Raleigh Regional Airport at Person County Runway Extension and Runway Safety Area Improvements Draft Environmental Assessment, Person County, North Carolina

DRAFT OCTOBER 2025

PREPARED FOR

Person County,
North Carolina Division of Aviation,
and Federal Aviation Administration

PREPARED BY

SWCA Environmental Consultants

RALEIGH REGIONAL AIRPORT AT PERSON COUNTY RUNWAY EXTENSION AND RUNWAY SAFETY AREA IMPROVEMENTS DRAFT ENVIRONMENTAL ASSESSMENT, PERSON COUNTY, NORTH CAROLINA

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Prepared by

SWCA Environmental Consultants
113 Edinburgh South Drive, Suite 120
Cary, North Carolina 27511
(919) 292-2200
www.swca.com

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This EA becomes a federal document when evaluated, signed, and dated by the Responsible FAA Official.

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Responsible FAA Official Date

CONTENTS

Appendices

Figures

Tables

1 INTRODUCTION

This draft Environmental Assessment (EA) has been prepared to document the analysis of potential environmental impacts associated with the extension of Runway 6-24 at Raleigh Regional Airport at Person County (TDF or Airport) in Person County, North Carolina. The airport is owned and operated by the County and is the sponsor for this proposed project. Under the National Environmental Policy Act (NEPA) for the Federal Aviation Administration (FAA) projects, an airport sponsor is the non-federal entity that proposes an airport development. The FAA is the lead federal agency for the EA. This proposed project is part of the current approved Airport Layout Plan (ALP) that was reviewed and approved by the FAA. The FAA's decision to approve or disapprove a project is a federal action and, therefore, is subject to compliance with the NEPA. NEPA requires federal agencies to analyze the environmental consequences of their proposed actions, acknowledge alternatives to these actions, consider mitigation for the impacts, and allow interested parties the opportunity to participate in the environmental review process. Therefore, this draft EA has been prepared in accordance with NEPA and FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures*[1] and 5050.4B, National Environmental Policy Act Implementing Instructions for Airport Actions.

1.1 Environmental Assessment Process

For major federal actions, an initial environmental determination is required to consider the type of action and its potential effect on the environment and determine the appropriate level of NEPA review. If a proposed action falls within a category of actions that the FAA has previously determined is not likely to have significant environmental impacts, it may be considered a Categorical Exclusion, and the FAA can take action with a more limited environmental review. If an action does not fall within the scope of a Categorical Exclusion or is within the scope of a Categorical Exclusion, but there are extraordinary circumstances that may result in significant environmental impacts or the nature or extent of environmental impacts are uncertain, preparation of an EA is appropriate. If, following the EA process, the FAA determines that adverse environmental impacts would not be significant, the FAA could issue a Finding of No Significant Impact (FONSI) or a FONSI and Record of Decision (ROD). If the EA process indicates that the action would result in significant environmental impacts and the relevant stakeholders still wish to continue with the project, an Environmental Impact Statement (EIS) would be prepared to provide an additional evaluation of the proposed action and its alternatives. Both an EA and an EIS require coordination with federal, state, and local agencies and sometimes with the public.

In coordination with the North Carolina Department of Transportation (NCDOT) Division of Aviation, the FAA has determined that an EA provides the appropriate level of review for this project. The purpose of the EA is to provide the FAA with a decision-making tool to determine if the planned project qualifies for a FONSI or if an EIS is required.

1.1.1 Agency Coordination and Public Involvement

Public involvement pertains to including the public in the FAA's environmental review process. Scoping letters were sent to state agencies, federal agencies, and Tribes requesting their review of the proposed project (Appendix A, Appendix B). In addition, the State Clearinghouse published the project in the Environmental Bulletin. Responses were reviewed and considered during the environmental analysis.

[1] On June 30, 2025, the FAA published FAA Order 1050.1G, FAA National Environmental Policy Act Implementing Procedures. Those procedures were immediately effective. However, because the drafting of this EA was substantially complete prior to the Order's publication, the FAA has relied on the version of the agency-wide Order and ARP-specific order that were in effect at the time the EA's analytical work was completed. This EA deviates from the environmental analysis requirements outlined in FAA Order 1050.1F where an executive order or decisions of the U.S. Supreme Court require it. This includes elimination of analyses as described in FAA Order 1050.1F pertaining to environmental justice, climate change, and cumulative impacts..

This draft EA will be made available for a 30-day public comment period so that the FAA can receive feedback from members of the public who may be affected by the project. The draft EA will be available for review on the sponsor's website, and a hard copy will be available at the Airport. The sponsor will also hold a public information session providing for the opportunity for public comment. Comments will be addressed in, or incorporated into, the final EA, as appropriate.

1.2 Airport Description

TDF is located approximately 8 miles south of the City of Roxboro, North Carolina, near U.S. Highway 501 and the Research Triangle Region (Figure 1-1). Airport property is on county-owned land with a boundary generally defined by Cates Mill Road to the north, Highway 501 to the east, Tom Oakley Road to the south, and Frank Timberlake Road to the west. The Airport is on Montgomery Drive, accessed from Cates Mill Road. The surrounding area is generally undeveloped woodlands and agricultural fields with some residential development southeast of the Airport (Figure 1-2).

TDF is classified in the National Plan of Integrated Airport Systems (NPIAS) as a local public General Aviation (GA) Airport. The Airport supports GA operations, including fuel, parking tie downs, and a new corporate hangar with office space. The airport serves corporate aircraft as well as air cargo jet operations (Person County 2023a; Raleigh Regional Airport at Person County 2023). Aircraft operations average 95 per day, with 52% transient GA, 43% local GA, 3% military, and 2% air taxi. TDF provides no scheduled commercial service; however, Fixed Base Operators (FBOs) provide occasional unscheduled charter passenger service. There are 32 aircraft based on the field, including 28 single-engine airplanes and four multi-engine airplanes (Airnav 2023).

TDF currently has one 6,005-foot-long, 100-foot-wide asphalt runway (Runway 6-24) with a full parallel taxiway, FAA-maintained Category I precision instrument approach with Medium Intensity Approach Lighting System (MALSR), Precision Approach Path Indicator (PAPI), and level 3 Automated Weather Observation System (AWOS). There is no control tower. Figure 1-3 presents the current ALP.

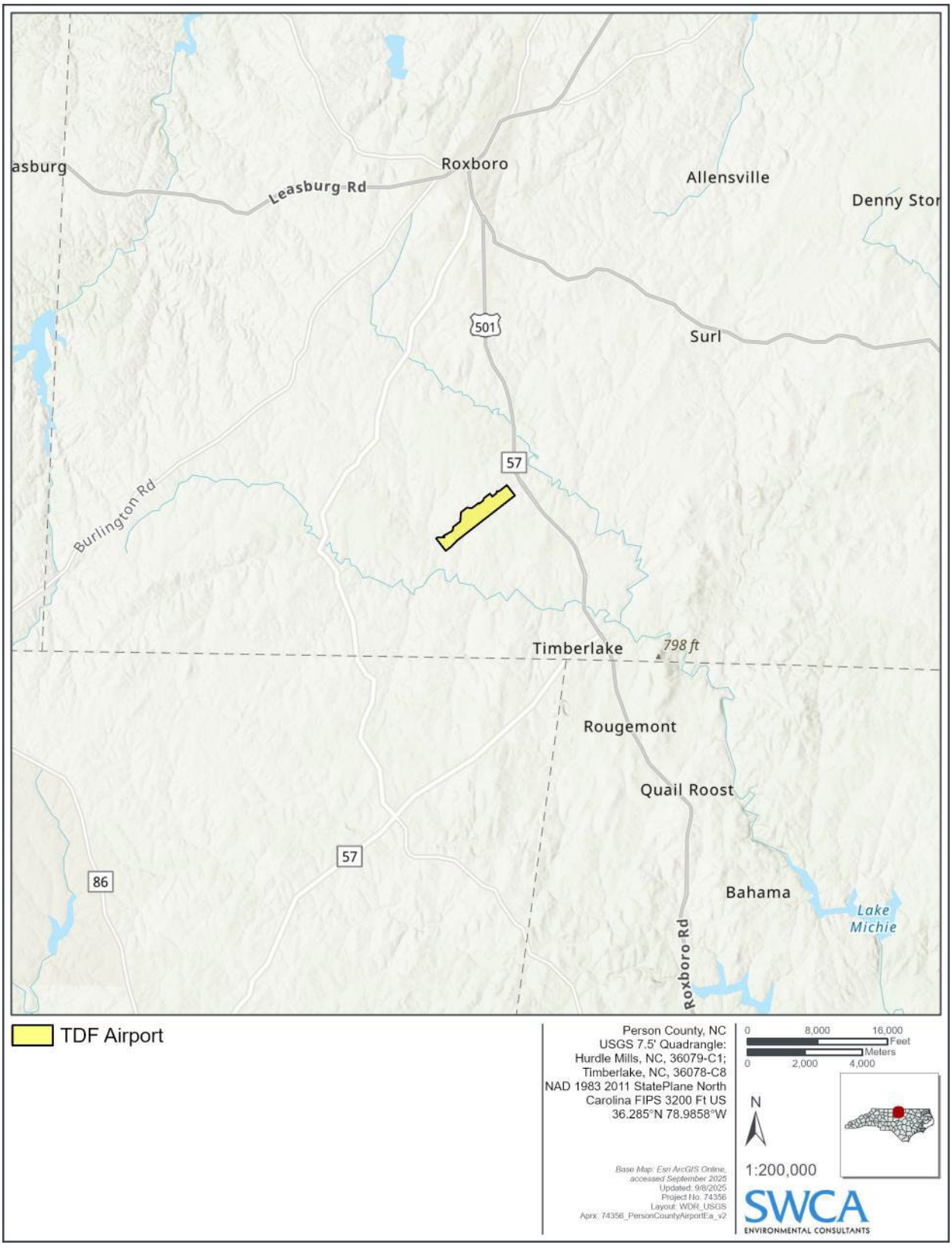

Figure 1-1. TDF Airport location.

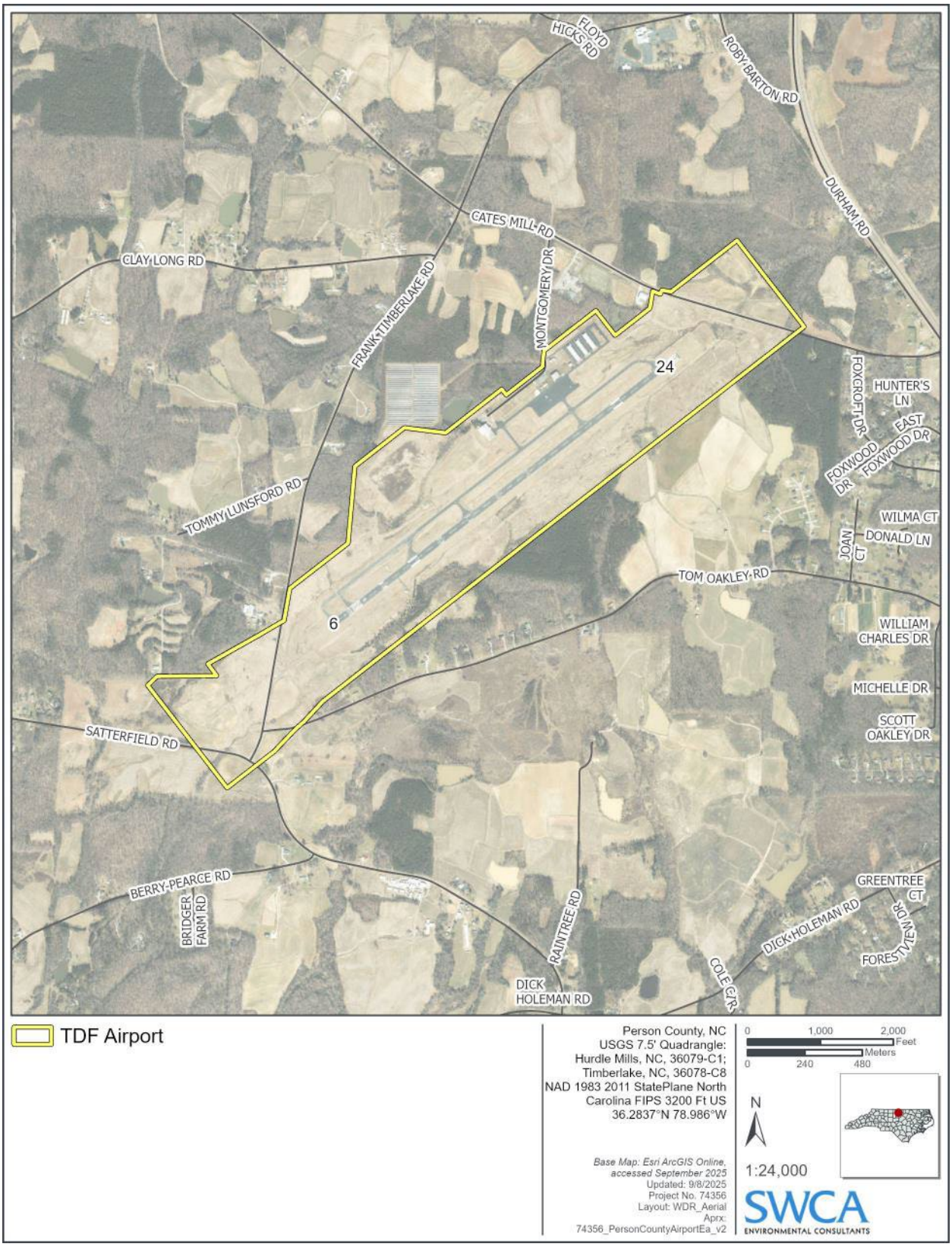

Figure 1-2. TDF Airport aerial imagery.

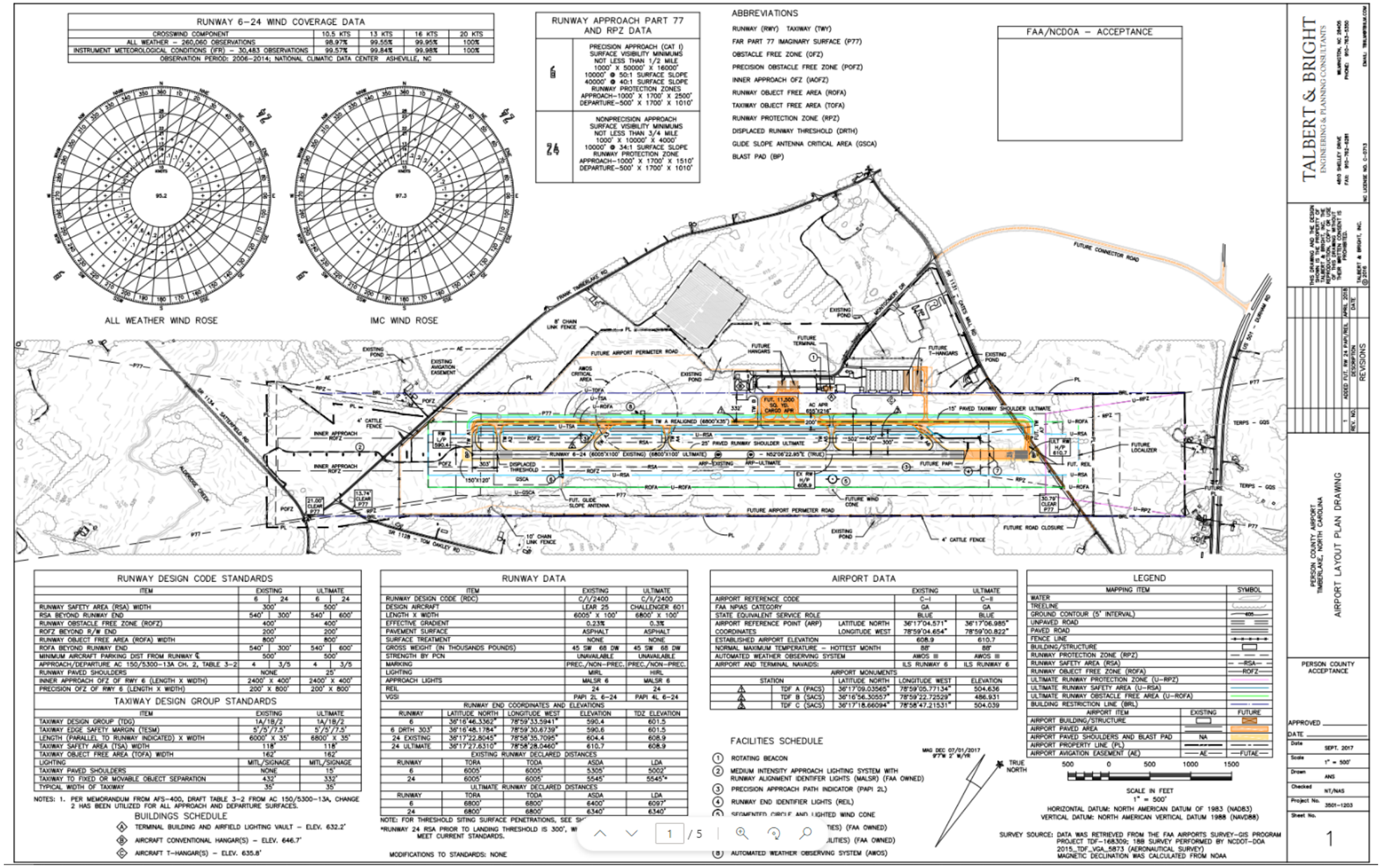

Figure 1-3. TDF Airport Layout Plan.

2 PURPOSE AND NEED

2.1 Purpose of the Proposed Action

The purpose of the Proposed Action is to correct identified deficiencies on Runway 6-24, the parallel taxiway, and the aircraft parking apron and bring all facilities into conformance with the FAA's current standards under the Runway Design Code (RDC) for all identified users.

2.2 Need for the Proposed Improvements

The current runway configuration does not conform to RDC standards, and there is a need to accommodate the current airport fleet more safely. Runway deficiencies are as follows:

- Runway 6-24 has a length of 6,005 feet, and the Proposed Action would extend the runway to a length of 6,800 feet in accordance with the approved Airport Master Plan.
- The existing Runway 6 localizer antenna is located 303 feet beyond the end of Runway 24 and should be relocated more than 600 feet (approximately 610 feet) from the end of the runway per the RDC.
- The Runway Safety Area (RSA) and Runway Object Free Area (ROFA) are not compliant with grading and object clearing requirements.
    - Public roadways are located inside the Runway Protection Zone (RPZ) at both runway ends, approximately 900 feet from each end.
    - Existing objects penetrate the RSA and/or ROFA, including navigational and visual aids.
    - RSA/ROFA grades are not compliant, including a drop-off of the existing ground beginning approximately 325 feet from the Runway 24 end.
- The runway line-of-sight does not meet current FAA requirements.

In addition to the runway deficiencies, the existing aircraft parking apron is undersized for current users.

3 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action, two action alternatives[2], and the no-action alternative are being considered and analyzed in this EA. Potential action alternatives were evaluated based on the following criteria:

a. The action alternatives must meet the project purpose and need.

b. The action alternatives must meet FAA design and safety criteria.

c. The action alternatives must not result in a reduction of operational capabilities; that is, landing, takeoff, and accelerate-stop distances for operations on either end of Runway 6-24 should not be less than the current Runway length of 6,005 feet.

d. The action alternatives should increase the available TORA/TODA (takeoff run available/takeoff distance available) to permit the current critical aircraft to operate at full payload service capabilities, including during hot weather.

[2] Although the action alternatives are the same as the Proposed Action with additional project elements, they are analyzed as individual alternatives as some of the additional elements present different impacts.

e. The action alternatives should allow the lowest possible approach minimums for the Runway 6 ILS (i.e., ½ mile visibility minimums and 200-foot HAT) by removing or mitigating obstructions off airport property.

f. The action alternative should provide a RPZ that meets current FAA land use compatibility guidelines.

g. The action alternatives should allow the establishment of vertically-guided area navigation (RNAV, both LPV and LNAV/VNAV) approaches to Runway 24 by removing or mitigating obstructions off airport property.

h. Environmentally sound mitigation can be accomplished and is fiscally feasible.

3.1 Proposed Action

The Proposed Action would extend Runway 24 by 795 feet to bring the runway takeoff length to 6,800 feet, as required per the current approved Master Plan (Figure 3-1). This would accommodate the current airport fleet more safely. In addition, a 625-foot-long RSA (including localizer) would be constructed beyond the Runway 24 end to comply with the 'prior to landing' threshold for the extended runway. This includes a graded area for the localizer, which is required to be more than 600 feet beyond the runway end. The RSA would remain 300 feet wide for the entire length of Runway 6-24, except for the localizer area, which would have a 400-foot width as required by the FAA.[3]

The existing parallel taxiway would remain unchanged at 300 feet runway/parallel taxiway separation. A new portion of parallel taxiway would be constructed to connect to the newly extended Runway 24 end for a full parallel taxiway. In addition, the aircraft parking apron would be expanded with an additional 11,500 square yards of paved area.

The FAA localizer would be relocated more than 600 feet (approximately 610 feet) from the end of the extended runway in compliance with FAA localizer siting criteria. The PAPI PCUs and Runway 6 localizer shelter would also be relocated outside of the RSA. The Proposed Action would provide a compliant runway line-of-sight in accordance with current FAA criteria.

A portion of Cates Mill Road would be closed at the Runway 24 end, where it currently bisects the Raleigh Regional Airport at Person County property. A new connector road would be constructed from US-501 (Durham Road) to the existing Airport entrance road. The new road, an extension of Montgomery Drive, would be approximately 4,117 feet long and up to 24 feet wide.

The Runway 24 RNAV approach and departure surfaces for the extended Runway would be cleared of any obstructions, such as trees and poles. The new RNAV approaches for the extended Runway 24 would be coordinated with the FAA. The airport would acquire land within the Runway 24 RPZ to prevent development inconsistent with FAA criteria in that area and to clear trees/obstructions within the approach. Land would also need to be acquired for the proposed new connector road at the airport entrance. All land acquisitions would be in accordance with both the NCDOT and the FAA land acquisition requirements. Currently no dwelling acquisitions or relocations are planned.

There would be no changes at the Runway 6 end. The existing Runway 6 RSA would be maintained 843 feet beyond the Runway 6 threshold and 540 feet beyond Runway 6 pavement.

[3] During review of the Proposed Action, the FAA directed certain dimension revisions that reduced RSA length beyond runway end from 1,000 feet to 600 feet, reduced RSA width from 400 feet to 300 feet, and maintained runway/parallel taxiway separation at 300 feet.

