COASTAL CAROLINA
Regional Airport

RUNWAY 4-22 IMPROVEMENT PROGRAM

Draft Environmental Assessment

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Prepared for:

Federal Aviation Administration

State of North Carolina Department of Transportation

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COASTAL CAROLINA
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ACRONYM	MEANING
A	
AAC	Aircraft Approach Category
AADT	Annual Average Daily Traffic
AC	Advisory Circular
ac.	acres
ACEIT	Airport Construction Emissions Inventory Tool
ADG	Aircraft Design Group
AEC	Areas of Environmental Concern
AEDT	Aviation Environmental Design Tool
AIP	Airport Improvement Program
AMPU	Airport Master Plan Update
AMSL	Above Mean Sea Level
ASDA	Accelerate Stop Distance Available
B	
BFEs	Base Flood Elevations
BG	Block Group
BGPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
C	
CAA	Clean Air Act
CAMA	Coastal Area Management Act
CBRS	Coastal Barrier Resource System
CEQ	Council on Environmental Equality
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CLOMR	Conditional Letter of Map Revision
CRBS	Coastal Barrier Resources System
CRJ	Canadair Regional Jet
CT	Census Tract
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EWN	Coastal Carolina Regional Airport
D	
DNL	Day-Night Average Sound Level
DSA	Demographic Study Area

E	
E.O.	Executive Order
EA	Environmental Assessment
EFH	Essential Fish Habitat
EMAS	Engineered Materials Arresting System
ESA	Endangered Species Act
F	
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
FRIS	Flood Risk Information System
G	
GA	General Aviation
GHG	Greenhouse Gases
GWP	global warming potential
H	
HAPCs	Habitat Areas of Particular Concern
HQW	High-Quality Waters
I	
ILS	Instrument Landing System
IMD	Integrated Mobility Division
IPaC	Information, Planning, and Conservation
IPCC	Intergovernmental Panel on Climate Change
ISA	International Atmosphere Standard
L	
LDA	Landing Distance Available
LEDPA	Least Environmentally Damaging Practicable Alternative
LOI	Letter of Intent
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
M	
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MOA	Memorandum of Agreement
MOVES	Motor Vehicle Emissions Simulator
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
MTOW	Maximum Takeoff Weight

N	
NAAQS	National Ambient Air Quality Standards
NBAMPO	New Bern Area Metropolitan Planning Organization
NC	North Carolina
NC/NS	North Carolina Railroad / Norfolk Southern Railroad
NCAC	North Carolina Administrative Code
NCDCM	North Carolina Division of Coastal Management
NCDEQ	North Carolina Department of Environmental Quality
NCDEQ	NCDEQ, Division of Coastal Management
NCDMS	North Carolina Division of Mitigation Services
NCDNCR	North Carolina Department of Natural and Cultural Resources
NCDOA	North Carolina Division of Aviation
NCDOT	North Carolina Department of Transportation
NCDWR	North Carolina Division of Water Resources
NCNHP	North Carolina Natural Heritage Program
NCWAM	North Carolina Wetland Assessment Method
NEPA	National environmental Policy Act
NHPA	National Historic Preservation Act
NLEB	Northern long-eared bat
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NRHP	National Register of Historic Places
NRI	Nationwide River Inventory
NRTR	Natural Resources Technical Report
NSW	Nutrient Sensitive Waters
O	
ORW	Outstanding Resource Waters
P	
PAPI	Precision Approach Path Indicator
PBO	programmatic biological opinion
R	
RCRA NONGEN/NLR	Resource Conservation and Recovery Act Non-Generator/No Longer Regulated
RDC	Runway Design Code
REILs	Runway End Identifier Lights
ROFA	Runway Object Free Area
ROW	Right Of Way
RPZ	Runway Protection Zone
RSA	Runway Safety Area

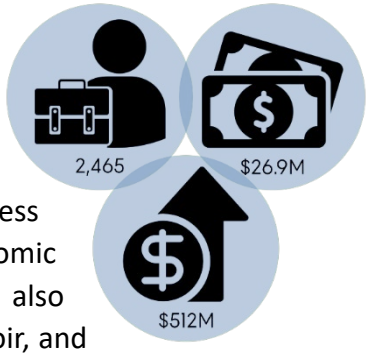
S	
SHPO	State Historic Preservation Office
SR	State Route
T	
TFMSC	Traffic Flow Management System Counts
TMDLs	Total Maximum Daily Loads
TORA	Takeoff Run Available
U	
U.S.C	United States Code
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFS	US Forest Service
USFWS	United States Fish and Wildlife
UST	Underground Storage Tank
UT	Unnamed Tributaries
V	
VHF	Very High Frequency
W	
WHA	Wildlife Hazard Assessment

CHAPTER 1: PURPOSE AND NEED

1.1 INTRODUCTION

Coastal Carolina Regional Airport (the Airport) is in New Bern, North Carolina, approximately two miles south of the downtown historic district, and one mile south of the interchange of US Routes 70 and 17 and the confluence of the Trent and Neuse Rivers (refer to **Figure 1-1**). The Airport is referred to by the Federal Aviation Administration (FAA) identifier EWN and is situated on approximately 734 acres in Craven County.

The Airport is a towered, public-use facility owned and operated by the Craven County Airport Authority, providing commercial airline service for the central coastal region of North Carolina, including Craven, Pamlico, Jones, and Carteret counties. EWN serves as the inbound gateway to historic New Bern, the Crystal Coast, and the Marine Corps Air Station Cherry Point. Commercial regional jet service includes 14 daily flights to/from Charlotte Douglas International Airport and seasonally to Washington, DC's Ronald Reagan National Airport, which provide connections to thousands of destinations worldwide. EWN also serves air cargo, general aviation (GA), corporate, and military aircraft, averaging a total of approximately 160 daily operations.[1]



EWN makes significant contributions to the local economy and is a key attribute for companies looking to relocate to the region. The January 2023 *North Carolina: The State of Aviation* report indicates that EWN supports some 2,465 jobs, represents $26.9 Million in state and local tax income through the impact of leisure/business travelers and spending by airport tenants, and creates a total economic output of over $512 Million. Coastal Carolina Regional Airport is also located within the North Carolina Aerospace Corridor (Craven, Lenoir, and Wayne Counties), an economic development partnership focused on aviation and aerospace development and promoting the region's common assets, which with its central location on the east coast, offers "unparalleled access to air, rail, highways, and NC's two international ports, and convenient access to the region's four major military bases."[2]

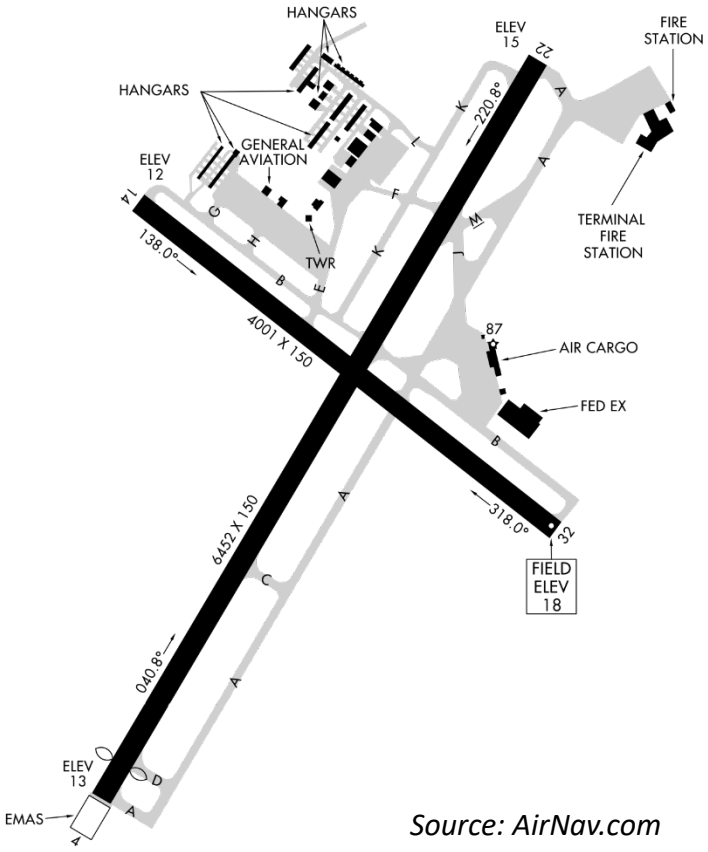
The Airport's convenient coastal location less than one half mile from US 70, also brings several physical and natural constraints. As depicted on **Figure 1-1**, Runway 4-22 is roughly bordered by Brice Creek and the Croatan National Forest to the southwest, and Williams Road, Scotts Creek, North Carolina Railroad/Norfolk Southern Railroad (NC/NS Railroad), Meadows Cemetery, and residential/commercial development to the northeast.

[1] *FAA, Terminal Area Forecast https://taf.faa.gov/Home/RunReport_EWN (September 1, 2023).*
[2] *North Carolina Aerospace Corridor, https://ncaerospacecorridor.com/ (September 15, 2023).*

FIGURE 1-1: VICINITY MAP

Coastal Carolina Regional Airport's airfield consists of two runways, depicted in **Figure 1-2**. Runway 4-22 serves as the primary runway and was extended to its current length in 2011. Runway 4-22 is currently 6,452 feet long and 150 feet wide and aligned northeast and southwest. Runway 14-32 is 4,000 feet long, 150 feet wide, and aligned northwest southeast.

FIGURE 1-2: AIRPORT DIAGRAM



Source: AirNav.com

The Runway Safety Area (RSA) is a "defined area surrounding the runway consisting of a prepared surface suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway."[3] RSA dimensions are based on FAA design standards and at EWN, the standard RSA is 1,000-foot long by 500-foot-wide. The Runway 4 end includes a 333-foot paved overrun, which due to the proximity of Brice Creek to the south, is equipped with a 282-foot long Engineered Materials Arresting System (EMAS). The EMAS system is comprised of crushable concrete designed to stop an aircraft in an emergency overrun of the runway. EMAS does not reduce the RSA or modify design standards but can be used when a determination is made that RSA standards cannot be met, as is the case south of the Runway 4 end at EWN. To the north of Runway 22, the location of Williams Road impacts the ability to attain the required 1,000-foot RSA length, with only 600 feet of RSA available beyond the runway end. The paved runway surface comprises the remaining 400 feet of the RSA. When a portion of the paved runway length is declared not usable for operations in a specific direction, "declared distances" are established to notify pilots and ensure that airfield safety is maintained. At EWN, declared distances mitigate the impact of Williams Road on the RSA, reducing the useable length of a runway and negatively impacting the airport by limiting the overall utility of Runway 4-22.

The NCDOT Division of Aviation's Airport System Plan Update (NCDOA Airport System Plan) establishes a runway length requirement of 6,500 feet for the 10 commercial service airports in

[3] *FAA Advisory Circular (AC) 150/1500-13B, Airport Design, p. 1-11.*

NC and identifies EWN as not meeting this objective.[4] EWN is a critical component of the regional economy and provider of valuable airline service, despite having the shortest runway of any commercial airport in NC and the only one under 7,000 feet in length. The goal of the proposed project is to improve airfield safety and maximize the usable runway length available to existing operators at EWN.

1.2 PROPOSED ACTION

The Runway 4-22 Improvement Program includes two primary components:

- RSA Extension
- Runway 4-22 Extension

In accordance with the *National Environmental Policy Act* (NEPA) and FAA Order 1050.1f, the proposed RSA and Runway 4-22 extensions are considered similar actions due to common geography and timing. Similar actions are to be "considered in the same environmental document when the best way to assess their combined impacts or reasonable alternatives to such actions is in a single document."[5] As described previously, Runway 4-22 is severely constrained by both physical and natural barriers. Due to shared geography, the limited developable area available, and the importance of planning fiscally responsible infrastructure improvements, it is necessary to evaluate the proposed RSA and Runway 4-22 extensions in a single NEPA document, to identify the best alternative for improving airfield safety and maximizing usable runway length.

The Runway 4-22 Improvement Program also includes several actions that would be implemented with construction of the extended Runway 4-22 and RSA to the northeast. The actions include relocation of the localizer, airport perimeter road/fencing, and Williams Road beyond the extended Runway 4-22 and RSA, construction of a blast pad, rehabilitation and expansion of runway and taxiway lighting, evaluation and adjustment of the Precision Approach Path Indicator (PAPI) aiming angle, coordination with FAA flight procedures to re-establish Runway 22 Global Positioning System/Very High Frequency Omnidirectional Range (GPS/VOR) approaches, acquisition of minimal amounts of right-of-way (ROW) from non-Airport parcels and an easement from NC/NS Railroad, construction of associated stormwater controls, acquisition of borrow material needed to construct the extended Runway 4-22 and RSA, and piping an additional portions of Scotts Creek, as well as installation and temporary use of staging areas, haul roads, and sedimentation and erosion control features for construction of the

[4] *Technical Report, NC Airport System Plan Update prepared for NCDOT, Division of Aviation, December 2015, p.5-115.*
[5] *FAA, Order 1050.14, Environmental Impacts: Policies and Procedures, p. 2-8.*

Proposed Action. With relocation of the localizer and an approved flight check, no changes to approach or departure procedures are anticipated.

1.3 PROJECT PURPOSE AND NEED

1.3.1 Purpose

The purpose of the proposed Runway 4-22 Improvement Program is to enhance airfield safety, regain usable runway length, and maximize operational utility at EWN.

1.3.2 Need

As set forth in 49 U.S.C. Section 47101(a)(1), safe operation of the airway system is the highest priority in the aviation industry. FAA's mission is to "provide the safest, most efficient aerospace system in the world" and in fulfilling this role they provide technical and advisory guidance in the planning and development of the national airport system. Relevant FAA design standards applicable to the proposed project are provided in FAA Advisory Circular (AC) 150/5300-13B, *Airport Design*, FAA Order 5200.8, *Runway Safety Area Program*, and Title 49 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. In accordance with these standards and as described in the following paragraphs, the proposed project is needed to meet NCDOA objectives, continue to safely facilitate operations by existing aircraft, and maximize usable runway length at EWN given the physical and natural constraints surrounding Runway 4-22.

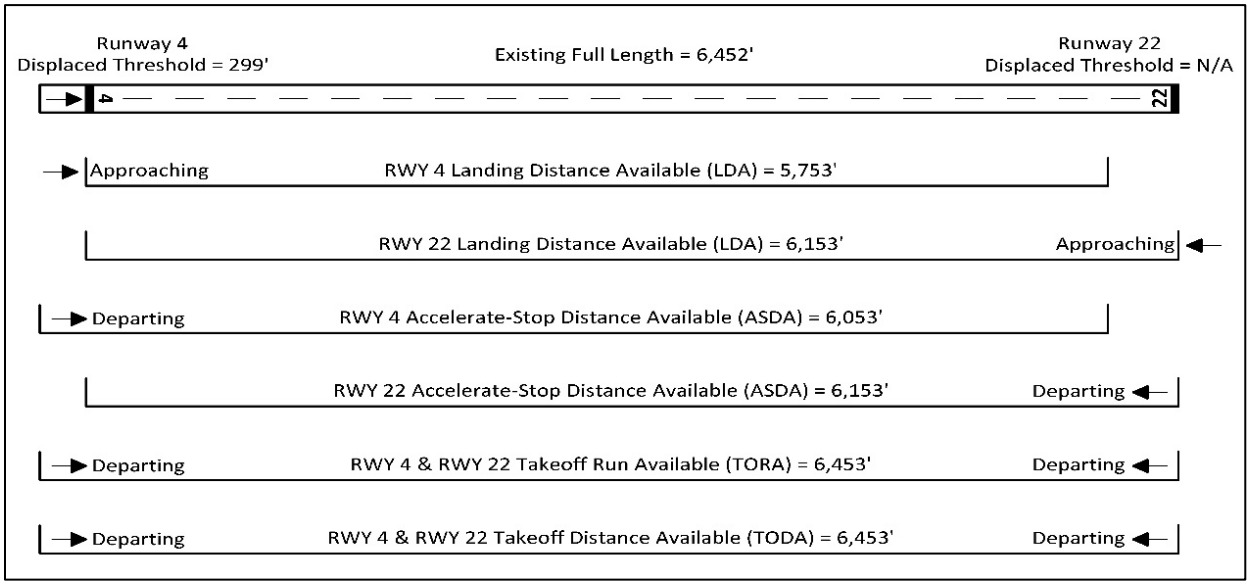
Airfield safety areas include the Runway Protection Zone (RPZ), RSA, and Runway Object Free Area (ROFA). The role of these areas is to protect people and property on the ground, as well as aircraft using the airfield. The RSA provides an unobstructed, cleared, graded surface if an aircraft overruns, undershoots, or veers off the side of the runway. The purpose of the RSA is to reduce the risk of injury to passengers, minimize damage to aircraft, and provide accessibility for emergency responders. The dimensions of the RSA are based on an airport's designated Runway Design Code (RDC) and have increased over time to improve safety and accommodate increases seen in both aircraft size and speed. Design requirements, such as RDC, are dictated by the critical aircraft, which is defined as the most demanding aircraft currently operating or expected to operate at the airport on a regular basis (i.e. 500 annual operations).The Critical aircraft determines the first two components of the RDC (Aircraft Approach Category [AAC] and Aircraft Design Group [ADG]). The third component is based on approach visibility minimums. The existing critical aircraft at EWN is the Bombardier Canadair Regional Jet (CRJ)-200, with an AAC-ADG of C-

II.[6] The associated RSA dimensions with this aircraft are 500 feet wide by 1,000 feet long beyond the runway end.

Runway threshold markings identify the beginning and end of the designated landing and takeoff space, under non-emergency conditions. Although Runway 4-22 is 6,452 feet long, the Runway 4 threshold is displaced 299 feet. As described previously, the displaced threshold and associated use of declared distances combined with the EMAS, are needed to meet RSA design standards. As a result, the portion of the runway available for takeoff, aborted takeoff, or landing is less than 6,452 feet under various conditions where declared distances become applicable (refer to **Figure 1-3**).

Per FAA AC 150/5300-13B, the "Accelerate – Stop Distance Available (ASDA) is the length of the runway plus stopways (if any) declared available and suitable for satisfying accelerate-stop distance requirements for a rejected takeoff. As a result of the existing declared distances, the usable runway length available for ASDA is significantly less than 6,452 feet and is more accurately 6,153 feet for Runway 22 departures and 6,053 feet for Runway 4 departures. To accommodate these length limitations, aircraft operators at EWN often must operate under restricted maximum takeoff weights.

FIGURE 1-3: EXISTING RUNWAY 4-22 DECLARED DISTANCES AT EWN



*Notes: **1. A discrepancy exists on adip.faa.gov where the existing runway dimensions are noted as 6,472 ft. x 150 ft., but the TORA and TODA for both runway ends are noted as 6,453 ft.** 2. LDA – Landing Distance Available, TORA – Takeoff Distance Available, TODA – Takeoff Run Available, ASDA – Accelerate Stop Distance Available*
3. Existing Declared Distances presented as shown on adip.faa.gov.

[6] *Coastal Carolina Regional Airport, Airport Master Plan Update, Talbert & Bright, 2016, p.166.*

EWN is currently served by American Airlines for Air-Taxi/Air-Carrier operations with the Embraer 145 and the Bombardier CRJ 700 and CRJ 900. As described in the 2016 Airport Master Plan Update (AMPU), although the current critical aircraft is the Bombardier CRJ-200, this is projected to change to a Bombardier CRJ-900 or similar category aircraft within the next 10 years.[7]

Because the airport has two runways, many of the GA operations occur on the crosswind Runway 14-32, with GA Jet traffic and commercial aircraft operating on the main Runway 4-22 because of its longer length, approach minimums, and instrument approaches. An analysis of runway length requirements was completed for Runway 4-22 to better understand the needs of current and anticipated Commercial and GA Jet aircraft at EWN. The analysis is based on guidelines provided in FAA AC 150/5325-4B, Runway Length Requirements for Airport Design, and is included in **Appendix A**.

Table 1-1 lists the performance specifications for the critical aircraft at EWN, as well as the three commercial aircraft operated by American Airlines at EWN, as described above. The takeoff distance was adjusted for elevation and temperature conditions at EWN, and Maximum Takeoff Weight (MTOW) performance was utilized to determine a more accurate representation of required runway length.

TABLE 1-1: RUNWAY LENGTH REQUIREMENTS

Aircraft	MTOW (lbs.)	Takeoff Distance[1] (ft.)	Adjusted Takeoff Distance[2] (ft.)	Landing Distance (ft.)	Landing Distance Wet[3] (ft.)
Bombardier CRJ 200	53,000	5,800	6,700	4,900	5,635
Embraer 145	46,275	6,750	6,850	4,500	5,175
Bombardier CRJ 700	72,750	5,040	5,300	5,100	5,865
Bombardier CRJ 900	84,500	5,775	6,800	5,800	6,670

Notes: MTOW - Maximum Takeoff Weight
Red text identifies runway length deficiencies as compared to declared distances identified in Figure 1-3.
[1] At standard meteorological conditions (ISA, International Atmosphere Standard)
[2] At ISA + 15° C
[3] Wet conditions assumes +15 percent
Source: Parrish and Partners (Embraer 145); Airport Master Plan Update, Talbert & Bright, 2016, p.127. (CRJ 200 & CRJ 900)

[7] *Coastal Carolina Regional Airport, Airport Master Plan Update,* Talbert & Bright, 2016, p. 166.

As **Table 1-1** indicates, the existing critical aircraft (Bombardier CRJ 200) requires 6,700 feet of runway for takeoff at EWN, based on MTOW and common atmospheric conditions. As presented in **Figure 1-3**, the usable runway length for departures is 6,453 feet for Runway 22 and Runway 4 (less than the 6,700 feet required for unrestricted operation). As a result, departing Bombardier CRJ-200 aircraft operate under restricted takeoff weights (as do Embraer 145 and CRJ 900 aircraft). Similarly, with an LDA of 5,753 feet (refer to **Figure 1-3**), Bombardier CRJ-700 and CRJ-900 aircraft landing on Approach Runway 4 are also restricted by the existing Runway 4-22 declared distances.

With more than 100 monthly departures at EWN, commercial service by American Airlines is impacted by the declared distances on Runway 4-22. Based on information provided regarding their Embraer 145 operations (refer to **Appendix A**), if not operating under current restricted takeoff weights, American Airlines would carry an estimated additional payload of 350 to 1,500 pounds (2 to 7 passengers) per flight.

