the FAA on March 17, 2022.

Mitigation Measures

No significant impacts were identified by this action. Wetland impacts will be mitigated through the local permitting process and the use of best management practices. The bald eagle nest may be removed or relocated through coordination with the Eagle Coordinator for the USFWS Division of Migratory Birds via an application to remove the nest and tree.

Finding of No Significant Impact

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

APPROVED:

March 17, 2022

Richard Doucette
Environmental Program Manager
Airports Division, FAA New England Region

Date

Appendix 8 – Phase 1 Archaeological Study

1356 Washington St, Suite A
Bath, ME 04530

Results of Phase I Archaeological Investigations of Hancock County, Bar Harbor Airport Obstruction Clearing Project (MHPC# 1234-20)

To:	Dr. Arthur Spiess, Chief Historic Preservationist, Prehistoric Archaeology, Maine Historic Preservation Commission (MHPC), Augusta, ME
From:	Karen E. Mack, Principal Investigator, TRC Bath, ME
Subject:	Hancock County, Bar Harbor Airport Obstruction Clearing Project, Trenton, Hancock County, ME (MHPC# 1234-20)
Date:	June 01, 2021
Project No.:	438029.0000.0000

Project Description

This memo report provides the result of Phase IB archaeological testing for the Hancock County, Bar Harbor Airport Obstruction Clearing Project located at the Hancock County, Bar Harbor Airport located in the Town of Trenton, Hancock County, Maine. The Project focuses on tree clearing in the northeastern-most section of the airport within 100 yards (91 meters) of the shore of the Jordan River. The 100 yards line is indicated in red on Figure 1 and the areas of tree clearing are indicated by the black outlined polygons in Figure 1 and yellow outlined polygons in Figure 2.

Environmental Setting

The Project includes three areas of proposed clearing along approximately 1,093 yards (1,000 meters) of wooded shoreline along the western shore of the Jordan River (Figure 2). The clearing areas vary in size and shape and are considered the Project area of potential effect or APE. Some areas are vegetated with mature pine and spruce with little understory, while other areas are densely vegetated with honeysuckle and other shrubs (Figures 3 and 4). These areas include both level landforms overlooking the shoreline and steep slopes leading down to the shore (Figures 5 and 6). Soils in the Project area are mapped by the Natural Resource Conservation Service (NRCS) as Buxton silt loam 8 – 15% slopes, Lamoine silt loam 3 – 8 % slopes, and Scantic silt loam 0 – 3% slopes. All these soil units are derived from fine glaciomarine deposits (http://websoilsurvey.sc.egov.usda.gov) (Figure 7).

Previous Archaeological Investigations

Two previously identified archaeological sites (Site 43.20 and Site 43.21) are located along the shoreline adjacent to the Project APE. The MHPC Archaeological Site Survey Records for these sites define them as shell midden sites that were recorded in July of 1973. There is no information on artifacts that were found at either of the sites. During walkover survey of the Project APE TRC identified and recorded the location of each site based on exposed shell midden deposits visible from the shoreline (Figures 8 and 9). No artifacts were found on the surface associated with the eroding shell deposits. Figure 2 shows location of each site. Site 43.20 is located at UTM East 19/551370 UTM North 19/4923041 (NAD83). Site 43.21 is located at UTM East 19/551321 UTM North 19/4922903 (NAD83).

A third archaeological site (Site 43.96) is documented approximately 2,317 yards (2,124 meters) south of Site 43.21 on the west shore of the river. Approximately 275 yards (251 meters) south of the airport's seaplane ramp. This site was identified as a shell midden site in 1988, no other information is provided on the MHPC Archaeological Site Survey Record. The site location is provided as UTM East 19/550880 UTM North 19/4920830 (NAD83). TRC archaeologists did not attempt to locate this site.

Methodology

A Phase I investigation was conducted from May 5 – 7, 2021 in accordance with Maine State archaeology laws, rules and regulations and MHPC guidelines. The fieldwork was completed by Abbie Young, Archaeological Field Director and Samantha Dunning, Archaeologist. A Phase I scope of work with a preliminary shovel test hole layout plan was submitted to MHPC for approval on April 14, 2021 and was accepted by Dr. Spiess via email on April 14, 2021. The scope of work proposed excavation of up to 65 (50 cm x 50 cm) shovel test holes to identify any archaeological site materials located within the proposed clearing areas. During fieldwork, the test holes were placed on a maximum of 10 m intervals within the clearing areas, where steep slopes or wetlands did not preclude excavation. Consistent with standard methods for excavation and data recovery approved by the MHPC, all material removed from test holes were screened through 6.4 mm hardware cloth. No cultural material was found on the surface or within test holes. A record including a description and profile of soils encountered was completed for each test hole excavated. All records were checked for accuracy and consistency in the field by the field director and a copy of the records is provided in Appendix I following the report figures. Photographs of excavation conditions, environmental setting, and stratigraphy were collected. Detailed site maps were created using spatial data collected in the field with a tablet and Geode antenna (Figures 2, 10, 19 and 24).

Results of Fieldwork

TRC divided the Project APE into three areas for ease of reporting (Figure 2). A total of 43 shovel test holes were excavated along 10 linear transects (TRs) within the three areas (Figure 2). The test holes were excavated to an average depth of 41.2 cm below surface. The test holes exhibited typical stratigraphic sections composed of an A soil horizon of gray-brown silt clay 0 - 20 cm bs, underlain by a C horizon of olive gray clay. A B soil horizon was present in 12 of the test holes, it consisted of light reddish brown silt clay and was approximately 12 cm thick and underlain by the olive gray C soil horizon. No cultural material was found in the 43 test holes excavated or on the ground surface within the Project APE.

Area 1 is in the northern most section of the Project and includes five transects located along the bank edge overlooking the Jordan River (Figure 10). The northern portion of Area 1 was not tested due to steep slopes and modern trash heaps (Figures 11 and 12). Transect 1 located along a flat wooded area runs north-south and contains five test holes (Figure 13). Transect 2 is located south of Transect 1 along the wooded edge of a cleared field. The transect runs east to west and contains three test holes (Figures 14). Between Transects 1 and 2 a ravine runs east-west separating the two landforms (Figures 15 and 16). Just east of Transect 2 is Transect 3 which contains a single shovel test hole along the edge of the cleared field and the beach. Transect 4 is located south of Transect 2 and is oriented north-south. It contains three test holes (Figure 17). South of this transect is Transect 5 which contains five test holes and is oriented north-south (Figure 18). Between Transect 4 and Transect 5 is a steep slope filled with modern trash (Figure 17).

Area 2 includes the central portion of the Project and includes Transects 6-8 and Transect 10 (Figure 19). Transect 6 is in the northern portion of Area 2 and includes one shovel test hole (Figure 20). South of Transect 6, Transect 7 and 8 are located along the bank running north-south. Transect 7 is located closest to the bank and contains nine test holes (Figure 21). Parallel to Transect 7 is Transect 8 to the west and contains eight test holes (Figure 22). Transect 10, located south of Transects 7 and 8, contained three test

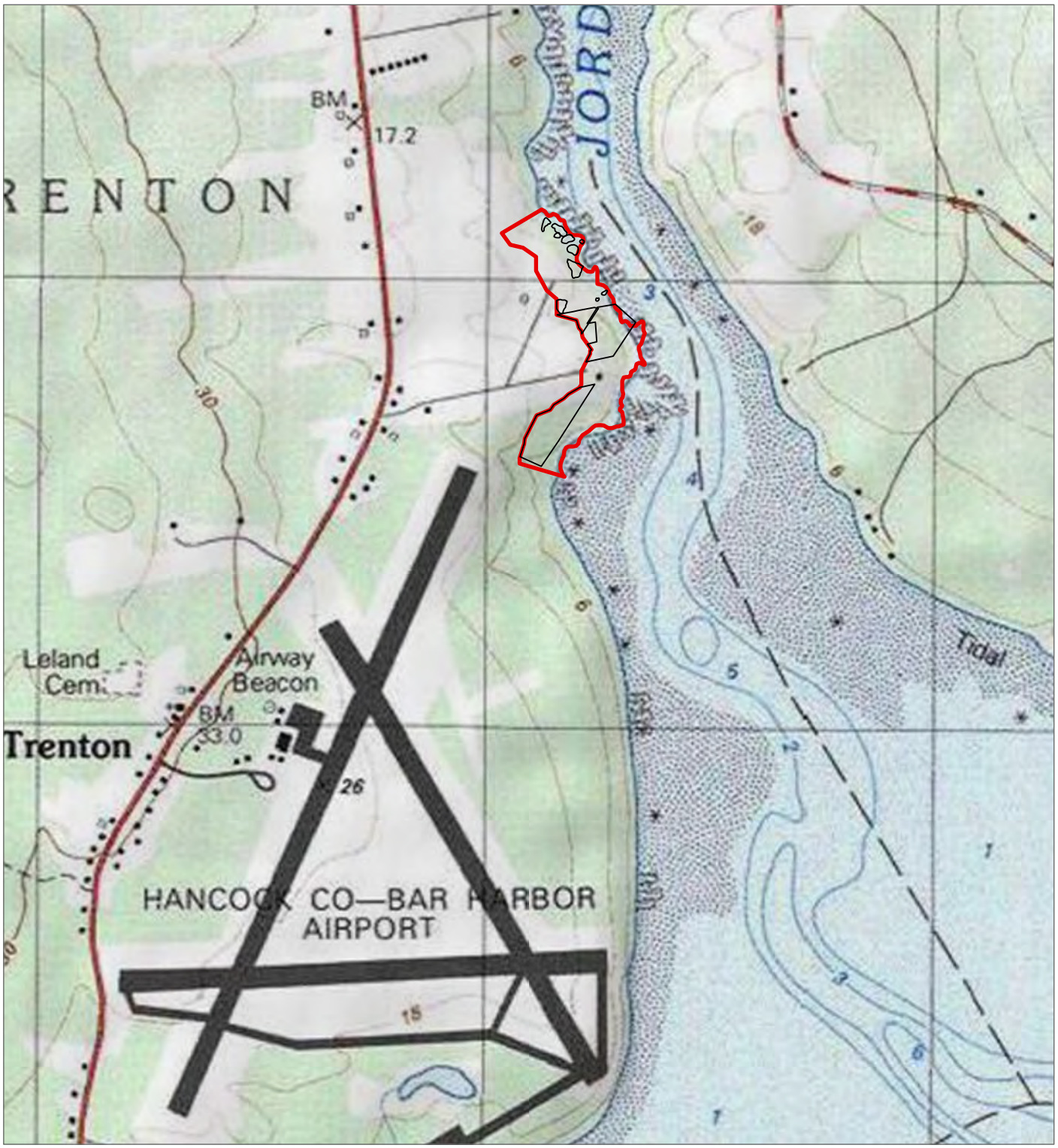
holes running northeast-southwest (Figure 23). Transects 6-8 and 10 are located within pine forest with numerous patches of deadfall as shown in Figures 22 and 23.

Area 3 includes the southern section of the Project area (Figure 24). Transect 9 located along the bank running northeast-southwest and contains 23 shovel tests and traverses the whole of Area 3 (Figure 25). Transect 9 is located along undulating and wet terrain with deep ravines (Figure 26). Seventeen of the 23 test holes were not excavated due to saturated sediments on the surface.

No cultural materials or cultural features were identified in the test holes excavated or on the surface, therefore no further archaeological testing is recommended for the Project as currently proposed.

References Cited

Natural Resources Conservation Service
2021 http://websoilsurvey.sc.egov.usda.gov.



LEGEND

Areas

Tree Clearing Areas

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 100 200 METERS

1:12,726 1" = 1,061'

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

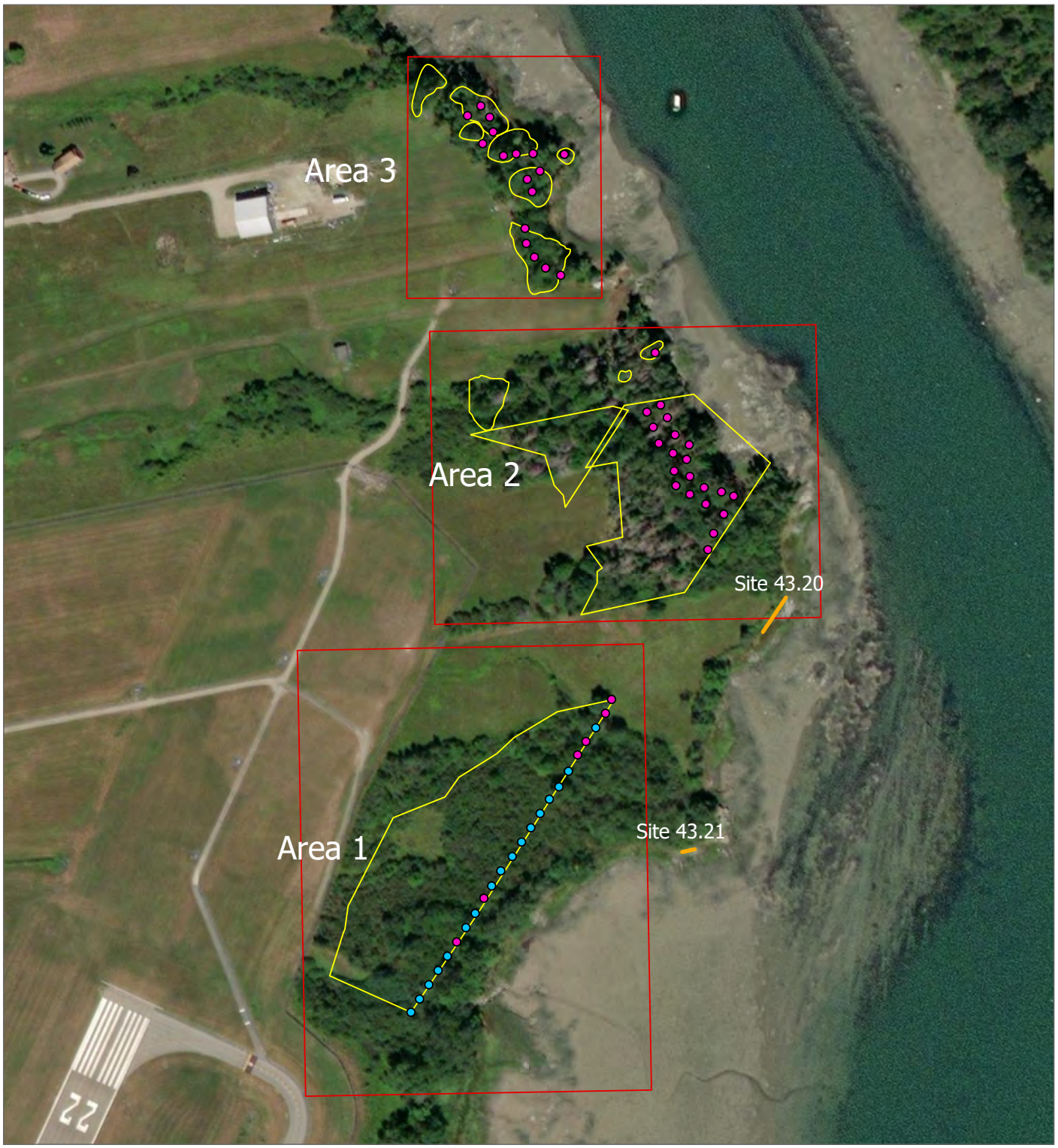
TITLE:
Project Location

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		
DATE:	MAY 2021		

FIGURE 1

TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT



Legend

- Negative TH
- Archaeological Site Location
- Tree Clearing Areas
- Areas

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 10 20 METERS

1:3,336 1" = 278'

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

TITLE:
Results of Phase I Testing

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		**FIGURE 2**
DATE:	MAY 2021		

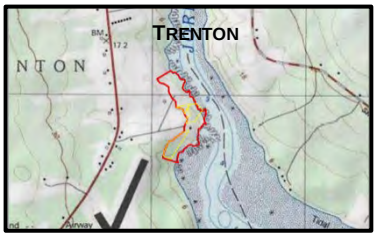
TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT

COORDINATE SYSTEM: NAD 1983 STATEPLANE MAINE EAST FIPS 1801 FEET; MAP ROTATION: 0
-- SAVED BY: AYOUNG ON 5/14/2021 07:34:11 AM; - FILE PATH: C:\USERS\AYOUNG\ONEDRIVE - TRC\DOCUMENTS\ARCGIS\PROJECTS\TRENTON AIRPORT\TRENTON AIRPORT.APRX; - LAYOUT NAME: 8.5X11P_NOINSET

Figure 3. Pine forest, view east.

Figure 4. Dense vegetation, view west.



Phase IB Archaeological Investigations of the Bar Harbor Airport Obstruction Clearing Project, Trenton, Hancock County, ME

BAR HARBOR AIRPORT OBSTRUCTION CLEARING PROJECT

MHPC# 1234-20

Date: May 2021

TRC

1356 Washington St, Suite A
Bath, ME 04530

Figure 5. Level landform, view east.

Figure 6. Steep undulating landform, view east.

LEGEND

- Tree Clearing Areas
- 100 Yard Archaeological Study Boundary
- Soils

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

TITLE:
Soils Map

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		**FIGURE 7**
DATE:	MAY 2021		

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 40 80 METERS

1:3,336 1" = 278'

TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT

Figure 8. Eroding shell at Site 43.20, view northwest.