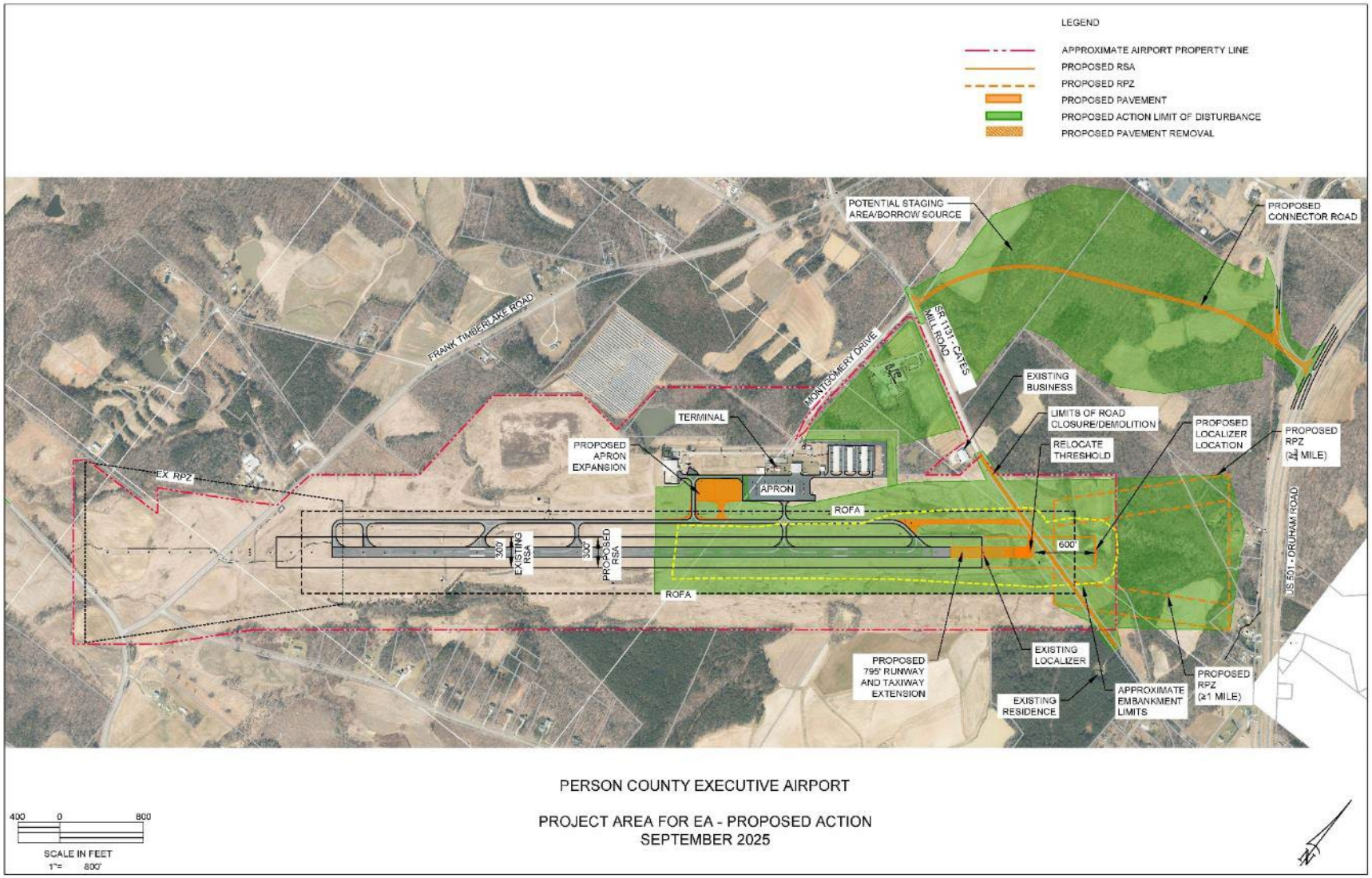

Figure 3-1. Proposed Action design.

3.1.1 Proposed Action Construction

The runway and taxiway extension construction activities would include earth work, including excavation, building of an embankment, stabilization of subgrade, placement of aggregate base course and multiple lifts of P-401 surface course, pavement marking, storm drainage infrastructure, airfield lighting modifications, erosion control measures, and relocation/modification to the existing instrument landing system and other navigational aids (NAVAIDs). The apron construction would include excavation, subgrade stabilization, placement of Aggregate Base Course, and Asphalt Surface Course. The proposed asphalt connector road (extension of Montgomery Drive) would meet all NCDOT standards with excavation and/or borrow embankment, placement of stone, and then NCDOT paved surface with applicable markings. Construction equipment would include excavators, drills, milling machines, concrete pour trucks, asphalt paving equipment, and dump trucks for hauling materials.

The runway and taxiway extension would require an embankment to be constructed at the Runway 24 end to level the downward slope east towards US-501. Embankment fill material is anticipated to be sourced from an onsite borrow area northeast of the runway. All embankment and borrow construction would be in accordance with FAA specification P-152. The current estimate of fill needed is approximately 985,000 cubic yards (972,000 CY for onsite borrow and 13,000 CY for offsite).

The tree removal process typically involves clearing and grubbing all trees within the RPZ. However, in sensitive areas such as wetlands, trees would be cut down and stumps left behind to avoid surface disturbance.

Grading and drainage plans would meet the current FAA Advisory Circular (AC) Requirements on runways, taxiways, apron, and associated safety areas. Sedimentation and erosion control plans and details would include several measures such as silt fence, seeding, sodding, mulching, rip rap inlet, and outlet protection as required. The Airport has a Stormwater Pollution Prevention Plan (SWPPP) in place, and during design, stormwater management would be coordinated with Person County personnel. Sedimentation and erosion control permits and stormwater control permits would be obtained for the project as required by the North Carolina Department of Environmental Quality (NCDEQ).

Construction for the Proposed Action would occur over approximately 2 years, depending on funding and phasing. The Airport would remain open for the majority of this construction period. The Airport would close for work within the Runway Obstacle Free Zone (ROFZ).

3.1.2 Proposed Action Detailed Study Area

The Detailed Study Area for the Proposed Action includes the permanent footprint plus the surrounding area that would be temporarily disturbed during construction. The Proposed Action Detailed Study Area is 284 acres, including 65 acres of permanent and 219 acres of temporary surface disturbance. Permanent impacts include pavement for the new road, runway extension, taxiway extension, and apron expansion, as well as the soil embankment needed for the runway extension. Areas of temporary surface disturbance, including staging areas used for equipment, materials, and stockpiles, would be restored once construction is complete.

3.2 Alternative 1

Alternative 1 would be the same as the Proposed Action, but in addition to the Runway 24 extension, Alternative 1 would also include improvements to the end of Runway 6. This includes:

- Relocating Frank Timberlake Road outside of the Runway 6 RPZ. The new road would be approximately 4,182 feet long (Figure 3-2).
- Acquiring lands at the Runway 6 end.

- Clearing trees in the Runway 6 RPZ.
- Relocating the MALSR at the Runway 6 end.

3.2.1 Alternative 1 Construction

Construction for Alternative 1 would generally be the same as described for the Proposed Action with the addition of Runway 6 improvements that would require additional road construction for Frank Timberlake Road and additional tree clearing at Runway 6.

3.2.2 Alternative 1 Detailed Study Area

The Detailed Study Area for Alternative 1 is 387 acres. Within the Alternative 1 Detailed Study Area, there would be 67 acres of permanent and 320 acres of temporary surface disturbance.

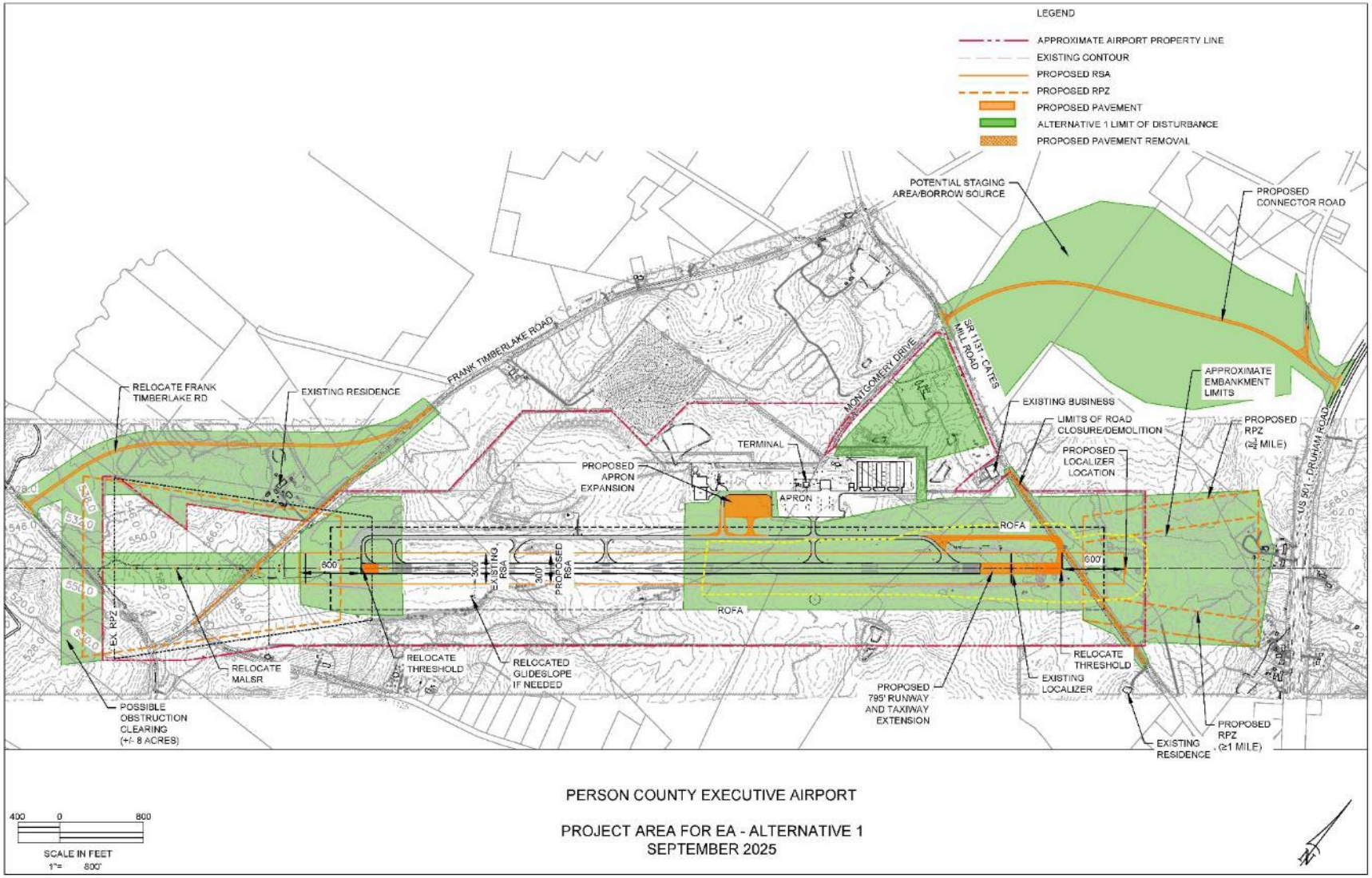

Figure 3-2. Alternative 1 design.

3.3 Alternative 2

Alternative 2 would be the same as the Proposed Action, except for the following:

- Runway 24 would be extended to 1,260 feet to bring the runway takeoff length to 7,265 feet. This is an additional 465 feet compared to the Proposed Action. The purpose is to accommodate the aircraft currently using the airport more safely without requiring relocation of Frank Timberlake Road.
- The parallel taxiway would be extended to the end of the 1,260-foot runway extension (Figure 3-3).

3.3.1 Alternative 2 Construction

Construction for Alternative 2 would be generally the same as the Proposed Action, but would require additional grading and pavement construction for the longer runway and taxiway.

3.3.2 Alternative 2 Detailed Study Area

The Detailed Study Area for Alternative 2 is 297 acres. Within the Alternative 2 Detailed Study Area, there would be 74 acres of permanent and 223 acres of temporary surface disturbance.

3.4 No Action Alternative

The No Action Alternative would result in no physical changes to the existing Runway 6-24 or airport configuration. Under the No Action Alternative, the Airport would maintain the existing runway, taxiway, and RSA deficiencies. The existing aircraft parking apron would not be expanded. Existing Cates Mill Road would not be relocated. Although the No Action Alternative does not meet the purpose and need criteria, it is retained for detailed environmental analysis and baseline comparative purposes to fulfill the FAA's responsibility under NEPA.

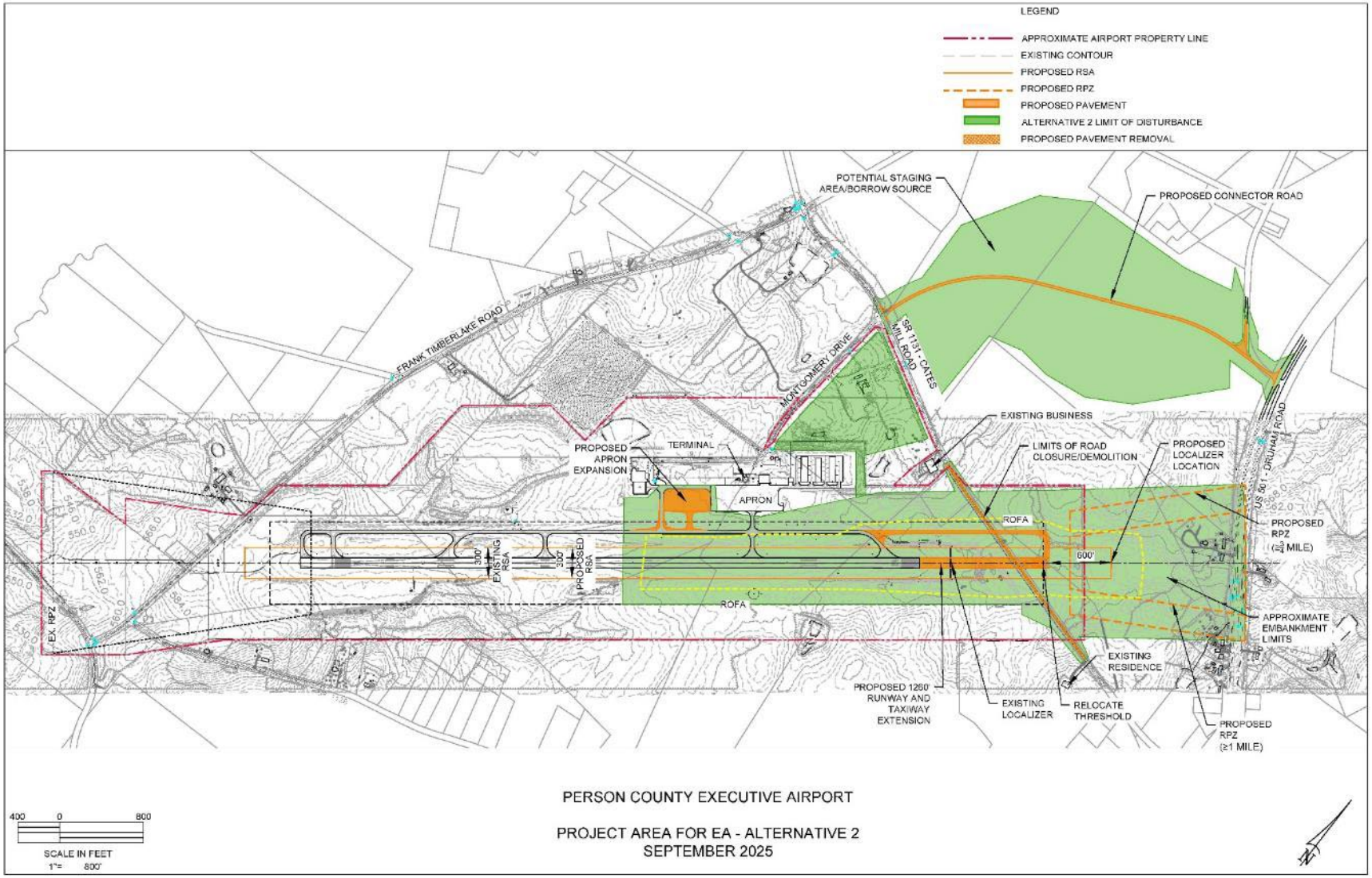

Figure 3-3. Alternative 2 design.

3.5 Summary of Alternatives

The Proposed Action and action alternatives are compared in Table 3-1.

Table 3-1. Proposed Action Compared to Alternatives

Proposed Action	Alternative 1	Alternative 2
Permanent impact = 65 acres Temporary impact = 219 acres Total LOD = 284 acres	Permanent impact = 67 acres Temporary impact = 320 acres Total LOD = 387 acres	Permanent impact = 74 acres Temporary impact = 223 acres Total LOD = 297 acres
Extend Runway 6-24 795 feet to bring the Runway takeoff length to 6,800 feet.	Same as Proposed Action	Extend Runway 24 1,260' to bring the Runway takeoff length to 7,265'.
Construct a 625' long RSA beyond the Runway 24 end, providing a compliant 'prior to landing threshold' for the extended Runway. Declared distances would be implemented to provide 1,000' beyond the Runway ends.	Same as Proposed Action	Same as Proposed Action
Relocate the FAA localizer approximately 610' from the end of Runway 24.	Relocate the FAA localizer 1,000' from the end of Runway 24.	Relocate the FAA localizer 1,000' from the end of Runway 24.
Relocate PAPI PCU's and Runway 6 localizer shelter outside RSA.	Same as Proposed Action	Same as Proposed Action
Provide FAA-compliant Runway line-of-sight.	Same as Proposed Action	Same as Proposed Action
Extend the parallel taxiway to the end of the 795' Runway 24 extension.	Same as Proposed Action	Extend the parallel taxiway to the end of the 1,260' Runway 24 extension.
Close a portion of Cates Mill Road where it bisects Airport property.	Same as Proposed Action, and a portion of Frank Timberlake Road would be relocated.	Same as Proposed Action
Acquire land to protect the Runway 24 RPZ from non-compliant development.	Same as Proposed Action and acquire lands at Runway 6 end.	Same as Proposed Action
Clear trees within the Runway 24 RPZ.	Clear trees within Runway 24 and Runway 6 RPZs.	Same as Proposed Action
Clear obstructions in Runway 24 RNAV approach surfaces for the extended Runway.	Same as Proposed Action	Same as Proposed Action
Coordinate new RNAV approaches for the extended Runway 24 with the FAA.	Same as Proposed Action	Same as Proposed Action
Acquire land and construct new connector road from US 15-501 to the existing Airport entrance road.	Same as Proposed Action	Same as Proposed Action
New 11,500 sq yard Aircraft Parking Apron.	Same as Proposed Action	Same as Proposed Action

4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

The General Study Area for the analysis of the affected environment and environmental consequences is shown in Figure 4-1. The General Study Area encompasses the Detailed Study Areas associated with the Proposed Action and action alternatives described in Section 3. The Detailed Study Area is where direct physical impacts that would result from the Proposed Action or action alternatives, including potential

access, staging, and onsite borrow areas that would be temporarily affected during construction. The General Study Area also includes the surrounding lands within a 1-mile buffer around the Detailed Study Area, where potential project impacts may also occur. Currently, the General Study Area includes a mix of pavement and gravel developed solely for airport-related uses, surrounded primarily by undeveloped and agricultural lands.

The airfield comprises one runway (Runway 6-24) that is 6,005 feet in length and 100 feet wide, with an asphalt surface containing approximately 13.8 acres. The Airport services include corporate, freight, and GA, which comprises a state-of-the-art hangar space providing convenient access and concierge services, 24-hour loading/unloading, multiple onsite forklifts, available onsite transport, fuel services, Pilot lounge, and a flight school t-hangar. Within the General Study Area, the existing county Airport property encompasses approximately 169 acres surrounded by private land that is primarily rural and undeveloped.

This chapter describes the character of the existing environment in which the Proposed Action and Alternatives described in Chapter 3 would occur. The affected environment relative to applicable environmental resource categories specified in FAA Order 1050.1F and Order 5050.4B are documented. All environmental resource categories were evaluated for potential effects by the Proposed Action and Action Alternatives, as well as the No Action Alternative, to determine if further analysis in this EA was warranted (Table 4-1).

The Environmental Consequences sections evaluate the reasonably foreseeable effects and whether the effects are temporary (construction period) or long-term (operations period). Effects may be negative or beneficial. Long-term impacts would result from the permanent placement of pavement for the new access roads, runway extension, taxiway, and apron, plus the soil embankment needed for the runway extension. The amount of permanent impacts varies by alternative.

Table 4-1. NEPA Environmental Resource Categories Evaluated for Applicability

EA Section	Environmental Resource Category[1]	Explanation
		ENVIRONMENTAL RESOURCE CATEGORIES AFFECTED
4.2	Air Quality	The project would follow the Airport's Title V Permit. Construction would result in temporary construction vehicle and equipment emissions.
4.3	Biological Resources: Federally Protected Species, Critical Habitat; State-Protected Species; Migratory Birds	Biological resources, including federally protected species (USFWS 2025a), state-listed species, and migratory birds, may be present.
4.4	Farmlands	Important farmlands are present.
4.5 – 4.6	Water Resources: Wetlands, Surface Waters	Jurisdictional wetlands and streams were delineated within the Study Area. Surface waters are present, and water quality could change due to the project. Neuse River riparian buffer rules apply.
4.7	Hazardous Materials, Solid Waste, and Pollution Prevention	The project includes excavation, which may encounter contaminated soils. Demolition would produce solid waste.
4.8	Historical, Architectural, Archaeological and Cultural Resources	Historic architectural and archaeological resources have been documented in the area. Surveys were conducted in coordination with the North Carolina State Historic Preservation Office (SHPO).
4.9	Land Use	The project includes developing lands outside the Airport footprint.

EA Section	Environmental Resource Category[1]	Explanation
4.10	Noise and Noise-Compatible Land Use	The number of aircraft operations or passenger activity levels would not be expected to change. During construction, short-term noise associated with construction activities would be generated.
4.11	Socioeconomics, Children's Environmental Health and Safety Risks	The potential for a project to lead to a disproportionate health or safety risk to children must be evaluated. The construction of the project would result in economic benefits in the form of temporary jobs and induced spending.
4.12	Visual Effects	New roadways, extended runways, tree clearing, and lighting could change views from within the surrounding neighborhoods.
4.14	GHG Emissions	Construction would increase greenhouse gas (GHG) emissions temporarily.
--	--	**ENVIRONMENTAL RESOURCE CATEGORIES NOT AFFECTED**
--	Coastal Resources	Person County is not a coastal county as defined by N.C. Division of Coastal Management (NCDEQ 2023). Therefore, coastal resources would not be affected.
--	Water Resources: Wild and Scenic Rivers, Groundwater, Floodplains	There are no Wild and Scenic Rivers as defined by the Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq. (1968) within Person County (National Park Service 2023). The project would not affect a sole source aquifer or its recharge area; drinking water would not be affected. The project is not located within a floodplain and would not increase flood risk (Federal Emergency Management Agency [FEMA] 2023).
--	Biological Resources: Essential Fish Habitat	There is no Essential Fish Habitat present (NOAA 2023; USFWS 2025a).
--	Department of Transportation Act, Section 4(f)	The project would not require the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance (Google Earth 2023; NC Division of Parks & Recreation 2023; USFWS 2025a).
--	Natural Resources and Energy Supply	The project would not increase the number of aircraft operations. Ground vehicle use would temporarily increase during construction and then return to normal levels. Therefore, the project would not greatly increase fuel consumption. The project would have limited additional demands on energy supplies and natural resources, which could be accommodated by the Airport's current power suppliers and regional capacities. Construction would cause limited short-term demands on energy supply and other resources.

Notes: 1 Environmental resource categories as specified in FAA Order 1050.1F and Order 5050.4B.