The runway requirements for GA Jet operations at EWN were also evaluated. The FAA's Traffic Flow Management System Counts (TFMSC) were used to identify aircraft over 12,500 pounds that are using, or may use, the Airport on a regular basis. Based on 2016 AMPU data, approximately 28 percent of GA operations at EWN are performed by jets, equaling approximately 15,000 annual operations when applied to 2022 tower counts. Aircraft types making up 75 and 100 percent of fleet per AC 150/5325-4B were identified and the appropriate Runway Length Analysis charts were reviewed (refer to **Appendix A**). Based on this evaluation, a length of 6,711 feet for 75 percent of fleet at 90 percent of useful load is desirable. Under current conditions, aircraft in the 75 percent (or 100 percent) fleet category cannot operate at 90 percent of useful load.

The proposed Runway 4-22 Improvement Program would provide extra landing distance for approaches on Runway 4 and extra takeoff distance from both runway ends. These improvements would enhance runway safety, increase the amount of usable runway length available for takeoff and landing, and increase runway utility by allowing aircraft to take on more fuel or more passenger load/cargo; thus, allowing EWN to better serve existing airlines, tenants, and users, and making the Airport more competitive regionally.

1.4 REQUESTED FEDERAL ACTIONS

Since the proposal, if approved, will result in federal funding eligibility, this Environmental Assessment (EA) has been prepared to comply with the requirements of NEPA and other pertinent state and federal environmental regulations. The following are the requested federal actions.

- Unconditional approval of those portions of the EWN Airport Layout Plan that depict the proposed improvements presented in this EA pursuant to 49 U.S.C. § 47107(a)(16).

- Determinations as to federal funding eligibility for construction of eligible components of the Proposed Action under the Airport Improvement Program (AIP) (49 U.S.C §§ 47106 and 47107), and/or through passenger facility charges (PFCs) (49 U.S.C. § 40117, as implemented by 14 CFR § 158.25).

In addition, the Coastal Carolina Regional Airport Authority requires the following approval from the United States Army Corps of Engineers (USACE) before it can implement the Proposed Action.

- The USACE will evaluate the Proposed Action and determine whether to issue, conditionally issue, or deny the proposed work pursuant to Section 404 of the *Clean Water Act* (CWA, 33 U.S.C. 1344).

CHAPTER 2: ALTERNATIVES

2.1 INTRODUCTION

As required by NEPA and the FAA implementing regulations, orders, and guidance, Chapter 2 evaluates alternatives considered during development of the Proposed Action. The alternatives discussed in this chapter include:

- No-action Alternative
- Preliminary Build Alternatives
- Alternatives Considered but Eliminated from Further Analysis
- Alternatives Retained for Detailed Analysis
- Proposed Action

FAA Order 1050.1F states that the alternatives are to be evaluated and discussed at a level of detail appropriate both for the complexity of the proposed action and for the magnitude of their potential impacts. The level of detail should ensure that the decision maker can show reasons for selecting a Preferred Alternative that meets the Purpose and Need for the proposed project.

2.2 NO-ACTION ALTERNATIVE

Runway 4-22 at EWN is 6,452 feet long and 150 feet wide. The approach end of Runway 4 is equipped with an EMAS and a 299-foot displaced threshold, which requires the use of declared distances and reduces the usable length of the runway in some departure/arrival scenarios. The RSA and ROFA extend 600 feet beyond the runway on the approach end of Runway 22. Under the No-action Alternative, no changes would be made to the existing airfield or runways. Safety would not be enhanced for existing airport users, or the surrounding community and the existing limitations of the usable runway length would not be addressed. Without the RSA extension, Runway 4-22 would remain the existing 6,452 feet in length, with just over 6,000 feet being available for high-performance commercial jet operations due to declared distances. The No-action Alternative describes the existing condition of the airport and is used as a baseline for comparison with the Reasonable Alternatives to determine potential impacts and benefits. To satisfy the intent of NEPA, the No-action Alternative is carried forward in the analysis of environmental consequences (Chapter 4).

2.3 PRELIMINARY BUILD ALTERNATIVES

2.3.1 2016 AMPU Alternatives

The most recent AMPU was completed in 2016 and included a detailed evaluation of runway improvement alternatives to address the future critical aircraft. The 2016 AMPU alternatives analysis and figures are included in **Appendix B** and described below.

Runway 22 Alternative 1 – Extends the approach end of Runway 22 northeast by 347 feet. This alternative provides a 600-foot-long RSA beyond the runway end and requires the relocation of the localizer, realignment of Williams Road and impacts to a portion of Scott Street to accommodate the RSA/ROFA.

Runway 22 Alternative 2 – Also extends the approach end of Runway 22 northeast by 347 feet; however, to provide the full 1,000-foot RSA, this alternative would result in a straight realignment of Williams Road, across the NC/NS Railroad that parallels Scotts Street to the north.

Runway 22 Alternative 3 – Similar to Alternative 1 but provides an 800-foot RSA, which requires a sharper curve in the relocated Williams Road.

Runway 22 Alternative 4 – Does not include a runway extension but does provide the full 1,000-foot RSA and ROFA.

Runway 4 Alternative 1 – Extends the approach end of Runway 4 by 347-feet towards the south and allows the existing threshold to be relocated 647-feet to the end of the extended runway. This alternative would require installation of a new or relocated EMAS to meet the RSA requirements and the filling and grading of a portion of Brice Creek to accommodate the overrun.

Runway 4 Alternative 2 – Like Alternative 1, extends runway 347 feet towards the south; however, only provides a 600-foot RSA and so the use of an EMAS system is not needed to meet the minimum RSA requirements. The same impacts to Brice Creek would occur.

Runway 4 Alternative 3 – Like Alternative 1, extends runway 347 feet towards the south; however, a full 1,000-foot RSA and ROFA would be constructed beyond the proposed Runway 4 approach end. This alternative would not require installation of an EMAS system. This option would result in additional land disturbance and filling of Brice Creek, potentially requiring realignment of the creek channel.

2.3.2 EA Runway Extension Alternative

As outlined in Chapter 1, the existing 6,452-foot-long Runway 4-22 fails to meet the 6,500-foot NCDOA Airport System Plan runway length requirement for commercial service airports, is the shortest commercial service runway in NC and the only one under 7,000 feet. This results in many existing users having to operate under restricted takeoff weights. Accordingly, a runway extension was evaluated as part of the EA alternatives analysis. Unlike the 2016 AMPU Alternatives that were formulated to address the future critical aircraft, the goal of the EA Runway Extension Alternative is to address the existing runway length shortfall to the greatest extent possible given site constraints, including Brice Creek and the Croatan National Forest to the south and Scotts Creek and the NC/NS Railroad to the north. In consideration of the Runway 4 existing EMAS and the environmental protections on Brice Creek and the Croatan National Forest, an extension to Runway 22 in the opposite direction, was evaluated. To determine the maximum runway extension attainable, functional designs were first completed for the realignment of Williams Road, which is a connected action (refer to **Section 2.7.1**). All roadway realignment alternates have the same conflict point with the extended ROFA near the existing Scotts Street/Airline Drive intersection. Thus, the proposed EA Runway Extension Alternative is the same for all roadway scenarios and includes a 173-foot runway extension, 200-foot blast pad, 1,000-foot RSA, and relocated airport perimeter road.

2.4 SCREENING OF RUNWAY ALTERNATIVES

As indicated above, the 2016 AMPU alternatives were formulated to address the needs of the future critical aircraft. This EA is being completed to evaluate the impacts associated with the Runway 4-22 Improvements Program, which proposes increasing the RSA/ROFA and runway length to improve airfield safety and better address the runway length requirements of existing airport users. It is important to note that based on current FAA guidance, a full 1,000-foot RSA and ROFA must be provided when a runway extension is proposed. The 2016 AMPU pre-dated this guidance and several of the proposed alternatives do not provide a 1,000-foot RSA/ROFA.

The Preliminary Build Alternatives were assessed and compared relative to the goals of the Runway 22 Improvements Program using the following screening criteria:

- Alternative must satisfy the project's Purpose and Need, which is to enhance airfield safety, regain usable runway length, and maximize operational utility at EWN
- Alternative must provide a full 1,000-foot RSA per new FAA guidance
- Alternative must be constructable and financially feasible
- Alternative should minimize impacts to the human and natural environment

The alternative screening results are provided in **Table 2-1**.

TABLE 2-1: ALTERNATIVES SCREENING MATRIX

ALTERNATIVES	SCREENING CRITERIA			
	Satisfies Purpose & Need	1,000-ft. RSA	Constructable /Financially Feasible	Minimizes Environmental Impacts
NO-ACTION ALTERNATIVE	No			
2016 AMPU ALTERNATIVES				
RUNWAY 22				
Alt 1 – 347-foot extension, 600-foot RSA/ROFA	Yes	No		
Alt 2 – 347-foot extension, 1,000-foot RSA/ROFA, railroad crossing	Yes	Yes	No	
Alt 3 – 347-foot extension, 800-foot RSA/ROFA	Yes	No		
Alt 4 – no runway extension, 1,000-foot RSA/ROFA	No			
RUNWAY 4				
Alt 1 – 347-foot extension, new/relocated EMAS	Yes	No		
Alt 2 – 347-foot extension, 600-foot RSA/ROFA	Yes	No		
Alt 3 – 347-foot extension, 1,000-foot RSA/ROFA	Yes	Yes	No	
EA RUNWAY EXTENSION ALTERNATIVE **173-foot extension, 1,000-foot RSA/ROFA**	Yes	Yes	Yes	Yes

Source: Parrish and Partners, LLC, 2023.

Only the EA Runway Extension Alternative satisfies each of the screening criteria. This alternative is discussed further under **Section 2.6**, Reasonable Alternatives. The seven 2016 AMPU Alternatives that fail to meet the screening criteria are included in **Section 2.5**, along with explanations for elimination.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

The following runway alternatives were eliminated from further analysis for failing to meet the purpose and need, provide a 1,000-foot RSA and ROFA, be constructable or financially feasible, and/or minimize environmental impacts.

2.5.1 Runway 22 Eliminated Alternatives

With no runway extension, Runway 22 Alternative 4 would not maximize operational utility at EWN and thus, fails to satisfy the purpose and need of the project. Alternative 4 scored the lowest in the AMPU evaluation matrix, including a score of 1 for "Operational Performance." At 600 feet and 800 feet, respectively, Runway 22 Alternatives 1 and 3 fail to provide the full 1,000-foot RSA on the approach end of Runway 22. As described earlier, without a 1,000-foot RSA and ROFA, the FAA could not approve an extension to Runway 4-22 at EWN. Although Runway 22 Alternative 2 would provide the required 1,000-foot RSA and ROFA, based on coordination with NCDOT, a new crossing of the NC/NS Railroad located north of Scotts Street is not feasible.

2.5.2 Runway 4 Eliminated Alternatives

As depicted in the figures provided in **Appendix B**, all three of the Runway 4 Alternatives would result in significant environmental impacts to Brice Creek and the Croatan National Forest to the south. Although Alternative 3, as the only Runway 4 alternate that provides the full 1,000-foot RSA, satisfies the first two screening criteria, it was eliminated from further study based on constructability concerns and high costs associated with filling a portion of Brice Creek.

2.6 ALTERNATIVES RETAINED FOR DETAILED ANALYSIS

Based on information provided in the 2016 AMPU, NCDOA Airport System Plan, and airport users, the Runway 4-22 Improvements Program aims to increase the RSA/ROFA and maximize usable runway length. As the EA Runway Extension Alternative is the only alternative to satisfy each of the screening criteria, it will be carried forward for further environmental review in this EA along with the No-action Alternative. These two alternatives are described below.

2.6.1 No-Action Alternative

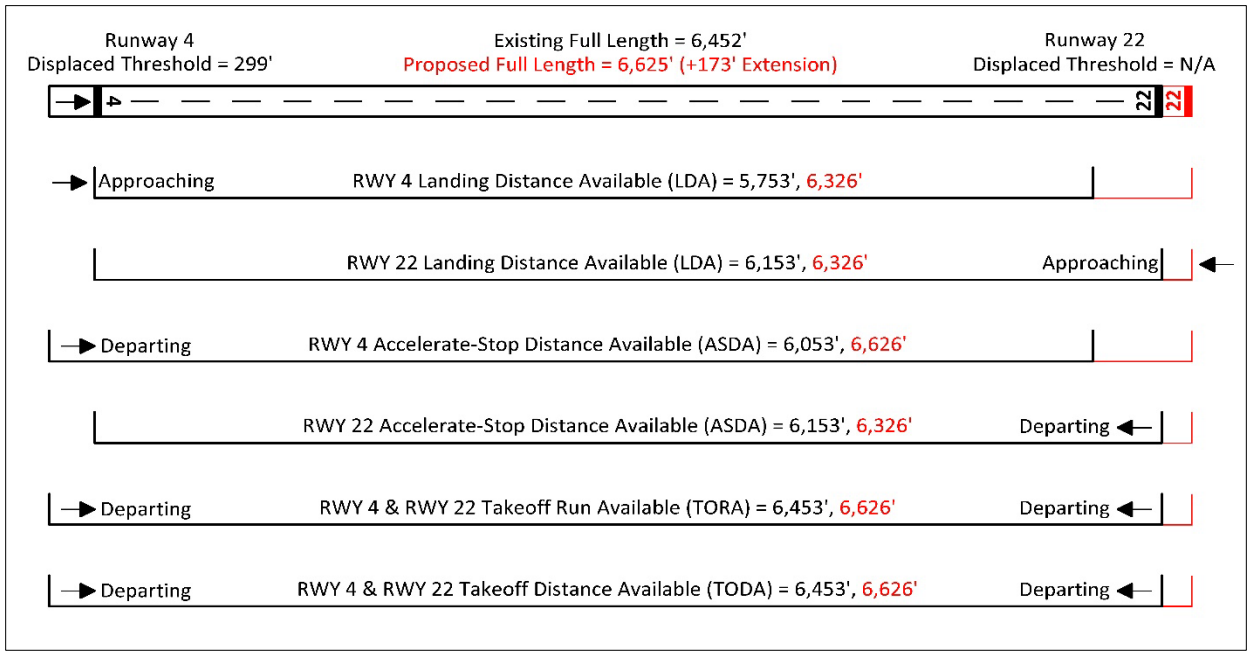
As described previously, under the No-action Alternative, no changes would be made to the existing airfield or runways. The No-action Alternative describes the existing condition of the airport and is used as a baseline for comparison with the Reasonable Build Alternatives to determine potential impacts and benefits. To satisfy NEPA requirements, the No-action Alternative is carried forward in the analysis of environmental consequences (Chapter 4).

2.6.2 Reasonable Alternatives

The proposed EA Runway Extension Alternative includes a 173-foot runway extension, 200-foot blast pad, 1,000-foot RSA, and relocated airport perimeter road. Relocation of the localizer and realignment of Williams Road would also be required.

The EA Runway Extension Alternative would provide additional landing distance for approaches on Runway 4 and additional takeoff distance from both runway ends. Specifically, as depicted in **Figure 2-1**, the additional 400 feet of RSA and 173-foot runway extension would increase the Runway 4 LDA by 573 feet. Similarly, the ASDA for departing aircraft on Runway 4 would increase by 573 feet. Takeoff distances for both Runway 4 and 22 would increase by 173 feet.

FIGURE 2-1: EXISTING AND PROPOSED RUNWAY 4-22 DECLARED DISTANCES AT EWN



Notes:
1. LDA – Landing Distance Available, TORA – Takeoff Distance Available, TODA – Takeoff Run Available, ASDA – Accelerate Stop Distance Available
2. Existing Declared Distances presented as shown on adip.faa.gov.
3. Proposed Declared Distances presented in Red
***A discrepancy exists on adip.faa.gov where the existing runway dimensions are noted as 6,472 ft. x 150 ft., but the TORA and TODA for both runway ends are noted as 6,453 ft.**

As the only preliminary alternative to satisfy the purpose and need for the project and all screening criteria, EA Runway Extension Alternative is the only reasonable alternative and is carried forward for detailed study in the EA.

2.7 PREFERRED ALTERNATIVE DEVELOPMENT

Development proposed as part of the Runway 4-22 Improvement Program includes construction of a full 1,000-foot RSA/ROFA, and an extension to Runway 4-22, while also maintaining vehicular connectivity via Williams Road and Scott Street and minimizing impacts to Scotts Creek and the NC/NS Railroad. As described in **Section 1.2**, the proposed RSA and runway extensions are considered Similar Actions in accordance with NEPA and evaluated in one document. It is also necessary to evaluate Connected Actions in the same document. Connected actions are closely related actions that are interdependent parts of a larger action and depend on the larger action for their justification [see 40 CFR § 1508.25(a)(1), Council of Environmental Quality (CEQ) Regulations]. Connected actions and other proposed actions, or parts of proposed actions, that are related to each other closely enough to effectively be a single course of action must be evaluated in the same EA. The connected actions include relocation of the localizer and Williams Road.

2.7.1 Williams Road Relocation

Existing Williams Road [State Route (SR) 1167] is a two-lane roadway with a posted speed limit of 45 miles per hour (mph). Williams Road is classified as a Minor Arterial. Land use along the facility is a mix of agricultural and residential. Running east-west with a direct connection to US 70, this roadway serves as the main outlet to US 70 for a landlocked area. Existing Scott Street (SR 1995) intersects with Williams Road within the study area. Scott Street is a two-lane local roadway with a speed limit of 55 mph in the study area.[8] The proposed relocated Williams Road would include two 12-foot travel lanes, 5-foot bike lanes, 3-foot paved shoulders, and open drainage.

As depicted in **Figure 2-2** and described below, three initial roadway alternatives were investigated. More detailed traffic operational data is provided in **Appendix C**.

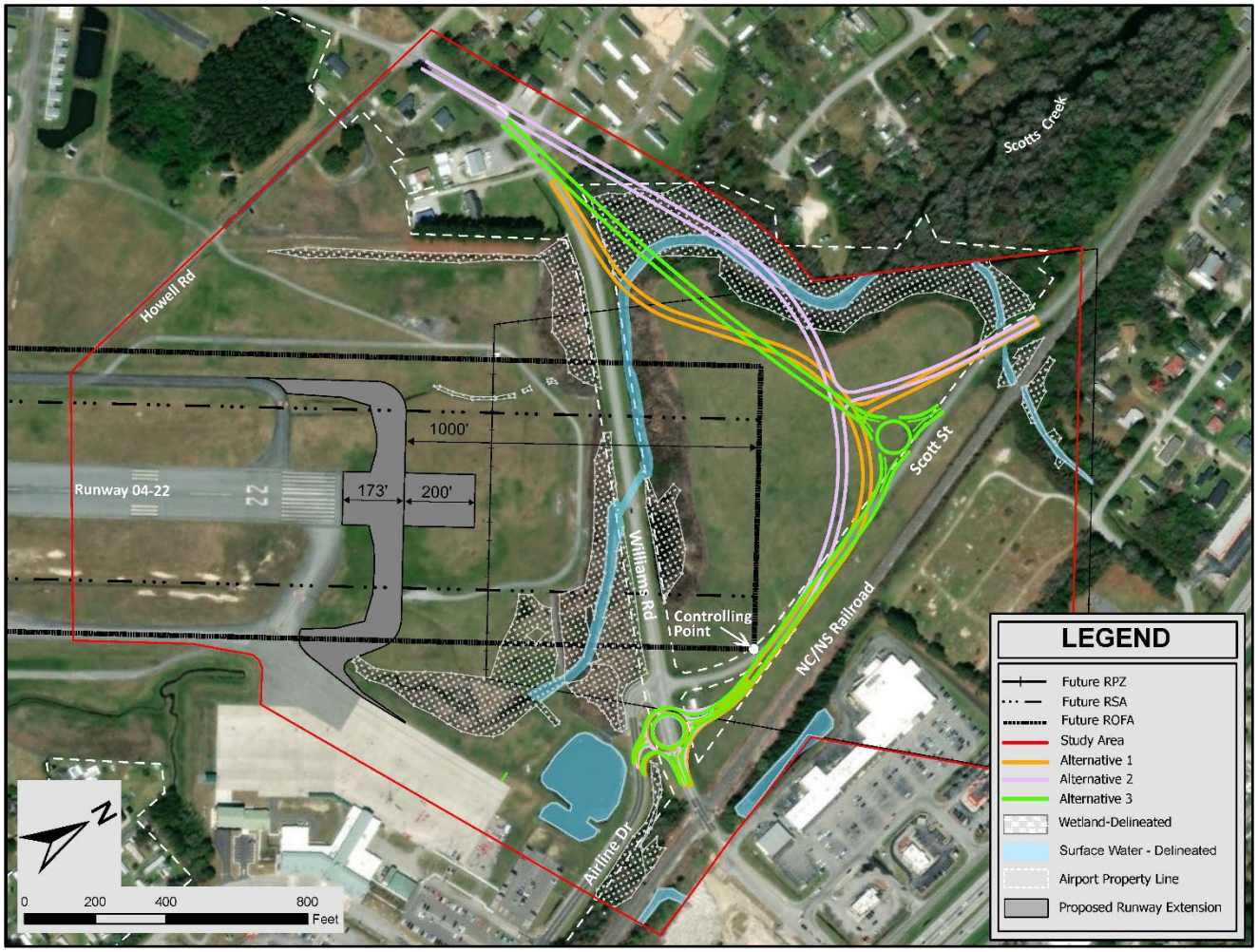
Alternate 1: Relocate Williams Road, beginning just east of Howell Road and ending at a new roundabout intersection at Airline Drive, with a design exception (approximate 35 mph design speed).

Alternate 2: Relocate Williams Road, beginning just east of Howell Road and ending at a new roundabout intersection at Airline Drive, with no design exception (50 mph design speed).

Alternate 3: Relocate Williams Road, beginning just east of Howell Road, continuing to a new roundabout intersection at Scott Street, and ending at a new roundabout intersection at Airline Drive, with no design exception (50 mph design speed).