Figure 9. Eroding shell deposits at Site 43.21, view west.

Legend

- Negative TH
- Tree Clearing Areas
- Areas

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 10 20 METERS

1:875 1" = 73'

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

TITLE:
Area 1 Results of Phase I Testing

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		
DATE:	MAY 2021		

FIGURE 10

TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT

Figure 11. Test Area 1 - steep slope, view southeast.

Figure 12. Test Area 1- steep slope, view southeast.

Figure 13. Test Area 1 – TR 1, view east.

Figure 14. Test Area 1 – TR 2, view east.

Figure 15. Ravine between TR 1 and TR 2, view east.

Figure 16. Ravine between TR 1 and TR 2, view southeast.

Figure 17. Area 1 – TR 4 with modern dump, view west.

Figure 18. Area 1 – TR 4 and 5, view southeast.

Legend

- Negative TH
- Archaeological Site Location
- Tree Clearing Areas
- 100 Yard Archaeological Study Boundary

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 10 20 METERS

1:1,366 1" = 114'

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

TITLE:
Area 2 Results of Phase I Testing

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		**FIGURE 19**
DATE:	MAY 2021		

TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT

Figure 20. Area 2 - TR 6, view south.

Figure 21. Area 2 - TR 7, view south.

Figure 22. Area 2 - TR 8, view north.

Figure 23. Area 2 - TR 10, view west.

Legend

- Negative TH
- Archaeological Site Location
- Areas

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

0 10 20 METERS

1:1,366 1" = 114'

PROJECT:
Bar Harbor Airport Obstruction Clearing Project
MHPC# 1234-20

TITLE:
Area 3 Results of Phase I Testing

DRAWN BY:	ABBIE YOUNG	PROJ. NO.:	000000
CHECKED BY:	KAREN MACK		
APPROVED BY:	KAREN MACK		**FIGURE 24**
DATE:	MAY 2021		

TRC
1356 WASHINGTON STREET
SUITE A
BATH, ME 04530

FILE: TRENTON AIRPORT

Figure 25. Area 3 - TR 9, view south.

Figure 26. Area 3 - TR 9, ravine near test hole 18, view southwest.

APPENDIX 1: 2021 FIELD FORMS

Test Area _____

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date 5/5/21

Page ____ of ____

TR 1 **TH** 1

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs: Si Cl; mott 5/7/1; 55

Max. depth 55 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes:

TR 1 **TH** 2

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs: Si Cl; mott 7/1; 18; Cl; 6/7; 40

Max. depth 40 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes:

TR 1 **TH** 3

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs: mott 7/1 Si Cl; 18; 6/7 Si Cl; 30; 6/1 Cl; 40

Max. depth 40 cm bs
Recorder(s) ALY
# of Bags Collected 0

Material	Depth

Notes:

TR 1 **TH** 4

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs: 7/1 Si Cl; 23; 6/7 Si Cl; 42

Max. depth 42 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes: Root Impasse

TR 1 **TH** 5

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs: 7/1 Si Cl; 30; 6/7 Si Cl; 41

Max. depth 41 cm bs
Recorder(s) ALY
# of Bags Collected 0

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ – disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area____________

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date 5/5/21

Page ____ of ____

	TR 2 TH 1	TR 2 TH 2	TR 2 TH 3	TR ___ TH ___	TR ___ TH ___
Wall	N E (S) W	N (E) S W	N (E) S W	N E S W	N E S W
☐ Positive prehistoric	☐	☐	☐	☐	☐
☐ Negative prehistoric	X	X	X	☐	☐
☐ Historics	☐	☐	☐	☐	☐
Profile (cm bs)	7/1 SiLo (0–21); 5/7 SiCl (21–46); 6/1 Cl (46–53)	7/1 SiCl (0–40); SiCl 3/7 (40–56)	7/1 SiCl (0–22); 5/7 SiCl (22–41); 6/1 Cl (41–50)		
Max. depth ___ cm bs	53	56	50		
Recorder(s)	SMD	ALY	SMD		
# of Bags Collected	0	0	0		
Material / Depth	—	—	—		
Notes		Root impasse			

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots (hatched) – disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

C:\ARCINC\Field Forms\50 cm Testhole Record x5

TRC 2006

Test Area ____________

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date ____________

Page ____ of ____

TR 3 **TH** 1

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

cm bs	Profile
0	7/1 Silt
-10	
-18	18
-20	6/7/1 Cl
-30	
-40	
-45	45
-50	
-60	
-70	
-80	
-90	
-100	
-110	
-120	

Max. depth 45 **cm bs**

Recorder(s) ALY

# of Bags Collected 0

Material	Depth

Notes: Saturated

TR ____ **TH** ____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

cm bs -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

Max. depth ________ **cm bs**

Recorder(s) ________

# of Bags Collected ________

Material	Depth

Notes:

TR ____ **TH** ____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

cm bs -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

Max. depth ________ **cm bs**

Recorder(s) ________

# of Bags Collected ________

Material	Depth

Notes:

TR ____ **TH** ____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

cm bs -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

Max. depth ________ **cm bs**

Recorder(s) ________

# of Bags Collected ________

Material	Depth

Notes:

TR ____ **TH** ____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

cm bs -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

Max. depth ________ **cm bs**

Recorder(s) ________

# of Bags Collected ________

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots (hatched oval) - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area ______

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date 5/6/21

Page ____ of ____

	TR 4 TH 1	TR 4 TH 2	TR 4 TH 3	TR ___ TH ___	TR ___ TH ___
Wall	N (E) S W	N (E) S W	N E (S) W	N E S W	N E S W
☐ Positive prehistoric	☐	☐	☐	☐	☐
☐ Negative prehistoric	☒	☒	☒	☐	☐
☐ Historics	☐	☐	☐	☐	☐
Profile (cm bs)	7/1 Si Lo (0–18); 7/4/1 Si Cl (18–44); 6/1 Cl (44–53)	7/1 Si Lo (0–22); 7/4/1 Si Cl (22–36); 6/1 Cl (36–44)	7/1 Si Cl (0–15)		
Max. depth	53 cm bs	44 cm bs	15 cm bs	____ cm bs	____ cm bs
Recorder(s)	SMD	ALY	SMD		
# of Bags Collected	0	0	0		
Material / Depth	(struck out)	(struck out)	(struck out)		
Notes			Root impasse		

Profile grids marked in cm bs: -10, -20, -30, -40, -50, -60, -70, -80, -90, -100, -110, -120

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots (hatched) - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date 5/6/21

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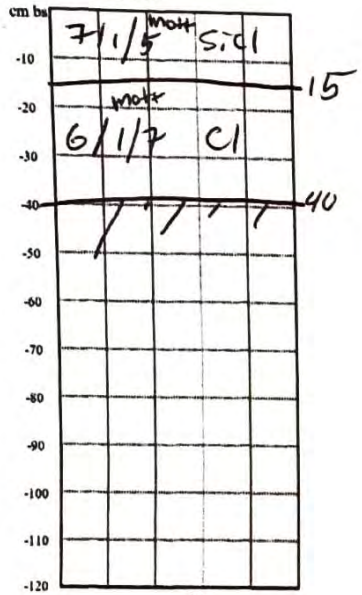
TR 5 TH 1

Wall: N E (S) W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 40 cm bs
Recorder(s) SMD
# of Bags Collected 0

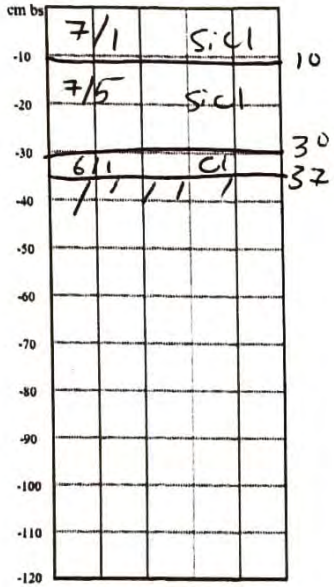
Material	Depth

Notes: Disturbed

TR 5 TH 2

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 37 cm bs
Recorder(s) SMD
# of Bags Collected 6

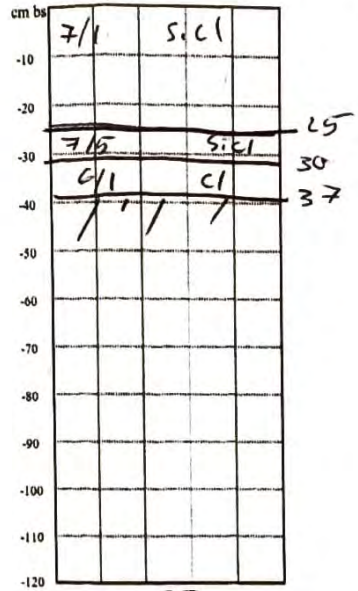
Material	Depth

Notes:

TR 5 TH 3

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 37 cm bs
Recorder(s) ALY
# of Bags Collected 0

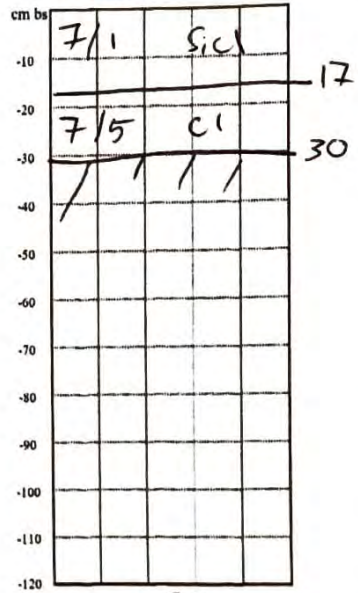
Material	Depth

Notes:

TR 5 TH 4

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 30 cm bs
Recorder(s) SMD
# of Bags Collected 0

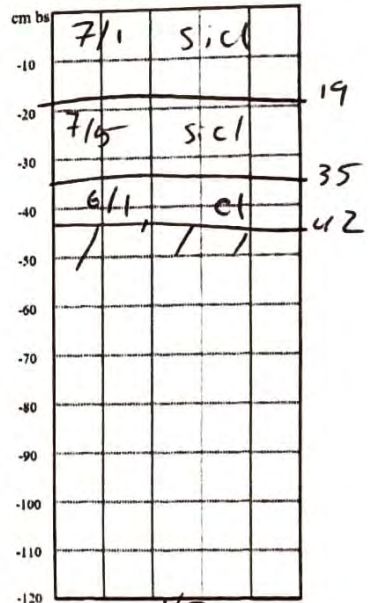
Material	Depth

Notes: Saturated

TR 5 TH 5

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 42 cm bs
Recorder(s) ALY
# of Bags Collected 0

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area _____

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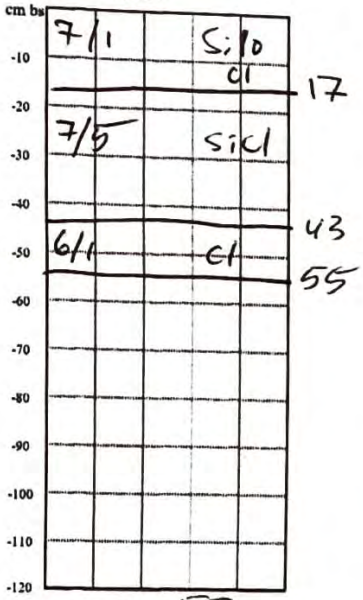
TR 6 TH 1
Wall: (N) E S W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

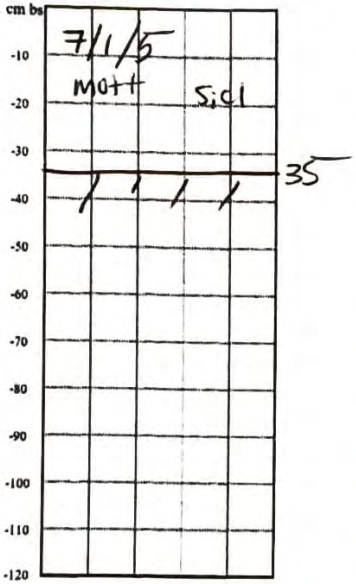


Max. depth 55 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes:

TR 7 TH 1
Wall: N (E) S W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

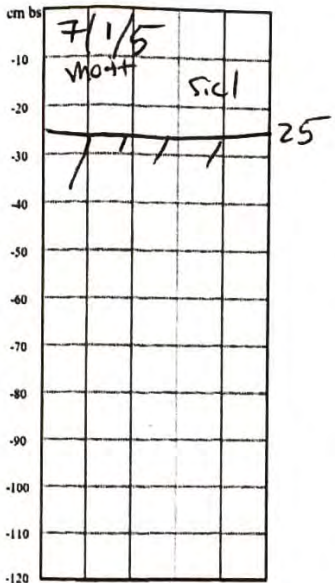


Max. depth 35 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes: Saturated

TR 7 TH 2
Wall: N E (S) W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

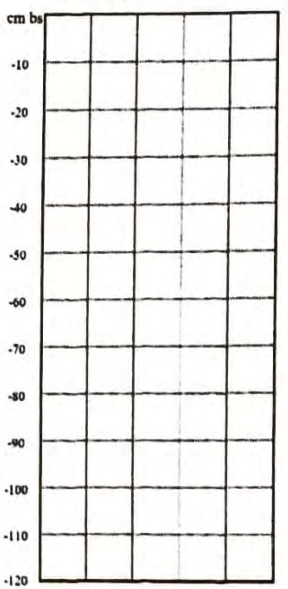


Max. depth 25 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes: Saturated

TR ____ TH ____
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

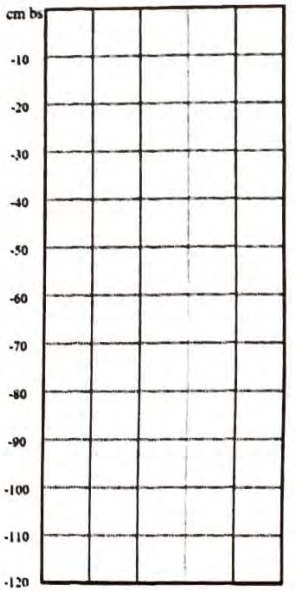


Max. depth ____ cm bs
Recorder(s) ____
# of Bags Collected ____

Material	Depth

Notes:

TR ____ TH ____
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth ____ cm bs
Recorder(s) ____
# of Bags Collected ____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

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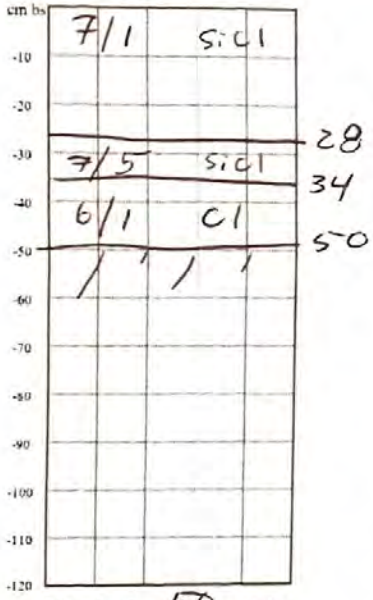
TR 7 TH 3

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 50 cm bs
Recorder(s) SMD
# of Bags Collected 0

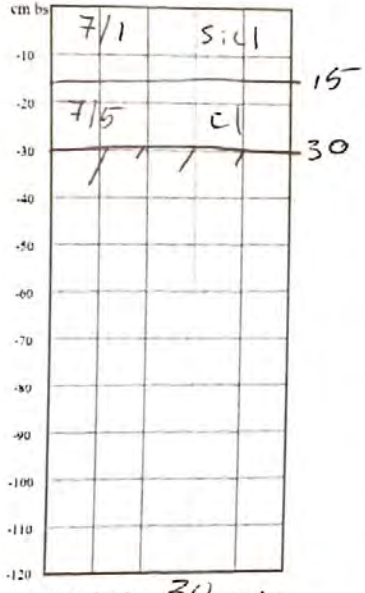
Material	Depth

Notes:

TR 7 TH 4

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 30 cm bs
Recorder(s) SMD
# of Bags Collected 0

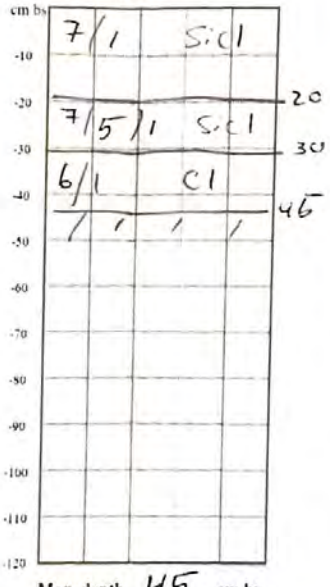
Material	Depth

Notes:
Saturated

TR 7 TH 5

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 45 cm bs
Recorder(s) SMD
# of Bags Collected 0