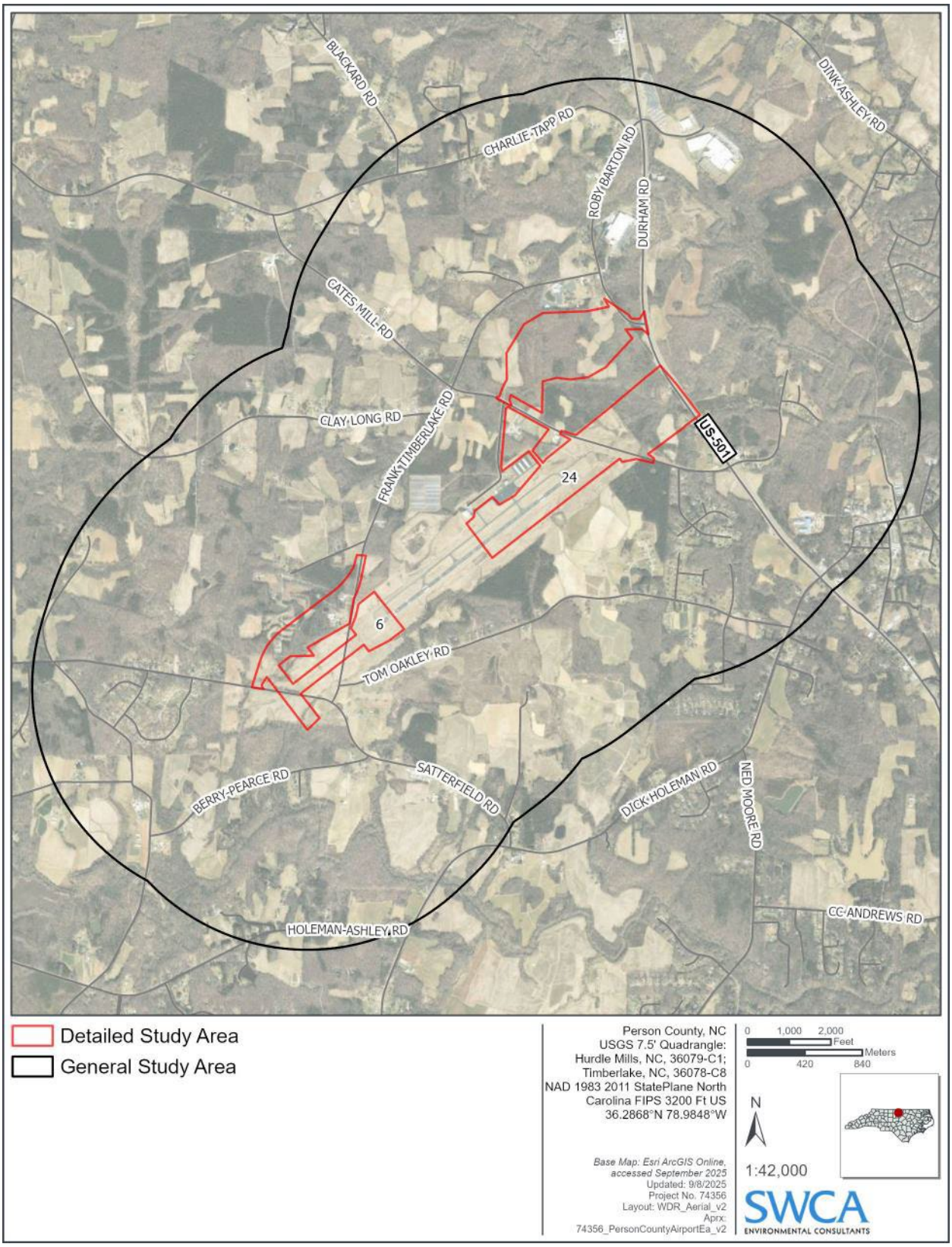

Figure 4-1. General and Detailed Study Areas.

4.2 Air Quality

4.2.1 Regulatory Setting and Methodology

In the United States, air quality is generally monitored and managed at the county or regional level. The U.S. Environmental Protection Agency (EPA), pursuant to mandates of the federal Clean Air Act (CAA) (42 USC 7401 et seq.), has established the National Ambient Air Quality Standards (NAAQS) to protect public health, the environment, and quality of life from the detrimental effects of air pollution. Standards have been established for the following criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2). PM standards have been established for inhalable coarse particles ranging in diameter from 2.5 to 10 micrometers (μm) (PM_{10}) and fine particles less than 2.5 μm ($PM_{2.5}$) in diameter. In accordance with the Clean Air Act Amendments (CAAA) of 1997 (91 Stat. 685, P.L. 95- 95), the EPA uses air monitoring data it compiles, as well as data collected by local air quality agencies, to classify counties and some sub-county geographical areas by their compliance with the NAAQS. An area with air quality at or below the NAAQS is designated as an attainment area. An area with air quality that exceeds the NAAQS is designated as a nonattainment area. Nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal by the extent to which the NAAQS are exceeded. Areas that have been reclassified from nonattainment to attainment are identified as maintenance areas. An area may be designated as unclassifiable when there is a temporary lack of data on which to base its attainment status. For each area designated as nonattainment, the applicable state or regional planning authority is required to develop a State Implementation Plan (SIP) to address how the area would monitor and reduce emissions and attain and maintain the NAAQS.

Section 176(c) of the CAA requires that federal actions conform to the appropriate SIP in order to attain the air quality goals identified in the CAA. The General Conformity Rule is designed to protect ambient air quality within nonattainment and maintenance areas against further degradation to these areas. The General Conformity Rule establishes the de minimis levels (40 Code of Federal Regulations [CFR] 93.153(b)) to identify those actions with the potential to have air quality impacts large enough to require a conformity determination. Typically, significant air quality impacts would be identified if an action would result in the exceedance of one or more of the NAAQS for any time period analyzed, per FAA 1050.1F. If a project's net emissions are less than the de minimis levels, then the federal action is considered to be too small to adversely affect the air quality status of the area and is automatically considered to conform with the applicable SIP/FIP, and a conformity determination is not required.

The EPA regulations further identify certain actions that would not exceed these thresholds, including airport projects relating to airport safety. The EPA regulations allow federal agencies to identify specific actions as "presumed to conform" (PTC) to the applicable SIP per 40 CFR 93.153(f). In a notice published in the Federal Register, the FAA has identified several actions that "will not exceed the applicable de minimis emissions levels" and, therefore, are PTC, including airport projects relating to airport safety per the 2007 Federal Presumed to Conform Actions Under General Conformity.

In addition, FAA Order 5050.4B, Airport Environmental Handbook, provides the basis for determining the scope of the agency's review of air quality impacts under NEPA. The Airport Environmental Handbook does not include significance criteria, per se, but rather cites the agency's responsibilities with respect to the General Conformity Rule, identifies criteria for determining whether to perform a detailed air quality analysis, and cites the agency's responsibilities under the Airport and Airway Improvement Act of 1982. FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, states the following regarding air quality: An air quality assessment prepared for inclusion in a NEPA environmental document should include an analysis and conclusions of a proposed action's impacts on air quality. When a NEPA analysis is needed, the proposed action's impact on air quality is assessed by evaluating the impact of the proposed action on the NAAQS via an air quality qualitative assessment performed as described in the FAA's 2015 Air Quality Handbook. However, FAA Order 1050.1F provides that further analysis for NEPA purposes is normally not required where emissions do not exceed the EPA's de minimis thresholds.

4.2.2 Affected Environment

For each criteria pollutant, the EPA classifies an area as "an attainment area" if the area is in compliance with NAAQS, or as "a nonattainment area" if one or more NAAQS is exceeded. Person County, North Carolina, has been designated as attainment for all of the existing NAAQS; therefore, the General Conformity Rule does not apply to this project. Therefore, there is no applicable SIP with which to judge conformity in Person County, and the FAA is not required to make a conformity determination.

4.2.3 Environmental Consequences

4.2.3.1 PROPOSED ACTION AND ALTERNATIVES

The General Study Area is not within an area designated as nonattainment or maintenance. As discussed previously, a qualitative assessment was used because the Proposed Action and action alternatives would not cause or create a reasonably foreseeable increase in air emissions. Project construction would be minor and temporary. Aircraft operations would not change as a result of the Proposed Action or action alternatives; therefore, operational emissions would not increase. Safety modifications that do not modify aircraft operations would not result in the exceedance of one or more of the NAAQS; therefore, there would be no reasonably foreseeable increase in air emissions from the Proposed Action or action alternatives.

4.2.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, there would be no change in the existing air emissions.

4.3 Biological Resources

4.3.1 Regulatory Setting and Methodology

The Endangered Species Act (ESA) of 1973 [16 U.S.C. 1531 et seq.] requires the evaluation of all federal actions to determine whether a proposed action is likely to jeopardize any proposed, threatened, or endangered species or proposed or designated critical habitat. Critical habitat includes areas that will contribute to the recovery or survival of a listed species. Federal agencies are responsible for determining if an action may affect listed species, which determines whether formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) is needed. If the FAA determines that the action may affect listed species, consultation with the USFWS must be initiated. Conversely, if the FAA determines the action would have no effect on listed species or critical habitat, consultation is not required.

Impacts to federally listed threatened and endangered species would be considered significant if the USFWS or NMFS determine that the Proposed Action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would be likely to result in the destruction or adverse modification of federally designated critical habitat. An action need not involve a threat of extinction to federally listed species to meet the NEPA standard of significance. Lesser impacts, including impacts on non-listed or special status species, could also constitute a significant impact. The potential for federally listed species to occur was assessed by a review of the USFWS Information for Planning and Consultation (IPaC) resource list (USFWS 2025a) and field surveys (SWCA 2023, 2024a).

In North Carolina, state-listed endangered and threatened animals are protected by the North Carolina Wildlife Resources Commission (NCWRC) via the North Carolina Endangered Species Act of 1987 (North Carolina General Statutes Chapter 113, Article 25), and plants are legally protected by the North Carolina Plant Conservation Program via the North Carolina Plant Protection and Conservation Act of 1979 (North Carolina General Statutes Chapter 106, Article 19B). The Acts state that they do not limit the rights of a landowner in the lawful management of their land. The list of state-threatened and endangered animal and plant species for Person County was reviewed to assess whether any species have potential to occur in the

General Study Area. During the field survey, biologists assessed the likelihood of habitats to support these species (Appendix C [SWCA 2023]).

Migratory birds are protected under the federal Migratory Bird Treaty Act of 1918 (MBTA), which makes it illegal to destroy or disturb nests with birds or eggs in them. The MBTA prohibits the "take" (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. "Take" may be intentional or unintentional and is defined in the MBTA as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." The MBTA applies to most bird species and their nests, eggs, feathers, or other parts. The MBTA does not apply to introduced species such as rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and nonmigratory upland game birds. The USFWS Birds of Conservation Concern (BCC) are "species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA (USFWS 2021). The General Study Area is within BCC 29, and biologists reviewed this list to assess if BCC species may nest in the area based on habitat.

4.3.2 Affected Environment

Topography within the General Study Area is relatively flat. According to land cover maps (USGS 2023) and field surveys (SWCA 2023, 2024a), the General Study Area consists primarily of developed open space, deciduous forest, hay/pasture, and cultivated crops with additional minor land uses (Table 4-2, Figure 4-2).

Table 4-2. Land Cover and Vegetation Communities

Community	Detailed Study Area (acres)	General Study Area (acres)
Deciduous Forest	106.4	2,284.7
Developed, Open Space	93.8	643.3
Hay/Pasture	49.4	1,243.5
Cultivated Crops	44.9	881.4
Shrub/Scrub	29.0	155.9
Developed, Low Intensity	24.7	287.3
Mixed Forest	23.3	430.1
Developed, Medium Intensity	15.2	81.4
Evergreen Forest	9.6	327.4
Developed, High Intensity	2.9	24.5
Open Water	0.9	38.2
Grassland/Herbaceous	0.9	88.9
Emergent Herbaceous Wetlands, Woody Wetlands, Open Water	0.2	73.7
Total	401.3	6,560.3

Source: USGS (2023)

The fenced airport includes a paved runway surrounded by mowed/maintained grass. Outside the fenced area, the General Study Area consists of deciduous forest with smaller areas of developed properties and agricultural land. Wetland communities are present throughout these areas and are described in Section 4.13.

The forested upland communities (deciduous, evergreen, and mixed) are dominated by American sweetgum (*Liquidambar styraciflua*), willow oak (*Quercus phellos*), tulip poplar (*Liriodendron tulipifera*), northern white oak (*Quercus alba*), northern red oak (*Quercus rubra*), pignut hickory (*Carya glabra*), and eastern red cedar (*Juniperus virginiana*). Upland forests are mostly mature deciduous forests with somewhat developed midstories and generally a sparse herbaceous layer. Some areas are recently logged and are in early stages of forest succession with dense saplings present (SWCA 2023).

Within the Detailed Study Area, herbaceous upland communities were found in the maintained airfield and agricultural fields (SWCA 2023). There are herbaceous uplands surrounding the existing airport runway (mapped as open space on Figure 4-2), and they appear to be regularly mowed. Other herbaceous upland areas are active and fallow agricultural fields and roadsides, including areas mapped as hay/pasture (SWCA 2023). Herbaceous upland communities are dominated by Chinese bush-clover (*Lespedeza cuneata*), hairy crab grass (*Digitaria sanguinalis*), spreading dogbane (*Apocynum androsaemifolium*), eastern poison ivy (*Toxicodendron radicans*), Bahia grass (*Paspalum notatum*), goldenrod species (*Solidago* spp.), and muscadine (*Vitis rotundifolia*).

Special management areas in the General Study Area include the Person County Open Space, which is managed by the county for multiple uses, including activities such as logging and mining (Figure 4-3). The Timberlake Hardpan Forest is a state-designated natural area located at the corner of Montgomery Drive and Cates Mill Road. According to the North Carolina Natural Heritage Program (NCNHP 2023a), this 10-acre privately owned area is a moderately good representation of hardpan forest in the state. Another NCNHP natural area in the General Study Area is the Flat River Aquatic Habitat, which is rated exceptional for its representation of aquatic habitat in the state.

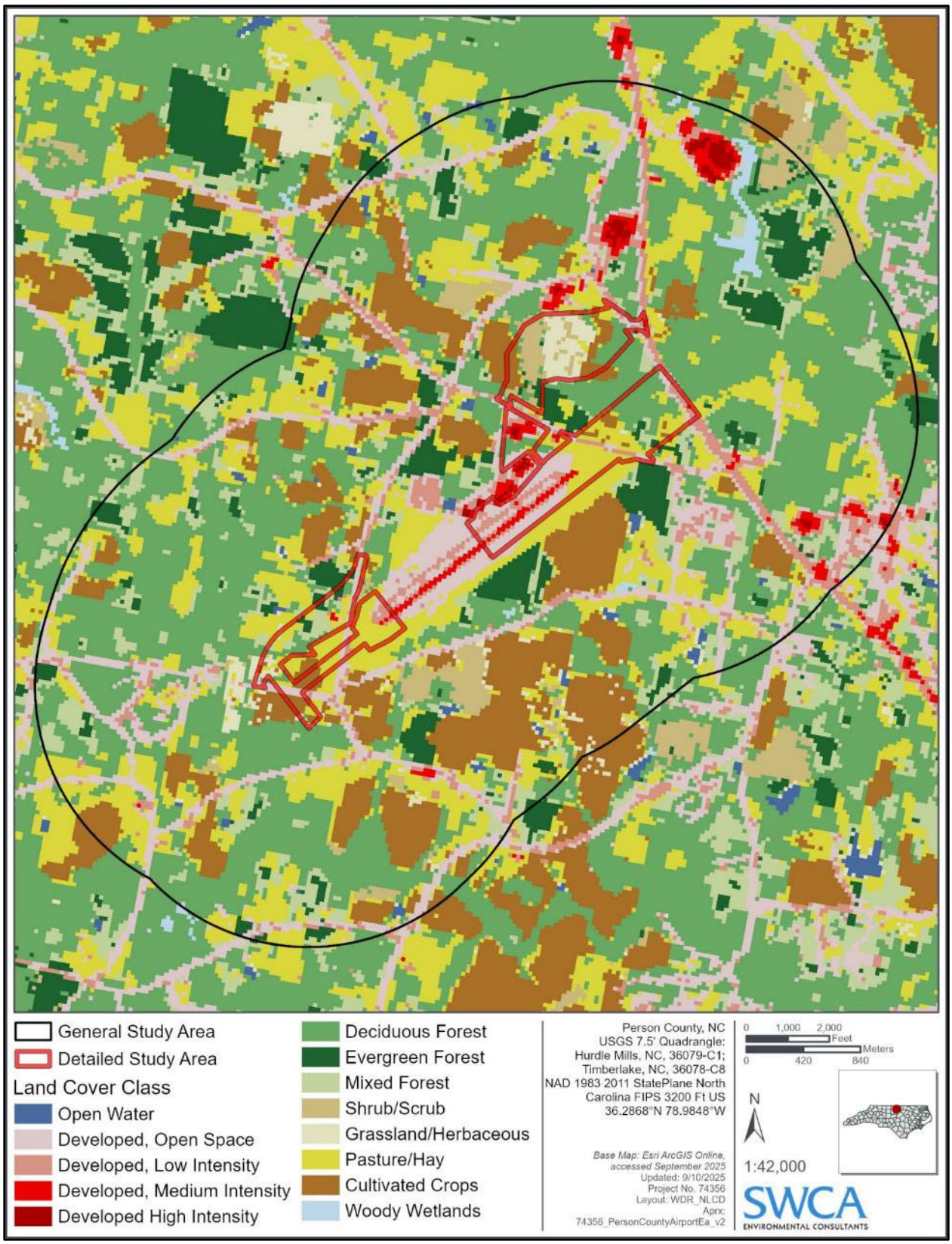

Figure 4-2. Land cover classes.

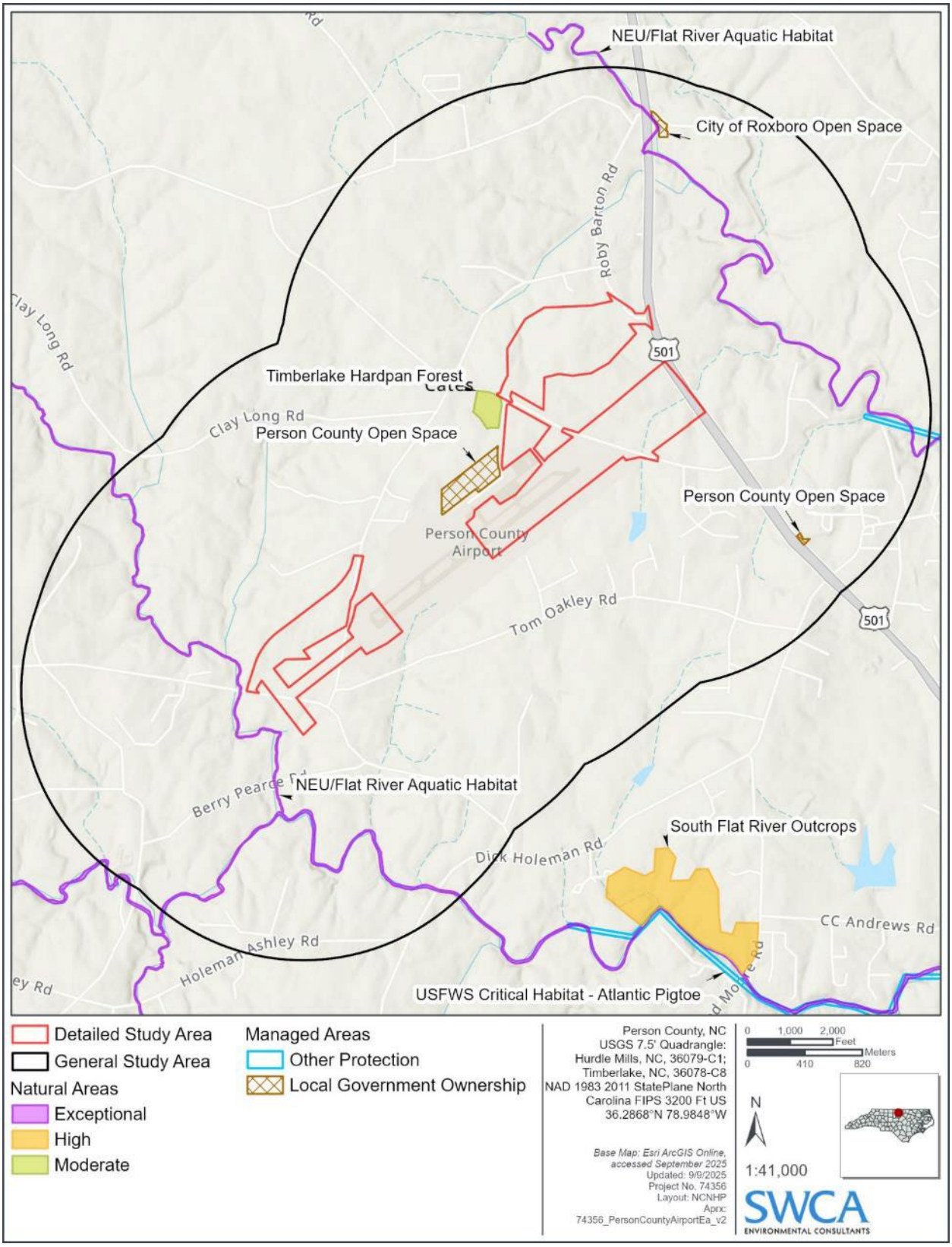

Figure 4-3. NCNHP Managed and Natural Areas.

4.3.2.1 FEDERALLY PROTECTED SPECIES & CRITICAL HABITAT

Federally protected species are those designated by the USFWS as threatened, endangered, proposed, candidate, or under review under the ESA. The potential for species identified in the USFW IPaC resource list (USFWS 2025a) as having potential to occur in the General Study Area are reviewed in Table 4-3.

Table 4-3. USFWS Federally Listed Species with Potential to Occur within the General Study Area

Common Name (*Scientific Name)*	Group	Listed Status	Habitat	Potential to Occur within General Study Area
Tricolored Bat (*Perimyotis subflavus*)	Mammal	Proposed Endangered	Roosts in live or recently dead deciduous hardwood trees. Hibernates in caves, culverts, and abandoned water wells.	Very Low
Neuse River Waterdog (*Necturus lewisi*)	Amphibian	Threatened	Inhabit rivers and larger streams, where they prefer leaf beds in quiet waters (NCWRC 2024).	Low, but may occur downstream
Carolina Madtom (*Noturus furiosus)*	Fish	Endangered	Prefer free-flowing streams with clean sand or gravel bottoms. Endemic to the Tar and Neuse River basins (NCWRC 2024).	Low, but may occur downstream
Atlantic Pigtoe (*Fusconaia masoni)*	Mussel	Threatened	Small creeks to larger rivers with excellent water quality, where flows were sufficient to maintain clean, silt-free substrates (USFWS 2024a).	Moderate
Green Floater (*Lasmigona subviridis*)	Mussel	Proposed Threatened	Calm pools in small to medium-sized streams with gravel and sand substrates.	Moderate
Monarch butterfly (*Danaus plexippus*)	Insect	Proposed Threatened	Prairies, meadows, grasslands, and roadsides with milkweed (*Asclepias* spp.) and flowering plants.	Moderate

Source: SWCA (2023); USFWS (2025a).

4.3.2.1.1 Tricolored Bat

Tricolored bats roost in the foliage of live trees and may form small maternity colonies during the pup-rearing season (North Carolina Bat Working Group 2013). Tricolored bats are considered "rare or uncommon" in North Carolina (NCNHP 2023b). In September 2022, the USFWS proposed to list the tricolored bat (*Perimyotis subflavus*) as an endangered species in response to observed population declines resulting primarily from white-nose syndrome (Federal Register 87:56381). This species was on the original IPaC list for the project in 2023; however, the IPaC list downloaded in January 2025 no longer included this species due to the revised range map. Therefore, the tricolored bats are not expected to occur within the General Study Area.

4.3.2.1.2 Neuse River Waterdog

The Neuse River waterdog (*Necturus lewisi*) is a federally threatened salamander and is considered one of the rarest salamanders in the southeastern United States. As a narrow endemic, it is only found in the Neuse and Tar-Pamlico River Basins of North Carolina. It lives in medium to large streams and rivers in the Piedmont and Coastal Plains. The primary threat to the Neuse River waterdog is habitat degradation, which affects water quality, water quantity, instream habitat suitability, and habitat connectivity (NCWRC 2024). This species may occur downstream in the North Flat River. Based on field surveys, the streams in the Detailed Study Area are likely too small to support this species; therefore, this species was determined to have a low likelihood of occurrence (SWCA 2023).

4.3.2.1.3 Carolina Madtom

The Carolina madtom (*Noturus furiosus*) is a small catfish endemic to the Tar and Neuse River Basins, where they prefer free-flowing streams with clean sand or gravel bottoms. The primary threat to the Carolina madtom is habitat degradation, which affects water quality, water quantity, instream habitat suitability, and habitat connectivity. One of three historical populations is presumed extirpated. The remaining two populations are small, isolated, with a contracted range (NCWRC 2024). No USFWS critical habitat for the Carolina madtom is located in the General Study Area. This species may occur downstream in the North Flat River. Based on field surveys, the streams in the Detailed Study Area are likely too small to support this species; therefore, this species was determined to have a low likelihood of occurrence (SWCA 2023).