[8] NCDOT, North Carolina Speed Limits Map, https://www.arcgis.com/apps/mapviewer/NorthCarolinaSpeedLimitsMap

FIGURE 2-2: WILLIAMS ROAD RELOCATION ALTERNATES



Source: Parrish and Partners, LLC, 2023

Functional designs were completed for the realignment of Williams Road. As described previously, it is critical to provide the maximum developable area for EWN with this project, given the constraints at the site. However, based on functional design, it was realized that all roadway realignment alternates come in conflict with the extended ROFA at the same location near the existing Scotts Street/Airline Drive intersection. Due to this "controlling point"(refer to **Figure 2-2**), the maximum runway extension is the same length regardless of the roadway alignment.

These alternatives were presented at an NCDOT Division 2 agency review meeting on September 27, 2023. Based on comments received, a fourth alternative was investigated that followed the approximate alignment of Alternate 1, but with a bridge over the relocated Williams Road crossing of Scotts Creek instead of a culvert.

The project was presented at a second NCDOT Division 2 agency review meeting on January 24, 2024, and the previous three alternates were reevaluated relative to Alternate 4.

> **Alternate 4**: Relocate Williams Road beginning just east of Howell Road and ending at a new roundabout intersection at Airline Drive, with a design exception (approximate 35 mph design speed) and a bridge over Scotts Creek that is approximately 91-feet long by 40-feet wide (two 12-foot travel lanes, two 8-foot shoulders). This alignment closely follows that of Alternate 1, with a slight shift to minimize impacts at Scotts Creek with a more perpendicular crossing.

Table 2-1 provides a comparison of the impacts associated with the four roadway alternates. The agencies identified Alternate 4 as the Preferred Williams Road Relocation alignment and the Least Environmentally Damaging Practicable Alternative (LEDPA, refer to **Appendix D**).

TABLE 2-2: PRELIMINARY ALTERNATIVE IMPACT MATRIX

Impact	RSA/Runway Extension	WILLIAMS ROAD RELOCATION ALTERNATES			
		1	2	3	4
ROW Acquisition (ac.)	0	0.02	1.16	0.22	0.03
Relocations	0	0	2	0	0
Wetlands (ac.)	2.4	0.2	1.1	0.5	0.1
Streams (LF)	960	262	532	178	170
Estimated Cost ($Million)					
Subtotal	$6.72	$5.91	$7.71	$7.45	$6.00
Total (Runway + Road)		$12.59	$14.35	$14.10	$12.67

Notes: ROW – Right of Way, ac. – acre, LF – linear feet
Source: Parrish and Partners, LLC, 2024.

2.7.2 Proposed Action

Construction of the EA Runway Extension Alternative would enhance airfield safety, regain usable runway length, and maximize operational utility at EWN, and in combination with Williams Road Relocation Alternate 4, is also the LEDPA. Given that the proposed project is the airport sponsor's Preferred Alternative, this was carried forward as the Proposed Action for further analysis in Chapter 4 of this EA, along with the No-action Alternative. The Preferred Alternative is depicted in **Figure 2-3.** The following project components have been identified as comprising the Proposed Action and would be included in future project development and design phases.

- Construction of a full 1,000-foot RSA in the approach to Runway 22
- Construction of 173-foot (eastern) extensions to Runway 4-22 and Taxiways A and K

- Construction of 200-foot blast pad
- Relocation of the localizer beyond the ROFA
- Rehabilitation and expansion of runway and taxiway lighting
- Evaluation of the PAPI aiming angle, with adjustments as necessary
- Coordination with FAA flight procedures to re-establish Runway 22GPS/VOR approaches
- Relocation of the airport perimeter road and perimeter fencing
- Removal of existing portions of Williams Road in the RSA on approach to Runway 22 and construction of Relocated Williams Road
- Acquisition of approximately 0.03 acre of right-of-way (ROW) from non-Airport parcels and a 0.44-acre easement from NC/NS Railroad for Relocated Williams Road
- Construction of associated stormwater controls
- Acquisition of borrow material (off-site is anticipated) for construction of the extended Runway 4-22 and RSA
- Piping an additional portion of Scotts Creek through the extended RSA
- Installation and temporary use of staging areas, haul roads, and sedimentation and erosion control features for construction of the Proposed Action

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PREFERRED ALTERNATIVE

CRAVEN COUNTY
RUNWAY 4-22 IMPROVEMENTS

COASTAL CAROLINA
REGIONAL AIRPORT (EWN)

Future RPZ
Williams Road
Scotts Creek
Relocated Williams Road
Airport Perimeter Road
Scott Street
NC/NS Railroad
Taxiway K
Extended RSA
Relocated Localizer
Runway 04-22
22
173'
Extension
Blast Pad
Future RSA
Future ROFA
Taxiway A
Easement Line

0 100 200 400 Feet

N

LEGEND

- Proposed Runway Safety Area
- Proposed Runway Extension
- Proposed Structure
- Proposed Roadway
- Proposed Right of Way
- Proposed Easement
- Existing Right of Way
- Existing Structure to be Retained
- Existing Roadway to be Resurfaced
- Existing Structure to be Removed
- Existing Roadway to be Removed
- Existing Roadway
- Existing Railroad Right of Way
- Surface Water - Delineated
- Wetland - Delineated
- Airport Property Line

CHAPTER 3: AFFECTED ENVIRONMENT

3.1 INTRODUCTION

Chapter 3 discusses the existing natural, built, and socioeconomic environment within the study area to establish the baseline condition. This information is then utilized in Chapter 4, Environmental Consequences, to evaluate the potential impacts associated with the Preferred Alternative (Proposed Action) and No-action Alternative.

3.1.1 Study Area

A study area (refer to **Figure 3-1**) was established for the proposed project that encompasses the anticipated limits of impact. During project scoping, state and federal agencies were requested to provide information about environmental resources in the study area. Information provided by these entities (refer to **Appendix D**) was used to supplement the review of available environmental data and previous environmental documentation completed and permits acquired at EWN, as well as to support field surveys conducted for the proposed project. Based on the resource category, the affected environment may be evaluated in terms of the region, the study area, or the proposed construction footprint.

FIGURE 3-1: STUDY AREA

Source: Parrish and Partners, LLC, 2023.

3.1.2 Resources Not Affected

Environmental resources included in FAA Order 1050.1F Desk Reference were considered for applicability in defining the affected environment for the Proposed Action. This evaluation revealed that several resources are either not present or would not be measurably impacted by the Proposed Action. Those resources are included in **Table 3-1** with an explanation of the basis upon which this determination was made.

TABLE 3-1: RESOURCES NOT PRESENT IN THE STUDY AREA OR NOT MEASURABLY IMPACTED BY THE PROPOSED ACTION

RESOURCE	STATUS
Coastal Barrier Resources System	Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) were reviewed.[a] The official CBRS maps are enacted by Congress via the *Coastal Barrier Resources Act*, as amended, and are maintained by the U.S. Fish and Wildlife Service. No CBRS units exist near the study area, with the closest resource located approximately 34 miles southeast near Morehead City.[a]
Farmlands	The *Farmland Protection Policy Act of 1981* (FPPA) was enacted by Congress as a subtitle of the 1981 Farm Bill. The FPPA was established to minimize the unnecessary and irreversible conversion of farmland soils to nonagricultural uses, and to assure, to the extent practicable, that federal, state, and local policies are followed to protect farmland soils. Farmland soils can be prime farmland soils, unique farmland soils, or farmland soils of statewide or local importance. Land in urbanized areas or committed to urban development or for water storage is not considered to be farmland.[b] The study area falls within the New Bern Urban Area and would not be subject to the FPPA.[c]
Land and Water Conservation Fund Act Section 6(f) Resources	Section 6(f) resources are places such as public parks, trails, courts, and other recreational areas that were purchased in part through grants from the *Land and Water Conservation Fund Act of 1965* (LWCF Act).[d] The properties are protected by the LWCF Act from conversion to non-public recreational uses. No Section 6(f) resources are known to exist within or in the vicinity of the study area; therefore, the proposed project would not require compliance with the LWCF Act.
Wild and Scenic Rivers	Rivers and streams that are designated as Wild and Scenic Rivers are federally protected under the *Wild and Scenic Rivers Act of 1968*. Rivers in North Carolina may also be protected under the *Natural and Scenic Rivers Act of 1971* for their outstanding values. No federally designated Wild or Scenic Rivers, Congressionally Authorized Study Rivers, Nationwide River Inventory (NRI) Listed Rivers, or state designated wild and scenic rivers are located within the study area.[e] Therefore, no further analysis is warranted under this Act.

Notes:

[a] U.S. Fish and Wildlife Service, John H. Chafee Coastal Barrier Resources System, North Carolina, https://www.fws.gov/cbra/maps/locator/NC.pdf (August 5, 2023).

[b] 7 C.F.R. §658.2(a).

[c] Census Reporter, American Community Survey 2022 five-year, https://censusreporter.org/profiles/40000US61840-new-bern-nc-urban-area/(August 5, 2023).

[d] Congressional Acts - Land and Water Conservation Fund (U.S. National Park Service) (nps.gov) (August 5, 2023).

[e] National Wild and Scenic Rivers System, "National Wild and Scenic Rivers; Designated Wild and Scenic Rivers," https://www.rivers.gov/north-carolina.php (August 5, 2023).

Only those resources that would potentially be affected by the proposed project are evaluated further in this Section.

3.2 AIR QUALITY

The National Ambient Air Quality Standards (NAAQS) were established by the United States Environmental Protection Agency (USEPA) under the *Clean Air Act* (CAA) to protect public health, the environment, and quality of life from the detrimental effects of air pollution. NAAQS have been set for the following six common air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2). The USEPA designates areas of poor air quality that do not meet the NAAQS as "nonattainment areas," and requires that these areas have a State Implementation Plan that outlines mitigation measures and a timeline to attain NAAQS compliance, at which time the area's designation is changed to "maintenance area."

The study area is in Craven County, which is currently in attainment for all NAAQS.[9] Since Craven County is designated as in attainment for all NAAQS criteria pollutants, the General Conformity Rule [Section 176(c)(1) of the CAA] *de minimis* thresholds are not applicable to the Proposed Action (refer to **Appendix E**).

3.3 BIOLOGICAL RESOURCES (INCLUDING FISH, WILDLIFE, PLANTS)

As outlined in the FAA Order 1050.1F Desk Reference, biological resources provide many natural, economic, and recreational benefits. Biological resources have been organized into the following sections:

- Terrestrial Communities: environmental setting, plants, and environmentally sensitive/ critical habitats
- Wildlife: terrestrial and aquatic animal species, game and non-game species, wildlife hazards
- Federally Protected Species: federally listed threatened or endangered species, bald and golden eagles, migratory birds, essential fish habitat
- State-protected Species

[9] *USEPA, Green Book, "North Carolina Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants," Data is current as of June 30, 2024, https://www3.epa.gov/airquality/greenbook/anayo_nc.html (July 26, 2024).*

In order to assess affected biological resources, a Natural Resources Technical Report (NRTR) was prepared for the project and is included in **Appendix F**. Field work was conducted in August and September 2023.

3.3.1 Terrestrial Communities

Four terrestrial communities were identified in the study area (refer to **Table 3-2** and **Figure 3-2**). As indicated in **Table 3-2**, all but approximately 6 percent of the 107.7-acre study area is comprised of maintained/disturbed habitat. The undisturbed wetland habitats are characterized as Cypress-Gum Swamp and are located to the northwest along the wooded portion of Scotts Creek. The open water communities consist of perennial streams (Scotts Creek and unnamed tributaries of Scotts Creek) and a stormwater pond near the intersection of Airline Drive and Williams Road.

TABLE 3-2: TERRESTRIAL COMMUNITIES WITHIN STUDY AREA

COMMUNITY	**DOMINANT SPECIES** *(Scientific Name)*	**COVERAGE** (ac.)
Cypress-Gum Swamp (Blackwater Subtype)	Bald Cypress (*Taxodium distichum*) Water Oak (*Quercus nigra*) Green Ash (*Fraxinus caroliniana*)	4.6
Maintained/Disturbed	Wax Myrtle (*Morella cerifera*) Red Maple (*Acer rubrum*) Silky dogwood (*Cornus amomum*)	100.2
Mesic Mixed Hardwood Forest (Coastal Plain Subtype)	Water Oak (*Quercus nigra*) Green Ash (*Fraxinus caroliniana*) Smooth alder (*Alnus serrulata*)	0.4
Open Water	N/A	2.5
	TOTAL	**107.7**

Source: Three Oaks Engineering, WBS No. 50363 Natural Resources Technical Report 2023.

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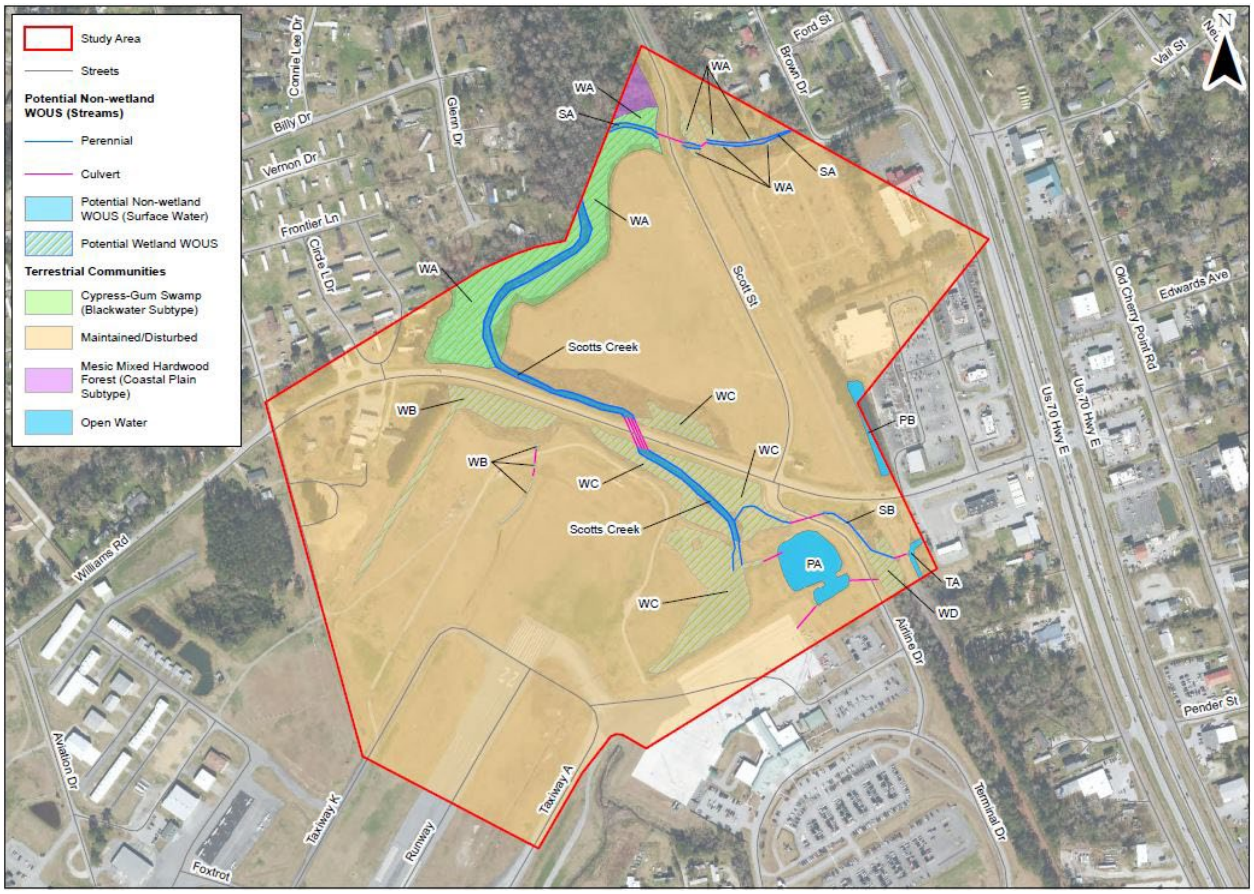
FIGURE 3-2: TERRESTRIAL COMMUNITIES MAP



Source: Three Oaks Engineering, WBS No. 50363 Natural Resources Technical Report 2023

3.3.2 Wildlife

A variety of wildlife species may be supported by the limited natural and predominantly disturbed terrestrial communities in the study area. The open water aquatic communities could support small fish species, amphibians, and a variety of benthic macroinvertebrates. Wetlands within the study area may support a limited aquatic community including benthic invertebrates and amphibians, as well as game and non-game wildlife (e.g. rodents, rabbits, deer, and birds). The majority of the 107.7 acres located within the study area is comprised of actively managed herbaceous cover. Nearby aircraft noise and active management of the Airport may make the study area less desirable for wildlife.

In accordance with FAA Advisory Circular 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, the potential risks that wildlife species at EWN pose to aircraft were evaluated. In consideration of proposed land uses and development projects, and per FAA criteria, it is prudent

to minimize the risk associated with known or potential wildlife attractants. A Wildlife Hazard Assessment (WHA) conducted at EWN from 2021 to 2022 focused on identification and abatement of wildlife hazards within the airport environment (refer to **Appendix G**). To minimize wildlife in the vicinity of the airfield, the Airport perimeter fencing currently bisects the study area, located south of existing Williams Road. On-site hazardous wildlife attractants include elevated perches, standing water, and woodlands. Blackbirds, doves, gulls, grassland birds, and waterfowl were the most frequently documented hazardous wildlife at the airfield during the WHA. As reported in the FAA wildlife strike database, 61 wildlife strikes have been reported at EWN from 2010 -2022 with peaks occurring in April, July, and August (refer to **Appendix G**).

3.3.3 Federally Protected Species

Pursuant to Section 7 of the *Endangered Species Act of 1973* (ESA), *Bald and Golden Eagle Protection Act of 1940* (BGPA), *Migratory Bird Treaty Act of 1918* (MBTA), and the *Magnuson-Stevens Fishery Conservation and Management Act of 1976*, as amended, field surveys were conducted to determine if federally protected species or suitable habitat for these species were present within the study area.

Endangered Species Act

In accordance with the ESA, the United States Fish and Wildlife (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries (for marine species) have identified the federally protected species in **Table 3-3** as potentially occurring in the study area. Refer to **Appendix F** for more detailed discussions of survey windows and the habitat descriptions. Potential habitat for the American alligator, rough-leaved loosestrife, Northern long-eared bat, and tricolored bat is present in the study area.

Bald and Golden Eagle Protection Act

The BGPA is enforced by the USFWS. Golden eagles do not nest in North Carolina. Habitat for the bald eagle primarily consists of mature forests in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

Since foraging habitat is present within the project vicinity, a survey of the study area and the area within 660 feet of the project limits was conducted on September 14, 2023. No eagles or nests were identified during this survey effort. A review of the North Carolina Natural Heritage Program (NCNHP) database revealed no known bald eagle occurrences within 1.0 mile of the project.

TABLE 3-3: ESA FEDERALLY PROTECTED SPECIES LISTED FOR CRAVEN COUNTY

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	HABITAT PRESENT
Alligator mississippiensis	American alligator	SAT	Yes
Acipenser oxyrinchus oxyrinchus	Atlantic sturgeon	E	No
Laterallus jamaicensis ssp. jamaicensis	Eastern black rail	T	No
Chelonia mydas	green sea turtle	T	No
Dermochelys coriacea	leatherback sea turtle	E	No
Myotis septentrionalis	Northern long-eared bat	E	Yes
Picoides borealis	red-cockaded woodpecker	E	No
Calidris canutus rufa	red knot	T	No
Lysimachia asperulifolia	rough-leaved loosestrife	E	Yes
Acipenser brevirostrum	shortnose sturgeon	E	No
Perimyotis subflavus	tricolored bat	PE	Yes
Trichechus manatus	West Indian manatee	T	No

Source: Three Oaks Engineering, 2023.
Notes: T - Threatened; E - Endangered; SAT - Similar Appearance to a Threatened Taxon; PE - Potentially Endangered

Migratory Bird Treaty Act

Under theMBTA, a person may not pursue, hunt, take, capture, kill, or possess, or attempt to do those things to a migratory bird, nests, or eggs.[10] Certain birds are protected under the MBTA, including bird species listed as being of particular concern either because they occur on the USFWS Birds of Conservation Concern list or warrant special attention in the project location. Based on information provided by the USFWS Information, Planning, and Conservation (IPaC) database, migratory birds that may be present and breeding in the study area could include: American kestrel, American oystercatcher, brown-headed nuthatch, chimney swift, Chuck-will's-widow, Eastern whip-poor-will, Kentucky warbler, king rail, least tern, lesser yellowlegs, painted bunting, pectoral sandpiper, prairie warbler, prothonotary warbler, red-headed woodpecker, rusty blackbird, semipalmated sandpiper, willet and wood thrush (refer to **Appendix F**).

[10] *16 U.S.C. § 703.*

Magnunson-Stevens Fishery Conservation and Management Act

Under the nation's main fisheries law, the *Magnunson-Stevens Fishery Conservation and Management Act*, Essential Fish Habitat (EFH) is identified and protected. EFH includes habitats such as coral reefs, bays, wetlands, and rivers, that are necessary for fish reproduction, growth, feeding, and shelter.[11] Habitat Areas of Particular Concern (HAPCs) are subsets of EFH that provide extremely important ecological functions and are vulnerable to degradation.[12] National Oceanic and Atmospheric Administration (NOAA) Fisheries has identified EFH and HAPCs distant from the study area, approximately 54 miles downstream of EWN in the Pamlico Sound.

3.3.4 State-listed Species

A list of Craven County's state threatened and endangered species was obtained from the NCNHP. This list of species (not including species that are also federally listed), their habitat types, and their likelihood of occurrence in the study area is included in **Appendix F**. No legal protection is provided to state-listed species in North Carolina; however, to comply with FAA guidelines and based on scoping comments received from NC Wildlife Resources Commission, Habitat Conservation Program, they were evaluated based on their habitat requirements (refer to **Appendix D**).

According to NCNHP, 257 rare species (excluding the federal threatened and endangered species discussed in **Section 3.3.3**) and habitats have been documented in Craven County. As listed in **Appendix F**, the NCNHP indicates that 92 of those species are considered current listings and have potential habitat present in the study area. According to the NCNHP, there are no records of rare species within the study area, or within a one-mile radius (**Appendix F**).

3.4 CLIMATE

In accordance with the *National Environmental Policy Act*, considerations of climate include both the potential effects of the Proposed Action on climate change, as well as the implications of climate change for the Proposed Action (refer to **Appendix E**).