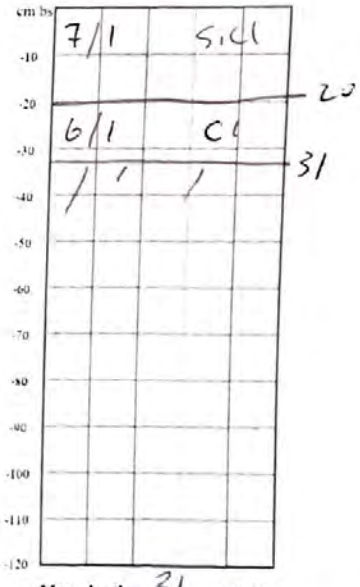
Material	Depth

Notes:

TR 7 TH 6

Wall: N E (W)

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 31 cm bs
Recorder(s) ALY
# of Bags Collected 0

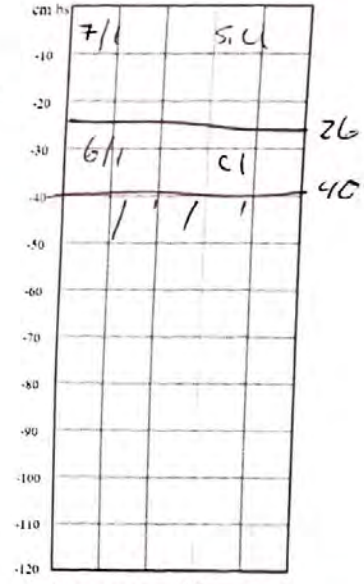
Material	Depth

Notes:
Saturated

TR 7 TH 7

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 40 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes:
Saturated

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ – disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area________

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date________

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TR 7 TH 8
Wall: N (E) S W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics

cm bs	Soil
0	7/1 SiCl
-35	6/1 Cl
-47	(base)

Max. depth 47 cm bs

Recorder(s) SMD

# of Bags Collected 0

Material	Depth

Notes:

TR 7 TH 9
Wall: N E (S) W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics

cm bs	Soil
0	7/1 SiCl
-12	7/6 SiCl
-30	6/1 Cl
-41	(base)

Max. depth 41 cm bs

Recorder(s) SMD

# of Bags Collected 0

Material	Depth

Notes:

TR____ TH____
Wall: N E S W

- ☐ Positive prehistoric
- ☐ Negative prehistoric
- ☐ Historics

Max. depth ________ cm bs

Recorder(s) ________

# of Bags Collected________

Material	Depth

Notes:

TR____ TH____
Wall: N E S W

- ☐ Positive prehistoric
- ☐ Negative prehistoric
- ☐ Historics

Max. depth ________ cm bs

Recorder(s) ________

# of Bags Collected________

Material	Depth

Notes:

TR____ TH____
Wall: N E S W

- ☐ Positive prehistoric
- ☐ Negative prehistoric
- ☐ Historics

Max. depth ________ cm bs

Recorder(s) ________

# of Bags Collected________

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots (hatched oval) - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

Bar Harbor Airport Obstruction Clearing Project - 2021
Phase I Archaeological Testhole Record

Date 5/7/21

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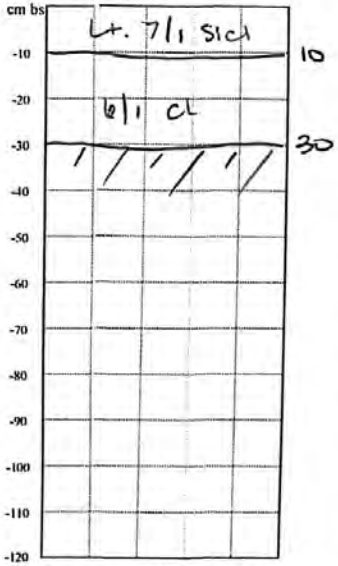
TR 8 TH 1

Wall : N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 30 cm bs

Recorder(s) AZY

# of Bags Collected Ø

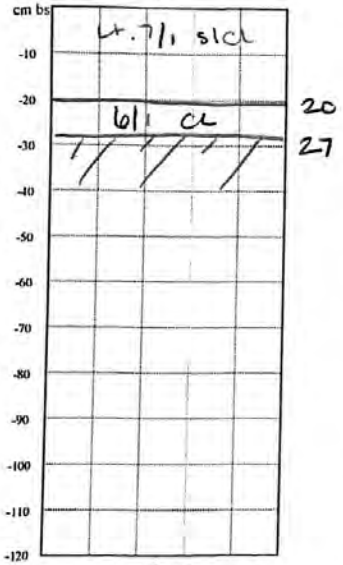
Material	Depth

Notes: Saturated

TR 8 TH 2

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Histories



Max. depth 27 cm bs

Recorder(s) SMD

# of Bags Collected Ø

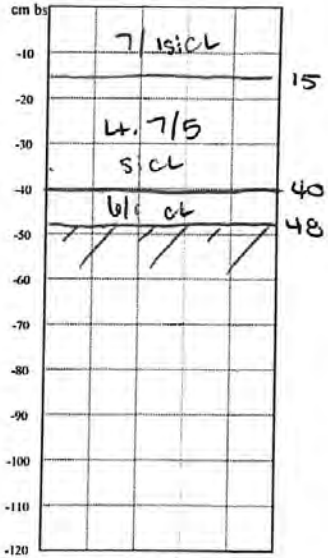
Material	Depth

Notes: Saturated

TR 8 TH 3

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Histories



Max. depth 48 cm bs

Recorder(s) AZY

# of Bags Collected Ø

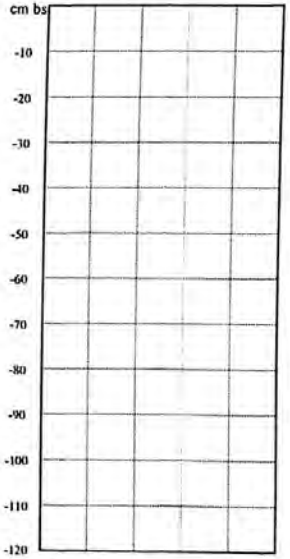
Material	Depth

Notes:

TR_____TH_____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

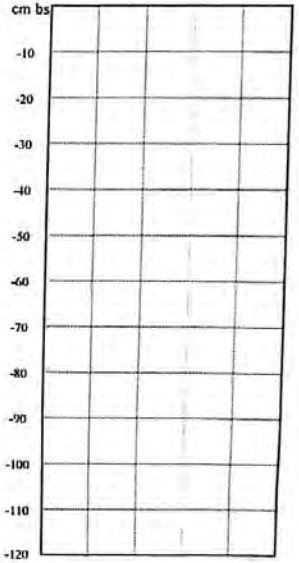
Material	Depth

Notes:

TR_____TH_____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area _____

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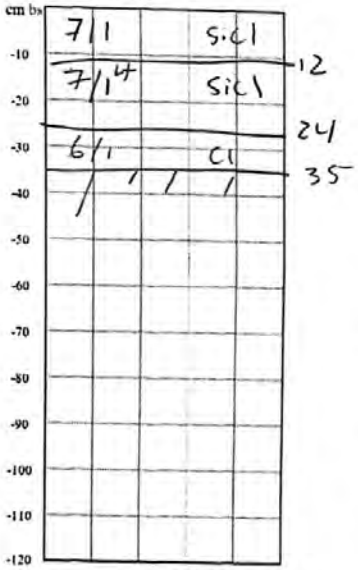
TR 8 TH 8

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 35 cm bs
Recorder(s) ALY
# of Bags Collected 0

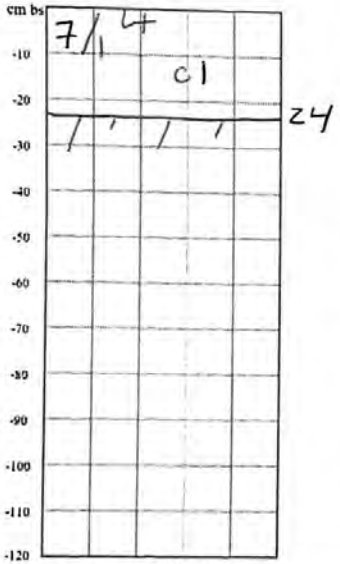
Material	Depth

Notes:

TR 8 TH 7

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 24 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

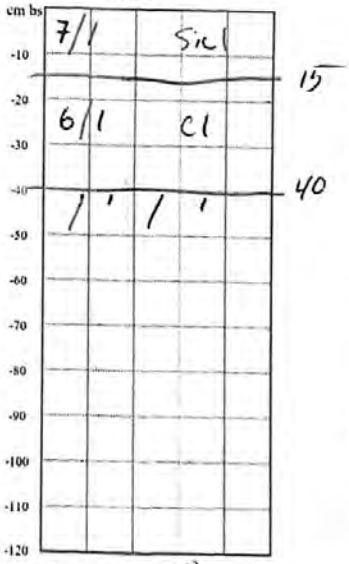
Notes:

Saturated

TR 8 TH 6

Wall: N (E) S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 40 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

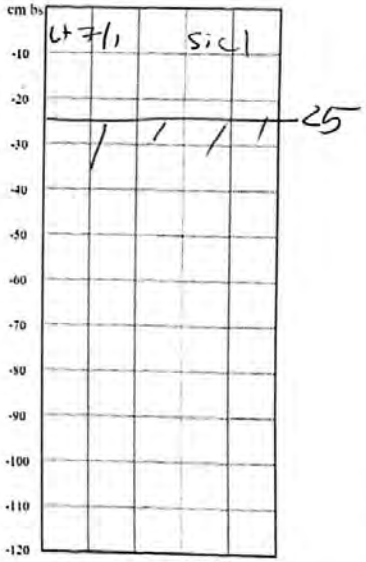
Notes:

Saturated

TR 8 TH 5

Wall: (N) E S W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 25 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

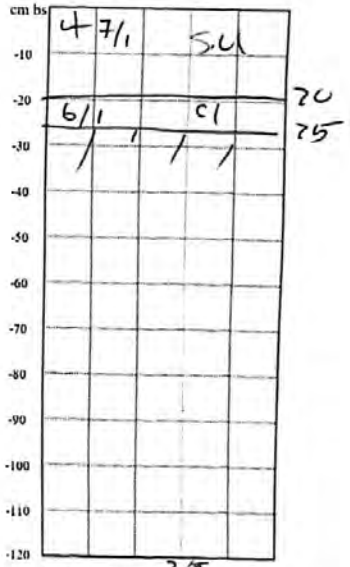
Notes:

Saturated

TR 8 TH 4

Wall: N E (S) W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 25 cm bs
Recorder(s) ALY
# of Bags Collected 0

Material	Depth

Notes:

Saturated

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

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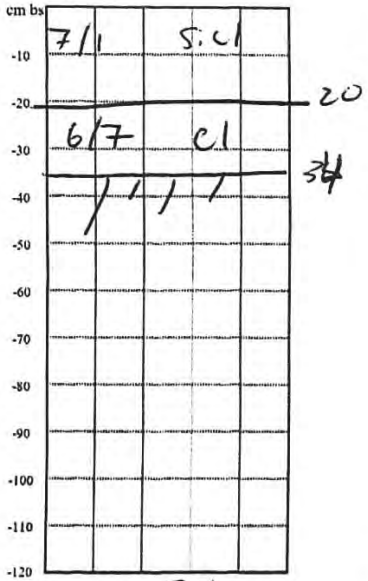
TR 9 - 1 TH ____

Wall: N E (S) W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics



Max. depth 34 cm bs

Recorder(s) ALY

# of Bags Collected 0

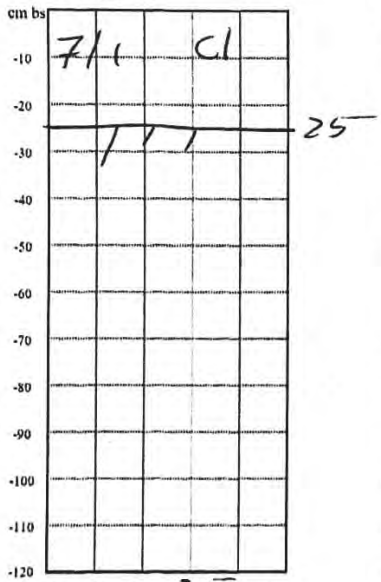
Material	Depth

Notes: Saturated

TR 9 - 2 TH ____

Wall: N (E) S W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics



Max. depth 25 cm bs

Recorder(s) SMD

# of Bags Collected 0

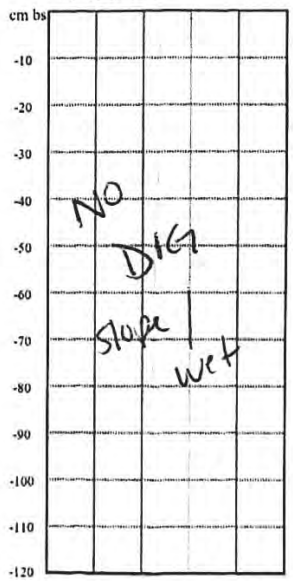
Material	Depth

Notes: Saturated

TR 9 - 3 TH ____

Wall: (N) E S W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics



Max. depth _____ cm bs

Recorder(s) _____

# of Bags Collected _____

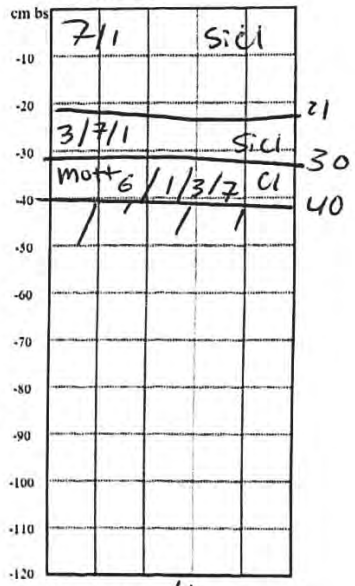
Material	Depth

Notes:

TR 9 - 4 TH ____

Wall: (N) E S W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics



Max. depth 40 cm bs

Recorder(s) SMD/ALY

# of Bags Collected 0

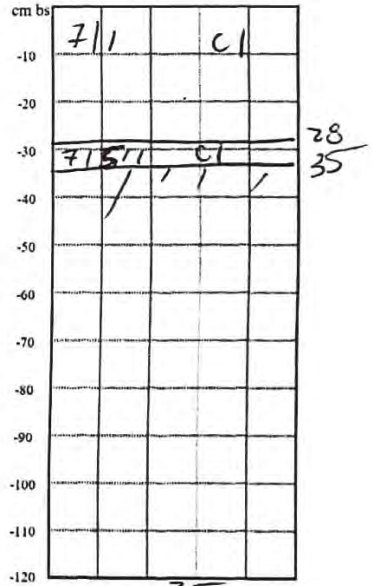
Material	Depth

Notes:

TR 9 - 5 TH ____

Wall: (N) E S W

- ☐ Positive prehistoric
- ☒ Negative prehistoric
- ☐ Historics



Max. depth 35 cm bs

Recorder(s) SMD

# of Bags Collected 0

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

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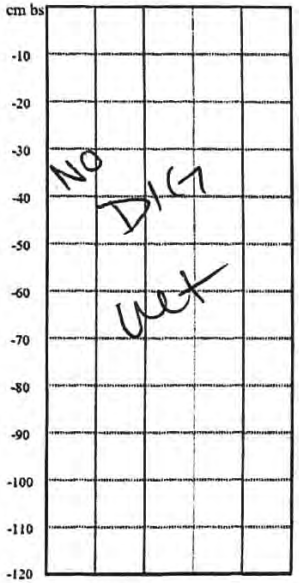
TR 9 TH 6

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

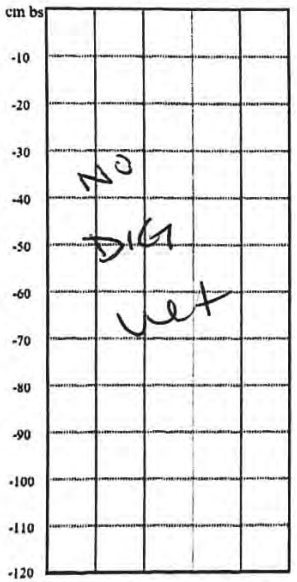
Material	Depth

Notes:

TR 9 TH 7

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

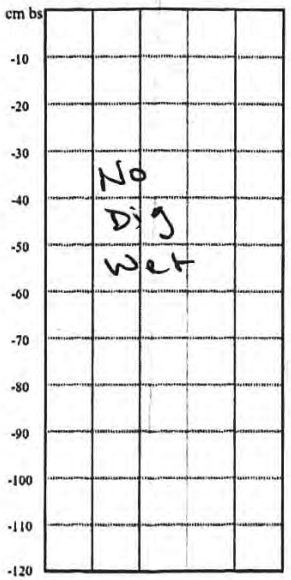
Material	Depth

Notes:

TR 9 TH 8

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

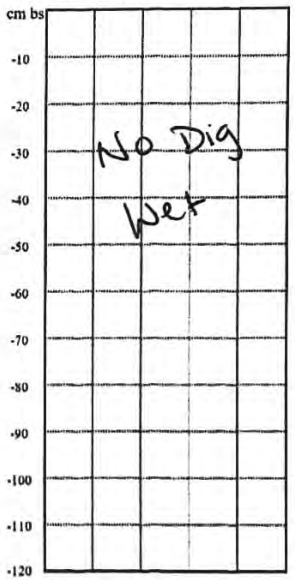
Material	Depth

Notes:

TR 9 TH 9

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

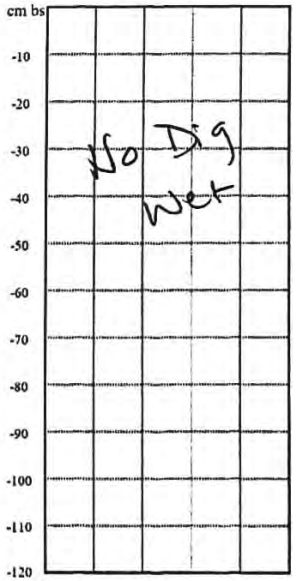
Material	Depth

Notes:

TR 9 TH 10

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____cm bs

Recorder(s) _____

# of Bags Collected_____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

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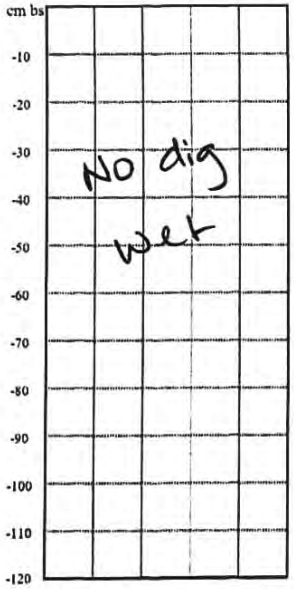
TR 9 TH 11
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

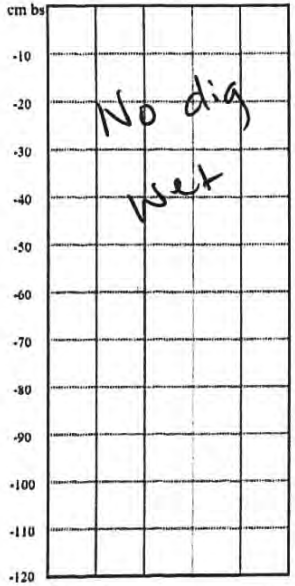


Max. depth _____cm bs
Recorder(s) _____
# of Bags Collected_____

Material	Depth

Notes:

TR 9 TH 12
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

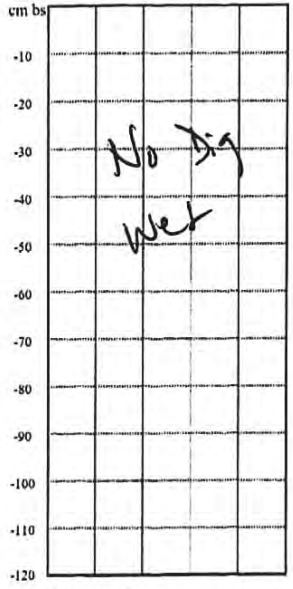


Max. depth _____cm bs
Recorder(s) _____
# of Bags Collected_____

Material	Depth

Notes:

TR 9 TH 13
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

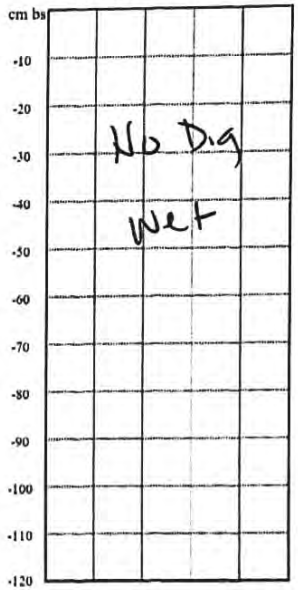


Max. depth _____cm bs
Recorder(s) _____
# of Bags Collected_____

Material	Depth

Notes:

TR 9 TH 14
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

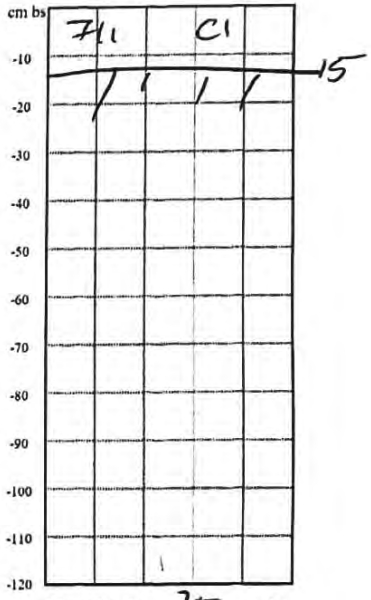


Max. depth _____cm bs
Recorder(s) _____
# of Bags Collected_____

Material	Depth

Notes:

TR 9 TH 15
Wall: (N) E S W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 15 cm bs
Recorder(s) SMD
# of Bags Collected 0

Material	Depth

Notes:
Saturated

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Test Area_____

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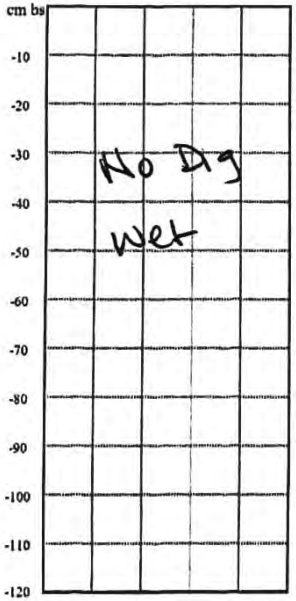
TR 9 TH 16

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____ **cm bs**

Recorder(s) _____

# of Bags Collected_____

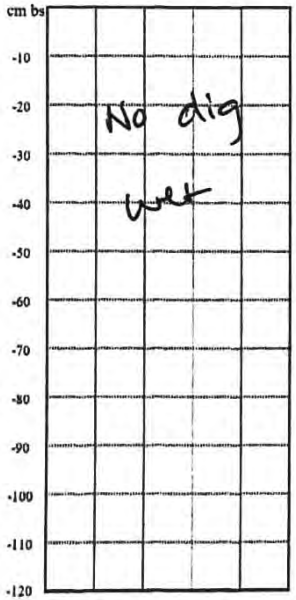
Material	Depth

Notes:

TR 9 TH 17

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____ **cm bs**

Recorder(s) _____

# of Bags Collected_____

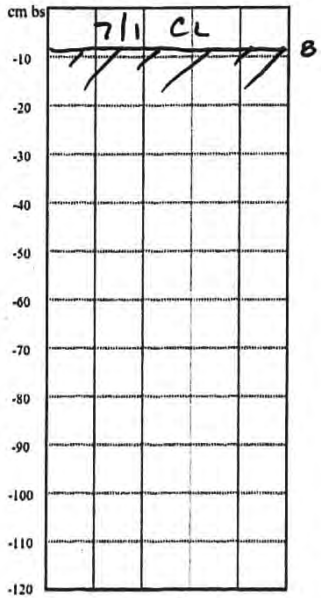
Material	Depth

Notes:

TR 9 TH 18

Wall: N E (S) W

☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics



Max. depth 8 **cm bs**

Recorder(s) SMD

# of Bags Collected Ø

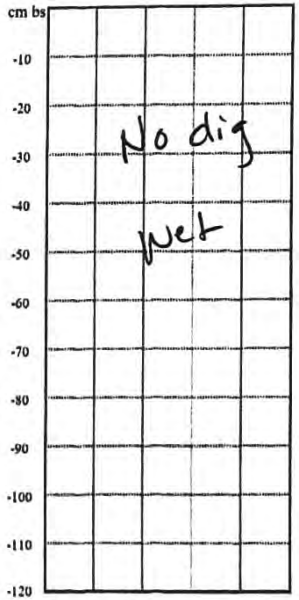
Material	Depth

Notes:
Saturated

TR 9 TH 19

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____ **cm bs**

Recorder(s) _____

# of Bags Collected_____

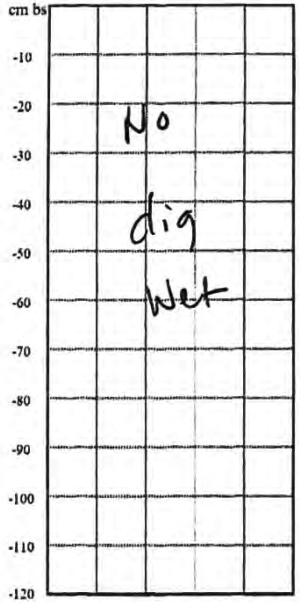
Material	Depth

Notes:

TR 9 TH 20

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____ **cm bs**

Recorder(s) _____

# of Bags Collected_____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

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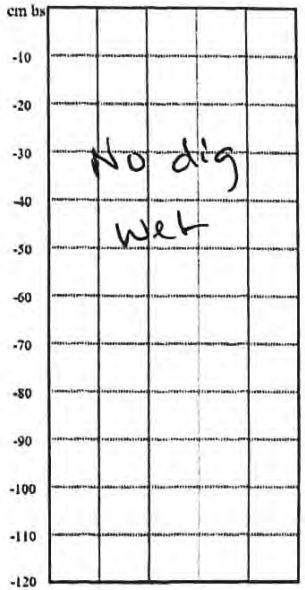
TR 9 TH 21

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____**cm bs**

Recorder(s) _____

# of Bags Collected_____

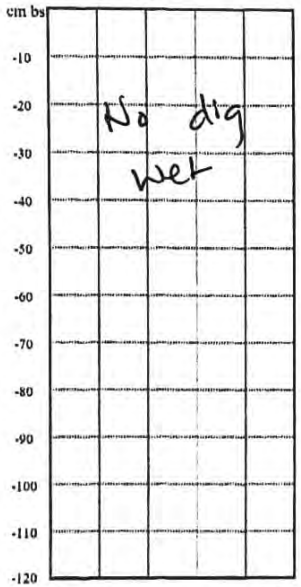
Material	Depth

Notes:

TR 9 TH 22

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____**cm bs**

Recorder(s) _____

# of Bags Collected_____

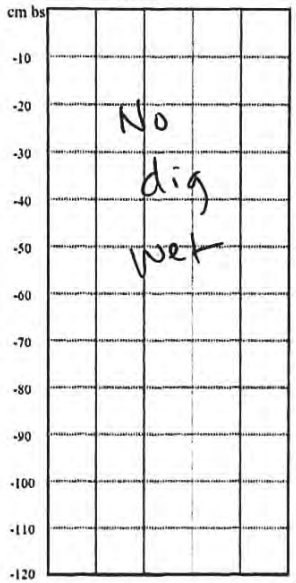
Material	Depth

Notes:

TR 9 TH 23

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____**cm bs**

Recorder(s) _____

# of Bags Collected_____

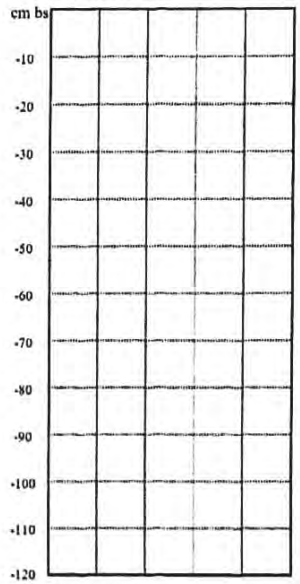
Material	Depth

Notes:

TR_____TH_____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____**cm bs**

Recorder(s) _____

# of Bags Collected_____

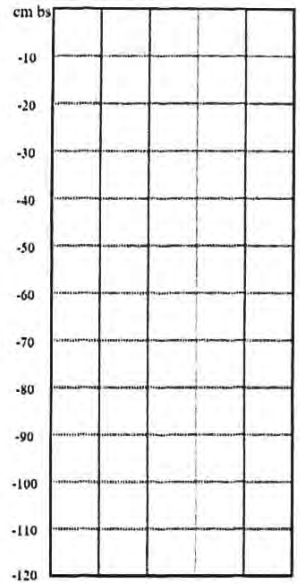
Material	Depth

Notes:

TR_____TH_____

Wall: N E S W

☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth _____**cm bs**

Recorder(s) _____

# of Bags Collected_____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Test Area_____

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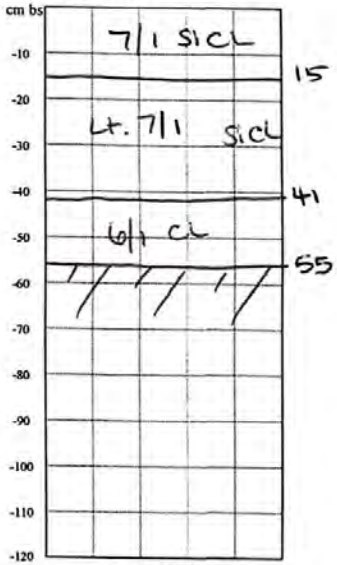
TR 10 TH 1
Wall: (N) E S W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

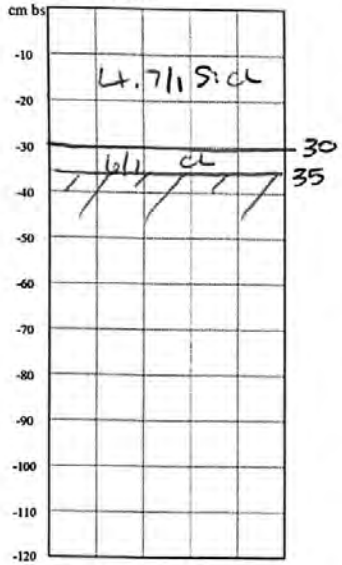


Max. depth 55 cm bs
Recorder(s) SMD
# of Bags Collected Ø

Material	Depth

Notes:

TR 10 TH 2
Wall: N E (S) W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

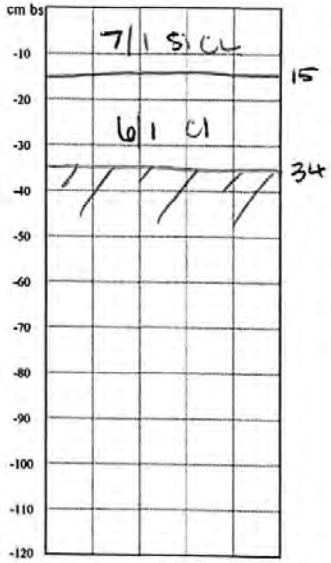


Max. depth 35 cm bs
Recorder(s) SMD
# of Bags Collected Ø

Material	Depth

Notes: Saturated

TR 10 TH 3
Wall: N E (S) W
☐ Positive prehistoric
☒ Negative prehistoric
☐ Historics

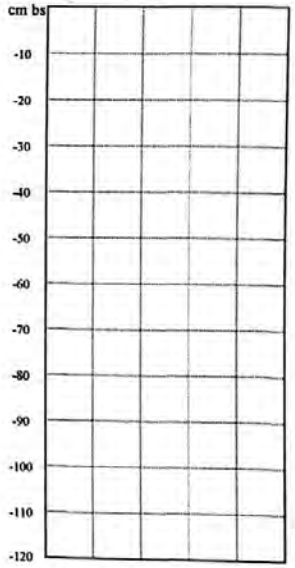


Max. depth 34 cm bs
Recorder(s) SMD
# of Bags Collected Ø

Material	Depth

Notes: Saturated

TR____ TH____
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics

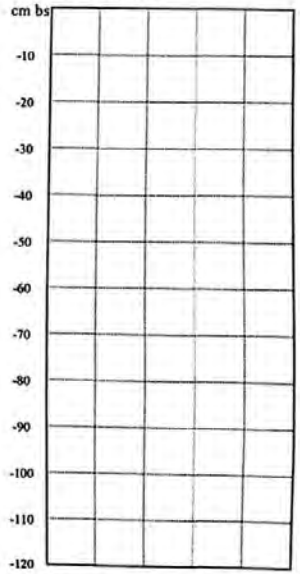


Max. depth ____ cm bs
Recorder(s) ____
# of Bags Collected ____

Material	Depth

Notes:

TR____ TH____
Wall: N E S W
☐ Positive prehistoric
☐ Negative prehistoric
☐ Historics



Max. depth ____ cm bs
Recorder(s) ____
# of Bags Collected ____

Material	Depth

Notes:

Soil Texture Key: S – sand Si – silt Cl – clay L – loam
VF – very fine F – fine M – medium C – coarse

Inclusions: Gr – gravel Cb – cobbles Pb – pebbles Bf – bedrock fragments
Cnc – concretions Ch – charcoal ● – roots ▨ - disturbance (specify)

Soil Color Key: 1 – gray 2 – black 3 – orange 4 – red 5 – yellow 6 – olive 7 – brown
Lt – light D – dark Mx – mixed

Appendix 9 – Bald Eagle Nest Monitoring Report

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BALD EAGLE NEST MONITORING REPORT

FOR

ENVIRONMENTAL ASSESSMENT OF AVIGATION EASEMENT AND OBSTRUCTION REMOVAL PROJECT

HANCOCK COUNTY – BAR HARBOR AIRPORT
TRENTON, MAINE

Report Prepared For:
Jacobs Engineering Group
Two Executive Park Drive
Bedford, New Hampshire 03110

August 31, 2021
JN: 11487.011

Report Prepared By:
Haley Ward, Inc.
One Merchants Plaza, Suite 701 | Bangor, Maine 04401

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HALEYWARD.COM

INTRODUCTION

Haley Ward, Inc. (Haley Ward) has completed bald eagle nest monitoring as part of the due diligence process associated with the Environmental Assessment completed by Jacobs Engineering Group (Jacobs) for the proposed Avigation Easement and Obstruction Removal Project (the Project) at the Hancock County – Bar Harbor Airport (the Airport) in Trenton, Maine.