4.3.2.1.4 Atlantic Pigtoe

The Atlantic pigtoe (*Fusconaia masoni*) is a freshwater mussel currently found in seven of the 12 counties it historically occupied due to habitat loss from non-point source siltation and eutrophication, impoundments and/or alteration of rivers, and pollution. The Atlantic pigtoe is a species of relatively fast waters with high-quality riverine or large creek habitat and is typically found in headwaters or rural watersheds. The preferred habitat of the species is coarse sand and gravel at the downstream edge of riffles. It is less common in sand, cobble, and mixtures of sand, silt, and detritus. The Atlantic pigtoe requires fast flowing, well oxygenated streams and is restricted to fairly pristine habitats (USFWS 2024a).

Based on field surveys within the Detailed Study Area (SWCA 2023), most streams do not contain suitable habitat. However, there is potentially suitable habitat in the perennial stream, a tributary to North Flat River, that originates just south of Cates Mill Road inside the airport runway area. The species was determined to have a moderate likelihood of occurrence within the Detailed Study Area (SWCA 2023). There is UFSWS critical habitat for the Atlantic pigtoe located in the General Study Area, approximately 0.7 mile downstream of the Detailed Study Area in the North Flat River. The species was recorded within the General Study Area, 0.84 mile downstream of the Detailed Study Area, in 2019 (NCNHP 2023c).

4.3.2.1.5 Green Floater

The green floater (*Lasmigona subviridis*) is a freshwater mussel found in the New, Watauga, Roanoke, Tar, Neuse, and Yadkin-Pee Dee River drainages of North Carolina. This mollusk inhabits small to medium sized streams with gravel and/or sand substrates and is typically found in calm pools or eddies with a water depth between 1 to 4 feet (NCWRC 2023).

There is potentially suitable habitat in the perennial stream, a tributary to North Flat River, that originates just south of Cates Mill Road inside the airport runway area; therefore, the species was determined to have a moderate likelihood of occurrence (SWCA 2023). However, this species was not found during 2023 habitat surveys in this stream. No records of this species have been documented within the General Study Area (NCNHP 2023c). There is no USFWS critical habitat for the green floater in the General Study Area.

4.3.2.1.6 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is proposed for listing as threatened under the ESA. This butterfly occurs across most of the United States and is known to occur within North Carolina during migration from its overwintering habitat in Mexico. Monarch breeding habitat includes agricultural fields, pastureland, prairie remnants, and urban and suburban residential gardens, trees, and roadsides. This species is highly dependent on the presence of milkweed (*Asclepias* spp.) for breeding and a diversity of flowering nectar plants for foraging (Monarch Joint Venture 2023; USFWS 2020, 2024b). Unsuitable habitat includes areas such as grasslands dominated by invasive grass species or woody thickets too dense to support herbaceous flowering vegetation.

The meadows adjacent to the existing runway and surrounding roads are mowed regularly, which inhibits sustained growth of milkweed and other nectar plants that might be used by the monarch butterfly. Milkweed has the potential to grow along the roadsides of the General Study Area and within the unmowed meadows. The monarch butterfly has a moderate likelihood of occurrence (SWCA 2023).

4.3.2.2 STATE PROTECTED SPECIES

State-protected species that have potential to occur in the General Study Area are described in Table 4-4 (NCNHP 2023b, 2023c). According to occurrence records, no State-listed threatened, endangered, or special concern plant or animal species have been identified within the Detailed Study Area. Six State-listed species have been observed within the General Study Area: Atlantic pigtoe, yellow lampmussel (*Lampsilis cariosa*), eastern lampmussel (*Lampsilis radiata*), creeper (*Strophitus undulatus*), notched rainbow (*Villosa constricta*), and mimic shiner (*Notropis volucellus*). The mimic shiner has not been recorded in the General Study Area since 1941. Overall, based on habitat and known records, 11 species have a moderate potential to occur in the General Study Area.

Table 4-4. State-Listed Species for Person County and their Potential to Occur in the General Study Area

Common Name (Scientific Name)	State Listing Status	Range/Habitat	Potential to Occur in the General Study Area
Fish			
Mimic shiner (*Notropis volucellus*)	Threatened – Current	New, French Broad, Little Tennessee, Tar, and Neuse River drainages	Low – Streams are too small to support this species. Last recorded in General Study Area in 1941.
Freshwater Bivalve			
Yellow lampmussel (*Lampsilis cariosa*)	Endangered – Current	Chowan, Roanoke, Neuse, Tar, Cape Fear, Lumber, and Yadkin-Pee Dee River drainages	Low – Streams are too small to support this species. Recorded in General Study Area in 2020, outside of the Detailed Study Area.
Green floater (*Lasmigona subviridis*)	Endangered – Current	Calm pools in small to medium-sized streams with gravel and sand substrates. Found in New, Watauga, Roanoke, Tar, Neuse, and Yadkin-Pee Dee River drainages.	Moderate – Portions of one perennial stream contain gravel and other coarse substrates preferred by this species. No records within General Study Area.
Triangle floater (*Alasmidonta undulata*)	Threatened – Current	Roanoke, Chowan, Tar, Neuse, and Cape Fear River drainages	Moderate –Tolerant of a variety of substrates and may be found in the perennial streams. Known to occur in the Flat River outside of General Study Area.
Atlantic pigtoe (*Fusconaia masoni*)	Threatened – Current	Roanoke, Tar, Neuse, Cape Fear, and Yadkin-Pee Dee River drainages	Moderate – Portions of one perennial stream contain gravel and other coarse substrates preferred by this species. Recorded in General Study Area in 2019, outside of the Detailed Study Area.
Eastern lampmussel (*Lampsilis radiata*)	Threatened – Current	Streams, rivers, ponds, and lakes with sand or gravel substrates. Chowan, Roanoke, Tar, Neuse, Cape Fear, and Yadkin-Pee Dee River drainages	Moderate – The perennial streams of the General Study Area may provide suitable habitat. Recorded within General Study Area in 2010.
Creeper (*Strophitus undulatus*)	Threatened – Current	Headwater streams or large rivers. Roanoke, Tar, Neuse, Cape Fear, Yadkin-Pee Dee, Catawba, Broad, and French Broad River drainages	Moderate – The perennial streams of the General Study Area may provide suitable habitat. Known to occur in south fork of the Flat River; recorded in 2012.
Notched rainbow (*Villosa constricta*)	Threatened – Current	Streams with gravel substrates, stream banks with tree root mats. Roanoke, Tar, Neuse, Yadkin- Pee Dee, and Catawba River drainages	Moderate – Portions of the perennial streams of the General Study Area may provide suitable habitat. Recorded in General Study Area, outside of the Detailed Study Area, in 2002 and 2021.

Common Name (Scientific Name)	State Listing Status	Range/Habitat	Potential to Occur in the General Study Area
Amphibians			
Four-toed salamander (*Hemidactylium scutatum*)	Special Concern - Current	Inhabit forests that surround swamps, marshes, and other temporary waterbodies free of fish.	Moderate – There are forested portions that surround or are adjacent to wetlands and other temporary waterbodies. General Study Area is within NCNHP defined habitat grid.
Plants			
Prairie blue wild indigo (*Baptisia aberrans*)	Endangered – Historical	Prairies, barrens, glades, and open forests on basic soils	Moderate – Meadows south of the airfield not subject to regular mowing may support this species. No records within General Study Area.
Ringed witch grass (*Dichanthelium annulum*)	Endangered – Historical	Rocky slopes, outcrops, rocky woodlands, glades; prefers to grow over mafic rock-based soils with high pH	Low – The General Study Area generally lacks the preferred habitat. No records within General Study Area.
Mudbank crowngrass (*Paspalum dissectum*)	Endangered – Current	Mudflats, stream and pond edges, other open wet areas	Moderate – This species has the potential to occur along the edges of the ponds. No records within the General Study Area.
Heller's rabbit-tobacco (*Pseudognaphalium helleri*)	Endangered – Historical	Dry woodlands and openings (especially over mafic rocks), longleaf pine sandhills	Moderate – The open, mature forests found east of the airfield may provide suitable habitat. No records within the General Study Area.
Carolina bird's-foot trefoil (*Acmispon helleri*)	Threatened – Current	Woodlands and openings, generally on clayey soils, roadsides	Moderate – Maintained portions of the General Study Area may provide suitable habitat for this species. No records within General Study Area.

Current – the species has been seen recently in the county.

Historical – the species has not been seen recently in the county. Species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident they are still present.

4.3.2.3 MIGRATORY BIRDS

According to the IPaC, migratory birds in BCC 29 that could occur in the General Study Area include the bald eagle (*Haliaeetus leucocephalus*), chimney swift (*Chaetura pelagica*), grasshopper sparrow (*Ammodramus savannarum perpallidus*), prairie warbler (*Dendroica discolor*), red-headed woodpecker (*Melanerpes erythrocephalus*), rusty blackbird (*Euphagus carolinus*), and wood thrush (*Hylocichla mustelina*) (USFWS 2025a). Of these species, the chimney swift, grasshopper sparrow, prairie warbler, red-headed woodpecker, and wood thrush have the potential to nest in the General Study Area and are discussed below. The rusty blackbird has the potential to migrate through, but nests in Canada. The bald eagle is unlikely to be found in the General Study Area, as the species prefers habitat near lakes, large rivers, and shorelines of sounds and bays (NCWRC 2023; USFWS 2024c).

Chimney swifts breeding season is from March 15 to August 31 (USFWS 2025a). According to the eBird database, a chimney swift was reported within the General Study Area along Frank Timberlake Road on July 7, 2023. The species has a high frequency of reporting in Person County during the breeding season (eBird 2024).

The grasshopper sparrow breeds across the piedmont in North Carolina and prefers short to medium grass areas with few scattered shrubs, and is likely to occur at airports with these habitats present (Potter et al. 1980). Their breeding season is June 1 to August 20. The species has a high frequency of reporting in Person County during the breeding season (eBird 2024).

The prairie warbler inhabits brushy slashings, bushy pastures, and low pines. The dry fields and meadows of the General Study Area could provide suitable breeding habitat for this species (eBird 2024). Their breeding season is May 1 to July 31.

Red-headed woodpeckers breed in deciduous woodlands, grasslands with scattered trees, forest edges, and roadsides. The combination of open fields and forests found within the General Study Area may provide suitable habitat for this species. Several red-headed woodpeckers have been reported in similar habitat within Person County (eBird 2024). Breeding season for this species is May 10 to September 10.

In North Carolina, the wood thrush prefers breeding habitat that contains a moderate scatter of saplings or small trees, with a canopy of hardwoods, or a mix of pines and hardwoods (Birds of North Carolina 2023). According to the eBird database, there are no records within the General Study Area, but the wood thrush has a moderate frequency of reporting in Person County during the breeding season of May 10 through August 31 (eBird 2024). The deciduous forests, especially those near the ponds, may provide suitable habitat for the wood thrush.

4.3.3 Environmental Consequences

The Proposed Action and action alternatives would result in permanent effects to vegetation in areas that would be converted to the runway, taxiway, roadways, and other associated facilities. Portions of existing wildlife habitats, such as forest habitat, would be removed temporarily or permanently. However, the same habitat types would remain available for wildlife in the General Study Area. Surface disturbance could lead to the introduction and spread of invasive plant species, which could impact the overall biodiversity and health of the ecosystem. The NC Wildlife Resources Commission did not have any specific concerns about the project during scoping (NCWRC 2023). They recommended avoiding, minimizing, or compensating for reasonably foreseeable effects to habitat.

The USFWS was sent a project review request on May 6, 2025, through the Eastern North Carolina Ecological Service's project review process (Appendix C). On June 16, 2025, the USFWS responded that they assume presence of Atlantic pigtoe and green floater in the perennial stream that is a tributary to the North Flat River. They also stated that the streams are too high up in the watershed and too small for both the Neuse River waterdog and Carolina madtom, but those species may be present downstream of the site in the North Flat River. To prevent sediment and pollutants from entering the streams during construction, the FAA and Airport have committed to additional best management practices (BMPs) (see Section 5, Mitigation Measures). With these measures in place, the USFWS has determined that the project *may affect, but is not likely to adversely affect* these species.

4.3.3.1 PROPOSED ACTION

The Proposed Action would result in approximately 284 acres of impacts, including 65 acres of permanent and 219 acres of temporary surface disturbance. Most of the permanent impact (approximately 95%) would be within developed open space and other developed lands; however, some permanent impacts would occur in forest and shrub/scrub habitat that provides wildlife habitat (Table 4-5). Due to the availability of these habitats within the General Study Area, the Proposed Action would not result in a substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations.

Table 4-5. Proposed Action Impacts to Land Cover and Vegetation Communities

Community	Total Impact Acres	Permanent Impact Acres	Percent of Permanent Impacts
Developed, Open Space	79.7	38.7	48.6
Deciduous Forest	78.0	0.9	1.4
Cultivated Crops	29.5	0.6	1.0
Shrub/Scrub	28.5	0.5	0.7
Developed, Low Intensity	19.8	10.4	16.1
Hay/Pasture	16.9	0.0	0.0
Mixed Forest	13.5	0.2	0.3

Community	Total Impact Acres	Permanent Impact Acres	Percent of Permanent Impacts
Developed, Medium Intensity	13.3	10.5	16.2
Developed, High Intensity	2.6	2.0	3.2
Open Water	0.9	0.6	0.9
Herbaceous	0.8	0.0	0.0
Emergent Herbaceous Wetlands*	0.2	0.2	0.3
Evergreen Forest	0.2	0.0	0.0
Total	283.8	64.7	

Source: USGS (2023).

*See Section 4.5 for assessment of delineated wetland impacts.

Potential impacts to state and federally listed wildlife species from construction include the loss, degradation, and fragmentation of breeding, feeding, and sheltering habitats; loss of underground nesting or burrowing animals and their shelter in areas where grading would occur; and increased noise and vibration levels during construction. In addition, there could be an increased risk to wildlife habitat related to the potential for invasive species spread.

The Proposed Action would permanently impact approximately 1.1 acres of forest (deciduous and mixed) habitat due to the access road, extended runway, and embankment. This could have a minor impact on wildlife that use forested habitats, including birds and bats. As forest dwelling species, there is a risk of direct mortality of nesting birds and bats if occupied trees are removed during a time when they are occupied (generally April to October). Avoiding the removal of forested habitat between April and October would likely avoid the potential for direct mortality, and habitat modification at a small scale is unlikely to result in harm to individuals.

In addition, removal of trees within the RPZs would result in a permanent impact to nesting and foraging birds. Migratory birds that use forested habitat, such as red-headed woodpeckers, could be affected if nesting trees are removed or if construction occurs near an active nest. Approximately 0.5 acre of permanent impacts would occur in shrub/scrub habitat that is potentially used by other nesting migratory birds, such as the wood thrush. However, this is a small portion of these habitats available for wildlife in the General Study Area (see Table 4-5).

Noise, human activity, and vibration associated with construction activities would temporarily change habitat use patterns for some species within the General Study Area. Some individuals would move away from the source of the noise or vibration to adjacent habitats, which could increase competition for resources within adjacent areas with other individuals. Noise and vibration and other disturbances (e.g., introduction of invasive plant species) could also lead to increased stress on individuals. The Proposed Action would not result in adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.

Although not directly impacted, the Neuse River waterdog, Carolina madtom, green floater, and Atlantic pigtoe are federally listed species that could be affected by vegetation removal if it results in sedimentation of occupied streams in the General Study Area or downstream. See Section 5, Mitigation Measures, for measures that would protect water quality where there would be ground disturbance in the Detailed Study Area and downstream. With the implementation of these mitigation measures, the Proposed Action would not jeopardize the continued existence of a federally listed threatened or endangered species or result in the destruction or adverse modification of federally designated critical habitat.

4.3.3.2 ALTERNATIVE 1

Alternative 1 would have 387.4 acres of permanent and temporary surface disturbance, which is 103.6 acres larger than the Proposed Action. The additional area contains primarily forest, cultivated crops, and hay/pasture on the Runway 6 end, subject to permanent and temporary impacts. Alternative 1 would permanently impact 2.5 acres more than the Proposed Action due to the relocation of Frank Timberlake Road. Alternative 1 would impact 2.7 acres of impacts in forested habitats, compared to 1.1 acres of forest impacted by the Proposed Action (Table 4-6). Like the Proposed Action, most of Alternative 1's permanent impacts (92.2%) would be in developed communities. Impacts to threatened and endangered species, migratory birds, and general wildlife habitats would be greater than those described for the Proposed Action due to the additional ground disturbance and habitat loss. However, due to the availability of these habitats within the General Study Area, Alternative 1 would not result in adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance. With the implementation of the mitigation measures to protect water quality, Alternative 1 would not jeopardize the continued existence of a federally listed threatened or endangered species or result in the destruction or adverse modification of federally designated critical habitat.

Table 4-6. Alternative 1 Impacts to Land Cover and Vegetation Communities

Community	Total Impact Acres	Permanent Impact Acres	Percent of Permanent Impacts
Deciduous Forest	100.9	1.6	2.4
Developed, Open Space	92.3	38.8	57.9
Hay/Pasture	48.1	0.4	0.6
Cultivated Crops	44.9	0.9	0.9
Shrub/Scrub	28.3	0.5	0.7
Mixed Forest	22.6	0.4	0.6
Developed, Low Intensity	20.8	10.5	15.6
Developed, Medium Intensity	15.1	10.5	15.7
Evergreen Forest	9.6	0.7	1.1
Developed, High Intensity	2.9	2.0	3.0
Open Water	0.9	0.6	0.9
Herbaceous	0.8	0.0	0.0
Emergent Herbaceous Wetlands*	0.2	0.2	0.3
Total	**387.4**	**67.1**	

Source: USGS (2023).

*See section 4.5 for assessment of delineated wetland impacts.

4.3.3.3 ALTERNATIVE 2

Alternative 2 would have 296.8 acres of permanent and temporary surface disturbance, which is 13.0 acres larger than the Proposed Action. The additional area contains developed open space, forest, and hay/pasture on the Runway 24 end, subject to permanent and temporary impacts. Like the Proposed Action, most of Alternative 2's permanent impacts (85.6%) would be in developed communities. Alternative 2 would permanently impact 9.4 acres more than the Proposed Action due to the longer runway and embankment. These permanent impacts include 8.8 acres in forest habitat, compared to 1.1 acres of forest impacts from the Proposed Action (Table 4-7). Impacts to threatened and endangered species, migratory birds, and general wildlife habitats would be greater than those described for the Proposed Action due to the additional

ground disturbance and habitat loss. However, due to the availability of these habitats within the General Study Area, Alternative 2 would not result in adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance. With the implementation of the mitigation measures to protect water quality, Alternative 2 would not jeopardize the continued existence of a federally listed threatened or endangered species or result in the destruction or adverse modification of federally designated critical habitat.

Table 4-7. Alternative 2 Impacts to Land Cover and Vegetation Communities

Community	Total Impact Acres	Permanent Impact Acres	Percent of Permanent Impacts
Deciduous Forest	83.4	6.3	8.5
Developed, Open Space	81.2	40.5	54.7
Cultivated Crops	29.4	0.6	0.8
Shrub/Scrub	28.8	0.5	0.7
Developed, Low Intensity	23.7	10.3	13.9
Hay/Pasture	18.2	0.0	0.0
Mixed Forest	14.1	2.5	3.3
Developed, Medium Intensity	13.4	10.5	14.2
Developed, High Intensity	2.7	2.0	2.8
Open Water	0.9	0.6	0.8
Herbaceous	0.7	0.0	0.0
Emergent Herbaceous Wetlands*	0.2	0.2	0.3
Evergreen Forest	0.2	0.0	0.0
Total	**296.8**	**74.1**	

Source: USGS (2023).
*See Section 4.5 for assessment of delineated wetland impacts.

4.3.3.4 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, no construction activities would occur, and there would be no impacts on vegetation or habitat for federally listed species, state listed species, or migratory birds.

4.4 Farmlands

4.4.1 Regulatory Setting and Methodology

The Farmland Protection Policy Act (FPPA), administered by the Natural Resources Conservation Service (NRCS), is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Specifically, the FPPA regulates farmland identified as prime, unique, or of statewide or local importance, which are defined below.

- *Prime farmland* is land having the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimal use of fuel, fertilizer, pesticides, or products.
- *Unique farmland* is land used for producing high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture necessary to produce high-quality crops or high yields of crops.

- *Statewide and locally important farmland* is land that has been designated as "important" by either a state government (state Secretary of Agriculture or higher office), by county commissioners, or by an equivalent elected body.

Analysis of the effects of a proposed federal agency action on prime or unique agricultural lands is an integral part of the NEPA process. In addition, under NRCS regulations, federal agencies are to ensure that their programs, to the extent practicable, are compatible with state and local programs and policies, such as land use plans and zoning, to protect farmland.

The FAA determines whether the site of the proposed action or alternative(s) is prime, unique farmland that is determined to be farmland of state or local importance, or the FAA requests that NRCS make the determination (see 7 CFR 658.4). If the FAA does not make its own determination, the FAA may elect to initiate coordination with the NRCS by completing the Farmland Conversion Impact Rating form (Form AD-1006) or may have the airport sponsor or applicant submit the form to the NRCS. Form AD-1006 is a land evaluation and site assessment system used by NRCS to determine a rating score and establish impacts to farmlands. A significant impact would occur when the total combined score on Form AD-1006 ranges between 200 and 260 points.

The county's 2021 Joint Comprehensive Land Use Plan identified an Airport Compatibility Area, which includes approximately 8,078 acres of land in the immediate area surrounding the existing Airport. This area is reserved for future Airport development and other land uses (e.g., industrial) that are compatible with the Airport (Person County 2021).

4.4.2 Affected Environment

The USDA NRCS (2023) Web Soil Survey was reviewed to assess the types of soils present (Table 4-8; Figure 4-4). There are hydric soil units mapped within the General Study Area that have unit components that meet the hydric soil criteria. However, those within the Detailed Study Area have hydric ratings less than 40, meaning they are predominantly nonhydric. The hydric rating refers to the percentage of soil map units that meet the criteria for hydric soils (NRCS 2018). The presence of hydric soils is one of the three parameters required to make a wetland determination in a given location. However, the designation of "hydric" for a given soil map unit assigned by the NRCS does not satisfy the hydric soil parameter requirement under the routine U.S. Army Corps of Engineers (USACE) wetland determination methods; documentation of hydric soil indicators in the field is necessary to confirm hydric soils for purposes of wetland delineation.

These soils were then reviewed for their farm class (USDA NRCS 2023). Table 4-8 lists the soil map units that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. A majority of soils (6,325 acres) in the General Study Area are important farmlands, and several are agricultural fields. Although most soils in the Detailed Study Area are important farmlands, this area has been used for nonagricultural uses since the Airport was built in the 1980s.