3.4.1 Potential Effects on Climate Change

In 2009, the USEPA identified elevated concentrations of greenhouse gases (GHG) in the atmosphere as the cause of climate changes that endanger public health and welfare for current and future generations. GHGs are gases, both naturally occurring and manmade, that trap heat

[11] *NOAA Fisheries, https://www.fisheries.noaa.gov/insight/understanding-essential-fish-habitat (July 25, 2024)*
[12] *NOAA Fisheries, https://www.habitat.noaa.gov/application/efhinventory/ (August 5, 2024)*

in the earth's atmosphere. GHGs primarily include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Of these seven GHGs, only CO_2 is a direct aircraft combustion product. GHGs differ in their ability to absorb energy and how long they stay in the atmosphere, with CO_2 staying in the atmosphere for an extremely long time at 300 to 1,000 years.

On January 11, 2021, the USEPA issued the first GHG emissions standards for U.S. aircraft. As outlined in the FAA's 2021 Aviation Climate Action Plan, the U.S. aviation sector has a goal of net-zero GHG emissions by 2050 that was supported by FAA analyses of current and future domestic and international aviation CO_2 emissions. Achievement of these climate goals will require implementation of several individual and sector-wide measures such as:

- introduction of new, more efficient aircraft and retirement of older, less efficient aircraft
- new development of more energy efficient aircraft and engine technologies
- aircraft operational improvements including flying more optimal trajectories for reduced fuel use
- production of Sustainable Aviation Fuels by the energy sector
- climate science research related to aviation impacts

Domestic U.S. aviation contributes approximately three percent of total CO_2 emissions, with the remainder of the transportation sector contributing approximately 20 percent. Equipment that requires fuel or power at an airport are the primary sources that generate GHGs. Although aircraft are the most often cited air pollutant source, ground access vehicles produce the same types of emissions.

3.4.2 Implications of Climate Change

Resiliency and sustainability considerations are helpful in evaluating the implications of climate change for the Proposed Action. In terms of resiliency, EWN's coastal location at the confluence of the Trent and Neuse Rivers highlights the importance of understanding flood risk, including the effects of storm surge, coastal flooding, and sea level rise. Following the over $100 million in residential and commercial damages that resulted from Hurricane Florence in 2018, the City of New Bern developed a Resiliency and Hazard Mitigation Plan, which was adopted in March 2022. The airport falls within the study area for New Bern's plan, which is organized into six resiliency pillars: economy, infrastructure, natural resources, cultural heritage, housing, and health and safety.

3.5 COASTAL RESOURCES

As the Proposed Action is a federal activity occurring in a coastal area, a Federal Consistency certification will be necessary in accordance with the *Coastal Zone Management Act* (CZMA),

which aims to preserve, protect, develop, and where possible, restore and enhance the resources of the nation's coastal zone. The CZMA requires that projects within the coastal zone comply, to the maximum extent practicable, with approved state coastal management programs.[13] In North Carolina, the *Coastal Area Management Act* (CAMA) establishes the federally approved coastal management program for 20 coastal counties, including Craven County. CAMA and other applicable regulations under the North Carolina Coastal Management Program are administered by the North Carolina Department of Environmental Quality (NCDEQ), Division of Coastal Management (NCDEQ-DCM). The NCDEQ-DCM has jurisdiction over Areas of Environmental Concern (AEC) in coastal counties, including estuarine waters and ocean systems, ocean hazard areas, public water supplies, and natural and cultural resource areas. Within the study area, Scotts Creek to the existing culvert crossing under Williams Road is considered an AEC as a navigable water. The presence of AECs within the study area was confirmed based on scoping comments received from NCDEQ-DCM (refer to **Section 5.1.1**). As indicated in **Table 3-1**, no Coastal Barrier Resources System units exist near the study area, with the closest resource located approximately 34 miles southeast near Morehead City.

3.6 DEPARTMENT OF TRANSPORTATION ACT SECTION 4(f)

Section 4(f) of the *Department of Transportation Act of 1966* provides protection to publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites. Under Section 4(f), properties must not be impacted unless no prudent and feasible alternative exists and efforts to minimize impacts to the property are completed. Craven County's Creekside Park to the south and the 160,000-acre Croatan National Forest to the west are nearby Section 4(f) resources. Within the study area, the Meadows Cemetery is in the approach to Runway 22, northeast of the NC/NS Railroad. Section 4(f) applies to historic sites that are listed or eligible for listing (such as Meadows Cemetery) on the National Register of Historic Places (NRHP).

During evaluations for the adjacent US 70 Improvements project, the NC Department of Natural and Cultural Resources, State Historic Preservation Office (NC SHPO) concurred in February 2017 that the Meadows Cemetery (Site CV2783) is eligible for listing on the NRHP under Criterion A, as the property is "associated with events that have made a significant contribution to the broad patterns of American history." Located in the African American community of James City and established in the 1880's, the Meadows Cemetery is estimated to contain hundreds of burials,

[13] *16 U.S.C. §1456(c).*

several of them unmarked. The Meadows Cemetery is recommended eligible for its continuing links to the settlers of James City and their descendants.

Meadows Cemetery, facing southwest toward railroad

3.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Hazardous materials are those substances defined by the *Comprehensive Environmental Response, Compensation, and Liability Act*, as amended by the *Superfund Amendments and Reauthorization Act*, and the *Toxic Substances Control Act*. In general, hazardous materials include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare, or to the environment, when released or otherwise improperly managed. Solid Waste includes any garbage, refuse, sludge, or other discarded materials, including household trash and construction debris. Pollution Prevention focuses on the reduction or elimination of waste at the source.

3.7.1 Hazardous Materials

A Phase I report was completed to identify properties in the study area that are or may be contaminated, which could result in increased project costs and future liability if acquired by FAA or NCDOT. The Phase I effort included a review of applicable databases and field reconnaissance (refer to **Appendix H**). Ten sites with an assigned risk of Moderate or High were identified within or near the study area and are included in **Table 3-4** and depicted on **Figure 3-2**. No current or former hazardous waste sites or brownfields or landfills were identified in the various databases or at the site. No evidence of soil or groundwater contamination and no monitoring wells, vent pipes, gasoline pumps, hydraulic lifts, or other objects of concern were observed during the site reconnaissance.

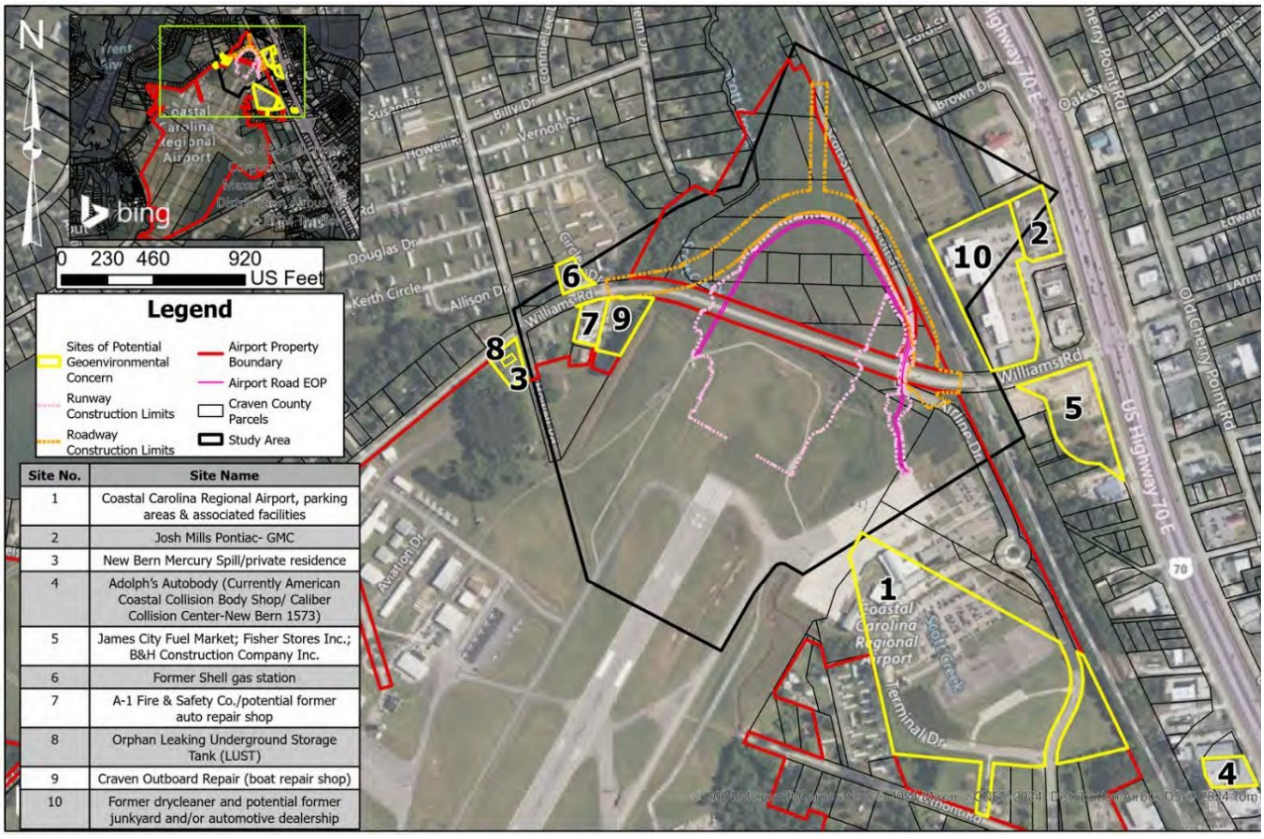
TABLE 3-4: SITES OF POTENTIAL ENVIRONMENTAL CONCERN

#	SITE NAME	POTENTIAL CONCERN	DISTANCE FROM STUDY AREA (miles)	RISK
1	Coastal Carolina Regional Airport	Open UST and active stormwater permits that drain into Scotts Creek	0.254	Medium
2	Josh Mills Pontiac- GMC	Most recent inspection in December of 2023 indicated that the UST Inspection failed due to failure to provide corrosive protection to an existing tank system, failure to permanently close a substandard UST, and failure to complete primary operating training	0.098	High
3	New Bern Mercury Spill/private residence	Potential mercury release at a private residence; unknown if groundwater and/or soil was impacted; source also unknown	0.016	High
4	Adolph's Autobody (Currently American Coastal Collision Body Shop)	An underground leak was reported in May of 1995 from a commercial UST; no documents to show cleanup	0.018	Medium
5	James City Fuel Market; Fisher Stores Inc.; B&H Construction Company Inc.	Four current USTs on site; B&H Construction Company Inc. is listed in the RCRA NONGEN/NLR as a producer of ignitable waste, but no violations have been reported	0.081	High
6	Former Shell gas station	It can be assumed that USTs remain on site from former gas station activities.	About 0.05	High
7	A-1 Fire & Safety Co./potential former auto repair shop	It is possible that contamination remains on site from former auto repair activities	About 0.05	Medium
8	Orphan Leaking Underground Storage Tank (LUST)	A LUST incident was reported in January of 2023. No wells were reported to be impacted	0.017	Medium

#	SITE NAME	POTENTIAL CONCERN	DISTANCE FROM STUDY AREA (miles)	RISK
9	Craven Outboard Repair (boat repair shop)	It can be assumed that oil staining/spills have been associated with this site	About 0.05	Medium
10	Former drycleaner and potential former junkyard and/or automotive dealership	Drycleaning facility and potential former junkyard are no longer active, but it is possible that drycleaning chemicals were once on site, along with contamination from discarded auto parts	About 0.15	Medium

Notes: UST - Underground Storage Tank, RCRA NONGEN/NLR - Resource Conservation and Recovery Act Non-Generator /No Longer Regulated, LUST - Leaking Underground Storage Tank.
Source: GeoEnvironmental Phase I Report, Terracon Consultants, July 2024

FIGURE 3-3: SITES OF POTENTIAL ENVIRONMENTAL CONCERN MAP



Source: GeoEnvironmental Phase I Report, Terracon Consultants, July 2024

3.7.2 Solid Waste and Pollution Prevention

Landfill Services for Craven County are managed by the Craven Regional Solid Waste Management Authority. The Tuscarora Landfill is located approximately 14 miles northwest of EWN and accepts construction and demolition debris, and municipal solid waste. According to the December 2018 permit approval (Permit No.: 2509-MSWLF-1999) for construction of Phase 4 of the Tuscarora Landfill, the site has 6.05 million cubic yards (CY) of capacity with an additional 3.85 million CY proposed for construction in Phase 5.

3.8 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

The *National Historic Preservation Act of 1966* (NHPA) requires federal agencies to review the effects of any proposed actions on historic properties. Historic resources are districts, buildings, sites, structures, or objects that are significant in American history, architecture, archaeology, engineering, and/or culture.[14]

During initial project scoping, the SHPO reviewed the proposed project in August 2023 pursuant to Section 106 of the NHPA and did not identify any historic resources that would be affected (**Appendix C**). It is also noted that as part of evaluations for the adjacent US 70 Improvements project (refer to **Section 3.6**), the NC SHPO concurred in February 2017 that the Meadows Cemetery (Site CV2783, refer to **Figure 3-4**) is eligible for listing on the NRHP under Criterion A, for its continuing links to the settlers of James City and their descendants.

3.9 LAND USE

3.9.1 Existing Land Use

The Airport property is maintained for its intended use and comprises approximately 734 acres. As depicted on **Figure 3-4**, land use in the vicinity of the study area is comprised of commercial development to the northeast along US 70, with residential development to the west and north along the Trent and Neuse Rivers. The approximately 50-acre Arthur Farms agricultural tract is located immediately west of the southern portion of Runway 14-22, between EWN and the Trent River.

[14] *16 U.S.C. §470(a)(1).*

FIGURE 3-4: EXISTING LAND USE

3.9.2 Area Plans and Future Land Use

Several area plans were reviewed relative to existing and planned development near the study area.

- Craven County Comprehensive Transportation Plan is a long-range multi-modal transportation plan that covers transportation needs through 2040. Originally completed in 2016, the various maps were most recently updated in 2020 and include these recommendations relative to the Proposed Action:
    - Highway Map depicts the Proposed Williams Road Relocation as “Recommended”
    - Bicycle Map depicts on-road bicycle facilities on Williams Road as “Needs Improvement”
    - Public Transportation and Rail Map depicts the NC/NS rail corridor within the study area as “Active” and a bus route along Williams Road with a Park and Ride Lot between the railroad and US 70 as “Recommended”

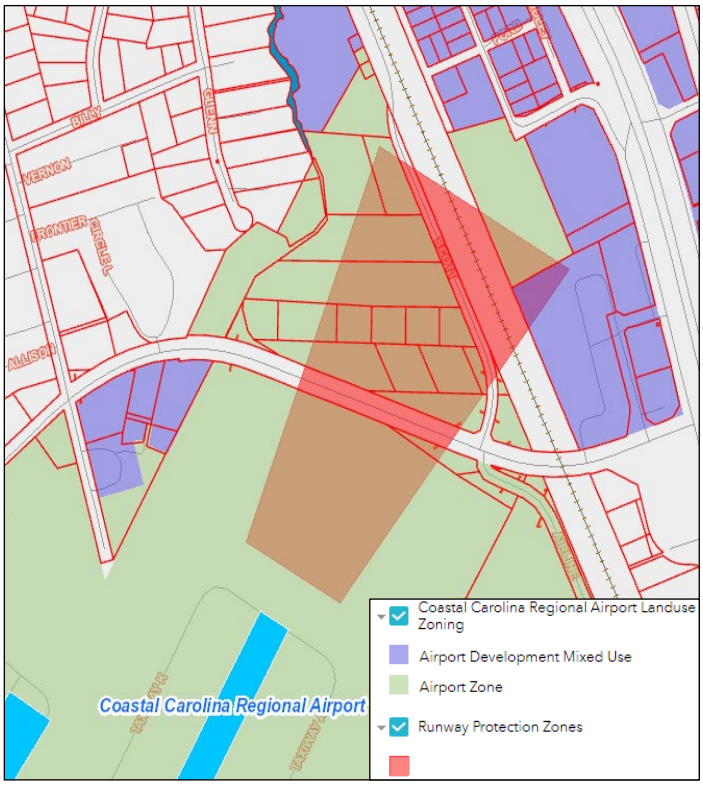
  - Pedestrian Map identifies a pedestrian connection as "Recommended," from Williams Road at the railroad across US 70
- New Bern Area Metropolitan Planning Organization (MPO) 2040 Bicycle Map identifies a proposed bike lane on Williams Road in the study area
- New Bern Bicycle Plan (2022) shows a proposed shared use path within the study area
- Craven County CAMA Land Use Plan (2009) is currently being updated; previous maps depict future land uses for the US 70 Corridor that include residential, commercial, industrial, office and institutional, and mixed use

The Proposed Action, specifically the proposed Williams Road Relocation, was submitted to the NCDOT Integrated Mobility Division (IMD) for a Complete Street Review Assessment. IMD indicated that there are no existing pedestrian facilities in the vicinity of the proposed project and there is a low to medium demand for facilities in the area.

3.9.3 Zoning and Other Land Use Controls

As a condition of receiving federal funding, the Airport must assure, to the extent possible, that the property within and in the vicinity of the Airport is zoned and restricted to uses compatible with normal airport operations.[15] As stated in the Craven County Code, zoning is currently in place to restrict the height of objects in the Airport approach zones.[16]

FIGURE 3-5: AIRPORT LANDUSE ZONING MAP



The Airport is located within an unincorporated area of Craven County. Most of the study area falls within existing airport property to the north (refer to **Figure 3-1**). As depicted in **Figure 3-5**, Craven County has Airport Land Use Zoning in the vicinity of EWN that identifies Airport Zone (existing airport property and Meadows

[15] *49 U.S.C. §47107(a)(10).*
[16] *Craven County, North Carolina Code of Ordinances, Chapter 41, Article III, Division 3, Coastal Carolina Regional Airport Zoning and Height Control Ordinance (https://library.municode.com/nc/craven_county/codes/code_of_ordinances), August 28, 2024.*

Cemetery to the north) and Airport Development Mixed Use (commercial and residential development to the north and west of the study area). These parcels have specific development limitations per the Craven County, NC Code of Ordinances, Chapter 41, Article III, Division 3, *Coastal Carolina Regional Airport Zoning and Height Control Ordinance*.

3.10 NATURAL RESOURCES AND ENERGY SUPPLY

Multiple entities supply energy, water, and other resource management infrastructure to EWN. As described in the 2016 AMPU, the Craven County Water Department provides water service to the terminal via a waterline that runs along existing Williams Road. This line also connects to the GA and air cargo areas to the west. Electric service is provided by the City of New Bern and connects to the terminal area via an electric line that runs south of the Airport. Electric service is provided to the GA area via a separate overhead line that also runs along existing Williams Road. The airport sanitary sewer system collects domestic sewage from on-site sanitary facilities on the east side of the Airport, including the terminal building, and discharges to the local wastewater treatment plant. The City of New Bern recently installed a 12-inch sewer force main in the vicinity of proposed Relocated Williams Road at a depth of approximately 48 inches.

Consumable materials and energy are utilized at EWN to maintain various airside and landside facilities and services. Examples of resource and energy use include asphalt, concrete, and aggregate for sub-base materials, and fuels for the operation of aircraft and vehicles.

In an effort to off-set natural resource consumption at the facility level, EWN continues to implement sustainability measures into their new development projects, such as energy-efficient LED interior lighting, new HVAC units and higher energy-efficient mechanical rooftop units, tankless water heaters in office spaces, natural gas-powered emergency generators, Low-E glass in new construction areas, building-mounted awnings to assist in sun shading, and continuous insulation on building exteriors.

3.11 NOISE AND NOISE-COMPATIBLE LAND USE

Based on national policy, airports must be constructed and operated to minimize current and future noise impacts on surrounding communities.[17] Yearly Day-Night Average Sound Level (DNL) is the primary noise metric used by the FAA to evaluate land use compatibility within an airport noise environment. The DNL metric accounts for "noise levels of all individual aircraft events, the number of times those events occur, and the period of day/night in which they occur."[18] To account for a community's increased sensitivity to noise during normal nighttime hours (10:00

[17] *49 U.S.C. §47101(a)(2).*

[18] *FAA, 1050.1F Desk Reference, Chapter 11 – Noise and Noise Compatible Land Use, p. 11-2.*

p.m. to 7:00 a.m.) and the lower ambient levels of nighttime noise, a 10-decibel (dB) adjustment is included in the logarithmical average of aircraft sound levels that is incorporated into the DNL noise metric.[19] Within 14 CFR Part 150, the FAA provides guidelines for land use compatibility corresponding to DNL sound levels of 65 dB or greater (65, 70, 75, etc.).[20] The 65 DNL is generally accepted as the threshold level at or below which all land uses are considered compatible. Above 65 DNL, noise sensitive land uses, such as residential, are typically discouraged unless a degree of noise attenuation has been incorporated into the design of the structure.

In accordance with FAA Order 1050.1F, FAA Order 5050.4B, and the 1050.1F Desk Reference, the noise environment at Coastal Carolina Regional Airport was evaluated using the FAA Aviation Environmental Design Tool (AEDT) Version 3e. The AEDT was used to develop DNL 65 decibel (dB), 70 dB, and 75 dB contours for this analysis, as well as determine if any significant or reportable noise increases would occur over noise sensitive areas as a result of the Proposed Action. The DNL contours were prepared using existing operational data as well as the FAA-approved forecast for EWN. The noise analysis and forecasts are provided in **Appendix I**.

In addition to the previously described time of day and operational forecast, AEDT model inputs include runway utilization, flight tracks, and aircraft fleet mix. Various aircraft have different noise characteristics depending upon factors such as size, engine type, and airframe design. Therefore, it is necessary to account for the different aircraft types and fleet mix operating in the environment when modeling noise exposure. EWN accommodates several different types of aircraft operations, including general aviation, regional commercial airline, cargo, and military. It is important to note that Marine Corps Air Station (MCAS) Cherry Point currently conducts a limited number of operations by the McDonnell-Douglas AV-8B Harrier II ground attack jet at EWN, however those operations will be phased out prior to the implementation of the Proposed Action.