BACKGROUND

The Airport is proposing to clear obstructions that penetrate the protected airspace surfaces along the runway approaches at the Airport. The proposed obstruction clearing areas are located at the north end of Runway 22, both on and off-Airport property, along the Jordan River. A Location Map and the Proposed obstruction clearing areas are shown in **Appendix A** and **Appendix B**. As part of the Environmental Assessment, consultation with the U.S. Fish and Wildlife Service (USFWS) identified a documented bald eagle nest (nest ID 773A) located at the northern end of the Runway 22 obstruction clearing area. While data from USFWS indicated that the nest had been active in 2018, the current status of the nest and its use by bald eagles was not known.

The bald eagle was removed from the Federal Endangered Species list in 2007 and from the Maine endangered species list in 2009. The bald eagle is protected by the Federal Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

METHODOLOGY

Haley Ward's bald eagle nest monitoring was completed for nest ID#773A, located at the northern end of the Airport, along Jordan River. The nest site was accessed by permission of the landowner, via the driveway of an abutting property, an active aquaculture facility to the west of the nest site. An Eagle Monitoring Site Sketch is included in **Appendix B**.

Haley Ward reviewed the following publications to develop the monitoring protocols and data recording forms used for the nest monitoring:

- Maine Department of Inland Fisheries and Wildlife's (MDIFW) statewide *Survey of Nesting Bald Eagles 2018*
- USFWS 2007 *National Bald Eagle Management Guidelines*
- Maryland's 2018 *Bald Eagle Nest Monitoring Program: Volunteer Instruction Manual*
- USFWS 2007 *Bald Eagle Monitoring Guidelines*

Haley Ward also consulted with USFWS's regional eagle coordinator, Mr. Thomas W. Wittig.

Monitoring of nest ID#773A was completed on May 5 and 20, June 2, 16, and 29, and July 14 and 28, 2021 to determine nest occupancy, and nesting success. Observation

viewpoints included a location in the field behind the aquaculture facility, under the nest tree, and at the waterline east of the nest tree.

Generally, monitoring consisted of:

- Biweekly visual observations (from May 5, 2021 to July 28, 2021) from the ground from several vantage points, including the lawn of aquaculture facility looking east, below tree, and at the waterline of Jordan River, looking west.
- Weather independent morning monitoring, when bald eagles are most active
- Typical monitoring event included three hours of visual observation of nest activity, noting bald eagle presence and behaviors including: courting, mating, nest sitting (prone posture), rearing (hunched posture), circling, hunting, returning to nest with food, shredding food, and other behaviors.
- Recording other environmental conditions/activities, including incoming aircraft, use of waterfront, or other activities.

RESULTS AND DISCUSSION

General Area Overview

Nest ID# 773A is located at the approximate coordinates provided for Nest ID# 773A in "Maine's 2018 Survey of Nesting Bald Eagles" data. The nest is located along the Jordan River in approximately 1,120 feet north of the Airport. The nest tree is a large, living white pine. The primary observation point is an undeveloped, mowed grassy field and tree line along the Jordan River, east of an active aquaculture facility. Site elevations range from 2 to 34 feet above sea level, sloping steeply toward tidal flats along the Jordan River. Development in the area consists of a mix of developed land and undeveloped woodland. Development west of the nest site, along the Bar Harbor Road/ U.S. Route 3, is a mix of residential and commercial development, while development to the east, in Lamoine, is rural residential. Some open fields and lawns are present to the west and south of the nest site, associated with residential structures along the Jordan River, and associated with the Airport.

Based on USFWS mapping, four additional bald eagle nests with breeding pairs, are located within three miles of Nest ID# 773A, as shown on Area Eagle Nests Map (**Appendix B).**

Nest Monitoring Results

Nest monitoring was conducted on May 5 and May 20, June 2, June 16, and June 29, and July 14 and July 28, 2021 to determine nest status, nest occupancy, and nesting success.

Haley Ward's field monitoring observations have determined the nest to be intact, active, and successful, with one fledgling observed during the monitoring period. Human

activities observed in the area during the monitoring events included air traffic and vehicle (aquaculture truck) and boat traffic within the nest monitoring area.

The following is a timeline and summary of the observations throughout the monitoring period:

5/5/2021, Visit 1 (Incubating behavior in adults)
Duration: Approximately 1 hour; 10:00-11:00am
Equipment: 20x50 binoculars and 55-250mm camera lens.
Weather: partly cloudy
Observations: Nest was located and found to be intact in a living white pine that is at the approximate high tide water line on an eroding bank. An adult bald eagle was observed in the prone posture in the nest for the duration of the visit, which is indicative of incubating behavior. A call from a second eagle was heard from the north along the river. Downy feathers and cast pellet with feathers and fish parts were observed at the base of the nest tree.

5/20/2021, Visit 2 (Rearing behavior in adults)
Time/Duration: Approximately 3 hours; 5:50-9:00am
Equipment: 20x50 binoculars.
Weather: sunny and clear, approximately 43 degrees Fahrenheit
Observations: An adult bald eagle was observed sitting in the nest in a hunched posture, which is indicative of baby bird rearing. A second adult was perched on a tree limb adjacent to the nest. A third adult was observed flying to the southwest from the north. The nesting adult made three short flights from the nest and perched on adjacent branch. Feathers and bones were observed approximately 100 yards north from the base of the nest tree. Two small aircraft flew over nest to toward the northeast; visible changes in behavior were not observed.

6/2/2021, Visit 3 (Young observed)
Time/Duration: Approximately 3 hours; 6:15-9:15am
Equipment: 20x50 binoculars and 55-250mm camera lens.
Weather: sunny and clear, approximately 65 degrees Fahrenheit
Observations: Calls heard from the nest. An adult bald eagle returned with food to the nest and fed young. One young eagle perched on the edge of the nest for about 40 minutes before returning to the bottom of the nest. The nesting adult left the nest and returned periodically. An adult (unknown if nesting adult or second adult) was observed perched on a roost tree located across the river to the east.

6/16/2021, Visit 4 (Hunting adults)
Time/Duration: Approximately 3 hours; 6:00-9:00am
Equipment: 20x50 binoculars and 55-250mm camera lens.

Weather: sunny and breezy, approximately 60 degrees Fahrenheit
Observations: Viewpoint from the field: Heard calls from the direction of the nest. Departing aircraft traffic was observed. Viewpoint below tree: Droppings and feathers present under the nest. Viewpoint from the waters' edge: Adult bald eagle pair alternated between flying and perching in nearby roost trees, which is indicative of hunting behavior. A murder of crows chased and attacked the adult eagles. Young eagle(s) were not observed.

6/29/2021, Visit 5 (Fledgling observed)
Time/Duration: Approximately 3 hours; 6:25-9:45am
Equipment: 20x50 binoculars
Weather: sunny and hazy, approximately 75-85 degrees Fahrenheit
Observations: Viewpoint from path under nest. One eagle fledgling was observed in nest and then observed flying from and returning to the nest. An adult eagle was observed flying and perching in the white pine tree across river. A fishing boat passed down the river and two aircraft flew over the nest, including one, which was flying very low in its landing approach. Visible changes in behavior were not observed.

7/14/2021, Visit 6 (Fledgling observed)
Time/Duration: Approximately 3 hours; 6:00-9:00am
Equipment: 20x50 binoculars and 55-250mm camera lens.
Weather: overcast and foggy with occasional light rain, 55-60 degrees Fahrenheit
Observations: Adult eagle calls were heard from river. The fledgling was observed perched, preening, and calling periodically. An aquaculture fisherman walked under the nest, pulled a kayak out to water, and motored south, out to the bay; the fledgling eagle stopped calling. Aircraft were observed flying over nest. Visible changes in behavior were not observed.

7/28/2021, Visit 7 (Fledgling leaves/returns to nest)
Time/Duration: Approximately 3 hours; 6:00-9:00am
Equipment: 20x50 binoculars.
Weather: sunny and breezy
Observations: The fledgling eagle was observed flying to the nest and leaving 45 minutes later. Eagle calls were heard. An adult eagle was observed circling over the nest and then flying south along the river. Aircraft were observed flying over nest. Visible changes in behavior were not observed.

Photographs taken during eagle nest monitoring are included in **Appendix C.** Monitoring data forms are included in **Appendix D.**

SUMMARY

Bald Eagle nest monitoring of Nest ID# 773A was completed as part of the due diligence process associated with the Environmental Assessment for the proposed Avigation Easement and Obstruction Removal Project at the Hancock County – Bar Harbor Airport. Bald eagle nest ID# 773A, which was previously mapped by USFWS, was monitored to confirm the nest location, determine nest occupancy, and determine nesting success. Monitoring, which was completed between May 5 and July 28, 2021, determined the nest to be intact, active and in use by a breeding pair of bald eagles, with successful rearing of one fledgling. Observations of human activities in the area of the nest site included air traffic and vehicle and boat traffic within the nest monitoring area.

REFERENCES

1) Todd, Charles, Thomas Schaeffer, Kendall Marden, Amy Meehan, and Mark Caron. Maine Department of Inland Fisheries and Wildlife - May 5, 2019: Maine's 2018 Survey of Nesting Bald Eagles conducted by MDIFW (The Research and Assessment Section – IFW's Source for Scientific Information (maine.gov)

2) Maine - Bald Eagle Nest Locations and Buffer Zones (arcgis.com) https://www.arcgis.com/apps/webappviewer/index

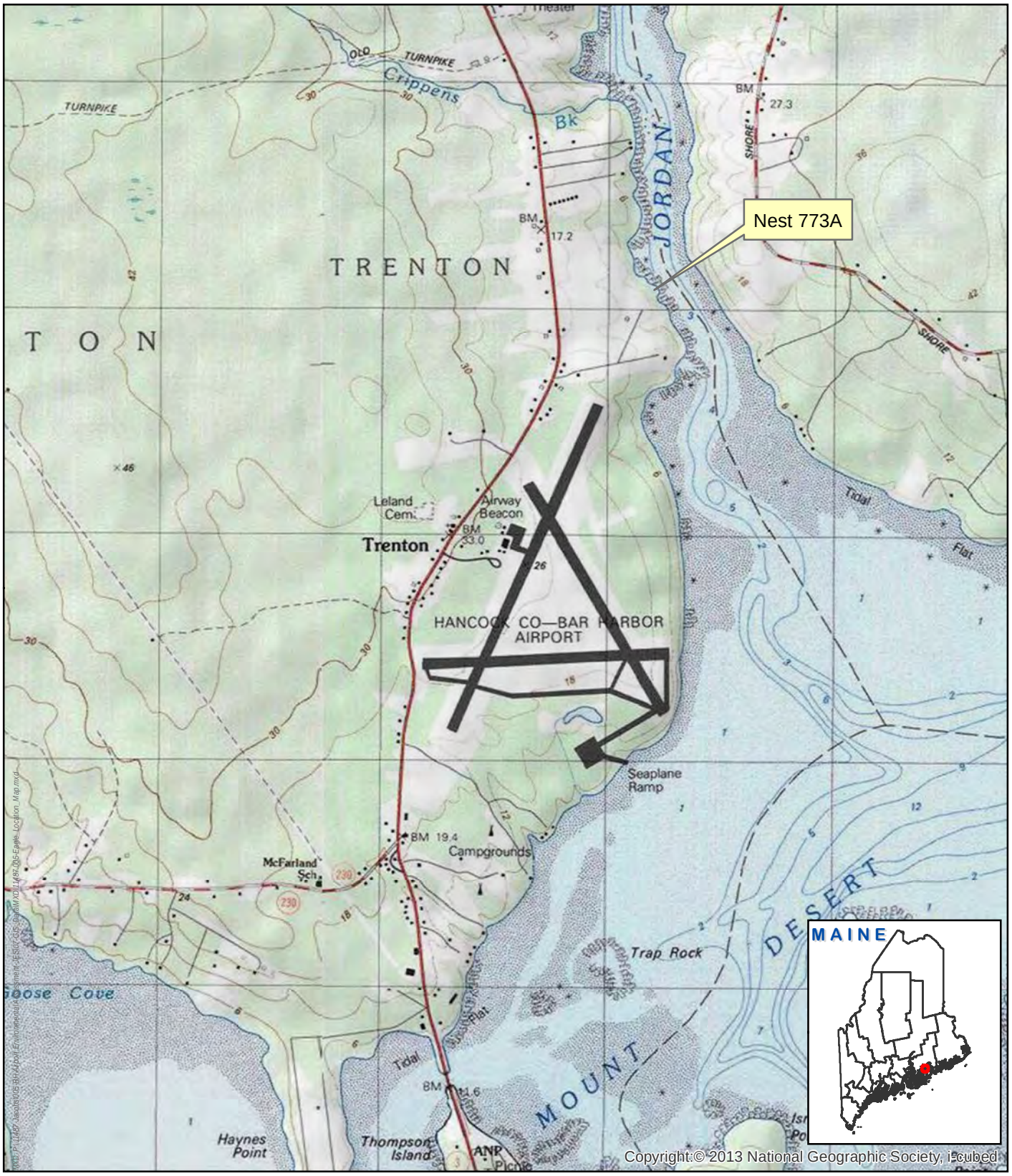
3) Email Correspondence with Thomas W Wittig, Eagle Coordinator Division of Migratory Birds U.S. Fish and Wildlife Service.

4) U.S. Fish and a Wildlife Service. National Bald Eagle Management Guidelines. May 2007.

5) Maryland Bird Conservation Partnership. Bald Eagle Nest Monitoring Program: Volunteer Instruction Manual. 2018.

APPENDIX A

SITE LOCATION MAP



MAP NOTES:

1: ADMINISTRATIVE BOUNDARIES COURTESY OF THE MAINE OFFICE OF GIS (MEGIS).

2: BASE MAP COURTESY OF ESRI.

0 1,000 2,000

Feet

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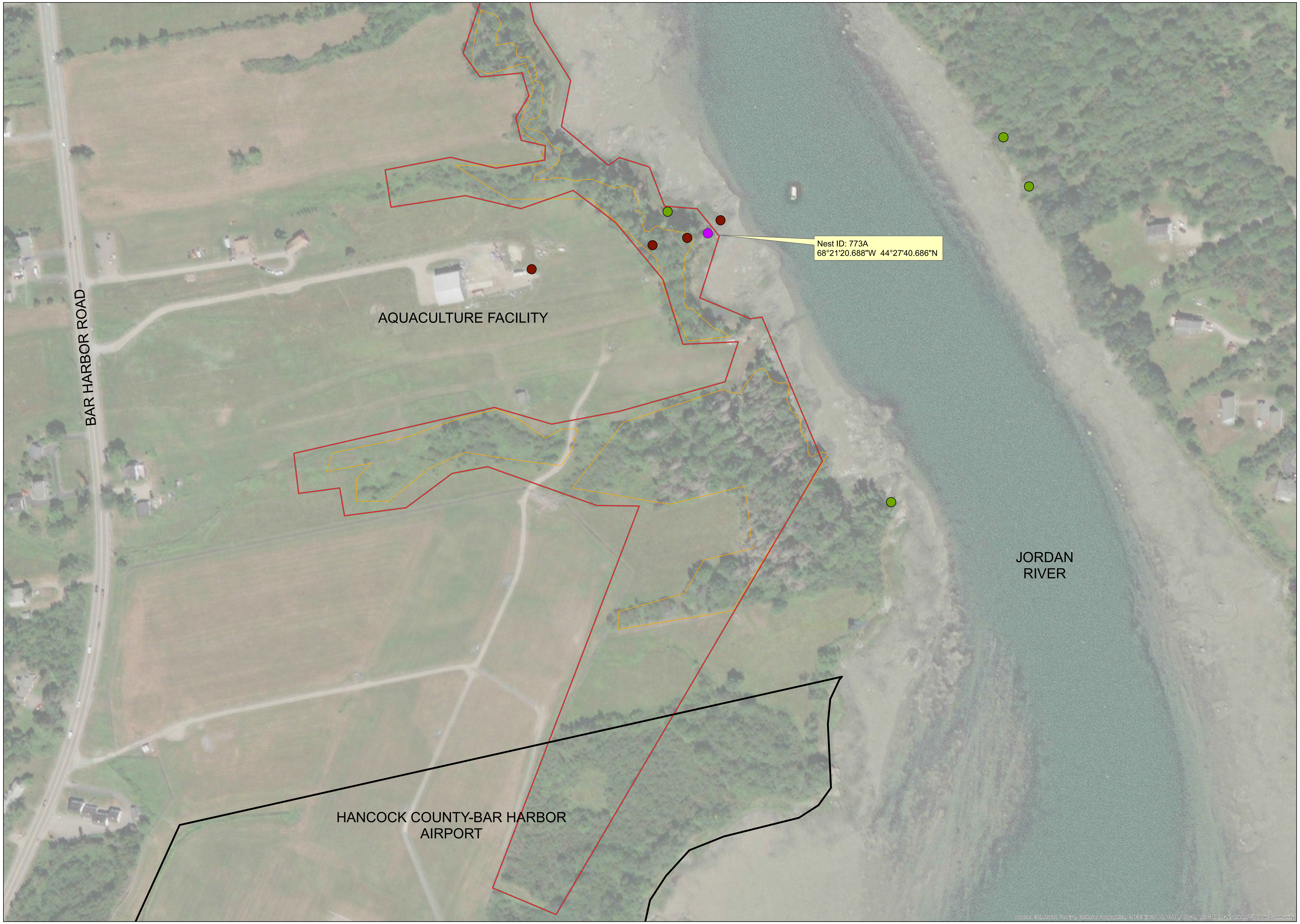
207-989-4824

CLIENT	HANCOCK COUNTY - BAR HARBOR AIRPORT
PROJECT	ENVIRONMENTAL ASSESSMENT: EAGLE MONITORING
TITLE	LOCATION MAP
DATE	8/24/2021
PROJECT No.	11487.005
DRAWN BY	jszillery
SCALE	AS NOTED

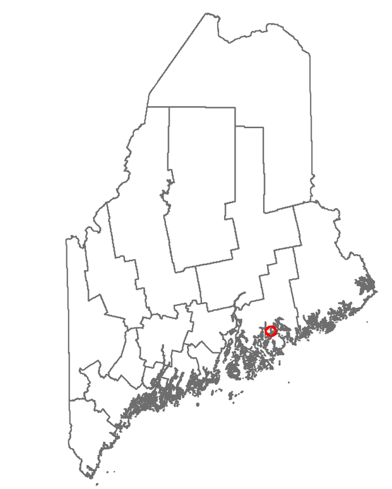
APPENDIX B

EAGLE MONITORING SITE SKETCH

AREA EAGLE NESTS MAP



MAINE



Hancock County
Bar Harbor Airport

Eagle Monitoring Site Sketch

Project No.: 11487.005
By: Sweatherbee
Date: 2021-05-04
Updated: 8/24/2021

Legend

- Airport Property Line
- Project Area
- 10' Tree Mitigation Area - Jacobs
- Roost Trees - HW Observed
- Observation Points - HW
- Eagle Nest (MDIFW)

MAP NOTES:

1: Map is projected using the Universal Transverse Mercator (UTM) projection, Zone 19 North, meters and references the North American Datum of 1983 (NAD83).