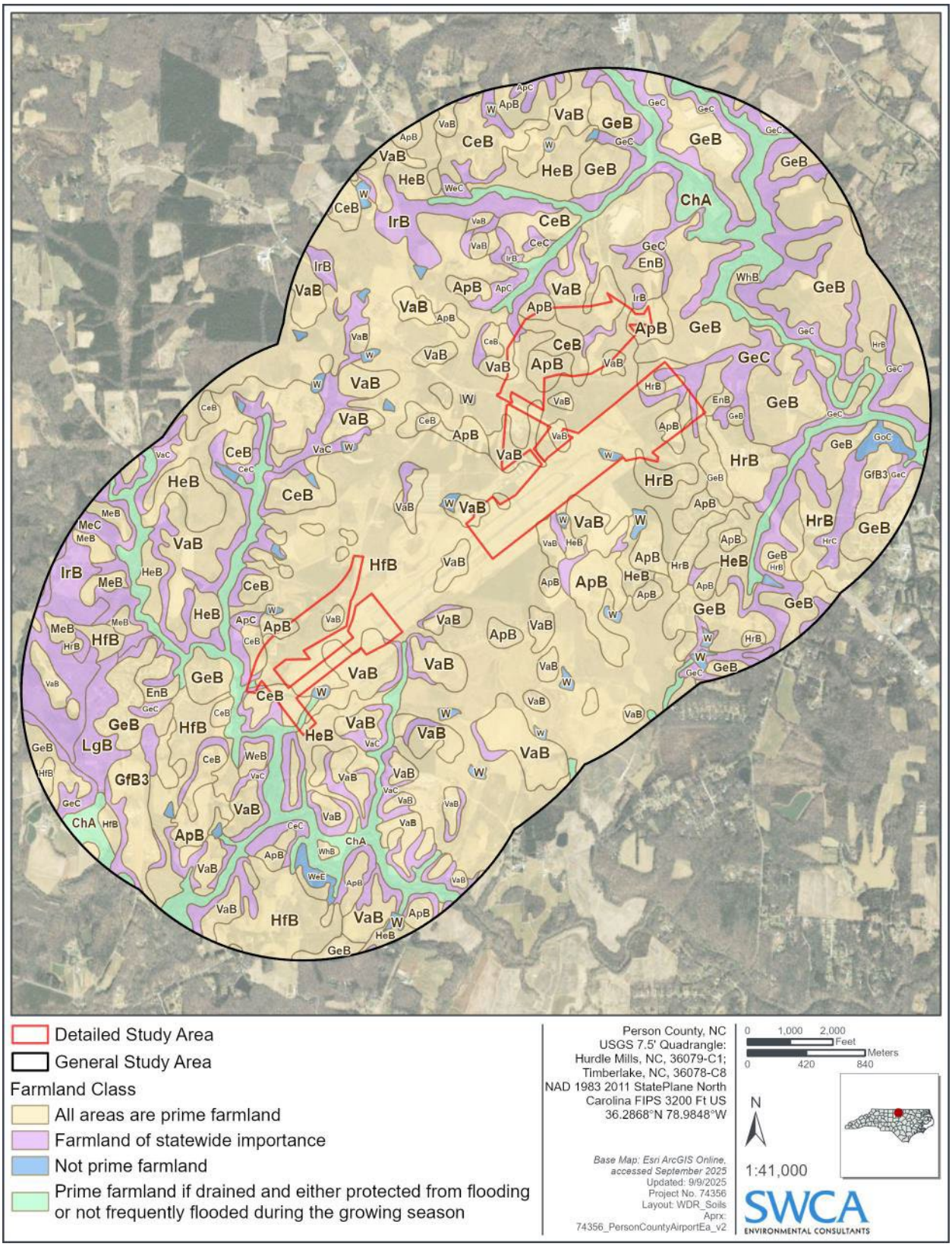

Figure 4-4. Soil types and Important Farmlands.

Table 4-8. Soils and Important Farmlands

Map Unit Symbol	Map Unit Name	Farm Class	Hydric Rating	Acres in Detailed Study Area
ApB	Appling sandy loam, 2 to 6 percent slopes	All areas are prime farmland	None	31.9
CeB	Cecil sandy loam, 2 to 6 percent slopes	All areas are prime farmland	None	33.4
CeC	Cecil sandy loam, 6 to 10 percent slopes	Farmland of statewide importance	None	2.4
ChA	Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	40	2.0
EnB	Enon fine sandy loam, 2 to 6 percent slopes	All areas are prime farmland	1	0.1
GeB	Georgeville loam, 2 to 6 percent slopes	All areas are prime farmland	None	7.4
GeC	Georgeville loam, 6 to 10 percent slopes	Farmland of statewide importance	None	9.5
HeB	Helena sandy loam, 2 to 6 percent slopes	All areas are prime farmland	1	1.5
HfB	Helena-Sedgefield sandy loams, 2 to 6 percent slopes	All areas are prime farmland	4	242.7
HrB	Herndon loam, 2 to 6 percent slopes	All areas are prime farmland	None	6.7
VaB	Vance sandy loam, 2 to 6 percent slopes	All areas are prime farmland	None	56.3
VaC	Vance sandy loam, 6 to 10 percent slopes	Farmland of statewide importance	None	4.4
W	Water	Not prime farmland	N/A	2.2
		Total Acreage		**400.5**

Source: USDA NRCS (2023).

4.4.3 Environmental Consequences

4.4.3.1 PROPOSED ACTION AND ALTERNATIVES

Table 4-8 identifies 398 acres of prime farmland and farmland of statewide importance in the Detailed Study Area for the Proposed Action and action alternatives. Of these 398 acres, the majority of land (approximately 241 acres) is within the Airport District Overlay (AP) zoning for use of the existing Airport, according to the County's zoning map and tax parcel map A52 65 (Person County 2023b, c). The remaining 157 acres of prime farmland and farmland of statewide importance would be converted to the Airport's current land use designation of government/exempt. The converted acres for the Proposed Action and action alternatives include development of the proposed new connector road off Cates Mills Road and borrow area soils that would be used to build the embankment. Alternative 1 would also develop important farmlands for the proposed relocation of Frank Timberlake Road. The development would be within the Airport Compatibility Area, where future Airport development and other compatible land uses (e.g., industrial) are permitted by the County (Person County 2021).

Permanent impacts in important farmlands include 62.7 acres for the Proposed Action, 65.1 acres for Alternative 1, and 72.1 acres for Alternative 2. NRCS was sent a request for a farmland conversion impact rating (Form AD-1006) on January 8, 2025 (Appendix B). The NRCS determined a farmland impact rating of 59 points, which is less than the 160-point significance threshold for adverse impacts to prime and unique farmland. No impacts to soils or important farmlands are anticipated within the General Study Area, outside of the Detailed Study Area.

4.4.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, there would be no impacts on soils or prime farmland.

4.5 Water Resources: Wetlands

4.5.1 Regulatory Setting and Methodology

Wetlands are regulated by the USACE, which authorizes projects in compliance with Section 404 of the Clean Water Act (CWA), and the EPA, which enforces Section 404. In North Carolina, the NCDEQ issues Section 401 Water Quality Certifications for all Section 404 permits and provides Riparian Buffer Authorizations.

Section 404 of the CWA authorizes the USACE to issue permits for the discharge of dredged or fill material into the waters of the United States. Authorization from the USACE and NCDEQ Department of Water Resources (NCDWR) is obtained by completing a pre-construction notification (PCN) application. The PCN is a joint application reviewed by both the USACE and NCDWR to coordinate regulatory requirements for work that would affect wetlands, streams, riparian buffers, and waters within North Carolina.

Field investigations of wetlands, waterbodies, and waterways in the Detailed Study Area were conducted in July 2023 and February and October 2024 (SWCA 2024a). In accordance with the USACE methodology outlined in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Eastern Mountains and Piedmont Region* (*Version 2.0*) (USACE 2012), wetlands and other jurisdictional waters were delineated.

The USACE has the final authority in determining the status and presence of jurisdictional waters of the United States (WOTUS) and the extent of their boundaries. A request for a jurisdictional determination was submitted on December 8, 2023, and assigned SAW-2019-02150 on January 18, 2024. After additional aquatic resource surveys were conducted for the added borrow area on October 30-31, 2024, SWCA re-submitted a revised jurisdictional determination on November 25, 2024. On May 5, 2025, the USACE issued a Delineation Concurrence that confirmed the delineation boundaries depicted on the wetland map are accurate (see Figure 4-4).

A significant impact to wetlands would occur when an action 1) adversely affects a wetland's function to protect municipal water quality or quantity, 2) substantially alters the hydrology needed to sustain the wetland system functions and values, 3) substantially reduces a wetland's ability to retain floodwaters or storm runoff, 4) adversely affects natural systems supporting wildlife and fish, 5) promotes other activities that would cause these circumstances to occur, or 6) is inconsistent with applicable State wetland strategies.

4.5.2 Affected Environment

Fourteen distinct wetland areas totaling 16.26 acres were delineated within the Detailed Study Area (Table 4-9, Figure 4-5). The delineation report is provided in Appendix D. There are additional wetlands within the General Study Area, outside of the Detailed Study Area, that could be affected by project activities. These wetlands have not been delineated but are mapped by the USFWS NWI (USFWS 2025b). Figure 4-5 shows how delineated wetlands connect to surrounding wetlands and surface waters.

Table 4-9. Wetlands Delineated in the Detailed Study Area

Wetland Type	Acres	Jurisdictional Determination*
Palustrine emergent wetland (PEM)	6.40	USACE Jurisdictional
Palustrine forested wetland (PFO)	5.83	USACE Jurisdictional
Palustrine scrub-shrub wetland (PSS)	3.93	USACE Jurisdictional
Isolated palustrine emergent wetland (PEM)	0.10	USACE Non-Jurisdictional
Total	**16.26**	

Source: SWCA (2024a).

* This determination is SWCA's professional opinion of jurisdictional status of each feature under Section 404 of the CWA.

Most of the palustrine emergent (PEM) wetlands are located in the fields adjacent to the existing airport runway and are wet swales or wetland channels hydrologically fed by offsite aquatic features. One of the PEM wetlands is a depressional area originating adjacent to the airport runway. Many of these PEM wetlands experience some form of disturbance regularly through the mowing regime at the airport.

Most of the palustrine shrub-scrub (PSS) wetlands are in low marsh areas combined with PEM wetlands northeast of the existing airport runway. Other PSS wetlands are in early successional forests. Some of the plants in the PSS wetlands are maturing and, if they remain undisturbed, will likely convert into forests in the future.

Most of the palustrine forested (PFO) wetlands are located in low areas of mature deciduous forests that are influenced by high water tables and dispersed overland flow during rain events. Other PFO wetlands are depressional areas along streams that are fed by groundwater and stream overflow. The PFO wetlands are generally of good quality, but portions are experiencing erosion, likely due to increased runoff from surrounding agricultural fields.

Three open water ponds were delineated (SWCA 2024a). Two ponds totaling 0.42 acre are jurisdictional, and one isolated pond (0.43 acre) is non-jurisdictional (see Table 4-9). Streams totaling 1.57 miles (8,293 linear feet) were identified within the Detailed Study Area and are all USACE jurisdictional (SWCA 2023). The average width of the streams was between 3 and 6 feet. Some streams originate as intermittent before transitioning to perennial. In total, 4,171 linear feet of stream are intermittent, and 4,122 linear feet are perennial.

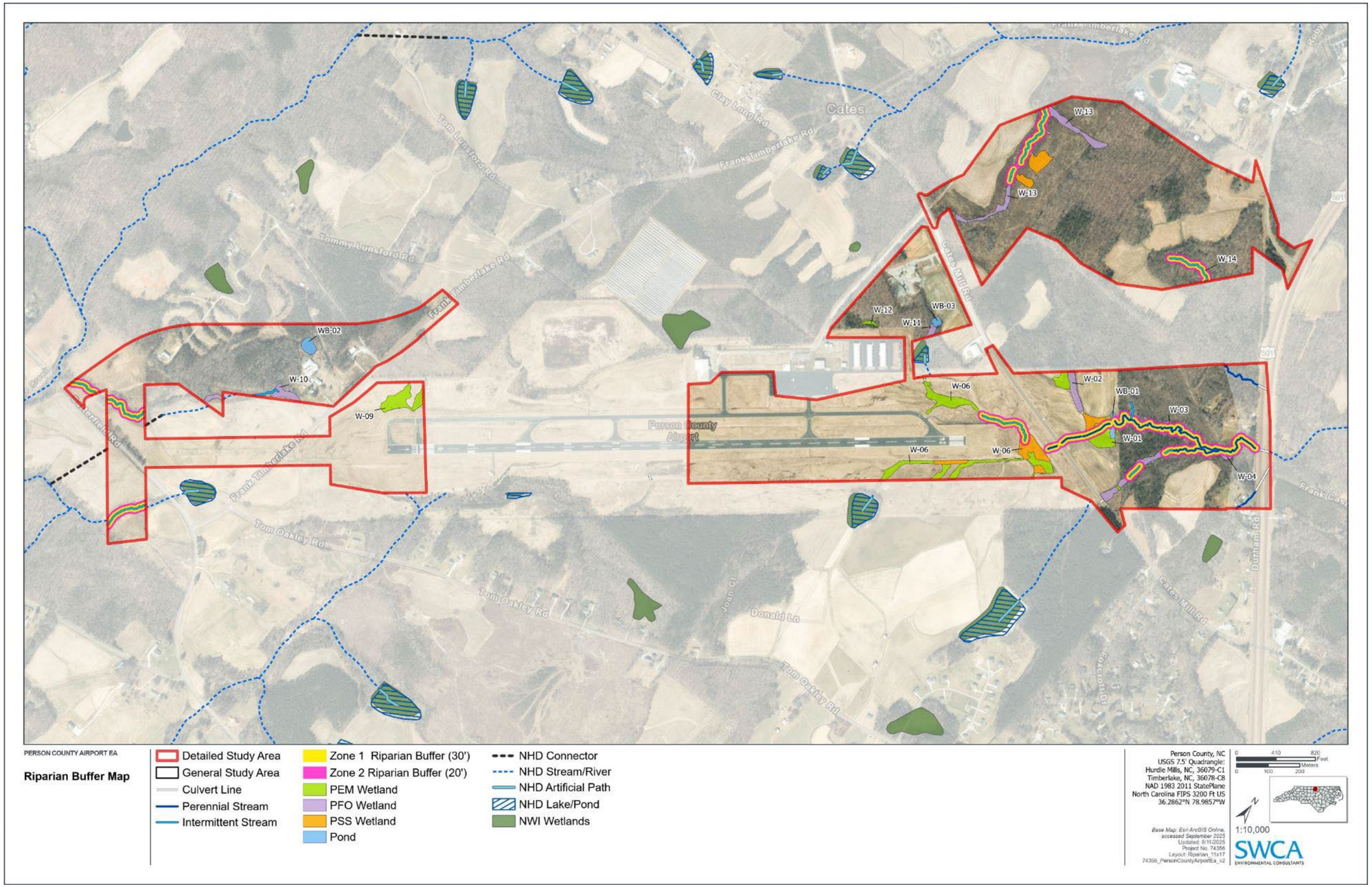

Figure 4-5. Delineated wetlands, surface waters, and riparian buffers.

4.5.3 Environmental Consequences

4.5.3.1 PROPOSED ACTION

Unavoidable wetland impacts would result from the construction and operation of the Proposed Action. The Proposed Action would affect 14.11 acres of delineated wetlands, 0.43 acres of pond, and 5,488 linear feet of delineated streams (2,508 linear feet intermittent, 2,980 linear feet perennial). As shown in Table 4-10, a portion of the wetlands and streams would be permanently impacted by the Proposed Action and action alternatives (Figure 4-6). Impacts would primarily occur where the new embankment for the extended runway would fill a stream and the associated PEM and PSS wetlands. Permanent impacts are those within the footprint of the proposed action, but temporary impacts could also occur during construction.

Table 4-10. Potential Temporary and Permanent Impacts to Wetlands and Surface Waters

	Proposed Action	Alternative 1	Alternative 2
Wetland – Permanent	6.20 acres	6.20 acres	6.98 acres
Wetland – Temporary	7.91 acres	10.05 acres	7.13 acres
Stream – Permanent	1,354 linear feet	1,386 linear feet	2,456 linear feet
Stream – Temporary	1,154 linear feet	4,653 linear feet	4,174 linear feet

The SWPPP, sedimentation and erosion control, and stormwater control would be in place, as required by the NCDEQ, to reduce impacts near construction and downstream within the General Study Area. Design elements such as culverts would facilitate hydrologic flows. Therefore, impacts to wetlands would not reduce the quality and quantity of municipal water supplies. The impacts to wetlands and streams would have a moderate effect on the function and values of those wetlands in the Detailed Study Area, although downstream impacts to wetlands and fish and wildlife habitat within the General Study Area are anticipated to be minor and temporary.

Under the Proposed Action, compensatory mitigation for wetlands would be required, as determined by the USACE. The requirements would be based on the wetland delineations (SWCA 2024a) as verified by the USACE for SAW-2019-02150 and issued in the approved jurisdictional determination (AJD) and Delineation Concurrence (Appendix D). Compensatory mitigation requirements would be determined based on the amount of jurisdictional wetland and waterbody features that would be filled, as well as the functional assessment of those wetlands and WOTUS. This would be determined during the Section 404 permit process prior to construction and would be consistent with applicable state wetland strategies.

4.5.3.2 ALTERNATIVE 1

There are 7,150 linear feet of delineated streams (4,170 linear feet intermittent, 2,980 linear feet perennial) that would be temporarily or permanently impacted by Alternative 1. Unavoidable wetland impacts would affect 16.25 acres of delineated wetlands and 0.86 acres of ponds. Approximately 0.43 acres of the ponds are likely not jurisdictional. This alternative would include more permanent impacts to wetlands and streams compared to the Proposed Action (Table 4-11). The additional wetlands, streams, and ponds are in the areas where Runway 6 improvements and Frank Timberlake Road relocation are proposed (Figure 4-7). The types of impacts would be the same as those described for the Proposed Action but additional compensatory mitigation would be required.

4.5.3.3 ALTERNATIVE 2

There are 6,630 linear feet of delineated streams (2,508 linear feet intermittent, 4,122 linear feet perennial) that would be temporarily or permanently impacted by Alternative 2. Unavoidable wetland impacts would affect an additional 1,142 linear feet of perennial streams compared to the Proposed Action due to the

additional 465 feet of Runway 24 extension proposed (Figure 4-8). Alternative 2 would affect 14.11 acres of delineated wetlands and 0.43 acre of ponds (same as the Proposed Action). This alternative would include more permanent impacts to wetlands and streams compared to the Proposed Action (see Table 4-10). The types of impacts would be the same as those described for the Proposed Action, but additional compensatory mitigation would be required.

4.5.3.4 NO ACTION

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, no construction activities would occur, and there would be no impacts on jurisdictional or non-jurisdictional wetlands or waterbodies.

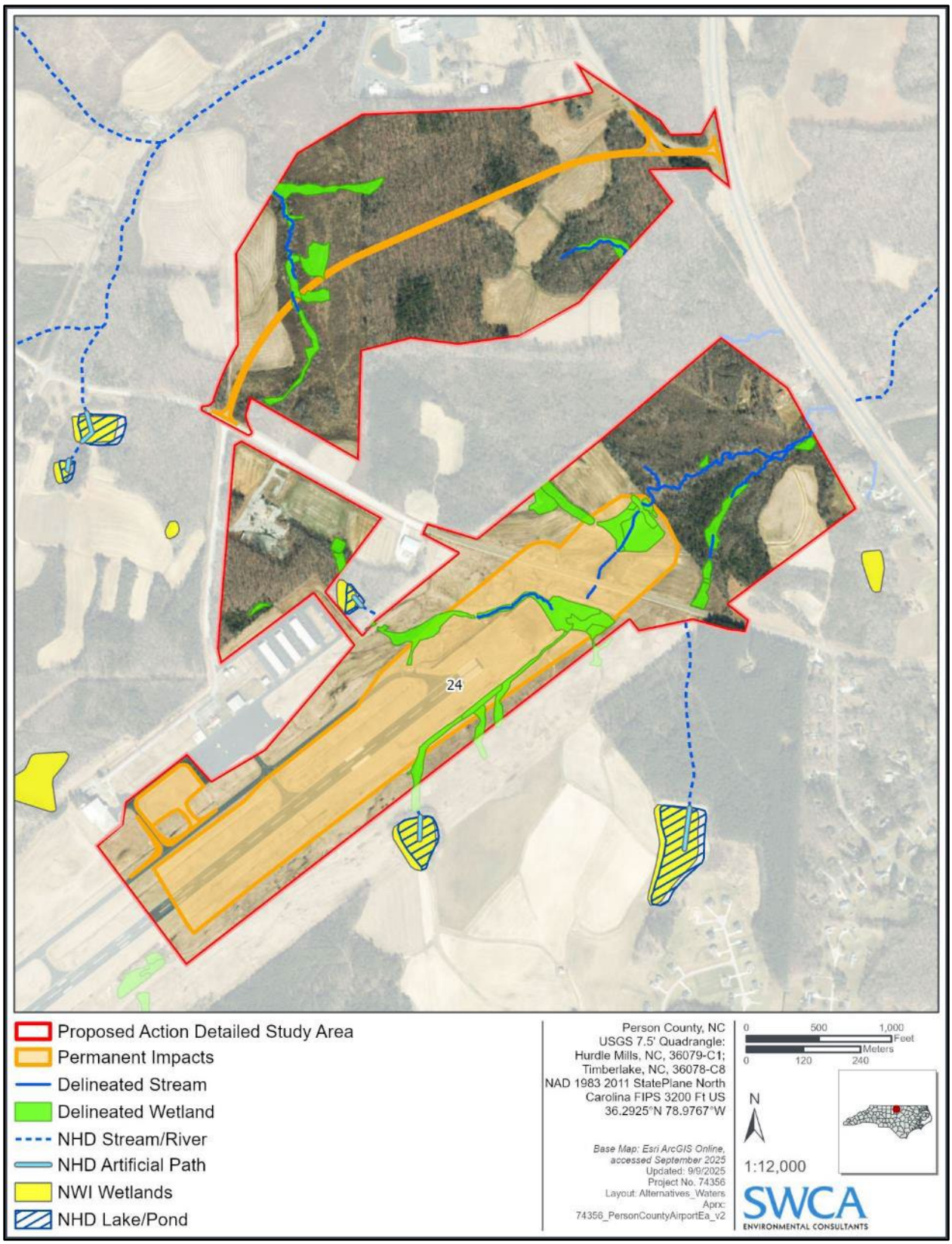

Figure 4-6. Proposed Action wetlands and surface waters.

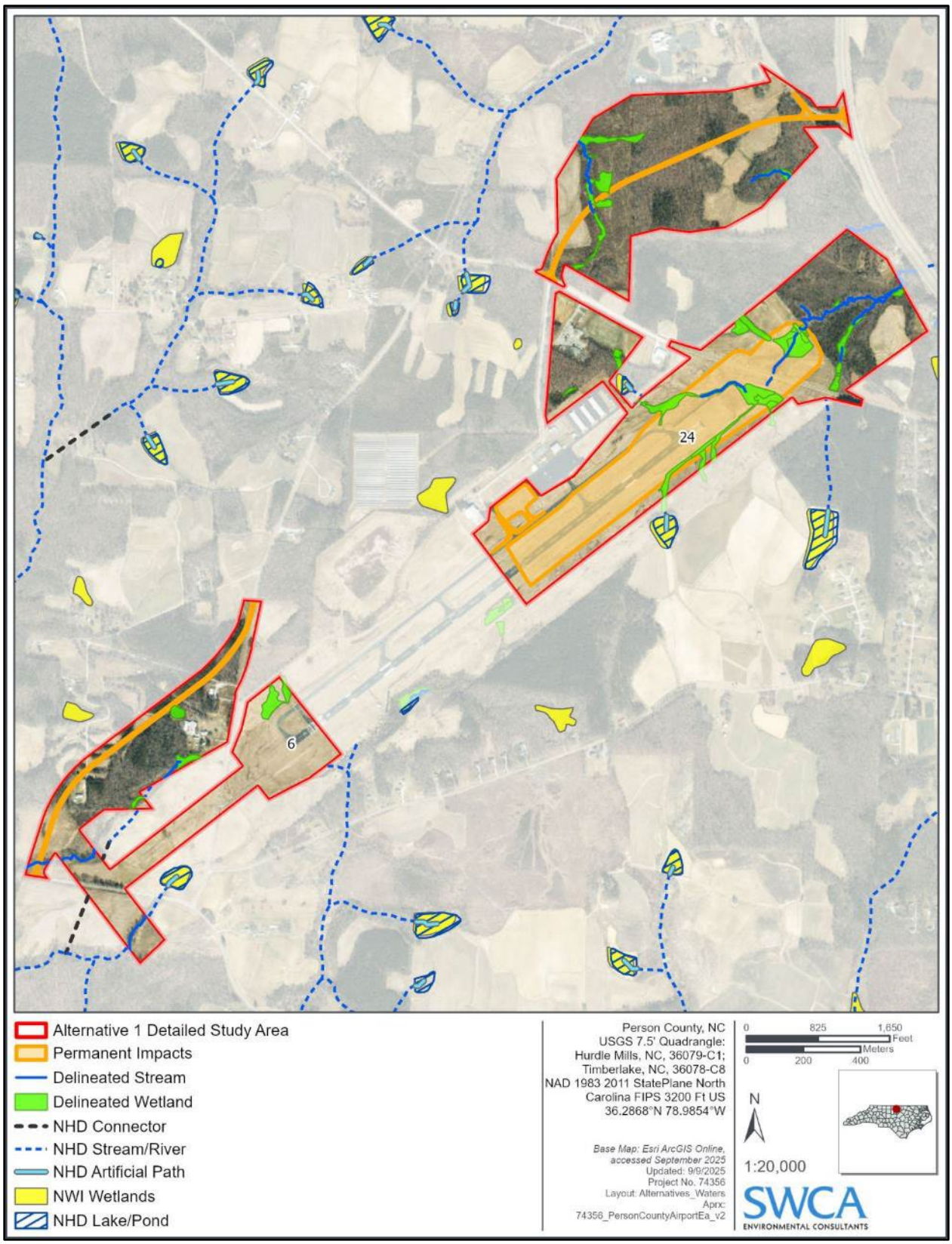

Figure 4-7. Alternative 1 wetlands and surface waters.