Based on the various model inputs, AEDT calculates aircraft noise exposure using a defined network of grid points at ground level around an airport. Noise exposure levels for each aircraft are summed at each grid point, and cumulative noise exposure levels at all grid points are then used to develop noise exposure contours for selected values (e.g., DNL 65, 70 and 75 dB). The Existing Condition 2023 DNL contours represent the 24-hour aircraft noise exposure to areas surrounding EWN on an average annual day (refer to **Appendix I, Figure 2**). Although the 2023 Existing Conditions DNL 65 contour extends well past the Airport property boundary due to approximately 4 daily flights by the Marine Corps AV-8B Harrier II jets, these operations are being phased out as of 2025.

[19] *Ibid.*
[20] *14 CFR Part 150, Appendix A, Part B §A150.101.*

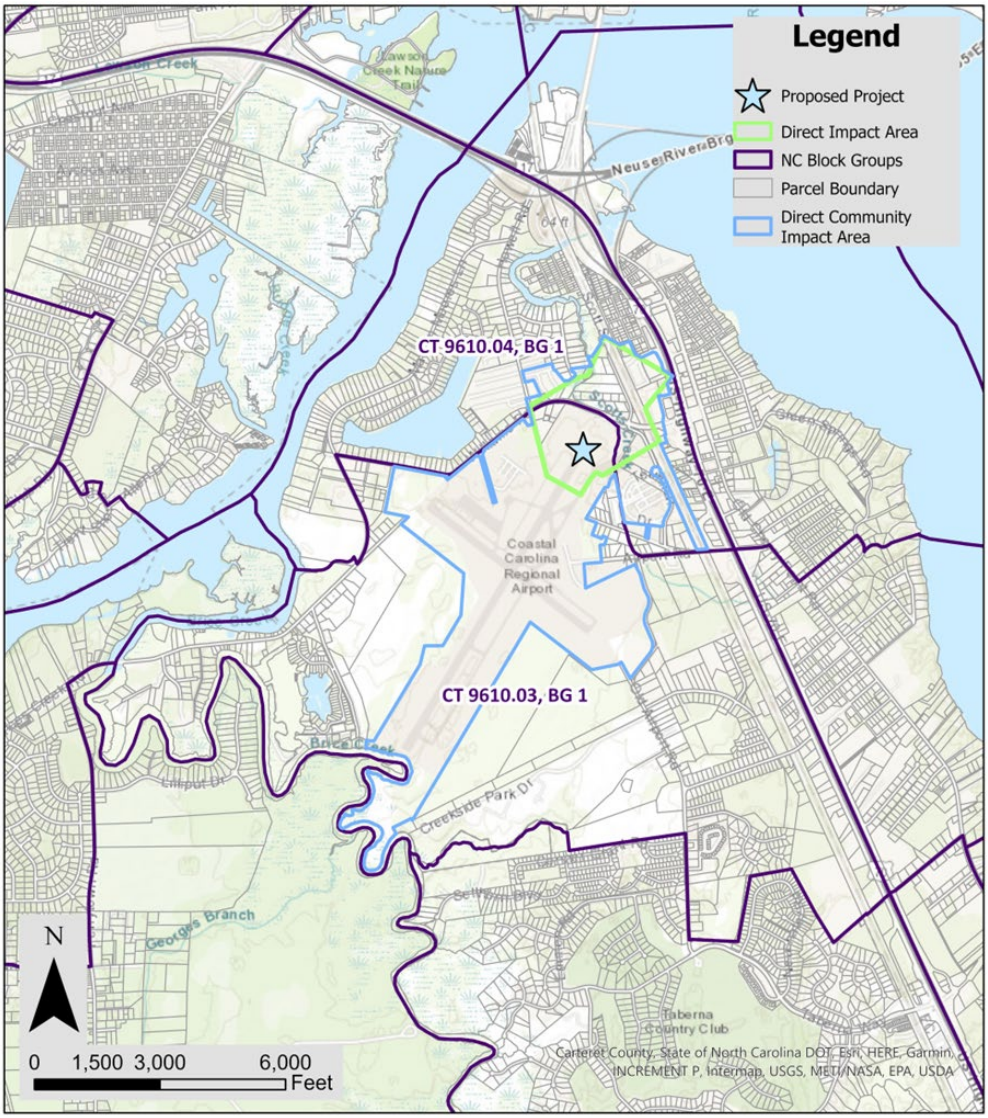
3.12 SOCIAL IMPACTS

As described in Chapter 1, EWN's significant economic contributions to the local and regional economy include approximately $26.9 Million in state and local tax income through the impact of leisure/business travelers and spending by airport tenants, a total economic output of over $512 Million, and supporting some 2,465 jobs.[21] The study area is encompassed by two US Census block groups: Census Tract (CT) 9610.03 Block Group (BG) 1 and CT 9610.04 BG 1 (refer to **Figure 3-6**). Regarding considerations of children's environmental health and safety risks, it is noted that 21.2 percent of the adjacent population (285 people) are 18 years old or younger, as compared to 62.1 percent (835 people) aged 18 to 64 years, and 16.7 percent (225 people) aged 65 years or older. Based on additional coordination with Craven County Planning staff, despite there being no existing facilities, there is relatively frequent pedestrian and bicycle traffic along Williams Road within the study area, which connects nearby neighborhoods with food and other services adjacent to US 70 to the northeast. The route also serves buses and carpool traffic to nearby schools. Additionally, based on US Census data, unemployment is low, the percentage of vacant housing units is low, the vast majority work within Craven County, and 100 percent rely on automobiles for their work commute. Approximately 95.9 percent of 9610.03 BG 1 and 75.0 percent of CT 9610.04 BG 1 have access to broadband internet service.

(The rest of this page is intentionally left blank)

[21] *NCDOT Division of Aviation, North Carolina: The State of Aviation, January 2023 https://www.ncdot.gov/divisions/aviation/Documents/state-of-aviation.pdf (August 12, 2024)*

FIGURE 3-6: CENSUS TRACT MAP



3.13 VISUAL EFFECTS

Visual effects can be divided into two categories:

- Light Emission Effects – actions that result in annoyance or interference with activities due to increased light emissions
- Visual Resources/Character – actions that contrast with or detract from the visual character of the study area

There are several lighting systems associated with existing Runway 4-22 and parallel Taxiways A and K. Taxiway edge lights are used to outline the edges of the taxiway during times of reduced visibility or darkness. These lights provide a clear marking of the pavement edge and type to a pilot, thereby increasing the overall safety at an airport. The taxiway edge lights, which are blue, are located close to the pavement edges (usually within ten feet) and are placed approximately six to nine inches above the ground. There are also threshold lights at the end of each runway and Runway End Identifier Lights (REILs). The threshold lights emit red light toward the runway to departing aircraft and emit green light away from the runway toward landing aircraft. The REILs are directional flashing white, high-intensity lights mounted on an approximately two-foot box, with two located near each runway end. Additionally, each runway end is equipped with a 4-box Precision Approach Path Indicator (PAPI), which assists pilots by giving visual guidance on an aircraft's current glide path relative to the nominal glide path. The systems are visible for approximately 5 miles during the day and up to 20 miles at night and operate continuously.

The airport localizer that requires relocation as part of the Proposed Action is a part of the Instrument Landing System (ILS) that provides lateral guidance to an aircraft, but it is not lighting. The ILS is a system that helps pilots align and descend an aircraft onto a runway, and it includes several components, including the localizer, glide slope, and approach lights. The localizer is a Very High Frequency (VHF) signal transmitter located at the end of the runway that helps pilots ensure their aircraft is aligned with the runway's center. The ILS also includes a glide slope, which provides vertical guidance, and approach lights, which help pilots identify the runway in low visibility.

3.14 WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, AND GROUNDWATER)

A Natural Resources Technical Report (NRTR) was prepared for the project and is included in **Appendix F**. Field work was conducted in August and September 2023 and the USACE issued a Notification of Jurisdictional Determination (SAW-2025-00234) on January 30, 2025.

3.14.1 Wetlands

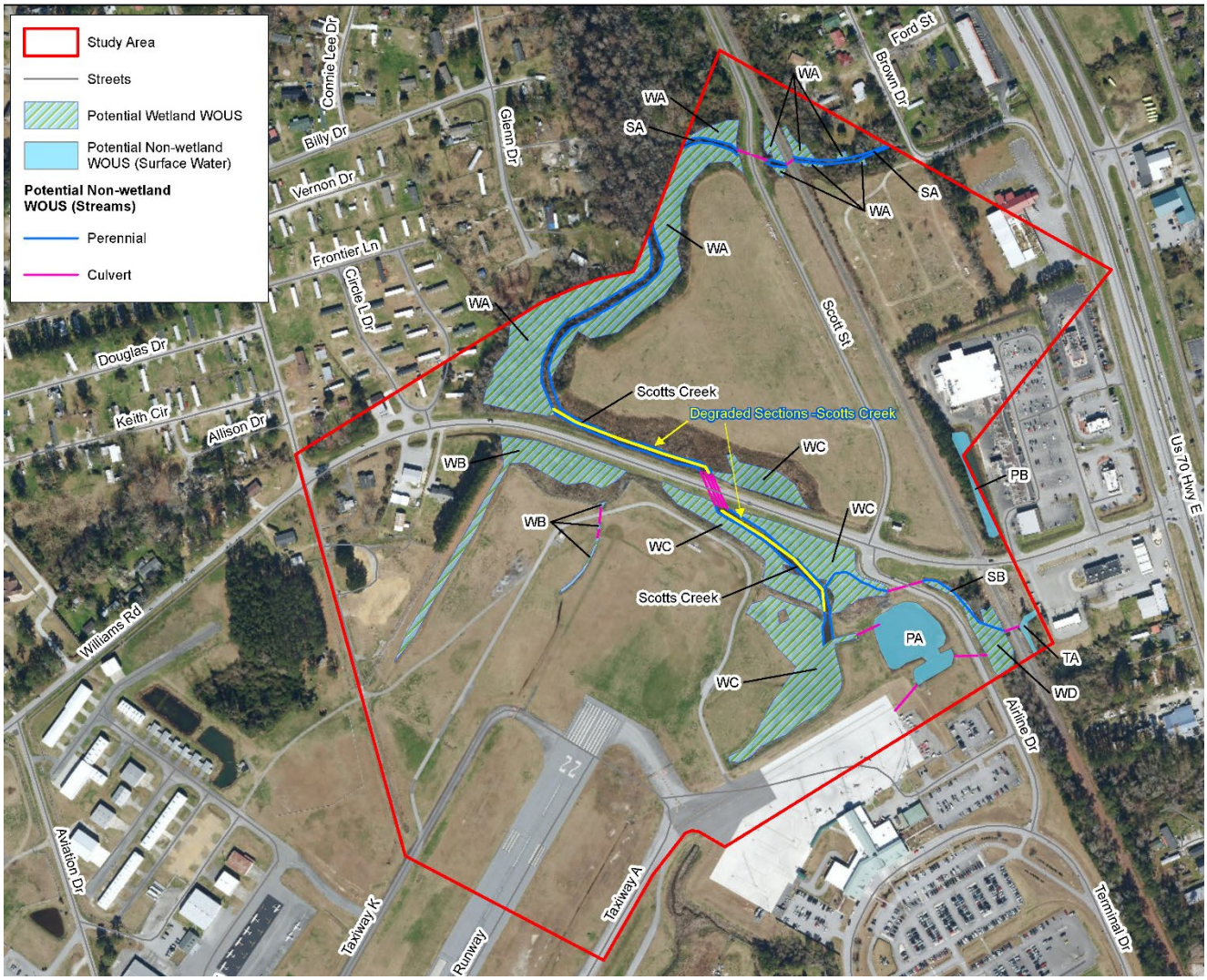
E.O. 11990, *Protection of Wetlands*, mandates that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance their natural values. Wetlands are specifically protected by laws and orders because of the functions and values they provide with respect to:

- **Hydrology** (e.g., flood control, groundwater recharge and discharge, and dissipation of erosive forces)
- **Water quality** (e.g., removal of sediments, toxins, and nutrients)

- **Food chain support and nutrient cycling** (e.g., primary production and nutrient export/utilization)
- **Wildlife habitat** (e.g., breeding, rearing, and feeding grounds for fish and wildlife species)
- **Socioeconomics** (e.g., recreational, educational, aesthetic, and consumptive uses)

To comply with E.O. 11990, the wetlands within the study area were identified to aid in avoidance and minimization during the design phase and to estimate unavoidable impacts. A field delineation was performed in August and September 2023. The delineated wetlands are depicted on **Figure 3-7** and were approved by USACE under Preliminary Jurisdictional Determination (PJD) SAW-2025-00234 (refer to **Appendix F**).

FIGURE 3-7: DELINEATED WETLANDS



Source: Three Oaks Engineering, WBS No. 50363 Natural Resources Technical Report 2023

Four wetlands were identified within the study area (**Table 3-5**). The locations of these wetlands are depicted on **Figure 3-7.** All wetlands in the study area are located within the Neuse River Basin (USGS HUC 03020204). Wetland WC is adjacent to existing Williams Road and was characterized as a low-quality wetland.

TABLE 3-5: CHARACTERISTICS OF WETLANDS IN THE STUDY AREA

MAP ID	NCWAM CLASSIFICATION	FORESTED	NCWAM RATING[1]	HYDROLOGIC CLASSIFICATION	404/401 OR 401	AREA IN STUDY AREA (ac.)
WA	Riverine Swamp Forest	Yes	*	Riparian	404/401	4.05
WB	Riverine Swamp Forest	Yes	*	Riparian	404/401	1.3
WC	Non-tidal Freshwater Marsh	No	Low	Riparian	404/401	4.58
WD	Headwater Forest	Yes	*	Riparian	404/401	0.54
					Total	**10.47**

Notes: [1] – North Carolina Wetland Assessment Method (NCWAM) forms were not completed for wetlands possessing qualities conducive to them receiving moderate or higher mitigation ratios and/or functional rating values. These features are represented by an asterisk (*).
Source: Three Oaks Engineering, Natural Resources Technical Report, December 2023

Wetland WC adjacent to Williams Road, facing northwest

3.14.2 Floodplains

E.O. 11988, *Floodplain Management,* requires that efforts be made by federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. It also directs federal agencies to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. In addition, it prohibits floodplain encroachments that are uneconomic, hazardous, or result in incompatible development of the floodplain. E.O. 11988 also prohibits any action that would cause a critical interruption of an emergency transportation facility, a substantial flood risk, or an adverse impact on the floodplain's natural resource values.

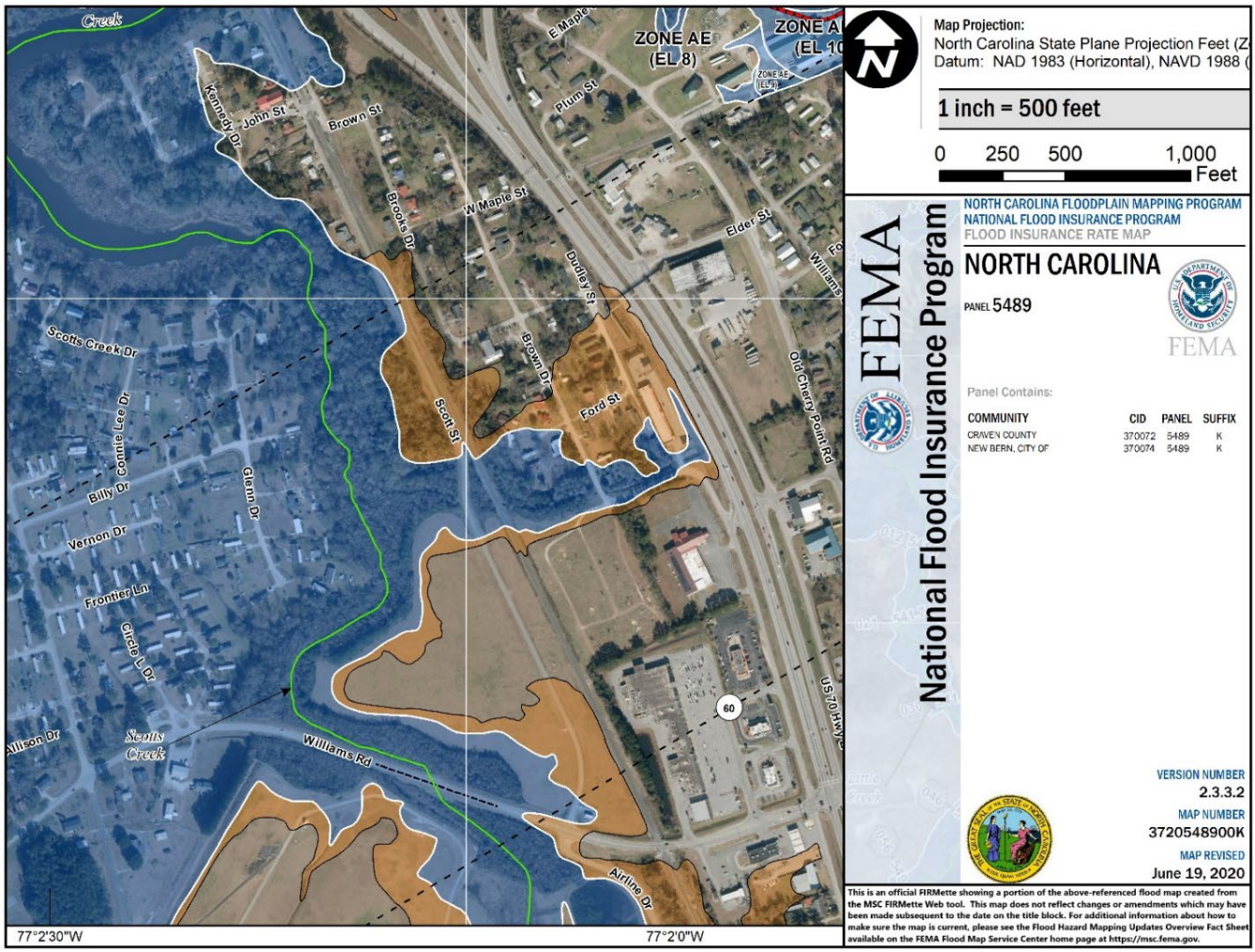
The 100-year floodplain boundary delineates a flood elevation that has a one percent chance of being equaled or exceeded each year. Placing fill within the floodplain is discouraged, since it removes floodwater storage capacity. However, federal regulations will allow development in the 100-year floodplain if it is demonstrated through hydrologic and hydraulic analysis that the development would not result in an increase in the base flood elevation of more than one foot. Additionally, the floodway must remain unobstructed to convey the 100-year flood.

Floodplain data for the study area was obtained from North Carolina's Flood Risk Information System (FRIS). The 100-year floodplain in the vicinity of the project are depicted in **Figure 3-8.** The 100-year floodplain associated with Scotts Creek comprises approximately 40 acres of the 107.7-acre study area.

The Federal Emergency Management Agency classifies these 100-year floodplains as Zone AE, meaning that prior hydraulic studies have been completed for this area and base flood elevations (BFEs) are available. Areas located within a Zone AE have a 1 percent chance of flooding in any given year. Near existing Williams Road, the BFE is elevation 9 feet above mean sea level (AMSL). For reference, the existing Airport property is characterized by level topography with elevations ranging from 8 to 18 feet above mean sea level and the runway end nearest Williams Road (Runway 22) is elevation 14.5 feet (AMSL).

There is no mapped floodway along Scotts Creek from the confluence with the Neuse River up to Clermont Road, near Terminal Drive. Flooding is controlled by backwaters from the Neuse River.

FIGURE 3-8: FEMA FLOODPLAIN MAP



3.14.3 Surface Waters

USACE has regulatory authority over streams as waters of the United States under Section 404 of the CWA. Three jurisdictional streams were identified within the study area, including Scotts Creek, and two unnamed tributaries (UT) to Scotts Creek (SA and SB, refer to **Table 3-6**).

TABLE 3-6: STREAMS WITHIN THE STUDY AREA

Stream Name	Map ID (Figure 3-2)	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull width (ft.)	Depth (in.)
Scotts Creek	Scotts Creek	27-102	SC;Sw; NSW	3-4 ft.	10-12 ft.	>12 in.
Unnamed Tributary (UT) to Scotts Creek	SA	27-102	SC;Sw; NSW[1]	0.5 ft.	8 ft.	8 in.
UT to Scotts Creek	SB	27-102	SC;Sw; NSW[1]	0.5 ft.	2-3 ft.	3-4 in.

Notes: SC;Sw - Aquatic Life, Secondary Contact Recreation, Tidal Salt Water; Swamp waters with low velocity, dissolved oxygen or pH, NSW - Nutrient Sensitive Waters subject to excessive vegetation growth
Source: Three Oaks Engineering, Natural Resources Technical Report, December 2023

There are no designated Outstanding Resource Waters (ORW), High-Quality Waters (HQW), or Water Supply I or II Watersheds (WS-I or WS-II) within the study area or within 1.0 mile downstream of the study area.

Scotts Creek has the supplemental classifications of tidal salt water with low velocity, dissolved oxygen, or pH (SC; Sw) and Nutrient Sensitive Waters (NSW). NSWs are waters that require additional management due to excessive growth of microscopic and macroscopic vegetation, due to high nutrient loads.

The NCDEQ develops a priority list of water bodies pursuant to Section 303(d) of the CWA, as well as in accordance with 40 CFR §130.7. The Section 303(d) documentation lists the water bodies that do not meet state water quality standards after the application of required controls for point and non-point source pollutants, as well as priority water bodies to which the NCDEQ can direct its attention when developing required controls such as Total Maximum Daily Loads (TMDLs). No streams in the study area are listed on the North Carolina 2022 Final 303(d) list of impaired waters.

The Neuse River Riparian Buffer is an additional water quality consideration within the study area. Riparian buffers serve to maintain vegetation and root systems adjacent to streams, which prevent soils from eroding into the water and filter pollutants from water runoff prior to entering

adjacent waterbodies. Authorization of the Proposed Action in accordance with the Neuse River Basin Riparian Buffer Protection Rules will be required through the NCDEQ, Division of Water Resources (NCDWR).

As described in the 2016 AMPU, stormwater runoff from the Airport drains to four drainage outfalls. These drainage outfalls discharge into Scotts Creek, Brice Creek, and an unnamed tributary of Brice Creek. Much of the runoff from areas supporting industrial activity at the Airport occurs on the north side of the Airport (in the vicinity of the study area). Runoff is collected through a system of grass drainage ditches, drop inlets, and pipes, and in some cases directed to wet detention basins before being discharged downstream.