2: Site features are approximate.

3: Eagle nest data layer courtesy of the Maine - Bald Eagle Nest Locations and Buffer Zones from the Maine Department of Inland Fisheries and Wildlife and U.S. Fish and Wildlife Service. Locations were identified by an aerial survey during the 2018 nesting season.

4: 10' tree mitigation area is from Jacobs Engineering group and represents areas of vegetation which have the potential to grow within 10' or more of the airport operational surfaces.

0 50 100 200 Feet

1 inch = 100 feet

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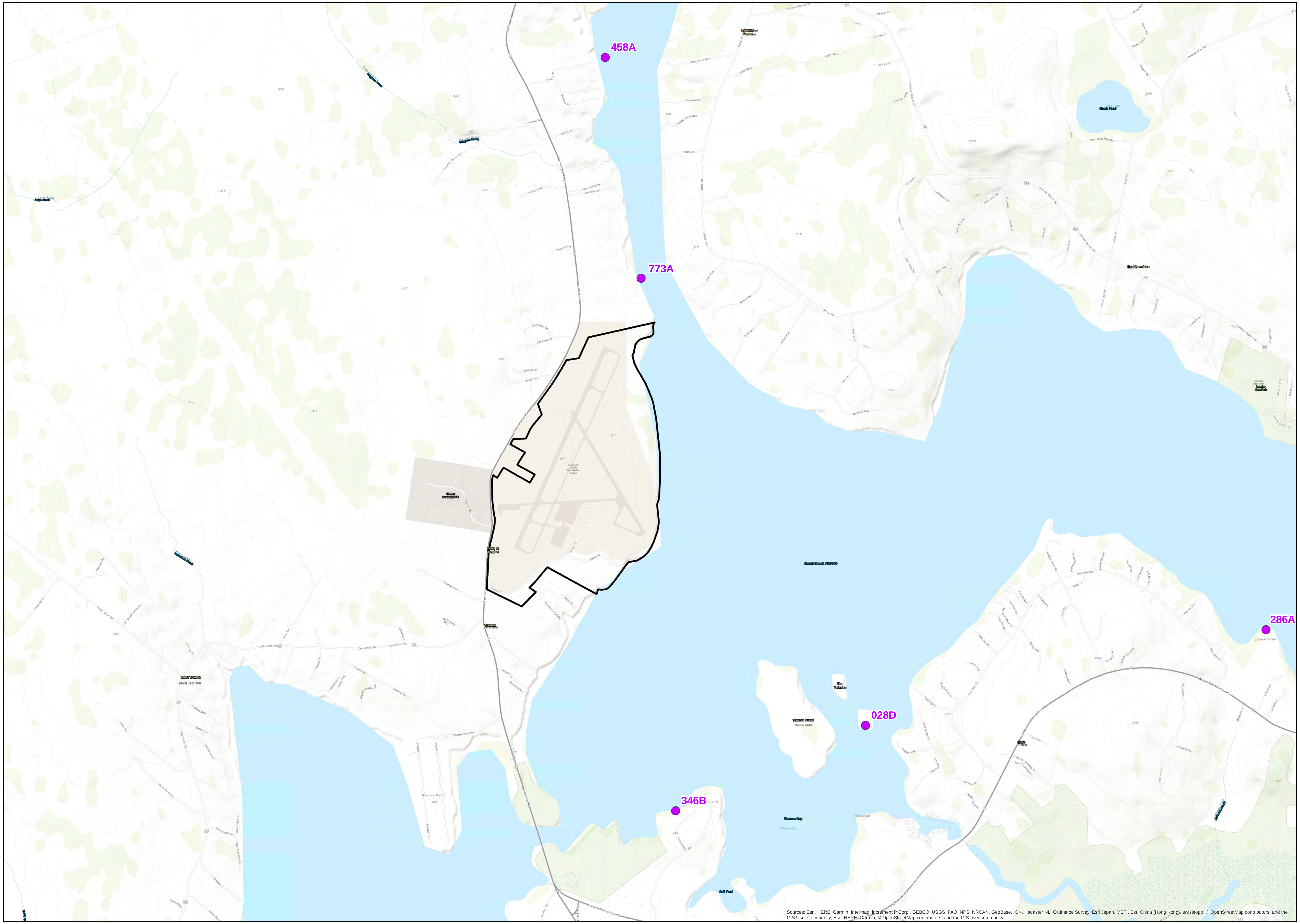

N
W E
S

MAINE

Hancock County
Bar Harbor Airport
Eagle Monitoring Map

Project No.: 11487.005
By: Sweatherbee
Date: 2021-05-04
Updated: 8/24/2021

Legend

- Eagle Nest (USFWS)
- Airport Property Line

MAP NOTES:

1: Map is projected using the Universal Transverse Mercator (UTM) projection, Zone 19 North, meters and references the North American Datum of 1983 (NAD83).

2: Eagle nest data layer courtesy of the Maine - Bald Eagle Nest Locations and Buffer Zones from the Maine Department of Inland Fisheries and Wildlife and U.S. Fish and Wildlife Service. Locations were identified by an aerial survey during the 2018 nesting season.

0 500 1,000 2,000 Feet

1 inch = 1,000 feet

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APPENDIX C

PHOTOGRAPHS

HANCOCK COUNTY-BAR HARBOR AIRPORT
EAGLE NEST MONITORING PHOTO LOG

Photo No. 1 **Photo Date:** 5/5/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Nest location in white pine tree and path to Jordan River, facing east. **Photo By:** SLW	

Photo No. 2 **Photo Date:** 5/5/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Nest location in tree line across mowed lawn from the parking area behind the aquaculture facility, facing east. **Photo By:** SLW	

Photo No. 3 **Photo Date:** 5/5/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Adult bald eagle sitting prone in the nest. Typical incubating behavior. **Photo By:** SLW	

Photo No. 4 **Photo Date:** 5/5/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Cast pellet and feathers observed below the nest. **Photo By:** SLW	 

Photo No. 5 **Photo Date:** 6/16/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Looking west toward aquaculture facility from the nest tree. **Photo By:** SLW	
Photo No. 6 **Photo Date:** 5/5/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Powerline and north end of the airport facing south from the field behind the nest tree. **Photo By:** SLW	

Photo No. 7 **Photo Date:** 5/20/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Typical small aircraft taking off and flying over the nest tree toward the northeast. **Photo By:** JNP	

Photo No. 8 **Photo Date:** 5/20/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Eagle hunched over the nest. Typical bird rearing behavior. **Photo By:** JNP	

Photo No. 9 **Photo Date:** 6/2/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Adult eagle flying. Typical hunting behavior. **Photo By:** NAI	

Photo No. 10 **Photo Date:** 6/2/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Young eaglet observed making short trip from the bottom of the nest to the edge. Adult had returned food to the nest prior. **Photo By:** NAI	

Photo No. 11 **Photo Date:** 6/16/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Looking south of the nest along the Jordan River toward a frequently used roost tree and the adult eagle pair flying above. **Photo By:** SLW	

Photo No. 12 **Photo Date:** 6/16/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Adult eagle perched in roost tree north of the nest tree. **Photo By:** SLW	

Photo No. 13 **Photo Date:** 6/16/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Adult eagle in flight across the river from the nest. **Photo By:** SLW	

Photo No. 14 **Photo Date:** 6/16/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Adult eagle being chased by crows south of the nest. **Photo By:** SLW	

Photo No. 15 **Photo Date:** 6/29/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Fledgling eagle lands in the nest. **Photo By:** JNP	

Photo No. 16 **Photo Date:** 7/14/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Fledgling eagle on a limb in nest tree. **Photo By:** SLW	

Photo No. 17 **Photo Date:** 7/14/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Typical aquaculture activity; kayak staged near the base of the nest tree and motor boat moored in river east of the nest tree. **Photo By:** SLW	

Photo No. 18 **Photo Date:** 7/14/2021 **Site Location:** Nest ID# 773A Trenton, ME **Description:** Evidence of erosion along shoreline at base of nest tree. **Photo By:** SLW	

APPENDIX D

NEST MONTIROING DATA FORMS

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JN: 11487.005
Date: 5-5-2021
Visit #: 1
Surveyor Name: SLW & JES
Nest ID: 773A
Nest Location: Hancock County Airport — 68° 21' 20.688" W, 44° 27' 40.688" N
Updated GPS? _____
Documented Nest Description (deciduous/coniferous, alive/dead): None
Last monitored 2018 - nesting pair Update needed? yes
Equipment: Binoculars ✓ Scope/Lens ✓ Power 20x50
Viewpoint: base of tree to aquaculture building

#8806 US Route 1 park in front

Observations:
Weather/conditions: mostly cloudy

Current Nest Description (deciduous/coniferous, alive/dead): coniferous / white pine alive ; tree is close to eroding shoreline / high tide line

Nest Status: Unknown, Destroyed, Failed, Inactive, Nest Building, (Incubating) Young in Nest, Young Fledged

Eagle Sited: (Yes) or No
#of Adults Sited: 1
# of young: Ø
# of fledglings: Ø

Eagle Behavior:
Courting, Mating, Nest sitting, Baby Bird Rearing, Circling, Hunting, Returning food to the nest, Shredding food, Hunching Posture, (Prone Posture,)
Other: _____

Evidence:
Photo ✓
Droppings ___
Feathers ✓
Shell fragments ___
Hear eagles ✓
Other ___

cast ✓ (feathers & fish parts)

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

Job Title: Jacobs/ Hancock County Bar Harbor Airport – Bald Eagle Nest Monitoring
JN: 11487.005 **Nest ID:** 773A
Nest Location: Along coastline East of aquaculture farm located at 806 Bar Harbor Rd, Trenton, ME 04605. (Park in front/West of Aquaculture farm per owner's request)

Date: 5/20/21 **Start/End Time:** 545 / _____ **Surveyor Name:** JNP
Equipment: Binoculars X Scope/Lens 20X50 Power 56m/1000 m
Viewpoint: Field

Observations:
Weather/conditions: Sunny + clear 43°

Current Nest Description/Nest Status: [Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged]
Young in Nest ?

Eagles Sited: (Yes) or No
#of Adults Sited: 2
# of young: 0
# of fledglings: 0

Evidence: Photo X
Droppings___
Cast pellet___ contents: _____
Feathers X type: Unknown
Shell fragments___
Hear eagles ✓ location/direction: nest
Other_____

Record log of behavior observed on following chart: Eagle Behavior: record on observation chart

Some options: Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other
Also note presence of disturbances (incoming aircraft, use of waterfront, etc)

Time	Observation/ Comments
5:50	Eagles calling / Adult observed perched on limb Adj. to nest (A)
6:15	Adult remains perched (A) / Adult Eagle observed in nest (B)
6:18	Adult departs (A) nest / perch to the Southeast (A)
6:40	Adult Eagle (X) flys past nest to the South west (poss. bly From perch North of nest)
7:05	Avian Bones & Feathers obs ~100 yrds north of nest - unable to i.D. species (in woodline)
7:55	Twin Prop Aircraft flying over Eagle nest toward NE. (from B.H.A.)
8:31	Nesting Adult Eagle tends to nest's inhabitants, makes 3 short flights & perches on branch Adjacent to nest. (unable to determine if young were being fed)
8:38 -	Aircraft (single Eng. Prop) flays NE over nest, bird does not Appear Affected
9:00	depart

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

Job Title: Jacobs/ Hancock County Bar Harbor Airport – Bald Eagle Nest Monitoring
JN: 11487.005 **Nest ID:** 773A
Nest Location: Along coastline East of aquaculture farm located at 806 Bar Harbor Rd, Trenton, ME 04605. (Park in front/West of Aquaculture farm per owner's request)

Date: 6/2/21 **Start/End Time:** 6:15 - 9:15 **Surveyor Name:** Nicole Ireland
Equipment: Binoculars X Scope/Lens _____ Power _____
Viewpoint: _____

Observations:
Weather/conditions: Sunny, 65°

Current Nest Description/Nest Status: [Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged]

Eagles Sited: (Yes) or No
#of Adults Sited: 1
# of young: 1
# of fledglings: _____

Evidence:
Photo X
Droppings ___
Cast pellet ___ contents: _____
Feathers ___ type: _____
Shell fragments ___
Hear eagles X location/direction: _____
Other _____

Record log of behavior observed on following chart: Eagle Behavior: record on observation chart

Some options: Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other
Also note presence of disturbances (incoming aircraft, use of waterfront, etc)

Time	Observation/ Comments
6:15	No sitings
6:42	can near calling from nest
6:47	adult eagle lands in nest / feeds young eagle
6:53	young eagle is perched up in nest
7:00	Adult eagle flying around nest
7:07	Adult is gone, young eagle still perched on nest
7:58	Adult eagle flying around nest
8:20	Adult eagle lands in nest then flies away
8:30-9	Adult eagle perched on tree across water
	↑ baby is still hidden in nest

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

JN: 11487.005
Date: 6/16/21
Visit #: 4
Surveyor Name: Sarah Weatherbee
Nest ID: 773A
Nest Location: along coastline from aquaculture farm at 806 Bar Harbor Rd, Trenton, ME 04605 Updated GPS point? no
Nest Description (deciduous/coniferous, alive/dead): last monitored 2018 w/ nesting pair located; it is intact in a living white pine tree Update needed? ____
Equipment: Binoculars ✓ Scope/Lens ✓ Power 20X50
Viewpoint: behind aquaculture building /parking lot ~6-7am
grassy lawn between aqua. & nest tree ~7-8am
waterside rocks ~8-9am

Observations:
Weather/conditions: sunny, breezy ~60°F
leaf on

Current Nest Description/Nest Status: Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged
nest intact - no activity

Eagles Sited: (Yes) or No
#of Adults Sited: 2
# of young: Ø
# of fledglings: Ø

Evidence: Photo ✓
Droppings ✓
Cast pellet X contents: ____
Feathers ✓ type: 1 small non-flight feather near nest
Shell fragments X
Hear eagles ✓ location/direction: from nest or behind nest/over water
Other ____

Eagle Behavior: record on observation chart
Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, (Hunting,) Returning food to the nest, Shredding food, (Other (describe)
flying; avoiding crow attack; roosting

Observation Chronology Chart on back

Time	Observation
6 am	arrived to Site no activity observed; nest "top" unobservable due to foliage from parking lot
7:03	air traffic departing; flight pthrn over aqua. building
7:20	hear eagle call - from nest direction or water
8:05	2 eagles sighted & photographed in crow skirmish/attack over water by roost tree south; 1 roosted after in tree North
8:11	air traffic departing;
7:45-8:00 *	spoke w/ Alex (owner's son) re: roost trees & activity
8:30	2 eagles sighted/photo'd flying & roosted in 2 trees East
	* marked observation pts & roost trees in Avenza
8:51	air traffic departing directly over nest tree
9:00	end site visit

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

JN: 11487.005
Date: 6/29/21
Visit #:_____
Surveyor Name: Jason Patterson
Nest ID: 773A
Nest Location: along coastline from aquaculture farm at 806 Bar Harbor Rd, Trenton, ME 04605 Updated GPS point? no
Nest Description (deciduous/coniferous, alive/dead): last monitored 2018 w/ nesting pair located; it is intact in a living white pine tree Update needed?____
Equipment: Binoculars X Scope/Lens_____ Power 20 X 50
Viewpoint: Access Rd

Observations:
Weather/conditions: Sunny, Hazy 75° - 85°

Current Nest Description/Nest Status: ~~Unknown~~, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged

Eagles Sited: Yes or No
#of Adults Sited:_____
# of young: 1
# of fledglings:_____

Evidence:
Photo X
Droppings___
Cast pellet___ contents: _____
Feathers___ type:_____
Shell fragments___
Hear eagles X location/direction:_____
Other_____

Eagle Behavior: record on observation chart
Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other (describe)

Observation Chronology Chart on back

- why is IFP required to sample pb/co now?
Last sampled on: 6/27/17

Time	Observation
0625	1 fledgling observed / 0 - Adults
0700	- Fishing boat travels North on East side of nest
	Causes no disturbance to fledgling
7:08	- immature Eagle flys over nest, followed by cackling Adult each fly
	Access East Adult perches on W. Pine on West side of East
8.27	- Single Engine prop plane flys directly over nest (~100')
	on Landing approach. Causes no visible stress to fledgling
8.45	fly over from above close bank AC. Causes no visible stress
	to fledgling. Twin Eng. Turbo Jet AC flys Approach to land (928)
7.45	Mature Eagles return to nest.