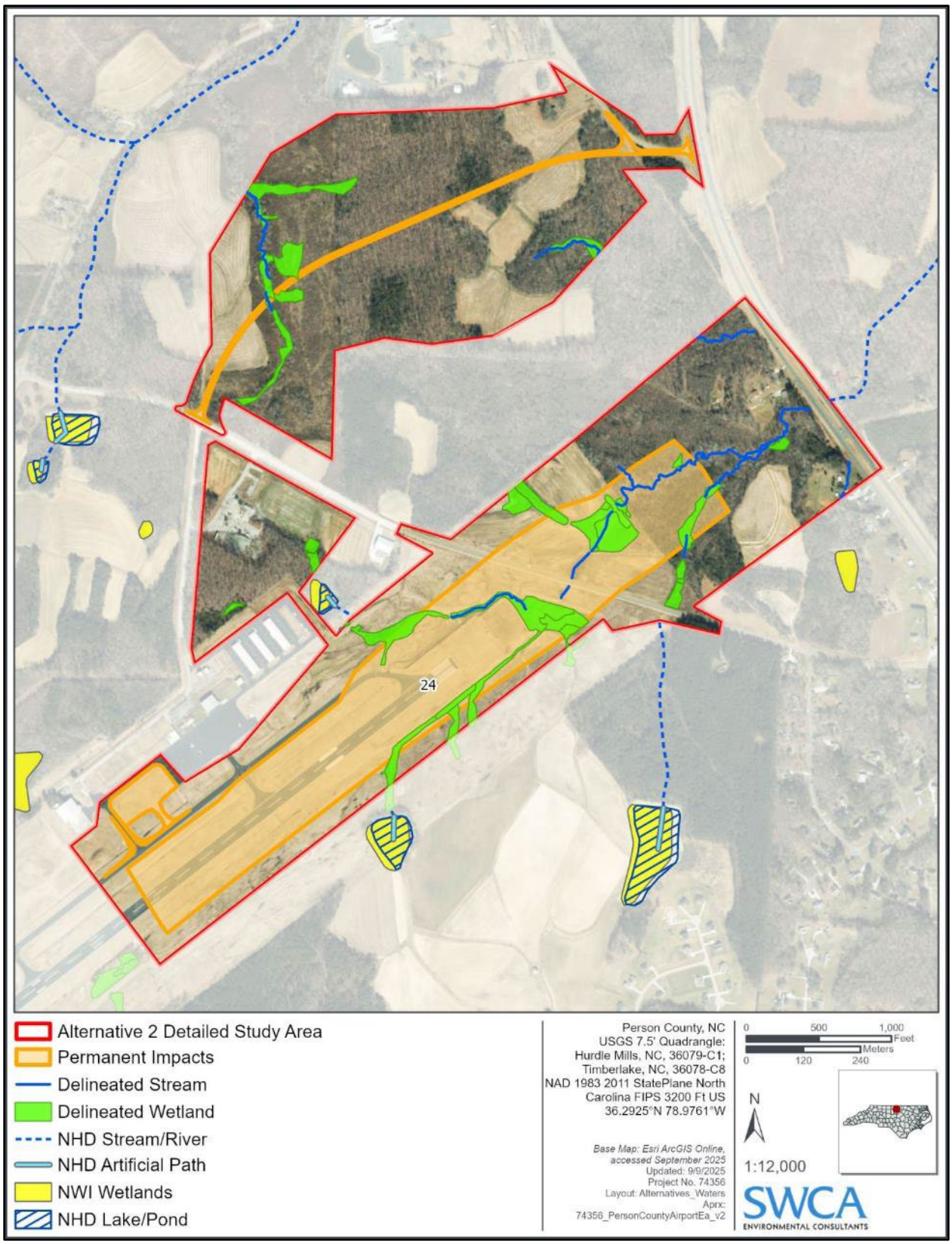

Figure 4-8. Alternative 2 wetlands and surface waters.

4.6 Water Resources: Surface Waters

4.6.1 Regulatory Setting and Methodology

The CWA establishes the basic structure for regulating the discharge of pollutants into WOTUS. The sections of the CWA relating to WOTUS are Section 303(d), Section 404, Section 401, and Section 402, which establish the National Pollutant Discharge Elimination System (NPDES) permit program. An impact to surface water could be considered significant if the action would exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected.

Surface waters in the Detailed Study Area were assessed and characterized pursuant to guidance provided in the North Carolina Division of Water Quality's (NCDWQ's) *Methodology for Identification of Intermittent and Perennial Streams and Their Origins*, Version 4.11 (NCDWQ 2010), the USACE Regulatory Guidance Letter 05-05, Ordinary High Water Mark (OHWM) Identification (USACE 2005), and Current Implementation of Waters of the United States (EPA and USACE 2024).

The project is subject to Person County's Stormwater Development Rules and the Falls Watershed Stormwater Ordinance and would require a Person County Stormwater Permit and possibly an update of the Airport's existing SWPPP, per the airport's NPDES permit. Land disturbing activities greater than 1 acre require an Erosion and Sedimentation Control plan approval and associated construction stormwater NPDES permit from NCDEQ.

Under the provisions of the CWA, the North Carolina Environmental Management Commission (EMC) has adopted rules pertaining to maintaining vegetated buffers around riparian areas as part of the Nutrient Sensitive Water Management Strategies for select watersheds of North Carolina. The buffer rule administered by the NCDWR establishes a protected 50-foot-wide riparian buffer directly adjacent to intermittent streams, perennial streams, lakes, and ponds. A Buffer Determination from the NCDWR would be required for the project. Under Section 11 of the Neuse River Riparian Rule, activities listed below are permitted in relation to airport activities.

- *Deemed allowable*: Vegetation removal activities necessary to comply with FAA requirements (e.g., line-of-sight requirements), provided the disturbed areas are stabilized and revegetated.
- *Allowable upon authorization*: Airport facilities that impact equal to or less than 1/3 acre of riparian buffer.
- *Allowable with mitigation upon authorization*: Airport facilities that impact greater than 1/3 acre of riparian buffer.

4.6.2 Affected Environment

The General Study Area is located within the North Flat River (Hydrologic Unit Code [HUC] 030202010101) and the South Flat River (HUC 030202010102) watersheds of the Upper Neuse River Basin (NCDEQ 2023). The Neuse River is located approximately 34 miles southeast of the General Study Area. Streams totaling 1.57 miles (8,293 linear feet) were delineated within the Detailed Study Area (SWCA 2024a). Delineated surface waters are unnamed tributaries to the North Flat River and South Flat River. A review of Google Earth's current and historical aerial imagery, dating back to 1985 (Google Earth Pro 2023), indicates that the site's hydrology in the southern portion of the Detailed Study Area was heavily altered due to airport construction and runway expansion between 1993 and 2005.

NCDEQ assesses surface water quality as required under Sections 303(d) and 305(b) of the CWA and is reported every 2 years. The North Flat River and Aldredge Creek and their tributaries are classified as a Water Supply III (low to moderately developed waters used for drinking and food processing). According

to the 2022 Integrated Report (NCDEQ 2022; NCDEQ 2023), the North Flat River and Aldridge Creek meet the criteria for this classification. There are no impaired streams in the General Study Area.

4.6.3 Environmental Consequences

The construction activities would include excavation, building of a soil embankment, stabilization of subgrade, erosion control measures, and asphalt surface course. The proposed asphalt access road would meet all NCDOT standards with excavation and/or borrow embankment. These construction activities would occur in or near surface waters (see Wetlands section). The runway and taxiway extension would require an embankment to be constructed at the Runway 24 end to level the downward slope east towards US-501. The borrow site for embankment fill is shown on Figure 3-1. All embankment and borrow construction would be in accordance with FAA specification P-152. The current estimate of fill needed is 1 million cubic yards.

As required by the NCDEQ, sediment and erosion control BMPs would be implemented to reduce the risk of nutrient runoff to surface waters. Post-construction stormwater BMPs would, to the extent practicable, be selected and designed to reduce nutrients. Grading and drainage plans would meet the current AC Requirements. Sedimentation and erosion control plans and details would include several measures such as silt fence, seeding, sodding, mulching, rip rap inlet, and outlet protection as required. The Airport has a SWPPP and NPDES permit in place, and during design, stormwater management would be coordinated with Person County personnel. Sedimentation and erosion control permits and stormwater control permits would be obtained for the project as required by NCDEQ. In addition, the Airport has committed to additional measures to protect aquatic wildlife (see Section 5, Mitigation Measures).

Surface waters requiring NCDEQ DWR riparian buffers based on the field assessment (SWCA 2024a) are shown in Figure 4-5. The applicant submitted a buffer determination request to NCDEQ to confirm these features require a buffer. On February 20, 2024, the NCDEQ conducted a site visit to inform their determination. NCDEQ provided their official buffer determination letter (DWR#24-037) on March 20, 2024, which addresses the applicability of the regulations on the features identified on the subject property (Appendix A). Permitting would be required for activities within the identified riparian buffers. Following additional aquatic resource surveys in October 2024 for the proposed borrow area, an additional Stream Origin/Buffer Applicability Determination request was submitted on November 19, 2024, and NCDEQ provided their official buffer determination letter (DWR#25-RRO-053) on February 20, 2025 (Appendix A).

The proposed tree removal would clear and grub all trees within the RPZ. However, in sensitive areas such as wetlands and riparian buffers, trees would be cut down and stumps left behind to avoid surface disturbance and potential erosion and sedimentation impacts in surface waters.

4.6.3.1 PROPOSED ACTION

Impacts to surface waters (delineated streams) are shown in Table 4-10. Table 4-11 compares the potential impacts within riparian buffers. The Proposed Action would permanently impact 3.68 acres of riparian buffers. During construction, temporary impacts could occur in 8.73 acres of riparian buffers. Tree removal in riparian buffers would leave stumps behind to avoid potential sedimentation impacts to surface waters. With the implementation of sediment and erosion control BMPs, water quality standards would not be exceeded, and the public drinking water supply would not be adversely affected in the General Study Area.

Table 4-11. Potential Impacts within NCDEQ Riparian Buffers

Alternative	Total Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact Area (acres)
Proposed Action - Riparian Zone 1	7.41	2.14	5.27
Proposed Action - Riparian Zone 2	5.00	1.54	3.46
Proposed Action - Total	**12.41**	**3.68**	**8.73**
Alternative 1 - Riparian Zone 1	9.24	2.18	7.06
Alternative 1 - Riparian Zone 2	6.16	1.57	4.59
Alternative 1 - Total	**15.39**	**3.75**	**11.65**
Alternative 2- Riparian Zone 1	7.91	3.47	4.44
Alternative 2 - Riparian Zone 2	5.33	2.43	2.90
Alternative 2 - Total	**13.24**	**5.90**	**7.34**

4.6.3.2 ALTERNATIVE 1

Impacts to surface waters and riparian buffers from Alternative 1 would be greater than the Proposed Action (Table 4-10, Table 4-11). Alternative 1 would permanently impact 3.75 acres of riparian buffers. During construction, temporary impacts could occur in 11.65 acres of riparian buffers. With the implementation of sediment and erosion control BMPs, water quality standards would not be exceeded, and the public drinking water supply would not be adversely affected in the General Study Area.

4.6.3.3 ALTERNATIVE 2

Impacts to surface waters and riparian buffers from Alternative 2 would be greater than the Proposed Action (Table 4-10, Table 4-11). Alternative 2 would permanently impact 5.90 acres of riparian buffers. During construction, temporary impacts could occur in 7.34 acres of riparian buffers. With the implementation of sediment and erosion control BMPs, water quality standards would not be exceeded, and the public drinking water supply would not be adversely affected in the General Study Area.

4.6.3.4 NO ACTION

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, no construction activities would occur, and there would be no impacts on water quality.

4.7 Hazardous Materials, Solid Waste, Pollution Prevention

4.7.1 Regulatory Setting and Methodology

Hazardous materials are any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce (FAA 2023). This includes hazardous waste, which is a solid waste that is ignitable, corrosive, reactive, or toxic, as well as petroleum and natural gas substances and materials. FAA actions, projects, and decisions that have the potential to encounter or affect hazardous materials are subject to federal, state, and local laws and regulations that govern hazardous materials use, storage, transport, or disposal. At the federal level, the EPA regulates the handling of hazardous materials, substances, and wastes under the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund), and the Toxic Substances Control Act of 1976.

RCRA provides a system for the safe management of solid and hazardous waste, including generation, transportation, treatment, storage, and disposal. In addition, the RCRA authorizes the EPA to regulate

underground storage tanks (USTs) containing regulated substances, including petroleum products and those hazardous substances identified in CERCLA.

CERCLA identifies the requirements for identifying and evaluating previous uses of a property to determine the potential for contamination to be present (i.e., the All Appropriate Inquiries standard), determining the parties responsible for recovery and cleanup, and limiting the liability of current and prospective "innocent landowners." Any entity who intends to purchase a property is required to conduct all appropriate inquiries into the previous uses of the property and adjacent properties prior to acquisition in order to qualify for protection from CERCLA liability in the event that contamination is encountered onsite. The EPA issued specific standards and practices that prospective landowners must meet in order to fulfill all appropriate inquiries standards in 2006 (40 CFR 312; Federal Register 70:66070). Also, under CERCLA, EPA administers a federal "Superfund" to identify, manage, and clean up uncontrolled or abandoned hazardous waste sites as well as accidental releases of pollutants and contaminants.

The Toxic Substances Control Act addresses the production, import, use, and disposal of specific chemical substances, including but not limited to polychlorinated biphenyls, asbestos, radon, and lead-based paint, and also authorizes the EPA to require reporting, recordkeeping, and testing requirements and restrictions of these substances.

While USTs are regulated under RCRA, the NCDEQ also administers an approved UST program, a Non-UST petroleum releases program, and the Ex Situ Petroleum Contaminated Soil Remediation Permit program. Thus, owners and operators of USTs are subject to both federal and state requirements. No single comprehensive regulation governs aboveground storage tanks. Federal laws that regulate aboveground storage tanks include the CWA, the Oil Pollution Act, the CAA, and the RCRA. The specific regulatory requirements depend on the substances contained in the tanks.

This regulatory framework means these wastes and materials are measured, recorded, tracked, controlled, and otherwise policed. This also means that instances in which hazardous materials are used, generated, spilled, released, collected, remediated, and disposed of are recorded in publicly available databases managed by one or more of the regulatory bodies mentioned above.

The FAA has not established a significance threshold for hazardous materials, solid waste, and pollution prevention; however, a project should not violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management or adversely affect human health and the environment (FAA 2023).

4.7.2 Affected Environment

The General Study Area was reviewed to identify sites, facilities, or properties where hazardous materials or contamination may be present that could be encountered during construction of the Proposed Action or alternatives. The analysis includes a review of the NCDEQ Division of Waste Management Site Locator Tool (NCDEQ 2024), which contains records and geospatial information from federal and state government databases of previously reported releases of hazardous materials, remedial actions, and emergency response activities, institutional controls, and activities and property uses that have a high potential to result in releases of hazardous materials.

According to the NCDEQ Site Locator, the Airport itself is listed as a UST facility. There are two USTs on the Airport property, including one 10,000-gallon gasoline UST and one 15,000-gallon kerosene jet fuel UST, both installed in 1988. One UST incident has been reported on the Airport property; the incident occurred on March 26, 1997, and was closed on September 14, 2000. No records are available detailing the substance, quantity, and extent of the release; however, the incident is listed in NCDEQ records as low risk.

Two other UST facilities are located within the General Study Area. Helena Elementary School, located approximately 0.7 mile southeast of the Airport, has two 10,000-gallon heating oil USTs listed, one of which is active and one that was closed in 2014. No releases have been reported from this facility.

Timberlake Mart, a gas station formerly known as Barts Shell, is located approximately 0.9 mile southeast of the Airport. Three USTs are listed at this facility: one 10,000-gallon regular gasoline UST and two 5,000-gallon gasoline USTs, all installed in 1994. Two incidents have been reported at this facility in 1994 (Incident #12605) and 2021 (Incident #48170). Remedial excavation has been conducted, although both cases appear to be open as of March 2024. Due to the distance from the Proposed Action, it is unlikely that contamination from these releases would be encountered by the Proposed Action or alternatives.

An agricultural facility listed as a Very Small Quantity Generator of used oil is located within the northern portion of the General Study Area. No releases or other violations have been reported at this facility. No active or inactive landfills, Superfund sites, brownfields, current or historic drycleaning facilities, hazardous materials releases, or other hazardous waste sites were identified within the General Study Area. The closest solid waste landfill that is actively accepting waste is the Upper Piedmont Regional Landfill, located approximately 8 miles northeast of the Airport near Rougemont. This landfill was established in 1997 and accepts commercial and non-hazardous industrial waste. The life expectancy of the landfill is 46 years; therefore, the landfill is expected to continue to accept waste through 2043 (Republic Services, Inc. 2024).

4.7.3 Environmental Consequences

4.7.3.1 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action and action alternatives would not violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management and would not adversely affect human health and the environment. Although the General Study Area does not contain a known contaminated site, the Proposed Action and action alternatives would create a minor risk of environmental contamination by hazardous materials or disturbance of an existing hazardous material contamination site. Ground disturbance of any kind involves the risk of encountering contaminated soil or groundwater. Furthermore, the Proposed Action and action alternatives propose the acquisition of land within the Runway 6-24 RPZ and for the proposed new connector road at the airport entrance, and therefore, have a greater chance of encountering contaminated soils or groundwater. To minimize this risk, environmental site assessments would be performed in accordance with both the NCDOT and the FAA land acquisition requirements to identify any potential sources of contamination that may have affected the areas of proposed ground disturbance.

Construction activities such as the use and maintenance of typical construction equipment and fleet vehicles may increase the risk of spills or releases of hazardous materials to the land, air, or water. Pollution prevention includes a spill prevention control and countermeasures (SPCC) plan, and a site-specific SWPPP would be prepared in advance of construction to minimize the risk of potential releases of hazardous materials and pollutants to soil, groundwater, or surface waters. Under all action alternatives, construction activities would abide by all federal, state, and local hazardous materials management regulations during construction. The contractor would be responsible for the management and disposal of all hazardous materials generated by the excavation of soil and demolition of concrete, asphalt, and other potentially contaminated media at a licensed facility in accordance with current federal and state regulations. In the event that previously unknown contaminants are discovered during construction or a spill occurs during construction, work would stop until the National Response Center is notified at 1-800-424-8802 and any required action is taken. With these plans and measures in place, accidental spills or releases to the land, air, or water during construction of the Proposed Action or action alternatives would result in localized, contained, infrequent, temporary, and negligible to minor impacts.

During land clearing, demolition, and construction, construction personnel would make every feasible effort to minimize solid waste generation and recycle materials for which viable markets exist. The contractor would be responsible for the management and disposal of all materials generated by the excavation of soil and demolition of concrete, asphalt, and other wastes at a licensed facility, or through agreements with entities that would have a use for the materials in accordance with current federal and state regulations. To the extent possible, recyclable materials would be disposed of at the Person County Recycling Center in

Roxboro, North Carolina. Any waste generated that cannot be reused or recycled would be disposed of at the Upper Piedmont Regional Landfill in Rougemont, North Carolina, or another NCDEQ-permitted solid waste management facility. The waste generated from construction of the Proposed Action or action alternatives is not expected to exceed the capacity of these facilities under any action alternative. No long-term changes in levels of solid waste collection and disposal at the Airport would be generated under any action alternative. Therefore, the impact on hazardous or solid waste generation is anticipated to be short-term and negligible for the Proposed Action and action alternatives.

4.7.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, there would be no impacts related to hazardous materials or solid waste generation.

4.8 Historical, Architectural, Archaeological and Cultural Resources

4.8.1 Regulatory Setting and Methodology

Projects in North Carolina are typically subject to the regulations set forth in the National Historic Preservation Act (NHPA) administered by the North Carolina Historic Preservation Office (NCHPO), which acts as the State Historic Preservation Office (SHPO) for the state of North Carolina. If an undertaking is federally permitted, licensed, funded, or partially funded, the project must comply with Section 106 of the NHPA, which requires that every federal agency consider the undertaking's effects on historic properties, which are defined as any property listed in or eligible for listing in the National Register of Historic Places (NRHP). As stipulated in Section 106, which implements the regulations in 36 CFR 800 (Protection of Historic Properties), the process includes the identification and evaluation of historic properties, including buildings, structures, objects, sites, districts, and archaeological resources.

For Section 106 consultation, contextual data for the General Study Area was collected. This background research consisted primarily of a site file search using the archives located in the Office of State Archaeology in Raleigh, North Carolina, and NCHPO's online repository of data pertaining to historic architecture (NC SHPO 2023). Other sources were the U.S. Geological Survey's (USGS's) TopoView, which is the online portal for current and historical topographic maps (USGS 2023), and the NRCS's Web Soil Survey database for soils data (USDA NRCS 2023). The Detailed Study Area was considered the area of potential effect (APE) for Section 106 consultation (Figure 4-1). The APE is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties if any such properties exist. Surveys were conducted to verify the results of the archival research within the APE (SWCA 2023, 2024b, 2025).

SHPO and the Sappony Indian Tribe, who may have tribal interest in the land, were consulted during preparation of this EA. The SHPO response is provided in Appendix A. No response from the Sappony Indian Tribe was received.

4.8.2 Affected Environment

4.8.2.1 ARCHAEOLOGICAL RESOURCES

Prior to the 2024 surveys, four archaeological investigations were completed within the General Study Area. All four were related to construction of the Raleigh Regional Airport at Person County, alterations to its footprint, and vegetation management in its immediate vicinity (Table 4-12).

Table 4-12. Previous Archaeological Investigations within the General Study Area

Tracking Number	Report Title	Date	Investigation Type
ER 83-7613	An Archaeological Survey for the Proposed Raleigh Regional Airport at Person County (Hammond and Hargrove 1983)	1983	Phase I
ER 90-7133	An Archaeological Survey of Proposed Improvements to the Raleigh Regional Airport at Person County, Hurdle Mills-Timberlake Vicinity, Person County, North Carolina (Hargrove 1989)	1989	Phase I
ER 90-8041	Archaeological Test Excavations on 31PR58, the Satterfield House, Raleigh Regional Airport at Person County, Timberlake Vicinity, North Carolina (Hargrove 1990)	1990	Phase II
93-E-4220-0212	A Cultural Resource Assessment for the Executive Airport Runway Extension and Glide Slope Installation, Raleigh Regional Airport at Person County, Hurdle Mills Vicinity (Hargrove 1993)	1993	Phase II

Source: (OSA 2023)

During a 1983 survey for the airport construction project, 14 sites of interest were located. None of the sites were recommended eligible for the NRHP, though one site (31PR41) was recommended for further investigation (Hammond and Hargrove 1983). In 1989, after construction of the airport, a survey identified three new prehistoric sites and one new historic site. The historic site (31PR58), known as the Satterfield House, was recommended for further investigation. The remaining sites were recommended as not eligible for the NRHP. In addition to archaeological resources, this project also identified the Satterfield House as a historic architectural resource potentially eligible for the NRHP (Hargrove 1989). The Satterfield House site (31PR58) was the focus of a Phase II evaluation/testing in 1990. Based on the data gathered from the field investigation, the site was recommended not eligible for the NRHP (Hargrove 1990).