3.14.4 Groundwater

No sole source aquifers are located in North Carolina.[22] Review of the NCDWR Groundwater Management Branch Map Interface indicates that no groundwater wells monitored by the Groundwater Management Branch are located within the project area, with the closest one located over eight miles away within Croatan National Forest.[23]

[22] *USEPA, Sole Source Aquifers for Drinking Water, http://www.epa.gov/dwssa (August 12, 2024).*
[23] *NC Division of Water Resources, Groundwater Levels & Quality, https://www.ncwater.org/?page=343(August 12, 2024)*

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

Chapter 4 evaluates the potential impacts associated with the Preferred Alternative (Proposed Action) and No-action Alternative. The thresholds for determining whether impacts are significant, as listed in FAA Order 1050.1F, were used to evaluate potential impacts to resources in the study area. Based on these thresholds, no resources would be significantly impacted by the No-action Alternative or the Proposed Action (refer to **Figure 2-2**).

The Proposed Action would not result in an increase in the number of annual aircraft operations at EWN in comparison to the No-action Alternative. A gradual increase in annual operations is projected, growing from 60,170 operations at project implementation in 2027 to 77,584 operations in 2043. This anticipated increase in operations is due to normal growth and not attributed to the Proposed Action. The following study years were established for evaluating the environmental consequences of the Proposed Action:

- Base year – 2023
- Implementation Year – 2027
- Future Year – 2032

The potential impacts associated with the Proposed Action are discussed in the following sections, and many are associated with direct impacts from the construction footprint depicted in **Figure 4-1** (refer to **Appendix J** to review preliminary design plans). Impacts that could result in long-term effects are addressed through avoidance, minimization, and mitigation efforts.

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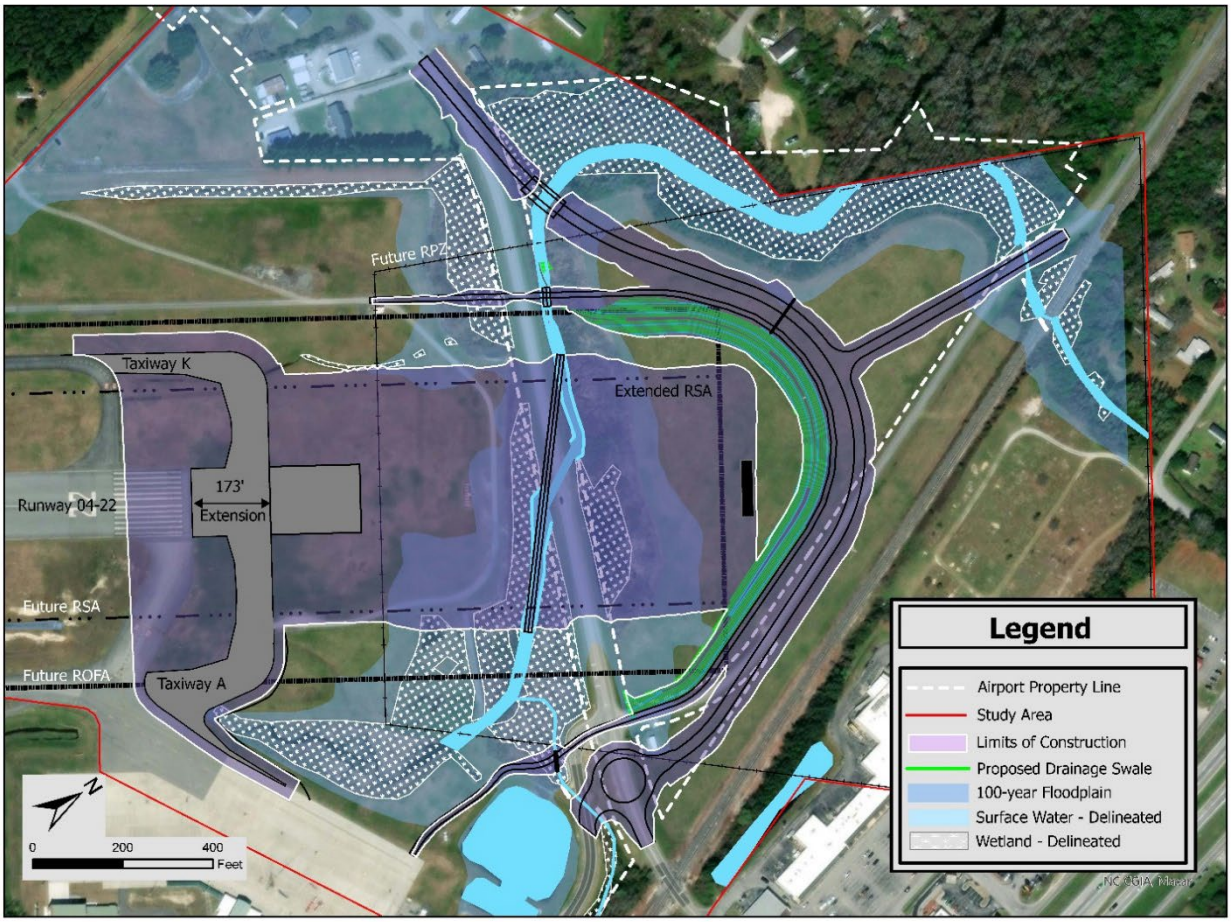
FIGURE 4-1: PROPOSED ACTION CONSTRUCTION FOOTPRINT



4.1.1 No-action Alternative

Under the No-action Alternative, the construction of the proposed airport improvements would not occur. Because there would be no anticipated construction or change in Airport facilities under the No-action Alternative, no adverse environmental impacts would occur related to Air Quality, Biological Resources, Climate, Coastal Resources, Department of Transportation Act Section 4(f) Resources; Hazardous Materials, Solid Waste, and Pollution Prevention, Historical, Architectural, Archaeological, and Cultural Resources, Natural Resources and Energy Supply, Noise and Noise-Compatible Land Use, Visual Effects, Water Resources, or Irreversible and Irretrievable Commitment of Resources. It is important to also note that beneficial impacts related to Air Quality (vehicular traffic), Land Use, Socioeconomics, and Children's Environmental Health and Safety Risks, would not occur under the No-action Alternative, as detailed in **Sections 4.2, 4.9 and 4.12**.

4.2 AIR QUALITY

Existing and future aircraft operations and vehicular traffic volumes were evaluated for the Proposed Action. The detailed forecasts completed for the 2016 AMPU were reviewed and updated using similar forecasting methodologies but based on 2023 activity levels and current conditions (e.g., the phasing out of the McDonnell-Douglas AV-8B Harrier II ground attack jets at EWN prior to the implementation of the Proposed Action). The FAA-approved forecast of aviation activity is provided in **Table 4-1**.

TABLE 4-1: OPERATIONS FORECASTS

CALENDAR YEAR	ITINERANT OPERATIONS				LOCAL OPERATIONS		TOTAL OPERATIONS
	Air Carrier	Air Taxi/ Commuter	General Aviation	Military	General Aviation	Military	
2023 (Base Year)	3,053	3,656	18,204	1,428	29,685	317	56,343
2028	3,916	3,157	19,787	548	31,564	461	60,170
2033	4,384	3,066	21,928	548	33,697	461	64,820
2043	5,412	4,111	27,753	548	38,562	461	77,584

Source: EWN Master Plan Update, Talbert & Bright, 2018; Parrish & Partners Analysis, 2024

The Proposed Action will enhance runway safety by providing a standard RSA and increase runway utility by allowing aircraft to take on more fuel or more passenger load/cargo. However, compared to the No-action Alternative, the proposed 173-foot runway extension is not expected to result in increased aircraft operations; thus, no air quality impacts are anticipated.

Similarly, as described in the Traffic Analysis Technical Memorandum (**Appendix C**), no change to the future (2045) vehicular traffic volume is expected with the construction of the project (i.e., 2045 Proposed Action peak hour traffic on relocated Williams Road is the same as 2045 No-action volumes). It is important to note however, that the traffic analysis also found that the maximum delay and queue length at the Airline/Williams Road intersection would decrease from 307 seconds per vehicle and 310 feet, respectively, under the No-action Alternative to 9.7 seconds per vehicle and 75 feet with construction of a roundabout under the Proposed Action.[24] The decreased vehicle idling times under the Proposed Action would be anticipated to benefit air quality in comparison to the No-action Alternative.

Construction-related air emissions are considered “direct” sources of emissions under the CAA General Conformity Rule and in attainment areas, such as Craven County, can be reported for

[24] *Three Oaks Engineering, WBS #50363 Traffic Analysis Technical Memorandum, Tables 2 and 3, pp. 8-9.*

disclosure purposes under NEPA.[25] The No-action Alternative would not result in any construction activities and therefore, would not involve potential construction-related impacts to air quality. For disclosure purposes, a construction air quality analysis was completed for the Proposed Action and is included in **Appendix E**. Construction activity levels were estimated using the Airport Cooperative Research Program's Airport Construction Emissions Inventory Tool (ACEIT) for the Proposed Project components. The current version of the USEPA Motor Vehicle Emissions Simulator (MOVES) was used to establish the appropriate emission factors.[26] In the MOVES model, emissions from non-road (e.g., excavators, compactors, forklifts) and on-road sources are computed independently. To conservatively estimate construction emissions, all construction was assumed to occur in one year. **Table 4-2** summarizes construction emissions that would be anticipated to result from the Proposed Action.

TABLE 4-2: PROPOSED ACTION CONSTRUCTION EMISSIONS INVENTORY (TONS)

PROJECT COMPONENT	CO	VOC	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Airport Perimeter Road	2.06	0.11	2.77	0.004	0.05	0.05
Runway Blast Pad	1.94	0.09	2.38	0.003	0.04	0.04
Runway Extension	1.69	0.08	2.27	0.003	0.04	0.03
Runway Safety Area	1.13	0.09	3.03	0.004	0.06	0.05
Taxiway Connectors	1.76	0.10	2.64	0.003	0.05	0.05
Williams Road Relocation	2.18	0.11	2.75	0.004	0.05	0.05
TOTAL	**10.76**	**0.58**	**15.85**	**0.02**	**0.28**	**0.27**

Source: Environmental Science Associates, 2024.
NOTES: CO = carbon monoxide, NOx = oxides of nitrogen, PM10 = particulate matter less than or equal to 10 microns in diameter, PM2.5 = particulate matter less than or equal to 2.5 microns in diameter, SOX = oxides of sulfur, VOC = volatile organic compound; Totals may not add due to rounding.

The MOVES-calculated total construction emissions from **Table 4-2** are provided for disclosure purposes below by criteria pollutant as compared to the NAAQS *de minimis* threshold that would apply if the project was not located in an attainment area:

- Carbon monoxide (CO): 10.76 tons/year (no applicable threshold)
- Ozone (VOC) – 0.58 ton/year (50 tons/year threshold)
- Ozone (NOx) – 15.85 tons/year (100 tons/year threshold)
- Sulfur dioxide, SO_2 – 0.02 ton/year (100 tons/year threshold)
- Particulate Matter (PM_{10}) – 0.28 ton/year (no applicable threshold)
- Particulate Matter ($PM_{2.5}$) – 0.27 ton/year (no applicable threshold)

[25] *FAA, Aviation Emissions and Air Quality Handbook, Version 4, p. 55, faa.gov/Aviation Emissions and Air Quality Handbook Version 4 (July 26, 2024).*
[26] *USEPA, Motor Vehicle Emissions Simulator (MOVES), 4.0 model.*

The construction-related emissions for the Proposed Action are well below the NAAQS thresholds for all pollutants/precursors. As described above, even if General Conformity were applicable, the annual emissions across all pollutants do not approach the *de minimis* levels used for areas operating in maintenance. As such, the air quality impacts from the Proposed Action would not have a significant effect.

4.2.1 Mitigation, Avoidance, or Minimization

Craven County is designated as in attainment for all NAAQS criteria pollutants. Therefore, the General Conformity Rule is not applicable, and no mitigation measures are required.

Contractors would be required to maintain their equipment in satisfactory condition to minimize air pollution from exhaust emissions and no open burning would be allowed. Various best management practices that could be implemented to further minimize the Proposed Action's construction air "footprint" will be considered, such as:

- Reducing equipment idling times
- Using cleaner burning or low emissions fuel in construction equipment
- Limiting construction activities during high wind periods to minimize dust generation
- Regularly applying water or dust suppressants to unpaved areas
- Covering materials stockpiles

Regarding vehicle emissions, the traffic analysis found that the maximum delay at the Airline/Williams Road intersection would decrease by approximately 297 seconds per vehicle with construction of a roundabout as part of the Proposed Action.[27] The decreased vehicle idling times under the Proposed Action would be anticipated to benefit air quality in comparison to the No-action Alternative.

4.3 BIOLOGICAL RESOURCES

4.3.1 Terrestrial Communities

As indicated in **Table 4-3** and based on the construction areas identified in **Figure 4-1,** it is anticipated that all but approximately 0.4 acre of the area to be impacted by the Proposed Action consists of Maintained/Disturbed land that has been impacted by previous development of the Airport and Williams Road. The undisturbed approximately 0.4 acre consists of Cypress-Gum Swamp (including Wetland WA), which is not a unique terrestrial community. In that the area to

[27] *Three Oaks Engineering, WBS #50363 Traffic Analysis Technical Memorandum, Tables 2 and 3, pp. 8-9.*

be impacted by the Proposed Action is primarily maintained or previously disturbed, no significant impacts to terrestrial communities are anticipated.

TABLE 4-3: TERRESTRIAL COMMUNITIES WITHIN CONSTRUCTION FOOTPRINT

COMMUNITY	DOMINANT SPECIES (*Scientific name*)	IMPACTS (ac.)
Cypress-Gum Swamp (Blackwater Subtype)	Bald cypress (*Taxodium distichum*) Water oak (*Quercus nigra*) Green ash (*Fraxinus caroliniana*)	0.4
Maintained/Disturbed	Wax myrtle (*Morella cerifera*) Red Maple (*Acer rubrum*) Silky dogwood (*Cornus amomum*)	28.2
Open Water	N/A	0
	TOTAL	**28.6**

SOURCE: Three Oaks Engineering, WBS No. 50363 Natural Resources Technical Report 2023; quantification by Parrish and Partners, 2024.

4.3.2 Wildlife

Although the maintained grassed areas and natural areas within the construction footprint of the Proposed Action do provide habitat for some species, these areas would not be considered unique or significant in their contribution to wildlife habitat. In addition, the representative species of birds and mammals on site will tolerate human encroachment due to adequate food, water, and cover supply located in the vicinity of the study area.

In accordance with 14 CFR §139.337, Wildlife Hazard Management, wildlife are potential hazards to aviation and are managed on Airport property through regular maintenance, such as mowing, as well as specialized management actions for wildlife removal. Due to the areas within the proposed construction footprint providing relatively common habitat and being less desirable for wildlife based on routine airport maintenance, potential wildlife impacts associated with the Proposed Action would not be significant.

Additionally, no municipal solid waste landfills are located within five statute miles of EWN. Mitigation for anticipated impacts to waters of the U.S. under the Proposed Action (refer to **Section 4.14.1**), would likely consist of Permittee Responsible Mitigation, purchase of credits from a mitigation bank, or other off-site mitigation. Therefore, the Proposed Action would not be expected to create or add to any wildlife attractants on the Airport, in compliance with FAA AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*.

4.3.3 Protected Species

Endangered Species Act

As indicated in **Table 4-4**, the Biological Conclusion for all listed species is No Effect or Not Required, with the exception of two bat species, the Northern long-eared bat (NLEB) and tricolored bat.

TABLE 4-4: ESA FEDERALLY PROTECTED SPECIES LISTED FOR CRAVEN COUNTY

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	HABITAT PRESENT	BIOLOGICAL CONCLUSION
Alligator mississippiensis	American alligator	SAT	Yes	Not Required
Acipenser oxyrinchus oxyrinchus	Atlantic sturgeon	E	No	No Effect
Laterallus jamaicensis ssp. jamaicensis	Eastern black rail	T	No	No Effect
Chelonia mydas	green sea turtle	T	No	No Effect
Dermochelys coriacea	leatherback sea turtle	E	No	No Effect
Myotis septentrionalis	Northern long-eared bat	E	Yes	MA-LAA
Picoides borealis	red-cockaded woodpecker	E	No	No Effect
Calidris canutus rufa	red knot	T	No	No Effect
Lysimachia asperulifolia	rough-leaved loosestrife	E	Yes	No Effect
Acipenser brevirostrum	shortnose sturgeon	E	No	No Effect
Perimyotis subflavus	tricolored bat	PE	Yes	Unresolved
Trichechus manatus	West Indian manatee	T	No	No Effect

Source: Three Oaks Engineering, 2023.
Notes: T – Threatened, E – Endangered, MA-NLAA - May Affect – Not Likely to Adversely Affect

The USFWS has issued a Programmatic Biological Opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the USACE, and NCDOT for the NLEB in eastern North Carolina. The programmatic determination for NLEB for the NCDOT program is **May Affect, Likely to Adversely Affect**. The Proposed Action is in Craven County, which is one of the 30 counties within NCDOT Division 1-8 where NLEB is found. The PBO will ensure compliance with Section 7 of the ESA for ten years (effective through December 31, 2030).

On September 14, 2022, the USFWS announced a proposal to list the tricolored bat as Endangered under the ESA. The tricolored bat has yet to be officially listed, however, given the proposed status, NCDOT and its federal partners, the FHWA and USACE, are initiating a conference programmatic consultation to address impacts to this species.

Bald and Golden Eagle Protection Act

Due to the absence of nearby known bald eagle occurrences, no impacts are anticipated.

Migratory Bird Treaty Act

Although several migratory birds potentially occurring in the vicinity of the project are listed in **Appendix F**, the Proposed Action would include minimal tree removal, the only structure removal would be the existing Scotts Creek culvert under Williams Road, and adjacent grassed areas are prevalent, so disruption of migratory bird nesting, breeding, or feeding would be anticipated to be minimal.

Magnunson-Stevens Fishery Conservation and Management Act

Due to absence of EFH within the study area, no impacts are anticipated.

4.3.4 Mitigation, Avoidance, or Minimization

Construction impacts would be minimized and appropriate Best Management Practices (BMPs) would be implemented, however, in the absence of potentially significant impacts, no mitigation measures are proposed.

4.4 CLIMATE

FAA Order 1050.1F determines the need for and establishes the extent of the GHG assessment required for airport-related actions and projects. The FAA has not established a significance threshold for climate and GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions. As no increase in aircraft operations is anticipated under the Proposed Action, it is also assumed that there would be no increase in GHG emissions compared to the No-action Alternative.

CEQ instructs Federal agencies to disclose a project's contribution to GHGs in a study area although the need to disclose such emissions for General Conformity purposes does not exist. Like the air quality criteria pollutant emissions analysis discussed in **Section 4.2**, the GHG emissions inventories were prepared for construction activities related to the Proposed Action (refer to **Table 4-5** and **Appendix E)**.

TABLE 4-5: PROPOSED ACTION CONSTRUCTION GHG EMISSIONS INVENTORY (METRIC TONS)

PROJECT COMPONENT	CO_2	CH_4	N_2O	TOTAL CO_2e
Airport Perimeter Road	1,118.44	0.009	0.05	1,132.14
Runway Blast Pad	961.69	0.008	0.04	973.24
Runway Extensions	906.01	0.007	0.04	917.03
Runway Safety Area	1,177.64	0.007	0.05	1,193.05
Taxiway Connectors	1,054.47	0.008	0.04	1,067.68
Williams Road Relocation	1,118.72	0.009	0.04	1,132.28
TOTAL	**6,336.97**	**0.047**	**0.26**	**6,515.43**

Source: Environmental Science Associates, 2024.
Notes: CO_2 = carbon dioxide (GWP = 1), CH_4=methane (GWP = 25), N_2O = nitrous oxide (GWP = 298), Totals may not add due to rounding; Total CO_2e calculated by multiplying metric tons of GHG by GWP value.

As with the criteria air pollutants, emission factors for CO_2, CH_4, and N_2O were determined. Mass emissions of GHGs are accounted for by converting emissions of specific pollutants to metric tons of CO_2 equivalent (CO_2e) by applying the proper global warming potential (GWP) value for each specific pollutant. GWP represents the amount of heat captured by a mass of a specific GHG compared to a similar mass of CO_2, which is considered the reference gas and always has a GWP of 1. The GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC).[28] By applying the GWP ratios, project related CO_2e emissions were tabulated in metric tons per year. As indicated in **Table 4-5**, the project related CO_2e emissions are very similar to the reference CO_2 emissions (only 178.46 metric tons greater).

4.4.1 Mitigation, Avoidance, or Minimization

There are no significance thresholds established for aviation GHG emissions, and the FAA has not identified specific factors to consider in making a significance determination for GHG emissions, especially as it may be applied to a particular project. Due to the negligible increase in GHG emissions associated with construction of the Proposed Action, there would be little, if any, increase in vulnerability to future climate impacts from the implementation of the Proposed Action (refer to **Appendix E**).

4.5 COASTAL RESOURCES

As indicated in **Table 3-1**, no CBRS units exist within the study area; there would be no impacts.

[28] *IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, p.87.*

Within the study area, NCDEQ-DCM has indicated that the segment of Scotts Creek to the existing culvert crossing under Williams Road would be considered an AEC as a Public Trust Area. Due to fill associated with the proposed RSA extension, approximately 278 feet of piping impacts are anticipated to this segment of Scotts Creek, downstream of the existing Williams Road culvert (refer to **Figure 4-1**). Based on DCM input (refer to **Appendix D**), it is anticipated that the Proposed Action will require a CAMA Permit, which would be circulated to the state agencies that comprise North Carolina's Coastal Management Program. This process also includes a consistency review by the DCM District Planner to ensure that the project is consistent with all certified CAMA land use plans that are in effect at the time of permit decision.

4.5.1 Mitigation, Avoidance, or Minimization

By incorporating an approximately 91-foot-long bridge into the relocated Williams Road design, the Preferred Action avoids impacts to the higher quality section of Scotts Creek located within the Cypress-Gum Swamp wetlands to the north (refer to **Figure 3-2**). As indicated in the NRTR (refer to **Appendix F,** Figure 4), the approximately 278-foot AEC segment of Scotts Creek to be piped under the future RSA is located immediately adjacent to Williams Road and is one of two sections within the study area identified as "degraded" due to prior clearing and channelization. Additional efforts to avoid and minimize impacts will be evaluated during future design phases.