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

JN: 11487.005
Date: 7/14/2021
Visit #:
Surveyor Name: Sarah Weatherbee
Nest ID: 773A
Nest Location: along coastline from aquaculture farm at 806 Bar Harbor Rd, Trenton, ME 04605 Updated GPS point? no
Nest Description (deciduous/coniferous, alive/dead): last monitored 2018 w/ nesting pair located; it is intact in a living white pine tree Update needed?
Equipment: Binoculars ✓ Scope/Lens ✓ Power 20 x 50 binocs; 55-250mm lens
Viewpoint: on lawn (6am), under tree (7am), on rocks by the river (8am)

Observations:
Weather/conditions: overcast, fog/mist, breezy, cool, sprinkling rain occasionally 55-60°F

Current Nest Description/Nest Status: Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged

Eagles Sited: (Yes) or No
#of Adults Sited:
# of young:
# of fledglings: 1

Evidence: Photo ✓
Droppings ✓
Cast pellet ___ contents:
Feathers ___ type:
Shell fragments ___
Hear eagles ✓ location/direction: nest
Other Fledgling

Eagle Behavior: record on observation chart
Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other (describe)
fledgling perched & calling periodically - 5 high skrees in succession preening
Observation Chronology Chart on back

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

JN: 11487.005
Date: 7/14/2021
Visit #:
Surveyor Name: Sarah Weatherbee
Nest ID: 773A
Nest Location: along coastline from aquaculture farm at 806 Bar Harbor Rd, Trenton, ME 04605 Updated GPS point? no
Nest Description (deciduous/coniferous, alive/dead): last monitored 2018 w/ nesting pair located; it is intact in a living white pine tree Update needed?
Equipment: Binoculars ✓ Scope/Lens ✓ Power 20 x 50 binocs; 55-250mm lens
Viewpoint: on lawn (6am), under tree (7am), on rocks by the river (8am)

Observations:
Weather/conditions: overcast, fog/mist, breezy, cool, sprinkling rain occasionally 55-60°F

Current Nest Description/Nest Status: Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged

Eagles Sited: (Yes) or No
#of Adults Sited:
# of young:
# of fledglings: 1

Evidence: Photo ✓
Droppings ✓
Cast pellet ___ contents:
Feathers ___ type:
Shell fragments ___
Hear eagles ✓ location/direction: nest
Other Fledgling

Eagle Behavior: record on observation chart
Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other (describe)
fledgling perched & calling periodically - 5 high skrees in succession preening
Observation Chronology Chart on back

Time	Observation
6:00	viewing from lawn/boat no activity at nest; aquaculture fish truck arrives observed; at the building
7:00	viewpoint on stump by tree heard eagle call from nest direction, possibly young?
7:10	Eagle call from nest continues sporadically (high pitch skree)
7:20	Jet aircraft departing to south (not over nest) eagle call from nest continuing - believe to be young
7:43	(5 high skree call) eagle in nest call & response from river (chittery) adult checking in?
8:00	@ river: tide incoming/low; observed gulls, heard gulls, crows, chickadees & eagle in nest - still not sighted
8:15	observed fledgling on limb behind the nest; grunted at me; photographed; dark plumage
8:20	muscle farming activity - guy drags kayak out they had storm/rain a couple days ago & are testing water before they farm; he's paddling out to boat moored
	in front of nest on river - eagle doesn't change
	behaviour - motor boats out/south to bay
8:30	fledgling notably not calling w/ me out on rocks &
	photographing it preening; pooped
	*lots of tamped down grass & scat waterside
	of the shoreline/nest tree - photo
	adults not observed - presumed hunting or
	roosting further out in the bay??
9 am	end observation/monitoring visit

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

JN: 11487.005
Date: 7-28-21
Visit #:
Surveyor Name: Jason Patterson
Nest ID: 773A
Nest Location: along coastline from aquaculture farm at 806 Bar Harbor Rd, Trenton, ME 04605 Updated GPS point? no
Nest Description (deciduous/coniferous, alive/dead): last monitored 2018 w/ nesting pair located; it is intact in a living white pine tree Update needed?
Equipment: Binoculars X Scope/Lens Power 20 x 50
Viewpoint: Trail head

Observations:
Weather/conditions: Sunny, slt wind (~10 mph)

Current Nest Description/Nest Status: Unknown, Destroyed, Failed, Inactive, Nest Building, Incubating, Young in Nest, Young Fledged

Eagles Sited: (Yes) or No
#of Adults Sited:
# of young:
# of fledglings:

Evidence:
Photo
Droppings
Cast pellet contents:
Feathers type:
Shell fragments
Hear eagles location/direction:
Other

Eagle Behavior: record on observation chart
Courting, Mating, Nest sitting (Prone Posture), Baby Bird Rearing (Hunched Posture), Circling, Hunting, Returning food to the nest, Shredding food, Other (describe)

Observation Chronology Chart on back

Time	Observation
0610	Arrived onsite. No Eagles observed in NEST. View of nest partially blocked by w. Pine trunk
0702	- Juvenille Eagle fly's into nest - 2nd Eagle can be heard calling, not visible
0719	- Twin Eng Turbo Prop flies over nest, heading NE (x2), takeoff - Eagle does not show evidence of distorbance. No change in behaviors.
0742	- Adult Eagle circles nest, while calling. Flys South Along river
0743	- Single Eng sm. A/C flys over nest during Takeoff
0747	- Juvenille departs nest
0822	- Single Eng Prop takes off over NEST (NE)

Appendix 10 - Public Comments

Hancock County - Bar Harbor Airport
Environmental Assessment
Response to Comments

Date:	March 15, 2022
Project name:	Environmental Assessment for Tree Clearing & Avigation Easements
Project no:	E2X75509
Attention:	Mr. Leroy Muise, Airport Manager
Client:	Hancock County - Bar Harbor Airport
Prepared by:	Heath Marsden, Senior Airport Planner/Project Manager, Jacobs
Reviewed by:	Jason Homiak, Senior Airport Engineer/Project Manager, Jacobs
Copies to:	Richard Doucette, FAA; Jorge Panteli, FAA; Scott Adkins, County Administrator; Files

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Mr. Muise,

We offer the following responses to comments received on the draft Environmental Assessment provided to the public for review between November 30, 2021 and January 17 2022. One letter was received. The letter was from Mr. and Mrs. Hodgkins. A copy of the letter and this response is included in the final EA document as Appendix 10. The comments and responses are provided below.

Comment #1 – *"As land owners we are asking that an Option be considered where the airport clears all ON-Airport Obstructions and Obstructions to Operational Airspace Surfaces within the airport; Create a binding contract with landowners that runs with the land of properties which would allow land owners to cut all hazards deemed necessary by the airport along with other trees that are fast growing and are yet deemed to be a hazard in the airspace and the airport takes no action in regards to avigation or land easements; for the landowners not willing to participate in contracting with the airport to remove the hazards on their property then land or air easements could be obtained."*

> Response #1- Jacobs held a meeting with Richard Doucette (FAA Environmental) and Jorge Panteli (FAA Compliance) to discuss the possibility of the landowner and County entering into an agreement to cut the trees deemed a hazard by the FAA. The FAA stated avigation easements are the preferred instrument for land use control under the airspace surfaces. The FAA and the Airport are willing to hold off on pursuing avigation easements for one year (May 2023). If an agreement satisfactory to the Airport is not in place and the trees noted in this Environmental Assessment are not removed by May 2023, the Airport will pursue the necessary avigation easements.

Comment #2 – "*While we understand the need for safe approaches for the airplanes accessing Runway 22 we are confused by how the planes actually approach the runway as they are VERY rarely in any of the depicted outlines created by Jacobs."*

> Response #2 – The airspace surfaces drawn by Jacobs are drawn per FAA standards. The FAA has adopted these surfaces which are trapezoidal in shape to protect a standard final approach course

to each runway end. Factors such as wind or pilot perception may alter the actual course flown. The Airport has little means to enforce how an aircraft is actually operated as current weather conditions and pilot experience prevail on how an aircraft enters the airport traffic pattern. The airport has requested that aircraft approach and depart from the south side of the runway versus the north side as shown here.

Comment #3 – *"Air Quality is and has always been of issue around the airport. In the last five years we have noticed tree die off at the end of Runway 22 we believe due to the exhaust emissions from the much larger planes taking off."*

Response #3 – This EA addresses the removal of trees and acquiring avigation easements for the perpetual maintenance of protected airspace surfaces. It is not typical or required of an EA to address the health of existing vegetation for an action not related to the original purpose and need for the EA. The County or private landowners could hire an arborist to examine the health of the trees noted in the comment as the die-off could be the result of any of a number of possible causes.

Comment #4 – *"We are strongly opposed to the removal of the Eagles nest which has been in place for at least the 24 years that we have been able to document the mating pair."*

Response #4 – The eagle nest was specifically studied at the request of MF&W and NEPA guidelines as there was a documented nest in proximity of the airport. With a history of eagle strikes it appears prudent to remove and relocate the nest for the protection of the eagles and the flying public. However a definite decision has not been made to take any action other then to document current activity. If the nesting tree is determined to be a hazard, then the County will work with the Eagle Coordinator for the USFWS Division of Migratory Birds to file an application to remove the nest under a separate project.

Comment #5 – *"It would have been beneficial for someone to check with the town on the history of the properties to avoid cost/time spent exploring these areas."*

Response #5 – this comment is in response to the Phase 1 archaeological investigation. A Phase 1 archaeological investigation was requested by the Maine Historic Preservation Commission to identify the presence or lack thereof of prehistoric artifacts.

Comment #6 – *"I would like to know what visual resources would be discussed with property owners as mentioned in the EA outline."*

Response #6 - The proposed clearing of trees does not degrade any existing viewshed on the proposed properties or add any additional exposure to light sources. The clearing does not meet the NEPA impact threshold for additional analysis due to light emissions as no additional light sources would be added because of the clearing project.

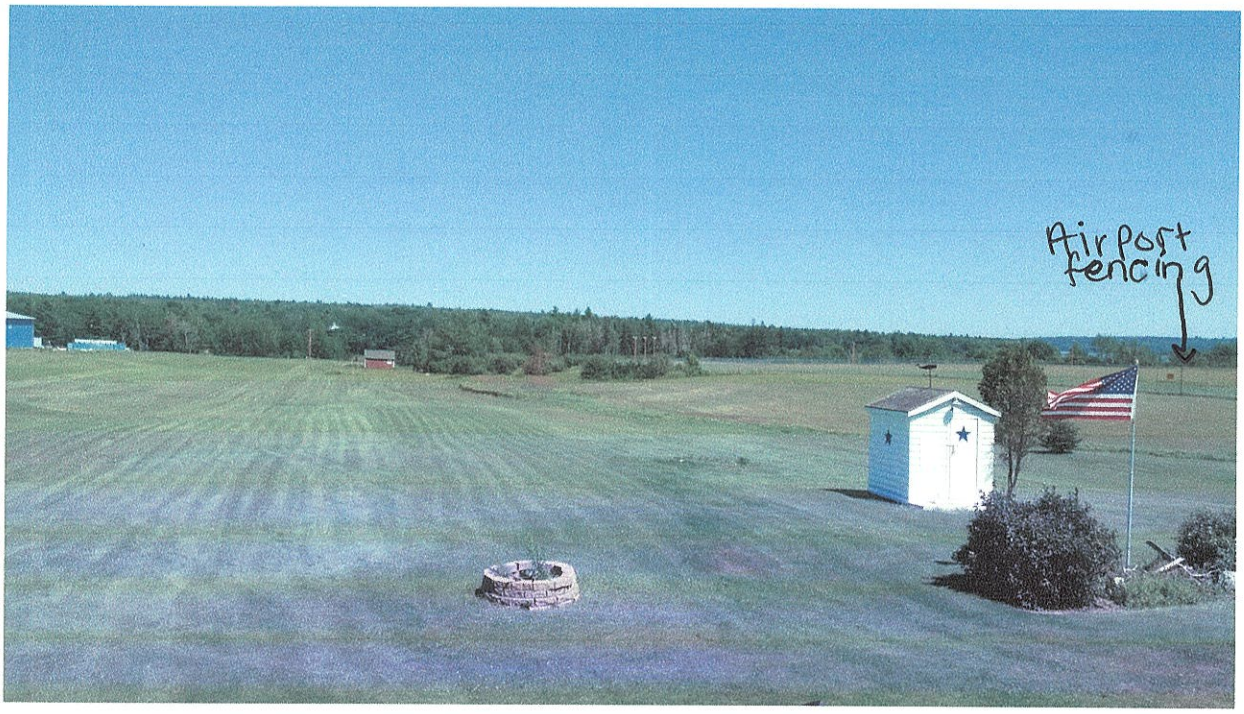
Comment #7 – *"I would like to know when these measurements are taken as it is notably quieter at the airport during the late fall winter and early spring season. I would appreciate a new analysis during the summer season when it is the busiest time at the airport for transparency of the actual noise levels."*

Response #7 – The proposed tree clearing that was evaluated does not trigger NEPA threshold that would require a noise analysis or noise study as the proposed action (the tree clearing & avigation easement acquisition) would not change the fleet mix or the number of operations at the airport.

Public Comment Hancock County Airport's Environmental Assessment

January 8, 2022

My name is Jeff Hodgkins, both myself and wife Linda Hodgkins would like to comment on the Hancock County Airports Environmental Assessment completed on November 2021. We are the abutters on the north side of the airport at the end of Runway 22 at 822 Bar Harbor Road (Map 20 Lot 15 & 16) and own 17+ acres. Our home we live in has been in the Hodgkins family since 1899 and the land has been in the family since 1873. Our family has been invested in not only the community but our land mostly as farming up until 2012. It was then completely turned into landscaped lawns all the way to our shoreline and has become an impressive part of the open views in Trenton as individuals travel into Bar Harbor as noted in the Route 3 Corridor Viewsheds (Trenton (hcpcme.org) (http://www.hcpcme.org/trenton/index.htm)



In 1976 the Hodgkins family was taken to court by the Hancock County Commissioners to take an Air Easement and a 50' right of way onto the family's property even after much opposition from the Hodgkins family at that time.

It should be noted that both my wife and I have participated in all opportunities regarding this assessment process and will outline our comments below.

Environmental Assessment Avigation Easement and Obstruction Removal Project Dated November 21, 2021.