The survey in 1993 addressed three concerns related to the effect of airport expansion on cultural resources. The first concern was the eligibility of 31PR41 for the NRHP. The second concern was the eligibility of a log house for nomination to the NRHP as a historic architectural resource. The third concern was the effect of the airport expansion on historic architecture resources within or adjacent to construction areas. The two previously recorded resources and a third resource, a historic architectural property known as The Lunsford House, which was identified as a result of the project, were recommended not eligible for the NRHP (Hargrove 1993).

A new archaeological survey of the APE was conducted in March 2024 (SWCA 2024b). The survey identified 11 new archaeological resources, including four prehistoric isolated finds, four prehistoric sites, one historic site, one site with both prehistoric and historic components, and one family memorial (Table 4-13). The 11 resources were recommended as not eligible for the NRHP, and the SHPO concurred with these recommendations in a letter dated August 9, 2024 (Appendix A).

An additional systematic archaeological survey was performed in the borrow pit portion of the APE in December 2024 and reported in January 2025 (SWCA 2025). Four new precontact archaeological sites were identified, three isolated finds and one temporally non-diagnostic lithic scatter. On April 3, 2025, SHPO concurred that the four resources are not eligible for the NRHP (Appendix A).

Table 4-13. Archaeological Resources Recorded in the APE

Site No.	Site Type	Site Description	Artifact Count
31PR184	Prehistoric	Subsurface isolated find	1
31PR185	Prehistoric	Subsurface isolated find	1
31PR186	Prehistoric	Subsurface isolated find	1
31PR187	Historic	Surface scatter, with pushpile	5

Site No.	Site Type	Site Description	Artifact Count
31PR188	Prehistoric	Subsurface lithic scatter	4
31PR189	Prehistoric	Subsurface isolated find	1
31PR190	Both	Surface and subsurface multicomponent scatter	40
31PR191	Prehistoric	Surface lithic scatter	12
31PR192	Historic	Family “cemetery” plot (no human remains)	N/A
31PR193	Prehistoric	Subsurface lithic scatter	2
31PR194	Prehistoric	Subsurface lithic scatter	30
31PR203	Prehistoric	Subsurface isolated find	1
31PR204	Prehistoric	Subsurface lithic scatter	7
31PR205	Prehistoric	Subsurface isolated find	1
31PR206	Prehistoric	Subsurface isolated find	1

Source: SWCA (2024b, 2025).

4.8.2.2 HISTORIC ARCHITECTURE RESOURCES

The review of historic maps, current aerial imagery, and historic aerial imagery (Google Earth Pro 2023) identified 11 potential historic architectural resources and three previously recorded historic architectural properties (PR0042, PR0083, and PR0095) within the General Study Area. These properties are all outside of the APE, with the exception of PR0095, which is along Frank Timberlake Road near the Runway 6 end. None of these properties have been evaluated for NRHP eligibility. PR0042 consists of multiple houses that have been demolished except for one two-story Folk Victorian house with cross gable roof and weatherboard cladding. The house associated with PR0083 has been demolished, and two ruinous outbuildings remain. The Lunford House (PR0095) is a multi-building farm that dates to ca. 1870. Five buildings on this property are historic.

4.8.3 Environmental Consequences

4.8.3.1 ARCHAEOLOGICAL RESOURCES

The SHPO concurred with the recommendations that the 15 sites identified in the APE (see Table 4-13) are not eligible for the NRHP. Therefore, the Proposed Action and action alternatives, as proposed, would not have an adverse effect on archaeological resources. The FAA has no further obligation under Section 106.

4.8.3.2 HISTORIC ARCHITECTURE RESOURCES

There are no historic architectural resources within the APE for the Proposed Action or Alternative 2.

One historic architectural resource was previously recorded within the APE for Alternative 1 (PR0095, The Lunford House), but has not been evaluated regarding eligibility for the NRHP.

SHPO determined that the Proposed Action and action alternatives, as proposed, would not have an adverse effect on any historic structures (Appendix A). The FAA has no further obligation under Section 106.

4.9 Land Use

4.9.1 Regulatory Setting and Methodology

The FAA requires airports owned and operated by the same jurisdiction that is the land use authority (e.g., Person County), to adequately control land use near the airport and prevent new incompatible development.

NEPA documents must discuss any possible conflicts between the proposed action and the objectives of federal, regional, state, and local land use plans, policies, and controls for the area concerned.

As described in AC 150/5190-4B Airport Land Use Compatibility, airport sponsors and owners are obligated to pursue all reasonable and appropriate actions to secure and promote compatible land use and development within their local areas (USDOT FAA 2022). In addition, AC 150/5200-33, Hazardous Wildlife Attractants on or Near Airports, provides airport operators with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land use practices on or near public-use airports (USDOT FAA 2020).

The project was reviewed to determine its consistency with the above regulations and the Person County and City of Roxboro Joint Comprehensive Land Use Plan (Person County 2021). Person County and the City of Roxboro jointly work together and share planning authority over land uses within their jurisdictions via the goals and overall objectives of their Joint Comprehensive Land Use Plan. Zoning regulations and ordinances established in Person County provide guidelines to control land use in its jurisdiction, while the City of Roxboro exerts more authority within its own bounds.

4.9.2 Affected Environment

The General Study Area is located in the southern central portion of Person County, approximately 3 miles south of the city limits of Roxboro.

4.9.2.1 EXISTING LAND USE

According to the Joint Comprehensive Land Use Plan (Person County 2021), the primary general land use within Person County is rural, agriculture, undeveloped (90.5%), followed by residential at (7.3%), government/exempt (1.2%), commercial (0.8%), and industrial (0.2%). In the General Study Area, the existing land use is mapped as Government/Exempt where the existing Airport property is, surrounded by Rural/Agriculture/Undeveloped, with a few small Residential areas. The Rural/Agriculture/Undeveloped consists of farmland and undeveloped forest. There are residences close to the end of Runway 6 along Frank Timberlake Road, while the closest residences to the Runway 24 end are approximately 450 feet south and 900 feet northeast; however, these residences are mapped as Rural/Agriculture/Undeveloped. Areas mapped as Residential land use areas are immediately south of the Airport along Tom Oakley Road and Foxcroft Drive.

4.9.2.2 ZONING

The General Study Area contains the Airport District Overlay (AP) of Person County, surrounded primarily by Rural Conservation, with smaller areas of General Industrial and Highway Commercial Business districts. The majority of the General Study Area is also included in the Voluntary Agricultural District except for a small portion along Cates Mill Road and Montgomery Drive (Figure 4-9, Table 4-14) (Person County 2021). The County's Rural Conservation District permits most types of land uses.

Table 4-14. Existing Zoning within Detailed Study Area

Land Uses/Zone	Proposed Action	Alternative 1	Alternative 2
Airport District	152.6 acres	227.1 acres	165.6 acres
Rural Conservation	114.1 acres	143.2 acres	114.1 acres
Highway/Commercial Business	13.8 acres	13.8 acres	13.8 acres
General Industrial	3.3 acres	3.3 acres	3.3 acres
Total	**283.8 acres**	**387.4 acres**	**315.2 acres**

Source: Person County (2021)

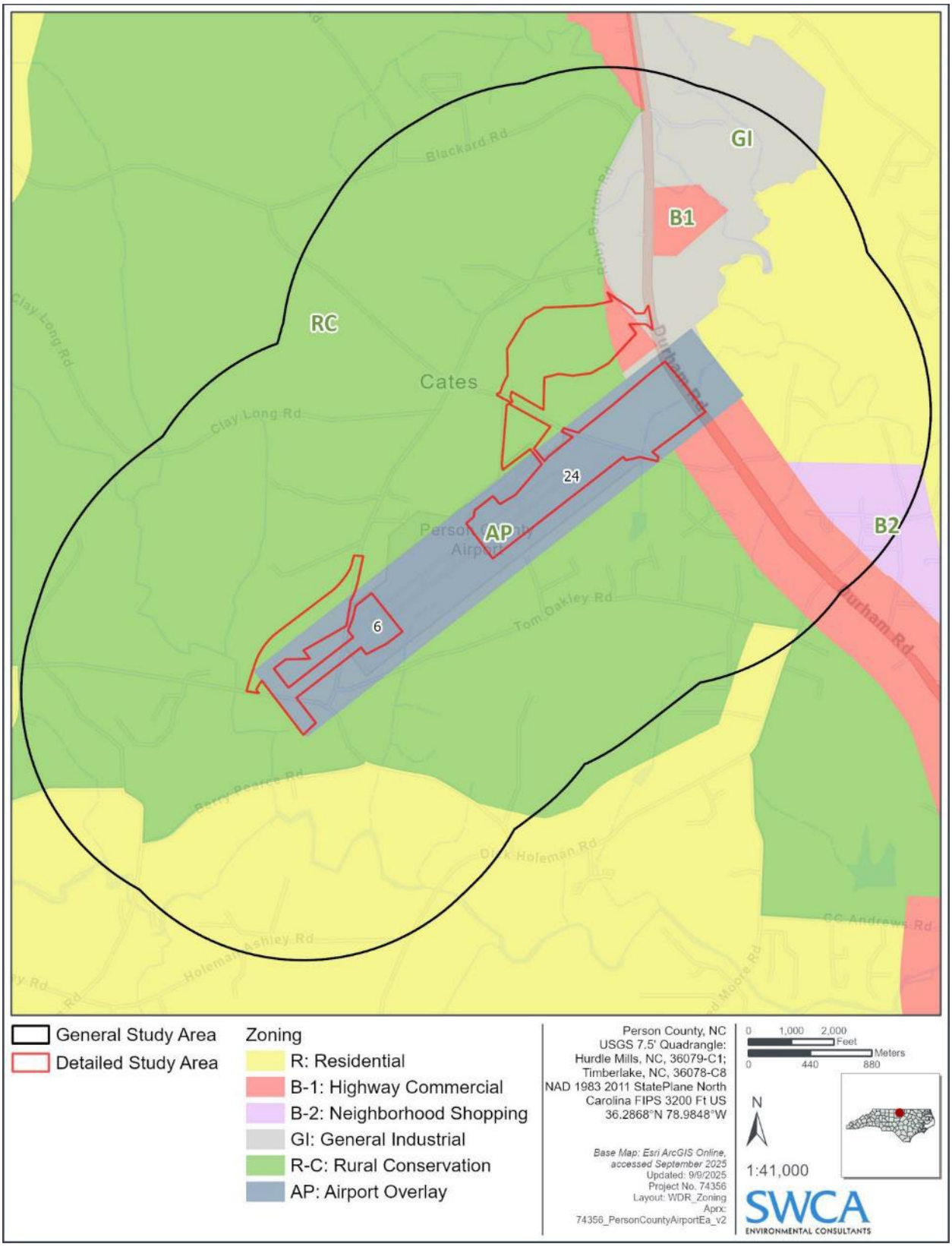

Figure 4-9. Zoning map.

4.9.2.3 FUTURE LAND USE

Future land uses in the General Study Area have been mostly reserved as the Airport Compatibility Area, with a small area of Industrial along Highway 501. According to the 2021 Joint Comprehensive Land Use Plan, the intention of the Airport Compatibility Area's future land use category is to protect the airport and surrounding areas from incompatible development patterns. Major subdivisions of land for residential purposes would be restricted, while infill residential development on existing lots would be permitted. Compatible growth, including industrial and similar uses, would be encouraged, provided that it meets the airport compatibility zoning regulations and is sufficiently buffered from existing residential development in the area.

4.9.2.4 HAZARDOUS WILDLIFE ATTRACTANTS

According to AC *150/5200-33, Hazardous Wildlife Attractants on or Near Airports*, several land uses such as municipal solid waste landfills, water management facilities, wetlands, dredge spoil containment areas, agricultural activities, aquaculture, golf courses, landscaping, structures and other land use considerations, habitat for state and federally listed species, and synergistic effects of surrounding land uses, are generally not compatible with safe airport operations when they are located within the following separation distances:

- For airports serving piston-powered aircraft, it is recommended that hazardous wildlife attractants be 5,000 feet from the nearest aircraft operations area.
- For airports serving turbine-powered aircraft, it is recommended that hazardous wildlife attractants be 10,000 feet from the nearest aircraft operations area.
- Recommended for all airports, 5-mile range to protect approach, departure, and circling airspace.

A desktop review of Person County's geographic information system (GIS) mapping (2023d) and the County's Land Use Plan (Person County 2021) indicates no municipal solid waste landfills, water management facilities, dredge spoil containment areas, aquaculture, golf courses, landscaping, or structures or other land use considerations are in the General Study Area. Wetlands (16 acres within the Detailed Study Area) and surface waters are present, which could attract hazardous wildlife such as birds and bats (see Chapter 4.3, Biological Resources). In addition, according to the TDF Airport Master Record 5010 report, an inspection conducted on July 30, 2022, indicated deer and birds on and in the vicinity of the Airport (ADIP FAA 2023).

4.9.3 Environmental Consequences

4.9.3.1 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action and action alternatives would mostly occur within the Government/Exempt and Rural/Agriculture/Undeveloped current land uses. The proposed runway extension, road relocations, and other proposed components outside of the current Airport property boundary would be within Rural/Agriculture/Undeveloped. Alternative 1 would have the most impact within the Rural/Agriculture/Undeveloped category due to its larger footprint outside of the existing Airport property boundary. During scoping, the NC Department of Agriculture did not raise any concerns about the project (Appendix A). Residential land uses would not be impacted.

The runway extension would occur within an area currently zoned as Airport Overlay. The Proposed Action and action alternatives include development of new roads within areas currently zoned as Rural Conservation. The Rural Conservation classification allows for all land use types. The Airport would acquire land to protect the Runway 24 RPZ from non-compliant development. All land acquisitions would be in accordance with both the NCDOT and the FAA land acquisition requirements. There are no residences on the lands to be acquired. This change in land use is included in the 2021 Joint Comprehensive Land Use Plans future land use Airport Compatibility Area.

Proposed Action and action alternatives are mostly within the Airport Compatibility Area on the county's Future Land Use map, with a portion of the proposed Cates Mill Road within an area in the Industrial future land use category. There are no conflicting future land uses, such as residential, for the Proposed Action or Alternatives.

The Proposed Action and action alternatives would not increase hazardous wildlife attractants.

4.9.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, no changes in land uses would occur. The Airport would continue to operate within its existing boundary; however, it would remain out of compliance with current FAA design standards.

4.10 Noise and Noise-Compatible Land Use

4.10.1 Regulatory Setting and Methodology

An assessment of potential noise and compatible land use impacts has been prepared in accordance with FAA Orders 1050.1F and 5050.4B. In 2017, TDF developed an Airport Master Plan Update (Master Plan) to discuss the existing conditions, aviation forecasts, and potential facility requirements. Noise impacts could be considered significant if the action would increase noise by DNL1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB.

Aviation activities presented in this noise assessment are based on the information contained in the Master Plan and the information retrieved from the Terminal Area Forecast (TAF). The TAF is the official FAA forecast of aviation activity for U.S. airports and provides forecasts for air carrier, air taxi/commuter, GA, and military.

Impacts of future operational changes and resulting noise levels are based on the Area Equivalent Method (AEM) screening analysis. The AEM is used to develop insight into the potential increase or decrease of noise resulting from a change in aircraft operations. As demonstrated, the AEM screening analysis supports a determination of no significant impact. Below describes the affected environment with respect to noise, the components of the forecasted year, and presents the supporting AEM screening analysis demonstrating that the percentage increase in the Day-Night Average Sound Level (DNL) 65 dB contour area is less than 17% and further analysis is unnecessary.

The main sources of noise associated with airport operations result from departures, arrivals, overflights, taxiing, and engine run-ups. To evaluate airport noise impacts on noise sensitive land uses (such as residences, churches, schools, libraries, and nursing homes), the Yearly DNL is used, which provides a single quantitative rating of a noise level over a 24-hour period. The FAA uses the land use compatibility guidelines of 14 CFR part 150, Airport Noise Compatibility Planning to determine compatibility with nearby land use. A DNL of 65 decibels (dB) is the noise level at which noise-sensitive land uses become significantly impacted, as determined by the FAA. Below 65 DNL these land uses are determined to be compatible with airport noise.

Impacts of future operational changes and resulting noise levels are based on the AEM screening analysis. The AEM is a screening procedure used in determining the need for further analysis with the Aviation Environmental Design Tool (AEDT). AEM is a mathematical procedure that provides an estimated change in noise contour area for an airport, given the types of aircraft and the number of operations for each aircraft. The noise contour area is a measure of the size of the landmass enclosed within a level of noise as produced by a given set of aircraft operations, measured in DNL. The purpose of AEM is to screen for significant impact within the 65 dBA contour area and is used to develop insight into the potential increase or decrease

of noise resulting from a change in aircraft operations. If there is a 17% increase in DNL 65 dB contour area, then further analysis is necessary using AEDT.

AEM calculations are developed on the basis of a single runway, one-way traffic flow configuration-arrivals in and departures out in the same direction, and produce an estimate (in square miles) of the area impacted. However, AEM usage and analysis are not limited only to airports that have a single runway and single flight track configurations. Airports with multiple runways and multiple flight tracks can also be assessed using AEM that models all operations on a single runway, single flight track configuration. Since the corresponding noise and the general shape of the contour would be unchanged, the AEM screening analysis is appropriate for TDF to assess the changes in fleet mix and number of operations. Per FAA Order 1050.1F, projects at airports that experience 90,000 annual piston-powered aircraft operations or 700 annual jet-powered aircraft operations require analysis to determine noise contour maps. FAA Order 1050.1F also requires a noise analysis if a project's forecasted helicopter operations would exceed 10 operations per day (annual basis) and hover times exceed 2 minutes. Helicopter operations for the Proposed Action and action alternatives are not projected to increase by more than 10 operations per day each year. Since TDF would not exceed these FAA Order 1050.1F thresholds for annual piston-powered aircraft operations, jet-powered aircraft operations, or helicopter operations, the AEM screening analysis is appropriate to make a significant determination.

4.10.2 Affected Environment

The Airport is in a rural setting with some residential uses in the approach area to each end of the runway. The Airport's aviation activity for 2022 and projected activity for 2028 (year of anticipated project implementation) is summarized in Table 4-15.

Table 4-15. Summary of Aviation Activity Forecasts

Aviation Activity	2022 TAF Aviation Activity	2028 Master Plan Forecasted Activity
Operations*		
General Aviation (total)	32,160	39,966
GAA Single Engine Piston	19,460	24,666
GAA Multi Engine Piston	6,255	7,928
GAA Turboprop	6,603	8,369
GAA Business Jet	1,390	1,762
Military (total)	1,200	2,319
Total Aviation Activity	34,750	44,047

Note: TAF = Terminal Area Forecast.

* Operations are based on Landing/Take-off Cycles.

4.10.3 Environmental Consequences

To evaluate the increase or decrease of noise with AEM, the TDF 2022 TAF aviation activity would be compared to the 2028 forecasted aviation activity from the Master Plan. An aircraft noise analysis was performed in the Master Plan (using the forecast 20-year operations/aircraft for the preferred runway extension alternative). The noise analysis results, which are shown in Appendix E and taken from the Master Plan, indicate that the 65 DNL contour is contained within the Airport property.

During this project, there would be no change in operations. As no hangar development is proposed, there would be no increase in the number of aircraft based at TDF, and aircraft operations would not increase due to this project. However, to be conservative, the forecasted operations from the Master Plan for year 2028 were utilized in the AEM model. Projected aviation activities for 2028 are presented in the Master Plan and listed in Table 4-15. The 2022 TAF aviation activity, also presented in Table 4-15, was compared to the

2028 forecasted years, and the AEM model was used to determine the percent increase in DNL 65 dB contour area.

As listed in Table 4-15, overall increase in forecasted aviation activity for the 2028 forecasted year would result in a minor change in total aviation operations when compared with the 2022 TAF aviation activity. To evaluate the noise impacts of the forecasted year, the AEM was used to estimate changes in the existing DNL 65 dB contour represented as a percentage. In accordance with FAA guidance in the 5050.4B Desk Reference for Noise, if the AEM calculation represents an increase of less than 17% in the DNL 65 dB contour area, the forecasted flight increase would result in no significant noise impacts to land use. An increase of 17% or more would indicate that the proposed project modifications could result in a DNL 1.5 dBA or greater increase at a noise sensitive area and that further analysis is required.

Based on the total operations forecasted, the annual average daily Landing/Take-off Cycles (LTO Cycles) from year 2022 TAF aviation activity and the 2028 forecasted year were determined and input into the AEM model. The LTO Cycles for each specific aircraft make and model were extrapolated based on the total operations per aircraft category in Table 4-15 and the representative aircraft per category of aircraft from the Master Plan (Table 3-9 and 3-10 of the Master Plan and included in Appendix E). For this analysis, it is estimated that approximately 7% of operations occur during nighttime hours (from 10 p.m. to 7 a.m.). The calculated change predicted by the AEM tool was 15.7% for Master Plan year 2028. Appendix E includes tables of the AEM tool analysis results for Master Plan year 2028. Included in the AEM tool documentation are the specific assumptions regarding the Aircraft Codes used in the AEM model, the calculated annual average LTO Cycles for each aircraft type during nighttime and daytime for each of the forecasted years, and the calculated change percentage.

4.10.3.1 PROPOSED ACTION AND ALTERNATIVES

Construction would temporarily increase noise levels in the immediate vicinity of construction and tree clearing. Typical equipment for pavement removal and grading operations can generate noise levels as high as 75 to 85 dB within 50 feet of its operation. However, noise levels diminish rapidly with distance, so depending on the distance from equipment, area residents would likely experience a minor increase in noise during construction hours. The potential noise impact associated with the operation of on-site machinery would be temporary and reduced using construction timing and staging. To further minimize potential noise, construction equipment would be maintained to meet manufacturers' operating specifications.

The Master Plan provides operational forecasts for 20 years, with 2034 being the last year of forecasted data. For the forecast years through 2034, increased aviation activity would not result in significant noise impacts when compared with the year 2020 aviation activity. The calculated change predicted by the AEM tool was 16.9% for Master Plan year 2034. Appendix E includes a printout of the AEM tool analysis for Master Plan year 2034. The change in operational activities resulting from the worst-case forecasted year of 2034 would not increase the DNL 65 dB contour area by 17% or greater. Thus, this noise assessment demonstrates, in accordance with FAA Guidelines, that the forecasted years of increased aviation activity would not significantly increase noise levels that would impact land use compatibility near the airport.

4.10.3.2 NO ACTION

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, there would be no change in noise levels and no impacts on noise sensitive areas.

4.11 Socioeconomics, Children's Health and Safety Risks

This chapter evaluates the effect the Proposed Action and action alternatives would have on the socioeconomic characteristics of surrounding communities. In addition, the demographics of the affected area were examined to establish a baseline of comparison for populations present in the area that could be impacted by the Proposed Action and action alternatives.

4.11.1 Regulatory Setting and Methodology

FAA Order 1050.1F Desk Reference (FAA 2023) requires the consideration of the potential effects of a proposed action and alternatives on economic activity, employment, income, population, housing, public services, and social conditions, as well as situations in which the proposed action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

4.11.1.1 SOCIOECONOMICS

Airport actions such as airside/landside expansion, new or extended runways and taxiways, land acquisition for aviation-related use, new or relocated access roadways, and construction/demolition activity typically must be evaluated for potential social impacts. The types of socioeconomic impacts that may result from these activities include relocations of residences or businesses, disruption of planned development, disruption of community cohesion, and changes in employment.

The primary statute related to socioeconomic impacts for the FAA's NEPA reviews is the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (the Act) and its implementing regulations (49 CFR 24). The Federal Highway Administration is the oversight agency. The main objective of the Act is to provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for such programs. All project-related relocations must be performed in accordance with the Act.