4.6 DEPARTMENT OF TRANSPORTATION ACT SECTION 4(f)

No publicly owned parks, recreation areas, or wildlife/waterfowl refuges are located within the study area. Related to nearby improvements to the US 70 Corridor, the Meadows Cemetery (Site CV2783) was identified as eligible for listing on the NRHP, qualifying it for consideration as a Section 4(f) resource. Construction and operation of the Proposed Action would occur almost entirely on Airport property and would not require the physical use (direct impact) of any Section 4(f) resource.

Additional consideration was given to potential indirect impacts to the Meadows Cemetery, specifically regarding potential noise impacts. The following conclusions were drawn:

- Cemeteries are not identified as a noise sensitive land use per 14 CFR Part 150 guidelines[29]
- Grid point noise analysis indicates that there are no significant noise exposure increases (1.5 dB or more within the 65 DNL contour) outside of the Airport property boundary

[29] *FAA Order 1050.1F, Chapter 11, Noise, Exhibit 11-3, p. 11-20, https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/11-noise.pdf (August 11, 2024).*

- Although per FAA Order 1050.1F, 14 CFR Part 150 guidelines "may not be sufficient to determine the impact of noise on historic properties where a quiet setting is a generally recognized purpose and attribute (i.e., where it has been determined to be a contributing factor to the property's historic significance);"[30] a quiet setting is not a contributing factor to Meadows Cemetery's historic significance, nor is it relevant to the current noise environment, which includes background noise from the nearby US 70 traffic and commercial area to the east and an active NC/NS rail line immediately to the west.

Accordingly, it has been determined that the Proposed Action would have no effect on Meadows Cemetery.

4.6.1 Mitigation, Avoidance, or Minimization

Because the Proposed Action would not cause direct or indirect impacts to Section 4(f) resources, no mitigation is proposed.

4.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Although the FAA has not established a significance threshold for hazardous materials, solid waste, and pollution prevention, factors to be considered include:

- applicable laws addressing hazardous wastes or materials
- property on or eligible for the National Priorities List (NPL)
- if the Proposed Action would generate a different quantity or type of hazardous waste or solid waste, or would use a different method of collection/disposal that would exceed local capacity
- unresolved issues regarding hazardous materials[31]

The Proposed Action would not affect current and planned use or storage of hazardous materials at EWN. Additionally, the Proposed Action would not affect any property on or eligible for the NPL or any potentially hazardous materials site identified within the study area, nor would it violate applicable laws addressing hazardous wastes or materials. Although approximately 0.03 acre of ROW acquisition is anticipated in the vicinity of Site No. 6 (refer to **Figures 2-2 and 3-4)**, no property would be needed from the parcel of concern.

Construction of the Proposed Action would temporarily increase on-site hazardous material storage, such as diesel fuel for the operation of construction equipment and would result in a short-term increase in the quantity of solid waste generated at EWN. As indicated in **Section**

[30] *Ibid, p. 11-7 and 11-8.*
[31] *FAA, Order 1050.1F, Chapter 4, Exhibit 4-1, Significance Determination for FAA Actions, p. 4-7.*

3.7.2, the Tuscarora Landfill is located approximately 14 miles northwest of EWN and has sufficient capacity to accommodate construction and demolition debris and municipal solid waste generated during construction of the Proposed Action. The selected construction contractor would be responsible for disposing of any waste in accordance with all federal, state, and local rules and regulations. The predominant construction debris would be associated with removal of a section of existing Williams Road. As requested by the USEPA Region 4 (refer to **Appendix D**), efforts to repurpose recyclable materials (e.g. concrete and asphalt) on-site, will be encouraged.

If contaminated soils are discovered during construction of the Proposed Action, then the selected construction contractor would immediately notify NCDEQ Washington Regional Office. Following notification of the NCDEQ, petroleum contaminated soils are to be handled in accordance with all applicable regulations. Also, if hazardous materials are encountered at any time during the construction phase, all work would cease and actions per North Carolina Solid Waste Management regulations [15A North Carolina Administrative Code (NCAC) 13] would be followed.

4.7.1 Mitigation, Avoidance, or Minimization

Although no significant impacts are anticipated, implemented BMPs related to hazardous materials, solid waste, and pollution prevention could include:

- Use of sustainable materials and practices for building construction and design
- Integration of pollution prevention techniques into the facility maintenance and operation, such as inventory control for centralized storage of hazardous materials
- Minimization of risks associated with attracting potential wildlife from landfills into or across approach or departure paths for aircraft by strict adherence to FAA AC 150/5200-33 guidelines

4.8 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

Although FAA Order 1050.1F does not provide a significance threshold for historical, architectural, archeological, and cultural resources, it does indicate that an adverse effect finding should be considered in evaluating the context and intensity of potential environmental impacts.

As indicated in **Section 3.8**, SHPO reviewed the proposed project in August 2023 pursuant to Section 106 of the NHPA and did not identify any historic resources that would be affected (**Appendix D**). Located within the study area, Meadows Cemetery (Site CV2783, refer to **Figure 3-5**) is eligible for listing on the NRHP.

Construction and operation of the Proposed Action would occur almost entirely on Airport property or existing NCDOT ROW (approximately 0.03 acre of ROW is anticipated at the tie-in of existing Williams Road and relocated Williams Road). The Proposed Action would not directly

impact, nor would it impair the historic integrity of the NRHP-eligible Meadows Cemetery. Based on additional evaluations of potential noise (indirect) impacts to the NRHP-eligible Meadows Cemetery (refer to **Section 4.6**), it has been determined that the Proposed Action would have no effect on Meadows Cemetery.

The Proposed Project would also not affect tribal land or land of interest to tribes, with responses being received from the Catawba Indian Nation and the Monacan Indian Nation (refer to **Appendix D**). Therefore, the Proposed Project would not directly or indirectly affect historic architectural, archaeological, and cultural resources.

If unforeseen cultural resources are discovered during construction, work would cease in the immediate vicinity of the resource and federal regulations pertaining to emergency discover situations would be followed. The FAA Memphis Airports District Office and the NC SHPO would be notified, and a qualified professional would evaluate the situation. Work would continue in the project area where no cultural resources are present.

4.8.1 Mitigation, Avoidance, or Minimization

Because the Proposed Action would not cause direct or indirect impacts to historic architectural, archaeological, or cultural resources, no mitigation is proposed.

4.9 LAND USE

As described in **Section 3.9**, the study area is in an unincorporated part of Craven County that is regulated by Coastal Carolina Regional Airport Land Use Zoning (refer to **Figure 3-5**). The Proposed Action is fully compatible with existing zoning. Only approximately 0.03-acre of additional property would be acquired for the Proposed Action, and there would be no business or residential relocations.

Another land use of note is the location of existing Williams Road approximately 800 feet from the end of pavement on the northern approach to Runway 4-22 (Runway 22 end). Under the Proposed Action, a full 1,000-foot RSA would be constructed, improving safety for airport users and nearby residents, and the Relocated Williams Road would be moved approximately 1,307 feet north of the Runway 22 end of pavement (an increase of over 500 feet). Although the NC/NS railroad prevents relocation of Williams Road outside of the RPZ, the increased distance between Runway 22 end of pavement and Relocated Williams Road enhances the safety of all users.

Per the *Craven County, North Carolina, Zoning and Height Control Ordinance*, zoning is currently in place to restrict the height of objects in the Airport approach zones,[32] properly ensuring that the property in the vicinity of the Airport is zoned and restricted to uses compatible with normal airport operations, in accordance with 49 U.S.C. §47107(a)(10).

Relative to relocated Williams Road, the proposed facility (two 12-foot travel lanes, 5-foot bike lanes, 3-foot paved shoulders, and open drainage) is consistent with the various facility recommendations in the Craven County Comprehensive Plan, including:

- Proposed Williams Road Relocation as Recommended per the Highway Map
- On-road bicycle facilities on Williams Road, which Need Improvement per the Bicycle Map
- Recommended pedestrian connection from Williams Road at the railroad across US 70 per the Pedestrian Map

Based on input from Craven County Planning staff, Williams Road is used by pedestrians and bicyclists seeking access from neighborhoods (such as the Myrtle Grove Mobile Home Park to the northwest or James City area to the north) to food and other services in the US 70 corridor to the northeast. However, with no existing pedestrian or bicycle facilities and no paved shoulder along Williams Road in the study area, foot traffic and bicyclists currently stay in the grassed shoulder adjacent to the curvy road. The Proposed Action would be consistent with the Craven County Comprehensive Transportation Plan and would greatly benefit pedestrian and bicycle safety and access in the vicinity of the project. By providing bike lanes and additional paved shoulders, the Proposed Action would provide connectivity to the US 70 Improvements, which include pedestrian friendly enhancements near the commercial area and sidewalks under US 70, reconnecting residential areas that were cut-off with the highway's original construction.

The Proposed Action would positively impact land use in the study area.

4.9.1 Mitigation, Avoidance, or Minimization

The Proposed Action would be consistent with the Craven County Comprehensive Plan, existing zoning districts, and land uses. As compared to the No-action Alternative, the greater distance from the Runway 22 end of pavement and Relocated Williams Road, as well as the proposed bike lanes and additional paved shoulders on Relocated Williams Road, would greatly benefit non-vehicular safety and connectivity in the vicinity of the project. As a result, no mitigation strategies for land use are proposed.

[32] Craven County, North Carolina Code of Ordinances, Chapter 41, Article III, Division 3, Coastal Carolina Regional Airport Zoning and Height Control Ordinance (https://library.municode.com/nc/craven_county/codes/code_of_ordinances), August 28, 2024.

4.10 NATURAL RESOURCES AND ENERGY SUPPLY

The Proposed Action would not result in an increase in the number of annual aircraft operations at EWN, and no significant increase in energy demand would be expected in comparison to the No-action Alternative. A gradual increase in annual operations is projected, growing from 60,170 operations at project implementation in 2027 to 77,584 operations in 2043. This anticipated increase in operations is due to normal growth and not attributed to the Proposed Action.

The proposed Runway 4-22 Improvement Program would increase the amount of usable runway length available for takeoff and landing and increase runway utility by allowing aircraft to take on more fuel or more passenger load/cargo. This could increase the amount of aviation fuel consumed and could result in slightly increased volumes of vehicular traffic to and from the Airport. The 173-foot runway extension would involve a slight increase in the amount of taxiway lighting. The anticipated increase in fuel and energy would not be significant and would not place a strain on the availability of resources for the surrounding area or Craven County.

Anticipated utility coordination associated with the Proposed Action could include:

- Relocation of City of New Bern overhead powerlines serving the GA area that are adjacent to existing Williams Road
- Coordination with the Craven County Water Department regarding a waterline providing service to the terminal area that is also adjacent to existing Williams Road
- Confirmation from City of New Bern that the 12-inch sewer force-main in the vicinity of the proposed Relocated Williams Road would not be impacted

A temporary increase of fossil fuel consumption would be anticipated during construction, but this would be minor in nature and would not measurably affect availability of fuel on a local or regional scale. In addition, consumable natural resources to be used for construction of the proposed project, such as aggregate or sub-base materials, would not be considered scarce or unusual. Sources of construction materials needed for the proposed project are available locally and regionally and would not cause an undue demand on supplies in the area.

The Proposed Action would not have a significant effect on natural resources or energy supply when compared to the No-action Alternative.

4.10.1 Mitigation, Avoidance, or Minimization

Opportunities to minimize use of consumable natural resources and demands on energy supplies or to incorporate sustainability measures will be considered during future design phases. The Airports Cooperative Research Program Synthesis 10, *Airport Sustainability Practices*, is one of

many resources recognized by FAA to assist in identifying sustainability measures that can be incorporated into project design to reduce environmental impacts. [33]

4.11 NOISE AND NOISE-COMPATIBLE LAND USE

Aircraft noise modeling completed for the Proposed Action includes both noise contours and grid point analyses (refer to **Appendix I**). Based on review by NCDOT Environmental Analysis Unit staff, the Proposed Action is not considered a Type I traffic noise project under current guidance and a traffic noise analysis is not required.[34]

As described in **Section 3.9**, based on the various model inputs (i.e., time of day, operational forecast, runway utilization, flight tracks, and aircraft fleet mix), cumulative noise exposure levels at all grid points are used to develop noise exposure contours for DNL 65, 70 and 75 dB. **Table 4-6** presents the acreages within the DNL contours for each scenario. The noise contours represent the 24-hour aircraft noise exposure to areas surrounding EWN on an average annual day. As shown, with the phasing out of the military Harrier jet operations that will occur in 2025 prior to project implementation (2027), the noise contours decrease in size significantly when compared to the Existing Conditions. The increase in the 2027 and 2032 Proposed Action noise exposure area when compared to the No Action Alternative in the same year, is a result of the proposed runway extension.

TABLE 4-6: DNL CONTOUR AREAS (ACRES)

	EXISTING CONDITIONS	FUTURE YEAR NO-ACTION		FUTURE YEAR PROPOSED ACTION	
NOISE CONTOUR	2023	2027	2032	2027	2032
DNL 65 or greater	641.9	249.3	251.1	261.7	263.6
DNL 70 or greater	244.5	111.4	112.0	117.7	118.4
DNL 75 or greater	103.2	35.8	35.5	38.8	38.5

Source: Environmental Science Associates, 2024.

A grid point analysis was also conducted for future years 2027 and 2032 to determine if any significant noise exposure increases (1.5 dB or more within the 65 DNL contour) or reportable noise exposure increases (3 dB or more within the 60 DNL contour or 5 dB or more within the 45 DNL contour) would result from the Proposed Action. The DNL 65-, 70-, and 75-dB contours and

[33] *FAA, Sustainability Resources, https://www.faa.gov/airports/environmental/sustainability (August 2, 2024).*

[34] *Email correspondence from Tracy Roberts, NCDOT Traffic and Air Quality Group Leader indicating that in accordance with 2021 NCDOT Traffic Noise Policy, the Proposed Action is not a Type I project due to: 1. No proposed highways on new location, 2. No proposed additional through-traffic lanes, 3. No substantial changes to the horizontal or vertical alignment of any roadways, and 4. No proposed auxiliary lanes at least 2,500 feet in length (August 7, 2024).*

grid point analysis for the 2027 and 2032 No Action and Proposed Action Alternatives are shown in **Figures 4-2 and 4-3**, respectively. It is noted that immediately off north of Runway 22, west of existing Williams Road, is where the 2027 and 2032 Proposed Action 65 DNL contours extend beyond the No Action contours. Additionally, the 2027 Proposed Action 65 DNL contour extends across the NC/NS railroad and onto Meadows Cemetery property.

Although the 2027 Proposed Action and 2032 No Action and Proposed Action 65 DNL contours extend onto Meadows Cemetery property, this is not considered a noise sensitive land use. The 2027 and 2032 Proposed Action and No Action Alternative 65 DNL contours do not otherwise extend outside the Airport property boundary, and as such no noise sensitive land uses are included within these contours. Based on the grid point analysis, there are no significant noise exposure increases outside of the Airport property boundary, and no reportable noise exposure increases anywhere as a result of the Proposed Action. Therefore, it is anticipated that there would be no significant noise-related impacts as a result of the Proposed Action.

1.1.1 Mitigation, Avoidance, or Minimization

As shown in Table 4-5, the phasing out operations by the military Harrier jet in 2025 will improve the noise environment at EWN and reduce the size of the noise contours. In comparison to the No-action Alternative, the Proposed Action would not result in significant noise or noise compatible land use impacts and no mitigation is required. As part of their ongoing community noise program, EWN has online instructions for the public to report noise concerns, with FAA managing commercial and private jet concerns and MCAS Cherry Point managing military aircraft noise concerns.

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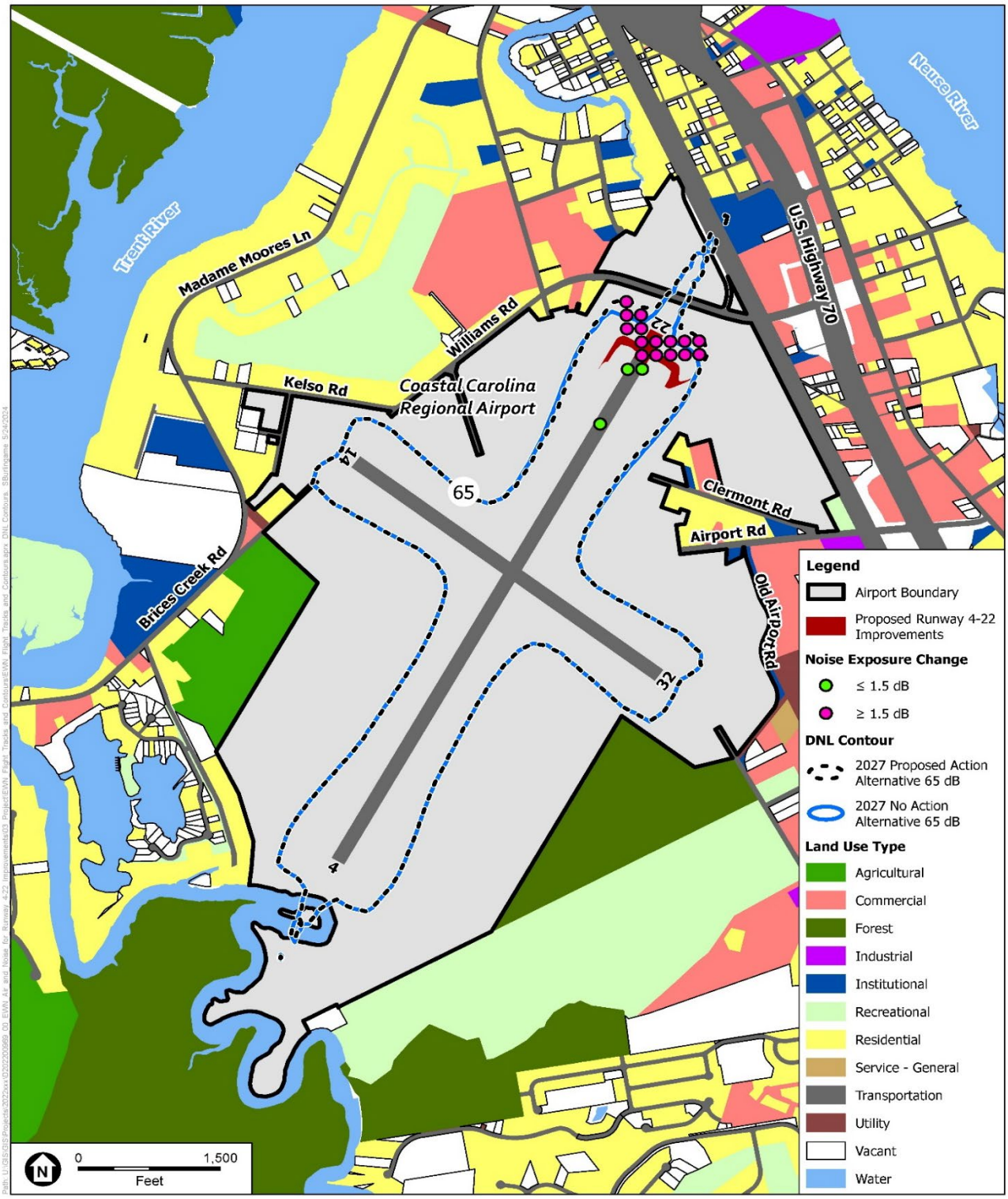
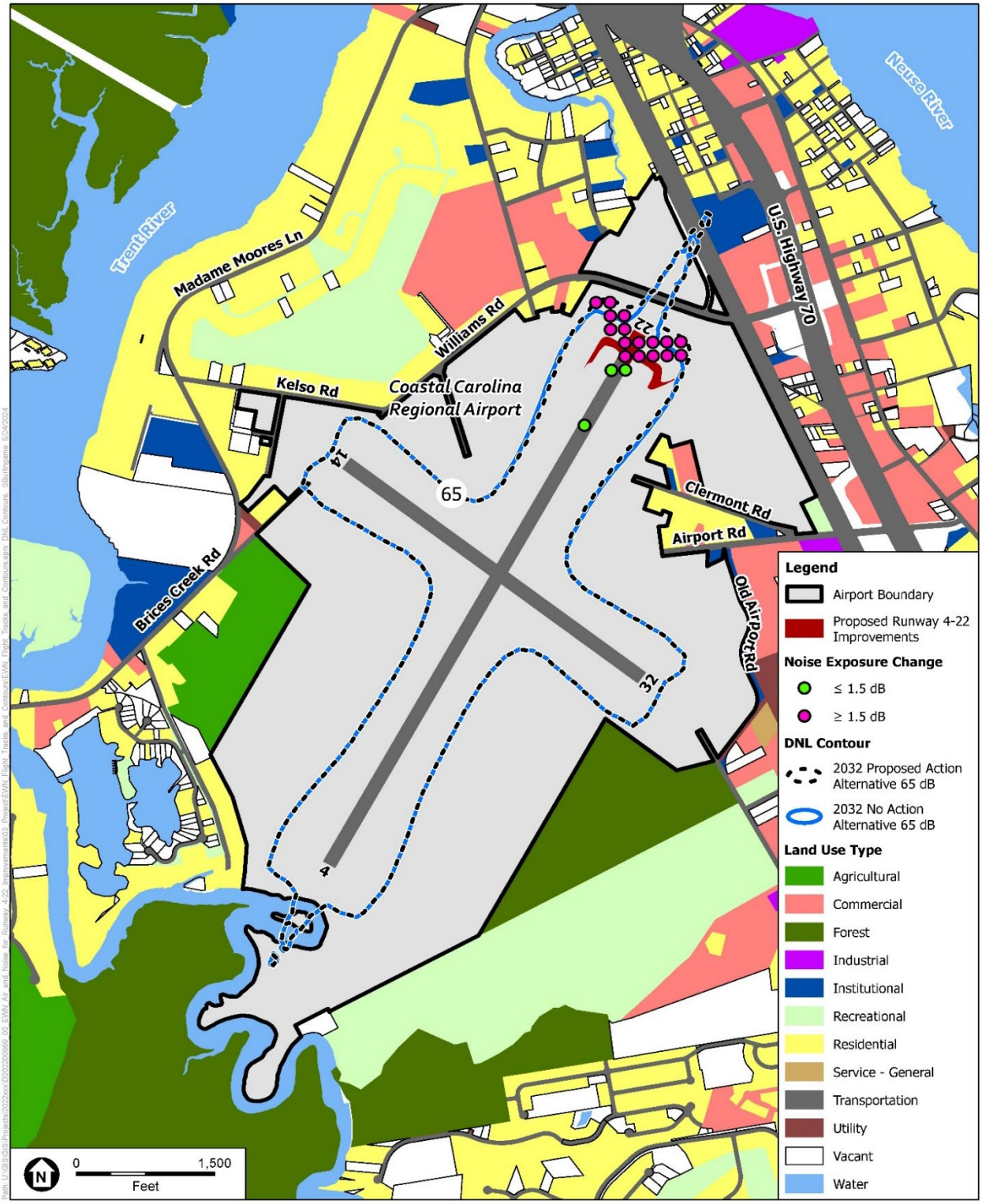
FIGURE 4-2: 2027 DNL CONTOURS AND GRID POINT ANALYSIS



Source: AEDT 3e: Craven County GIS Department, Adapted by ESA, 2024.