3.2 Avigation Easements and 3.3 Clearing Penetrations

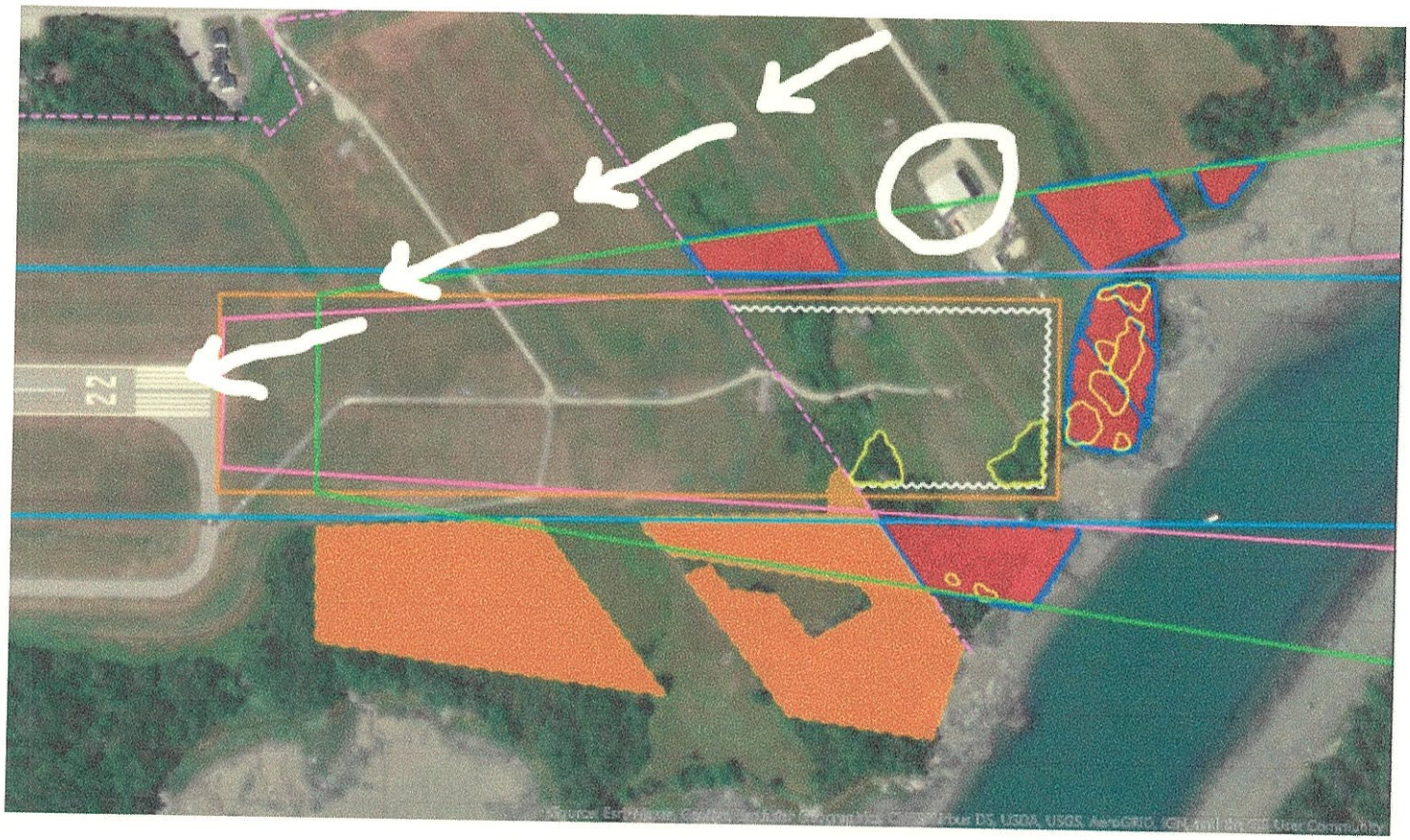
As we see the request for Avigation Easements and Clearing of Penetrations, we are STRONGLY opposed to any further taking of our property regarding land or air easements. We believe that the Airport/FAA needs a more open approach to this situation, we have been very vocal in our meetings with the key players during this process. We believe that there is another option that should be considered that would afford the airport their desire to have clear approaches and to afford the landowners an opportunity to maintain their land/airspace and for the airport to be considered a good neighbor. As land owners we are asking that an **Option 5** be considered where the airport Clears All On-Airport Obstructions and Obstructions to Operational Airspace Surfaces within the airport; Create a binding contract with landowners that runs with the land of properties which would allow land owners to cut all hazards deemed necessary by the airport along with other trees that are fast growing and are yet deemed to be a hazard in the airspace and the airport takes no action in regards to avigation or land easements; for the landowners not willing to participate in contracting with the airport to remove hazards on their property then land or air easements could be obtained. We have spoken to DEP on a few occasions and were assured by Jessica that our family could actually remove any and all trees deemed as hazards by the airport/FAA by obtaining a letter from the airport which outlined which trees on our property are deemed as airspace hazards, our family would then contact the Town of Trenton CEO who would generate permits allowing for our family to cut all trees deemed as hazards leaving two feet of the stump to mitigate any erosion in the area and would then afford our family to plant smaller shrubbery to help prevent future and prevent future growth of trees that could or would penetrate the airspace and thus would not require the airport/FAA to claim any land or air easement on our property.

I would also like to note that The Town of Trenton Land Use Ordinance protects the airspace/land in and around the airport as noted in the Trenton LUO 3.11 Airport Hazard Overlay Land Use District (A) 3.11.1 Applicability and Purpose To insure against safety hazards, noise and obstruction problems associated with aircraft utilizing the Hancock County – Bar Harbor Airport. All development proposed within this district shall be subject to the standards specified within this part, in addition to the standards and regulations contained in the particular base district in which the development occurs. Development activity within this district is subject to regulations primarily to mitigate safety and noise problems; however, land uses within this district also shall be regulated to mitigate their compatibility with airport operations. The regulations governing use and height within the Airport Hazard Overlay Land Use District conform to the standards recommended by the Federal Aviation Administration's Advisory Circular, 150/5190-4, "A Model Zoning Ordinance to Limit Height of Objects Around Airports". 3.11.2 Delineation of the District The Airport Hazard Overlay Land Use District corresponds with the LDN 60 noise curve, as mapped by Hoyle & Tanner & Associates, Inc. and contained in the Hancock County – Bar Harbor Airport Master Plan, December 1992, in which noise-level disturbance is likely to occur, in accordance with planning standards of the FAA. It is hereby found that four (4) levels of regulation shall be necessary within the Airport Hazard Overlay Land Use District. These levels shall be mapped on the official Land Use District Map, for the Town of Trenton. Also see illustration following this section. 3.11.2.1 Discretionary Noise Level This level of regulation involves the largest geographical area, corresponds to the LDN 60 noise curve and is the most general in

terms of restrictions. I t is considered discretionary because it is the transitional impact level between significant and insignificant noise levels in the vicinity of the airport. I t is established primarily to insure against noise problems. Within the LDN 60 noise curve it shall be necessary to protect against the effect of noise levels on proposed developments. The remaining areas to be regulated are subsections of the Discretionary Noise Level. 3.11.2.2 Significant Noise Level The LDN 65 noise curve is concentrically placed inside the LDN 60 noise curve. Because of its proximity to the airport's primary surface, greater noise and safety concerns exist and more restrictive regulation shall be required. ARTICLE III. LAND USE DISTRICT REQUIREMENTS Page 22 3.11.2.3 Approach Path This subdistrict is established to ensure that developments on either end of the airstrip will not pose safety problems. The Approach Path subdistrict is established for safety of structures, persons and flight operations and is the area 525 feet on bot h sides of the airport's primary surface, and extending to the LDN 60 noise curve at each end of the airport's primary surface. 3.11.2.4 Height Limits An area subject to special height limitations is established to prevent any hazardous vertical protrusions. This fourth subdistrict forms a trapezoid around the airport's primary surface. To illustrate the effect of these height limitations, no structure could be built up to the 35-foot height limit if it were within 245 feet (1:7) of the sides of the runway's primary surface or within 1,190 feet (1:34) of the ends of the runway. 3.11.3 Area Regulations Geographically, the sub-districts of the Airport Hazard Overlay Land Use District overlap; however, all applicable area regulations shall be met. 3.11.3.1 Requirements: All Land Use Ordinance requirements and standards for the developments within the Airport Hazard Overlay Land Use District shall conform with the pertinent design and performance standards of this section. In addition to the materials that are required by this section to be submitted by an applicant for development review, any development proposed within the Airport Hazard Overlay Land Use District shall identify, by narrative description and on the development plan, the location of individual structures in relation to the airport runway's primary surface area in order to demonstrate compliance with these regulations (see illustration attached to this section). 3.11.3.2 Discretionary Noise Level District – LDN 60 A. Notwithstanding any other provisions of this section, no use may be made of land or water within the LDN 60 noise level district in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and other lights (i.e., colors and patterns), result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, create bird strike hazards or otherwise in any way endanger or interfere with the landing, takeoff or maneuvering of aircraft intending to use the airport. ARTICLE III. LAND USE DISTRICT REQUIREMENTS Page 23 B. Any use containing bedrooms, whether residential or commercial, may be developed, unless otherwise excluded in a sub-district, provided that the following noise mitigation measures are achieved and shown on building plans and specifications at the time of application for a building permit: (i) All glass openings shall be double glazed; (ii) Any larger areas of glass that exceed thirty (30) percent of the wall area shall be triple glazed; (iii) Full year heating-air-conditioning shall be installed; (iv) Exterior doors shall be solid core with gaskets. If a storm door is used, then any exterior door may be used as long as door gaskets are installed; (v) An attic space shall be provided, and if an attic is not provided, single plank roof construction is prohibited; (vi) Provide baffling for all openings 4 inches in diameter or larger; (vii) These provisions shall not apply to areas in a dwelling unit that are not intended for long-term occupancy such as a laundry room, a storage closet or a bathroom. 3.11.3.3 Significant Noise Level District – LDN 65 A. Residential development is prohibited inside the LDN 65 noise curve due to the severe nature of the health, safety and welfare concerns. B. In addition, only low-density non-residential uses shall be permitted (including but not limited to: small-scale storage, warehousing, sales/service, wholesaling operations, or those business employing fewer than 10 employees or serving less than 10 patrons at a time). Exception to this standard shall be made for uses proposed to be located on property owned by or leased to the airport

which are approved by the Hancock County Commissioners as accessory to the airport and upon a finding by the County Commissioners that (1) the use is necessary for the safe or efficient functioning of the airport, and (2) no feasible alternative location exists. 3.11.3.4 Approach Path A. Hotels schools, churches, auditoriums, theaters and similar forms of assembly uses and high-density development (more than 2 dwelling units per net acre or employing more than 10 persons) shall be prohibited in the approach path subdistrict. ARTICLE III. LAND USE DISTRICT REQUIREMENTS Page 24 B. Low density development (2 dwelling units or less per net acre) shall be permitted. In addition, only low-density non-residential uses shall be permitted (see LDN 65 definition). Exception is made for uses proposed to be located on property owned by or leased to the airport which are approved by the Hancock County Commissioners as accessory to the airport and upon a finding by County Commissioners that (1) the use is necessary for the safe or efficient functioning of the airport, and (2) no feasible alternative location exists. 3.11.3.5 Height Limitations Within the Airport Hazard Overlay Land Use District, no building, structure, utility pole or protrusion of any kind thereof shall be permitted to extend to a height measured from the mean elevation of the airport runway that exceeds the limits established by the methodology described herein. The maximum height limits permitted under this Ordinance of thirty-five (35) feet shall be lowered as necessary to correspond with the limits established as follows: A. The airport runway primary surface area consists of a rectangle that extends to a distance of 200 feet beyond the ends of runways 4-22 and 17-35 and is 1000 feet wide for runway 4-22 and is 500 feet wide for runway 17-35. Along both sides and ends of the airport primary surface area, at the extremity of the primary surface, the height restriction shall be zero (0) feet. Moving outward from both sides of the runways, the height limit shall increase at the rate of one (1) foot upward per seven (7) linear feet, or a ratio of 1:7. B. Moving outward from the ends of the runway's primary surface area, the area subject to these special height limitations shall fan outward beyond the area that would be covered if the height limitation from the sides of the primary surface area extended beyond the ends of the runway. The area so encompassed by special height limitations at the ends of the runway is in the shape of a trapezoid, in which the smaller and larger bases are established by the FAA. The height of the trapezoid would be the linear distance form the end of the runway, as described below: ARTICLE III. LAND USE DISTRICT REQUIREMENTS Page 25 (i) For Runway 4 end: The height limit shall increase at the rate of one (1) foot upward per thirty-four (34) linear feet, or a ratio of 1: 34. F or example, no structures could be built up to 35 feet within 1,190 feet of the runway 4 end. (ii) For Runway 22 end: The height limit shall increase at the rate of one (1) foot upward per fifty (50) linear feet, or a ratio of 1:50. For example, no structure could be built up to 35 feet within 1,750 feet of runway 22 end. (iii) For Runway 17 end: The height limit shall increase at the rate of one (1) foot upward per twenty (20) linear feet, or a ratio of 1:20. For example, no structure could be built up to 35 feet with 700 feet of runway 17 end. (iv) For Runway 35 end: The height limit shall increase at the rate of one (1) foot upward per twenty (20) linear feet, or a ratio of 1:20. For example, no structure could be built up to 35 feet within 700 feet of the runway 35 end. 3.11.4 Non-conforming Uses of Structures 3.11.4.1 Regulations Not Retroactive: The regulations prescribed herein shall not be construed to require the removal, lowering or other change or alteration of any existing structure not conforming to the regulations as of the effective date of this Ordinance, or otherwise interfere with the continuance of a nonconforming use. Nothing contained herein shall require any change in the construction, alteration or intended use of any structure, the lawful construction or alteration of which was begun prior to the effective date of this Ordinance, and is diligently pursued. 3.11.4.2 Marking and Lighting: The owner of any existing nonconforming structure is hereby required to permit the installation operation and maintenance thereon of such markers and lights as shall be deemed necessary by the Airport Manager to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated and maintained at the expense of the Hancock County Commissioners

While we understand the need for safe approaches for the airplanes accessing Runway 22 we are confused by the how the planes actually approach the runway as they are VERY rarely in any of the depicted outlines created by Jacobs. As seen in the picture below you will notice that our observations of planes are always entering the airspace on the west side of the large building circled in white in the upper left of this picture (the planes are very rarely lined up with the approach lights). I have drawn in white arrows to show how the planes actually enter the airspace for landing and exiting Runway 22. As you can see next to the third arrow away from Runway 22 there is one tree currently near the actual approach used.



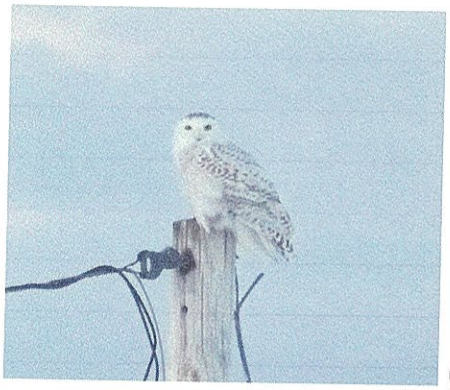
5.3.1 Air Quality

Air Quality is and has always been of issue around the airport. In the last five years we have noticed tree die off at the end of the runway 22 we believe due to the exhaust emissions from the much larger planes taking off. Many of the trees have turned brown. On certain days you can see the exhaust emissions across our property and when mowing our lawns, we find it very difficult to breathe and our eyes burn just following take off due to the heavy propellants released.

Trenton Land Use Ordinance 4.1.3 Air Pollution 4.1.3.1 No dust, dirt, fly ash, fumes, vapors, or gases shall be emitted into the air from any land use or establishment so as to endanger the public health and safety, to impair safety on or the value and enjoyment of other property or to constitute a critical source of air pollution. 4.1.3.2 Air pollution control and abatement shall comply with applicable minimum federal and state requirements.

5.3.7 Fish, Wildlife and Plants

Mitigating the Eagles nest- We are strongly opposed to the removal of the Eagles nest which has been in place for at least the 24 years that we have been able to document this mating pair. The pair has produced numerous eaglets over the years. The majority of the years two eaglets have hatched with the exception of one year when this area received heavy rains and high winds during their mating season which destroyed a portion of their nest, and they spent the remainder of the year rebuilding. This mating pair along with their offspring are very intuitive and are always flying well out of the area of inbound and outbound planes. As noted in the airport's observation reports the eagles and offspring do not show stress when airplanes are inbound or outbound as they have learned how to reside cohesively next to the airport. The recent collision with an Eagle at the airport was one that was from the Gouldsboro, Maine area and not part of the mating pair adjacent to our property. The airport has wanted this nest to be removed for years and with the recent bird strike it is now a catalyst to have the nesting pair removed. Regardless of removal of this nest the airport abuts an ocean and Eagles will always be part of the airspace in this location. How will they mitigate the remaining 8 eagles that have been documented south of the airport? As noted in many reports including www.raptorresource.org which states that Bald Eagles will generally build nest ½ mile to 1 ½ miles from other active nest sites to avoid competition. I believe more concern should be placed in regard to the gaggles of geese (most recent documentation of 30), flocks of seagulls (100's at a time), Canadian Snowy Owl, coyotes, deer, turkeys(26 at last count), foxes and hawks that have penetrated the air space and runways at the airport.



Canadian Snowy Owl drew much attention at the airport where it resided during the winter of 2019 and 2020

Geese flying into the airport

Seagulls on our property following air canons at the airport sending them away from the runway.

5.3.10 Historical, Archeological, and Cultural Resources

Historic Preservation Effort- Our only comment in regards to the shell middens sites that needed to be reviewed were not those of Native Americans but of a land owner who had a clam shop and dock in that area on his property and dumped the shells along side his shop. It would have beneficial for someone to check with the town on the history of the properties to avoid cost/time spent exploring these areas.

5.3.11 Light Emissions and Visual Impacts

I would like to know what visual resources would be discussed with property owners as mentioned in the EA outline.

5.3.13 Noise

I would like to know when these measurements are taken as it is notably quieter at the airport during the late fall, winter and early spring season. I would appreciate a new analysis during the summer season when it is the busiest time at the airport for transparency of the actual noise levels.

6.3 Rare, Threatened & Endangered (RTE) Species Impacts *(see 5.3.7 Fish, Wildlife and Plants)*

We appreciate the ability to comment on the Airport proposal. For the first time in our history with the airport we finally feel like we have gained a good and transparent relationship with the new manager, Leroy Muise and the Hancock County Administrator, Scott Adkins and look forward to a continued working relationship.

Sincerely,

Jeff Hodgkins and Linda Hodgkins