The General Study Area includes two block groups (BGs) (BG 2, Census Tract (CT) 9206.02 and BG 3, CT 9206.02). Data from the U.S. Census Bureau was used to characterize the socioeconomic characteristics of each block group, including overall population, housing characteristics, income, employment rates, public services, and social conditions. Local socioeconomic characteristics were compared to Person County and the state of North Carolina as a whole.

In addition, this analysis includes a review of state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, and housing and an assessment of whether the proposed action and alternatives would be consistent with these laws.

4.11.1.2 CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Potential environmental health and safety risks that may disproportionately affect children are regulated by Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. The most recent American Community Survey 5-year estimates were consulted for demographic data that may determine the number of schools, daycares, parks, and children's health clinics in the General Study Area. Children under age 5 are more susceptible than adults to environmental hazards due to the fact that they are more heavily exposed to toxins in proportion to their body weight.

4.11.2 Affected Environment

4.11.2.1 SOCIOECONOMICS

4.11.2.1.1 Population, Housing, Employment, and Income

The total population of the block groups in the General Study Area is approximately 3,770 residents, which makes up approximately 9.3% of the total population of Person County (Table 4-16). Approximately 1,500 housing units are within the General Study Area, of which approximately 98% are occupied, and 2% are vacant. Median household income and per capita annual income in BG 3, CT 9206.02 is higher compared to BG 2, CT 9206.02, and Person County. Civilian labor force estimates for residents 16 years of age and older is higher compared to the county and state. The unemployment rate in the General Study Area is similar to the unemployment rate for Person County and the state of North Carolina.

Table 4-16. Socioeconomic Characteristics of the General Study Area

Characteristics	BG 2,CT 9206.02	BG 3,CT 9206.02	Person County	North Carolina
Total Population[a]	1,962	1,808	39,131	10,155,624
Total Housing Units[b]	789	747	18,372	4,573,066
Occupied Housing Units[b]	769	740	16,139	3,918,597
Vacant Housing Units[b]	20	7	2,233	654,469
Children (under 5)[c]	6.2%	3.5%	5.6%	5.7%
Median Household Income[d]	$52,583	$93,846	$60,688	$66,186
Per Capita Income[e]	$30,034	$41,103	$33,456	$37,641
Civilian Labor Force[f]	67.1%	67.1%	56.7%	57.6%
Unemployment Rate[f]	4.0%	4.0%	3.7%	3.8%

Source: U.S. Census Bureau (2018-2022a-h); U.S. Bureau of Labor Statistics (2023).
[a] Table B01003: Total Population
[b] Table B25002: Housing Units
[c] Table S0101: Age and Sex
[d] Table B19013: Median Household Income in the Past 12 Months (inflated)
[e] Table B19301: Per Capita Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars)
[f] Table DP03: Selected Economic Characteristics. Block Group data not available. Numbers are for Census Tract 9206.02.

4.11.2.1.2 Economic Activity

The top two industries in Person County are manufacturing and government, with a workforce of approximately 2,900 employees and a combined salary of approximately $123 million per year (mpy) (Person County 2023e).

North Carolina's *The State of Aviation Statewide Airport* report, completed by the NCDOT Division of Aviation in 2023, estimates that North Carolina's 72 public airports annually contribute more than $72 billion in economic impact – 11% of the state's gross domestic product, its total output of goods and services (NCDOT 2023). The airports also support 330,000 jobs that generate $23 billion in personal income and $3.7 billion in state and local tax revenues. Of this output, 0.9% is attributed to TDF. TDF supports over 245 jobs, while generating approximately $53.1 mpy in total economic output.

4.11.2.1.3 Public Services

There is one full-service hospital located approximately 8 miles north of the General Study Area in the City of Roxboro. Person Memorial Hospital is a 100-bed community hospital that provides 24-hour emergency care. In addition, Person County has two urgent care facilities, providing walk-in access to quality healthcare 365 days per year. Both are located along Highway 501, approximately 3.5 and 8 miles north of the General Study Area. The General Study Area is also served by one volunteer fire department located just over 1 mile east of the Airport and full-service fire and police departments located in the City of Roxboro. Adequate transportation infrastructure is available to the General Study Area through the use of existing highway systems and roads, the Person Area Transportation System (PATS) shuttle bus service, and nearby international airports (Person County 2023f, g, h). For instance, the Airport is located adjacent to Highway 501, which runs north to the City of Roxboro and south to the City of Durham. As noted earlier, construction activities would be located near large urban areas that have sufficient transportation infrastructure.

There are no recreational parks in the General Study Area. There is one church approximately 0.6 mile south of the airport.

4.11.2.2 CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

U.S. Census data, land uses, and GIS mapping data were reviewed to determine the presence of schools, daycare facilities, parks, and/or children's health clinics in the General Study Area. To identify how many children under the age of 5 years old live in the neighborhoods closest to the Runways 6 and 24 ends, U.S. Census Bureau data on children was collected using data from Table S0101: Age and Sex.

One school, Helena Elementary School, was found within the General Study Area, where children range from ages 5 through 11, with a current attendance of 523 students. No daycare centers, children's health clinics, or any other concentrated populations of children are known to exist in the General Study Area (Person County 2023c). The closest residences to the Proposed Action and action alternatives near the Runway 6 end are along Frank Timberlake Road, while the closest residences to the Runway 24 end are approximately 450 feet south and 900 feet northeast of the Proposed Action and action alternatives. Both of these residential areas are within BG 3, CT 9206.02 (see Table 4-16). According to the U.S. Census Bureau data, the percent of children under the age of 5 who live in BG 3, CT 9206.02 is 3.5% compared to Person County at 5.3% (50th percentile in the State of North Carolina). Therefore, there are not high concentrations of children under the age of 5 living in the area.

4.11.3 Environmental Consequences

4.11.3.1 PROPOSED ACTION AND ALTERNATIVES

The majority of the Proposed Action and action alternatives would take place within the existing Airport property. However, the Proposed Action and action alternatives would require the acquisition of undeveloped lands around the existing Airport property.

4.11.3.1.1 Socioeconomics

The Proposed Action and action alternatives would not result in significant impacts to socioeconomics in the General Study Area. The majority of the Proposed Action and action alternatives would be located within the Airport's existing site boundary, minimizing potential impacts on environmental or community resources or economics with construction. Construction and operation would not significantly add to existing levels of industrial impacts or significantly affect rural residential areas in the General Study Area.

Construction impacts would be short-term and localized. Potential adverse impacts from construction could result in minor, short-term temporary increases in the local population, demand for temporary housing, and use of temporary public services. However, sufficient public services exist within the vicinity of the General Study Area, including the county as a whole, to support the needs of the expected small construction crew and personnel. Potential adverse impacts associated with the Proposed Action and action alternatives could also result in minor, short-term traffic disruptions and congestion, as well as short-term noise impacts in General Study Area.

The Proposed Action and action alternatives would generate temporary construction employment and expenditure in the local community. These impacts are expected to be positive and beneficial. Existing housing and services are adequate to handle an increase in personnel and economic activity.

The Proposed Action and action alternatives involve the acquisition of land, which would alter surface transportation patterns. The lands to be acquired do not include residences and would not displace any residences. Construction impacts and the temporary closure from the relocation of Cates Mill Road would also result in minor, short-term traffic disruptions and congestion, as well as short-term noise impacts in the General Study Area.

4.11.3.1.2 Children's Environmental Health and Safety

Impacts to children's environmental health and safety are considered in the context of other resource categories with potential impacts, since a significance threshold is not established in FAA Order 1050.1F.

When evaluating the context and intensity of potential environmental impacts for children's environmental health and safety, the FAA must consider whether the Proposed Action or Alternatives would have the potential to lead to a disproportionate health or safety risk to children.

Although there is one elementary school where children would be located, none of them are living within the General Study Area, and they would be buffered by Highway 501, a few small residential neighborhoods, and some wooded areas. Furthermore, there are no known children's environmental health and safety risks associated with the Proposed Action or Alternatives. The Proposed Action and action alternatives do not impact aircraft operations and would not result in an increase in noise over nearby neighborhoods or locations where children would be located (see Section 4.10, Noise). Therefore, the Proposed Action and action alternatives would not impact children's environmental health and safety. Construction activities would be short-term and temporary in nature, would not be long-term or permanent, and are not anticipated to have an adverse impact on children's environmental health and safety. The project would not result in significant impacts to air quality or water quality, change the Airport's existing or future noise levels, or increase capacity. It would not create or make more readily available products or substances that could potentially harm children via contact or ingestion through air, food, drinking water, recreational waters, or soil. Therefore, no disproportionate impacts to health and/or safety risks to children are anticipated.

4.11.3.2 NO ACTION ALTERNATIVE

There would be no impacts to socioeconomics or children's environmental health and safety as a result of the No Action Alternative.

4.12 Visual Effects

4.12.1 Regulatory Setting and Methodology

According to the FAA's 1050.1 Desk Reference, *light emissions* include any light that emanates from a light source into the surrounding environment, such as airfield and apron lighting, NAVAIDs, roadway lighting, and glare (light reflected off a surface). *Visual resources* include buildings, sites, traditional cultural properties, and other natural or human-made landscape features that are visually important or have unique characteristics. *Visual character* refers to the overall visual makeup of the existing environment where the Proposed Action and Alternative(s) would be located. These include nearby areas such as densely populated areas with an urban visual character or less developed areas having a visual character defined by the surrounding landscape features.

Pertinent laws protecting resources that may be affected by visual effects include Section 106 of the NHPA, as discussed in Section 4.8 of this EA. The project was also reviewed to determine its consistency with state and local regulations, policies, and zoning ordinances that apply to visual effects, such as the Person County Unified Development Ordinances (Person County 2023i).

The FAA has identified factors to consider in determining whether the threshold of significance for visual effects would be exceeded, as described in the following sections.

4.12.1.1 LIGHT EMISSIONS EFFECTS

The project includes airfield lighting modifications and relocation/modification to the existing instrument landing system and other NAVAIDs, as described in Chapter 3. The potential light emissions of the Proposed Action and action alternatives were reviewed by evaluating the existing land uses in the General Study Area to determine current airport light sources (i.e., parking lots, roadways) and assess future light sources from the Proposed Action and action alternatives and whether light emissions would have the

potential to result in adverse effects. Per FAA Order 1050.1, a significant adverse effect would occur if the project would have the potential to:

- Create annoyance or interfere with normal activities from light emissions; and
- Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

4.12.1.2 VISUAL RESOURCES AND VISUAL CHARACTER EFFECTS

The potential impact of the project on visual resources was reviewed to determine if its effects would be significant when contrasted with the existing environment. Consistent with FAA Order 1050.1F, a significant adverse effect would occur if the project would have the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
- Contrast with the visual resources and/or visual character; and
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

4.12.2 Affected Environment

Sensitive receptors or areas (including distances) in the General Study Area that may be sensitive to light emissions and visual effects include:

- Eight landowners along Frank Timberlake Road at the Runway 6 end (seven are direct abutters, and one is within 150 feet of the Airport property). The majority of these lands are open lands/farmlands;
- A residential area along Tom Oakley Road southeast of the Airport property with houses located within 1,500 feet from the Airport property;
- Open lands, wooded lands, and farmlands south and directly abutting the Airport property;
- Residential landowners at the Runway 24 end along Highway 501 within 1,500 feet of the Airport property; and
- Landowners along/off Cates Mill Road, Montgomery Drive, and Frank Timberlake Road adjacent to or within 1,500 feet of the Airport property. The majority of these lands consist of farmlands with wooded areas and are included in the Cates Mill Road relocation.

4.12.2.1 LIGHT EMISSIONS

The Airport and sensitive areas listed above are located within a rural environment with generally low-medium ambient light emission sources. Runway 6-24 is equipped with a PAPI system with a 4-light PAPI on the Runway 6 end and a 2-light PAPI on the Runway 24 end, both on the left sides. A PAPI is a system of lights on the side of an airport runway threshold that provides visual descent guidance information during final approach. Runway 6 is also equipped with a 1,400-foot Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR) system; however, Runway 24 is not. Runway End Identifier Lights (REIL) are included on the Runway 24 end but not on the Runway 6 end (Airnav 2023).

Existing views from these areas towards the Airport include light emissions from the Airport's runway and taxiway and associated airfield lighting systems, support buildings and structures, and parking. In addition, the Airport is adjacent to Highway 501 and other local roads illuminated by streetlights.

4.12.2.2 VISUAL RESOURCES AND VISUAL CHARACTER

The visual character of the General Study Area is characterized by rural residential areas to the southwest and east and farmlands to the north and west with scattered woodlands throughout. The Airport is bounded by Cates Mill Road and Highway 501 to the east, Frank Timberlake Road to the north and west, and Tom Oakley Road to the south. The elevation for Runway 6 is 590.4 feet, which is slightly lower than Runway 24's end by approximately 14 feet. Both ends of the runway are obstructed with trees ranging from 58-68 feet, forcing a 37:1 slope to clear on the Runway 6 end and a 29:1 slope to clear on the Runway 24 end. According to FAA Order 8260.3F, the standard obstacle clearance surface (OCS) in the primary area is a 40:1 slope.

There are no protected visual resources or other areas of aesthetic value or unique aspects in the General Study Area. Aircraft NAVAIDs, including lights, signage, and other equipment, are present within the maintained grass areas along the runway and adjacent taxiway. Runway 6 End is visible to the rural residential areas along Frank Timberlake Road. Runway 24 end is buffered by wooded areas to rural residential areas along Tom Oakley Road to the south and Highway 501 to the east. Areas to the north of the Airport are buffered by farmlands and woodlands, and adjacent to the Airport is a 24-acre solar farm that is only partially visible to the Airport. A single business along Cates Mill Road and adjacent to the Airport property would continue to be buffered with a line of trees that currently surround the property.

4.12.3 Environmental Consequences

4.12.3.1 PROPOSED ACTION AND ALTERNATIVES

Visual changes from the Proposed Action and action alternatives include extending the Runway 24 end, adding the paved apron, a new connector road, and clearing trees within the Runway 24 RPZ. The FAA localizer would be relocated approximately 610 feet from the end of the extended Runway, and the PAPI PCUs and Runway 6 localizer shelter would also be relocated outside of the RSA. Alternative 1 would have the greatest change with the additional tree clearing on the Runway 6 end and relocation of Frank Timberlake Road. These features would likely be visible to people traveling on Highway 501 and nearby residences with reduced tree cover that could shield sensitive viewers from the changes in visual character. The closest residences may have moderate view impacts from the extension of the east of Runway 24 end and west of Runway 6 end.

However, for all alternatives, the project design would be consistent with the design of the existing Airport facilities. The Proposed Action and action alternatives would be visually consistent and compatible with the Airport environment and with the land uses in the General Study Area. Potential ways to minimize light and visual resources include opaque fencing, vegetative screens, and earthen berms.

The relocation of the FAA localizer and relocation/modification to the existing instrument landing system and other NAVAIDs would not cause discernible effects to the rural residential areas located to the southwest and east of the Airport (Figure 4-10). These lighting changes would take place within the Airport's existing property and are not expected to represent a potential for annoyance, affect the viewsheds of areas that may be sensitive to light emissions, or distract from the existing use of these areas. Lights are expected to remain similar to current conditions. Views of the airport from most residences is blocked by forested areas that create visual screens.

Construction is anticipated to occur primarily during daylight hours and is not anticipated to result in significantly adverse light emissions. Overall, the Proposed Action and action alternatives are not anticipated to significantly affect the visual character of the area due to light emissions or contrast with the visual character in the General Study Area.

The Runway 24 RNAV approach and departure surfaces for the extended Runway would be cleared of any obstructions, such as trees and poles. The new RNAV approaches for the extended Runway 24 would be coordinated with the FAA. The Airport would acquire vacant land within Runway 24 RPZ to prevent non-

compliant development in that area. Land would also need to be acquired for the proposed new connector road at the airport entrance. All land acquisitions would be in accordance with both the NCDOT and the FAA land acquisition requirements.

4.12.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, no construction or demolition would occur, and therefore, no effects or changes to light emissions or the visual character would occur. The visual effects from the existing airport would continue.

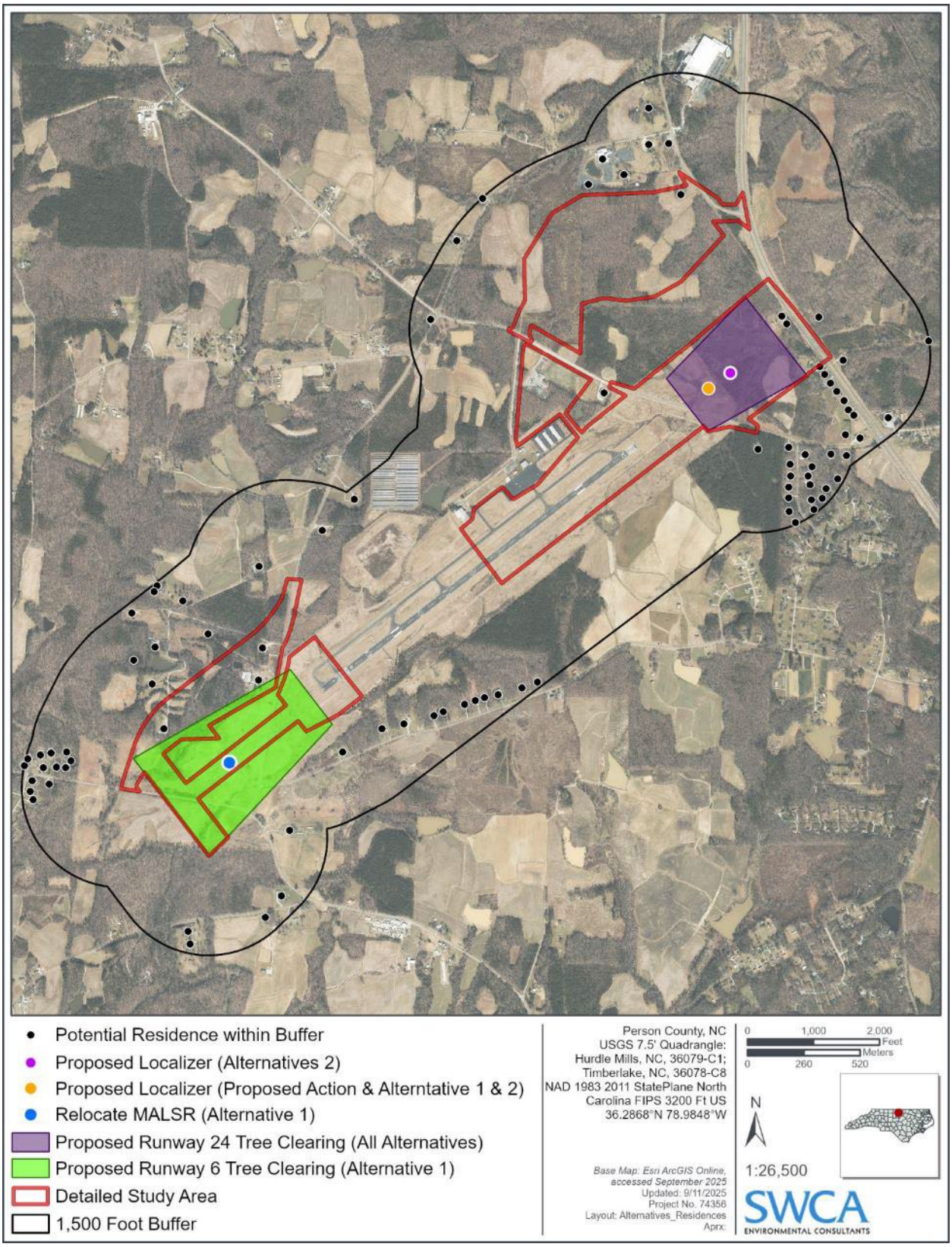

Figure 4-10. Sensitive visual receptors within 1,500 feet of proposed lighting and tree clearing.

4.13 Greenhouse Gas Emissions

4.13.1 Regulatory Setting and Methodology

FAA guidance requires that GHG emissions be considered as part of any NEPA review.[4] Considering GHG emissions for an FAA project follows the basic procedure of considering the potential incremental change in CO_2 emissions that would result from the Proposed Action and action alternatives compared to the No Action Alternative for the same timeframe.

4.13.2 Affected Environment

There is a direct correlation between fuel combustion and GHG emissions. The existing GHG emissions in the General Study Area are due to vehicles on roads and highways, as well as emissions from air traffic.

4.13.3 Environmental Consequences

4.13.3.1 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action and action alternatives would not cause or create a reasonably foreseeable increase in GHG emissions. Aircraft operations would not change as a result of the Proposed Action or action alternatives; therefore, air traffic emissions would not increase. The construction process for the Proposed Action and action alternatives would temporarily increase GHG emissions. Emissions from vehicles used during construction would be insignificant compared to vehicle emissions from surrounding traffic and from air traffic.

4.13.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project would not be constructed or operated. As a result, no construction activities would occur, and there would be no change in the existing GHG emissions.

5 MITIGATION MEASURES

The Proposed Action and action Alternatives would result in unavoidable impacts to wetlands and surface waters. Compensatory mitigation is required to replace the loss of wetland functions in the watershed. The sponsor would obtain permits from the USACE and NCDWR prior to construction. Mitigation requirements would be determined during the permitting process.

To protect federally listed aquatic species in the project footprint and downstream, the following measures provided by the USFWS would be implemented.

1. A double row of silt fence would be installed in areas draining to North Flat River, to ensure that erosion is captured effectively.
2. Silt fence outlets for each row of silt fence would be offset to provide additional retention of water and sediment in the outer row.
3. All vehicles would be inspected for leaks immediately prior to entering the work area each day. Any leaks would be repaired and construction vehicles cleaned thoroughly to remove any residual dirt, mud, debris, grease, motor oil, hydraulic fluid, coolant, or other hazardous substances from construction vehicles.

[4] Although this EA was prepared relying on Order 1050.1F, this EA refers not to 'climate' as a category of impact but rather more accurately describes this affected environment section as Greenhouse Gas Emissions. Although the category name differs from that used in Order 1050.1F, the analysis is unchanged in substance and presents information consistent with the direction in the Order 1050.1F Desk Reference.

4. Inspections, repairs, cleaning, and/or servicing would be conducted before the vehicle, equipment, or machinery is transported into the field or to the work site.
5. Fuel and maintain vehicles or equipment and store potentially toxic substances within a containment area in uplands.
6. The size and number of access corridors for construction vehicles in the stream buffer would be minimized.
7. All disturbed soils would be restored to grade and provide temporary stabilization measures as necessary to prevent erosion until the area can revegetate.
8. Temporary and permanent stabilization measures would include only natural materials that are expected to degrade over time.

6 LIST OF PREPARERS

The FAA and consultant staff involved in the preparation of this EA are listed below.

Federal Aviation Administration:
Lopa Naik – Lopa.Naik@faa.gov
FAA Southern Region
Memphis Airports District Office

North Carolina Division of Aviation:
Martha Hodge – mmhodge@ncdot.gov

Talbert & Bright, Inc:
Stephen Bright – wsbright@tbiilm.com
Jessie Elepe – jelepe@tbiilm.com
4810 Shelley Drive
Wilmington, North Carolina 28405

SWCA Environmental Consultants:
Kara Giblin, Project Manager/NEPA Specialist – kgiblin@swca.com
Kathy Murphy, Assistant Project Manager/NEPA Specialist – kathy.murphy@swca.com
Matthew Jorgenson, Cultural Resources Lead – matthew.jorgenson@swca.com
Simon King, Project Ecologist – simon.king@swca.com

SWCA Environmental Consultants
113 Edinburgh South Drive, Suite 120
Cary, North Carolina 27511

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Appendix A

North Carolina State Agencies Correspondence

APPENDIX B

Federal Agencies and Tribes Correspondence

APPENDIX C

USFWS Correspondence and Biological Resources Report

APPENDIX D

USACE Correspondence and Wetland Delineation Report

APPENDIX E

Noise Area Equivalent Method (AEM) Screening Analysis