FIGURE 4-3: 2032 DNL CONTOURS AND GRID POINT ANALYSIS



Source: AEDT 3e: Craven County GIS Department, Adapted by ESA, 2024.

4.12 SOCIAL IMPACTS

The following resource categories were used to evaluate the social impacts associated with the No-action Alternative and the Proposed Action:

- Residential and business relocations
- Division or disruption of established communities
- Alteration of transportation patterns
- Disruption of planned development
- Discernible changes to employment

No discernible changes to employment are anticipated and there would be no residential or business relocations, nor would the Proposed Action result in relocations of community facilities, such as schools, churches, and/or medical facilities. The project would not divide established communities or disrupt planned development. The Proposed Action would be consistent with the Craven County Comprehensive Transportation Plan and would greatly benefit pedestrian and bicycle safety and access in the vicinity of the project. By providing bike lanes and additional paved shoulders, the Proposed Action would provide connectivity from neighborhoods to the north and northwest to food establishments and other services in the commercial area to the northeast, as well as to the bicycle and pedestrian facilities currently under construction as part of the US 70 Improvements project.

Approximately 0.03 acre of ROW acquisition would be necessary under the Proposed Action and would be done in accordance with the *Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970*, as amended (Uniform Act).

The proposed relocation of Williams Road (SR 1167) would result in slightly modified traffic patterns in the study area. The existing Williams Road is a two-lane roadway with a posted speed limit of 45 mph that is classified as a Minor Arterial and has an Annual Average Daily Traffic (AADT) of 7,100 vehicles. The proposed relocated Williams Road would include two 12-foot travel lanes, 5-foot bike lanes, 3-foot paved shoulders, and open drainage. The existing portion of Williams Road to be relocated is approximately 1,244 feet in length. It extends west from the intersection with Airline Drive and Scotts Street. As proposed, this intersection would be replaced with a single-lane roundabout and the relocated portion of Williams Road would be approximately 2,176 feet in length. The traffic analysis found that the maximum delay at the Airline/Williams Road intersection would decrease by approximately 297 seconds per vehicle with construction of a roundabout as part of the Proposed Action.[35] NCDOT has been heavily involved in the preliminary design of the project and has approved the functional designs and Preferred Alternative selection. Based on the volume of traffic utilizing the segment of Williams Road to be relocated, ongoing

[35] *Three Oaks Engineering, WBS #50363 Traffic Analysis Technical Memorandum, Tables 2 and 3, pp. 8-9.*

coordination with NCDOT, and the results of the traffic analysis, the Proposed Action would not result in significant alterations to existing transportation patterns and should improve traffic flow at the Airline/Williams Road intersection. Although the Proposed Action may increase the amount of surface traffic in the vicinity of EWN in the short-term during construction, these increases would not be anticipated to result in significant impacts to the AADT.

The local community would benefit from the improved safety and connectivity provided by the bike lanes and additional paved shoulders along Relocated Williams Road. These positive impacts would not occur under the No-action Alternative.

4.12.1 Direct, Indirect and Induced Socioeconomic Impacts

Socioeconomic impacts to communities are evaluated by determining if they would result in changes to business or economic activities, cause shifts in patterns of population movement and growth, or change demands for public services. Potential socioeconomic impacts associated with the No-action Alternative and Proposed Action are categorized as the following:

- Direct Impacts – expenditures directly related to the construction and development as well as operation of facilities at EWN;
- Indirect Impacts – expenditures or investments not directly tied to the airport operations or development, but related to the Airport in part; and,
- Induced Economic Impacts – expenditures realized as a result of successive rounds of spending and re-spending of direct and indirect investments, commonly referred to as the multiplier or "ripple" effect of spending.

The No-action Alternative would not have direct, indirect, or induced economic impacts related to construction; however, it would have expenditures related to the existing operations at the Airport. By not providing for improved safety at the Airport through construction of a 1,000-foot RSA, the No-action Alternative could result in negative socioeconomic impacts to the region and existing aircraft operators, including commercial airlines.

State and local tax revenues would increase due to construction at the Airport, given that a portion of the direct construction expenses for materials would be subject to state and local taxes. In addition, individual income taxes and indirect/induced spending of household income would provide additional tax revenues during construction.

The Proposed Action would produce direct short-term construction jobs. In addition, purchases of materials for construction of the Proposed Action would be a direct impact on the local economy. Indirect impacts would result in the re-spending of wages earned by construction employees working on the Proposed Action, as well as those workers who are at companies where materials are purchased for the Proposed Action. Ripple effects would occur when this

money is then re-spent on other goods and services within the local economy. Thus, it is anticipated that the Proposed Action would have a positive economic effect on the local area.

Overall, the economic benefits would be positive on a local and regional scale from the Proposed Action, above and beyond what is anticipated with the No-action Alternative.

Based on input from Craven County Planning staff, Williams Road is used by pedestrians and bicyclists seeking access from neighborhoods (such as the Myrtle Grove Mobile Home Park to the northwest or James City area to the north) to food and other services in the US 70 corridor to the northeast. However, with no existing pedestrian or bicycle facilities and no paved shoulder along Williams Road in the study area, foot traffic and bicyclists currently stay in the grassed shoulder adjacent to the curvy road. The Proposed Action would greatly benefit pedestrian and bicycle safety and access in the vicinity of the project. These benefits would not occur under the No-action Alternative.

4.12.2 Children's Environmental Health and Safety Risks

Per Executive Order 13045, federal projects should be evaluated to determine whether there would be impacts to the environmental health or safety of children. Although there are no schools within or in the vicinity of the study area, there are other structures where children may reside or visit that would be in close proximity to construction activities associated with the Proposed Action. The closest single-family residence is located approximately 80 feet north of existing Williams Road and the proposed tie-in with relocated Williams Road. Specifically, under Executive Order 13045, projects must be evaluated to determine if there would be products or substances released into the environment as a result of construction of the proposed project that would be touched or ingested by children. Grading and paving associated with the Proposed Action would be limited to existing airport property and NCDOT right-of-way. Although the construction limits would be located in close proximity to a small number of residential structures, the Proposed Action would not release any products or substances into the environment that would pose a significant risk to the health or safety of children. Equipment, materials stockpiles, and associated supplies needed for construction of the Proposed Action would be secured. No impacts to the environmental health or safety of children are anticipated to result from the Proposed Action.

4.12.3 Mitigation, Avoidance, or Minimization

Because the Proposed Action would not cause adverse or disproportionate impacts to socioeconomics or children's environmental health and safety risks, no mitigation is proposed.

4.13 VISUAL EFFECTS

The current visual environment at the Airport is consistent with transportation and light industrial land uses and features a commercial terminal building, hangars, parking lots, and other light industrial buildings and equipment. Within the study area, land use includes the existing Williams Road, adjacent scrub shrub wetlands and maintained grass fields, Scotts Creek, the airport fence, runway and taxiway pavements, lighting, and localizer, NC/NS railroad, nearby commercial development, mobile homes, and limited single-family residences. Changes to this viewshed would be minimal as the runway pavements would extend 173 feet north, and the extended RSA would be graded and grassed. Williams Road would be relocated north, closer to the railroad and the Airport fence would be extended. Minimal tree removal would be anticipated and would occur near the proposed bridge at the tie-in of the existing and relocated Williams Road to the north, and possibly within the railroad ROW. The Proposed Action would not detract from the visual character of the study area.

Surrounding commercial, residential, recreational, and industrial land uses utilize existing light sources that contribute to the overall nighttime visual environment, particularly to the north of Airport property. Under the Proposed Action, the relocated localizer, REILS, and threshold lights and slightly increased number of taxiway edge lights would not noticeably affect existing light emissions from the Airport. The Proposed Action would not result in a noticeable increase or change in light emissions, nor would it result in annoyance or interference with activities.

4.13.1 Mitigation, Avoidance, or Minimization

As compared to the No-action Alternative, the Proposed Action would not result in significant visual impacts and no mitigation is proposed.

4.14 WATER RESOURCES

A Natural Resources Technical Report (NRTR) was prepared for the project and is included in **Appendix F.**

4.14.1 Jurisdictional Waters of the U.S.

In accordance with the CWA and Executive Order 11990: *Protection of Wetlands*, potential impacts to wetlands and other jurisdictional waters of the United States were evaluated for the proposed project, as well as mitigation options to offset unavoidable impacts. The No-action Alternative would not impact any waters of the U.S. Based on the construction footprint for the Proposed Action, anticipated impacts include piping approximately 778 linear feet of streams (Scotts Creek) and 1.97 acres of wetland fill (refer to **Figures 3-7, 4-1** and **Table 4-7**).

TABLE 4-7: POTENTIAL IMPACTS TO WATERS OF THE U.S.

PROPOSED ACTION COMPONENT	IMPACTS
RSA Extension	
Perennial Streams (Scotts Creek) - *degraded*	778 linear feet
Riverine Swamp Forest (Wetland WC)- *degraded*	1.74 acres
Riverine Swamp Forest (Wetland WB)	0.08 acre
Williams Road Relocation	
Perennial Streams (Scotts Creek)	0
Riverine Swamp Forest (Wetland WA)	0.15 acre
TOTAL	
Streams	**778 linear feet**
Wetlands	**1.97 acre**

Source: Parrish and Partners, LLC

As noted in **Figure 3-7** and **Table 4-7**, the entire segment of Scotts Creek to be piped for extension of the RSA and the vast majority (1.74 acres, 88 percent) of wetlands to be impacted have been previously degraded by airport maintenance and construction of Williams Road. Based on the anticipated impacts to waters of the U.S., construction of the Proposed Action would likely require an Individual Permit under Section 404 of the CWA. In addition to Section 404 permit authorization, a Section 401 water quality certification, as administered by the NCDEQ-DWQ, will also be required prior to impacting wetlands and streams. Other required authorizations are anticipated to include a Coastal Zone Certification, CAMA permit, and state navigable waters permit. USACE comments regarding selection of the LEDPA and anticipated future authorization of the Proposed Action under Section 404 of the CWA are provided in **Appendix D**.

4.14.1.1 Mitigation, Avoidance, or Minimization

An objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Toward achievement of this goal, the CWA prohibits the discharge of dredged or fill material into wetlands, streams, and other waters of the United States unless a permit is issued by the USACE or approved State agency. In 1990, the USACE and the USEPA entered into a Memorandum of Agreement (MOA) for the determination of mitigation under the CWA Section 404 (b)(1) guidelines. The MOA established a three-part process, known as the "mitigation sequence," to help guide mitigation decisions and determine the type and level of mitigation required under CWA Section 404 regulations. The sequencing involves avoiding

impacts to waters of the U.S., minimizing impacts that are unavoidable, and compensating for the unavoidable adverse impacts that remain.

Practicable measures were implemented during planning and preliminary design of the Proposed Action to avoid wetlands and streams to the maximum extent possible. Based on input received from USACE and NCDEQ representatives at the September 27, 2023, NCDOT Division 2 Quarterly Project Review Meeting, a bridge was evaluated on the Alternative 1 alignment in order to minimize impacts to Scotts Creek. As design progressed on the Preferred Alternative, fill slopes were increased to further minimize wetland impacts. These design modifications resulted in a reduction in stream impacts of 444 linear feet, and 0.63 acre of wetland impacts. The addition of the bridge also allowed for avoidance of impacts to the higher quality section of Scotts Creek. As more detailed design is completed, additional efforts to minimize impacts to waters of the U.S. will be evaluated.

Construction activities would be confined to the permitted construction limits. Potential impacts to adjacent jurisdictional areas will be avoided by implementing sediment and erosion control measures. Other BMPs will be required by the contractor to ensure compliance with the policies of 23 CFR §650B. All temporary and permanent stormwater management techniques and permit requirements will be designed to ensure they are not in conflict with AC 5200-33B, *Hazardous Wildlife Attractants on or Near Airports*. If needed, permitting issues related to stormwater and wildlife attractants would be coordinated with the US Department of Agriculture, Animal and Plant Health Inspection Services, Wildlife Services office.

Unavoidable impacts to streams and wetlands would require compensatory mitigation. Review of the USACE Regulatory In-Lieu Fee and Bank Information Tracking System indicates that the project is in the Primary Service Area of two commercial mitigation banks with available riparian and non-riparian wetland credits (Brices Creek Wetland Mitigation Bank and RES Neu-Con Umbrella Bank-Martson), and within the Secondary Service Area of Turtle Creek Mitigation Bank, which has available warm water stream credits. In accordance with NC Session Law 2008-152, purchase of credits from the North Carolina Division of Mitigation Services (NCDMS) in-lieu fee program could also be considered if it is determined that mitigation banks serving Hydrologic Unit Code (HUC) 03020204 do not have sufficient credits available. This ensures that any new banks that come on-line prior to the permit application are investigated. Additionally, if necessary, Craven County owns multiple parcels adjacent to Scotts Creek, north of the proposed project that may provide opportunities to offset impacts through the design of Permittee Responsible Mitigation. EWN is committed to coordinating with the permitting agencies during future design phases to identify and provide appropriate mitigation to offset unavoidable impacts associated with the Proposed Action (refer to **Appendix K**).

4.14.2 Floodplains

As depicted in **Figure 4-1**, approximately 9 acres of the Zone AE floodplain associated with Scotts Creek fall within the Proposed Action construction footprint. Scotts Creek, which has no regulatory floodway, ties into a coastal study instead of a downstream riverine system. Per discussion with Craven County Planning Department staff, a No-Rise determination on Scotts Creek would not be required for the Proposed Action. However, achieving a No-Rise remains the design goal. To accomplish this, project impacts could not raise the water surface elevation in the Hydrologic Engineering Center's River Analysis System (HEC-RAS) model above the backwater elevation from the coastal study (9 feet AMSL). This backwater condition was evaluated by the design team, and it was determined that by creating a grassed swale between the extended RSA and the relocated Airport Perimeter Road/Williams Road (refer to **Figure 4-1**), the culvert carrying Scotts Creek under the RSA could provide sufficient stream flow with just two 8-foot-wide by 10-foot-tall barrels, instead of three. The swale was designed to provide a floodplain capacity equivalent to the third 8-foot-wide by 10-foot-tall barrel, with a 48-inch pipe near the Relocated Williams Road connection to Scott Street providing a direct northern outlet for receding floodwaters to reach Scotts Creek.

For this project, a Conditional Letter of Map Revision (CLOMR) is not anticipated as the design is anticipated to result in a "no-rise" condition along Scotts Creek. This design work will be finalized during future project phases.

4.14.3 Surface Waters

As indicated in **Section 3.13.3**, there are no designated 303(d) list of impaired waters, ORW, HQW, or Water Supply I or WS-I or WS-II water supply watersheds within the study area or within 1.0 mile downstream. Scotts Creek also has the supplemental classifications of tidal salt water with low velocity, dissolved oxygen, or pH and nutrient sensitive, which requires additional management due to excessive aquatic vegetation growth.

Impacted segments of Scotts Creek will also require evaluation of riparian buffer impacts. The Neuse River Riparian Buffer extends 50 feet landward from the edge of adjacent CAMA wetlands to Scotts Creek. The first 30 feet are to remain undisturbed, while the second 20 feet can consist of managed vegetation. Mitigation of impacts and authorization of the Proposed Action in accordance with the Neuse River Basin Riparian Buffer Protection Rules will be required through the NCDEQ, Division of Water Quality.

The Airport maintains an industrial stormwater sampling program and has an NPDES stormwater permit that is valid through June 2027. Stormwater runoff from the Airport drains to four drainage outfalls. It is anticipated that an additional 109,744 square feet of impervious surfaces would be added to the Airport with construction of the Proposed Action. These impervious surfaces

include the extended runway and blast pad, as well as the longer Airport Perimeter Road and Relocated Williams Road. Runoff is collected through a system of grass drainage ditches, drop inlets, and pipes, and in some cases directed to wet detention basins before being discharged downstream. Based on detailed future design, the existing stormwater drainage system would be modified as needed to handle the expected increase in stormwater runoff. Additional NPDES construction permitting through NCDEQ will be required to authorize the Proposed Action.

4.14.4 Groundwater

The Proposed Action would not affect groundwater. Although, as described above, there would be an increase in impervious surfaces within the study area (additional 109,744 square feet), the existing stormwater drainage system would be modified as needed to handle the expected increase in stormwater runoff.

The Proposed Action would not impact sole source aquifers or groundwater wells monitored by the Groundwater Management Branch.[36]

4.14.5 Mitigation, Avoidance, or Minimization

The Proposed Action would increase the amount of permanent impervious surfaces at EWN by approximately 109,744 square feet (2.5 acres), which would also cause an increase in the amount of stormwater discharge in the study area. Efforts to avoid and minimize impacts to water resources will continue through future detailed design phases. Mitigation will be coordinated through the USACE and NCDEQ to offset unavoidable impacts to jurisdictional waters of the U.S., CAMA AECs, and Neuse River Riparian Buffers associated with the Proposed Action.

Development projects in North Carolina that disturb one acre or more of land require a local- or state-approved erosion and sedimentation control plan, and an NPDES construction permit. Water quality impacts during construction would be minimized by implementation of the approved plan, which should include:

- Compliance with the terms of the construction permit
- Early re-vegetation of disturbed areas so as to minimize soil erosion
- Installation and maintenance of appropriate erosion control measures such as silt fencing, straw bales, and biodegradable mats
- The use of sediment basins and traps, slope drains, and surface, subsurface and cross drains, designed as appropriate or needed, so that discharge would occur in locations and in such a manner that impacts to surface and subsurface water quality would be avoided and minimized

[36] *NC Division of Water Resources, Groundwater Levels & Quality, https://www.ncwater.org/?page=343*

- The dumping of chemicals, fuels, lubricants, bitumen, raw sewages, other harmful waste into or alongside streams or impoundments, or into natural or man-made channels should be avoided

4.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

This section evaluates potential "impacts on or losses to resources that cannot be recovered or reversed."[37] Natural and human-made resources to be expended and the permanent loss of various biological resources are considerations to be included in this analysis. The potential for irreversible and irretrievable losses were considered relative to each resource category evaluated as part of this EA.

Irretrievable consumption of fossil fuel, both during construction and for ongoing aircraft operations, would be anticipated. Aircraft operations are projected to increase due to normal growth. Although this would result in an increase in fossil fuel consumption, the increase would not be significant and would occur under both the No-action Alternative and Proposed Action. A temporary increase of fossil fuel consumption would also be anticipated during construction of the Proposed Action.

Construction of the Proposed Action would result in the irretrievable loss of 1.97 acres of riverine swamp forest wetlands. These fill impacts would be associated with critical safety improvements at EWN involving the extension of the Runway 22 RSA (1.82-acre impact) and the associated relocation of Williams Road (0.15-acre impact). Piping of approximately 778 linear feet of Scotts Creek (perennial stream) at two crossings would provide for continued flow under the extended Runway 22 RSA and relocated Airport Perimeter Road, to the confluences of Scotts Creek and the Neuse River to the north.

[37] FAA, 1050.1F Desk Reference, Chapter 16, Irreversible and Irretrievable Commitment of Resources, p. 16-1.

CHAPTER 5: AGENCY COORDINATION AND PUBLIC INVOLVEMENT

5.1 AGENCY COORDINATION

Early and continued involvement with federal, state, and local agencies is an essential part of the project development process.

5.1.1 Project Scoping

As part of the scoping process, the following agencies and organizations received the Letter of Intent (LOI) regarding the proposed project:

FEDERAL

- National Oceanic and Atmospheric Administration
- U.S. Army Corps of Engineers (USACE), Wilmington District
- U.S. Department of U.S. Fish and Wildlife Service (USFWS)
- U.S. Department of Agriculture, US Forest Service (USFS)
- U.S. Environmental Protection Agency (USEPA)

STATE

- N.C. Department of Environmental Quality (NCDEQ)
- N.C. Department of Natural and Cultural Resources, State Historic Preservation Office (SHPO)
- N.C. Department of Transportation (NCDOT), Transportation Planning Branch
- N.C. DEQ Division of Coastal Management (DCM)
- N.C. DEQ Division of Water Resources (DWR)
- N.C. Division of Parks and Recreation
- N.C. Wildlife Resources Commission (NCWRC), Habitat Conservation Program

REGION

- City of New Bern Government
- Craven County NC Government
- Craven County Schools
- New Bern Area Metropolitan Planning Organization (NBAMPO)

The scoping letter provided information about the project and gave agencies an opportunity to comment on the proposed improvements at EWN. Agency comment letters that were received in response to the scoping letter are summarized below, addressed in this EA, and included in **Appendix D**.

Based on the USEPA's preliminary review, the following comments were provided:

- Implementation of best management practices during and after construction to minimize stormwater impacts on the streams to the east of the project area is encouraged
- A stormwater permit may be needed as the proposed project will disturb a considerable amount of soil
- The EA should include a detailed explanation of stormwater management to accommodate major storm events and changes in rainfall
- USEPA also requires explaining the potential impacts on the water quality of the waterbodies near the project area and identifying and discussing linear stormwater best management practices that will be implemented to prevent runoff from construction activities.
- Efforts should be made to divert recyclable materials such as concrete, steel, and asphalt away from landfills and repurpose the material instead
- future communication regarding NEPA documents should be electronic from a downloadable web link or email and at least one hard copy of the Draft and/or Final NEPA documents be provided.

The North Carolina DEQ, DCM indicated that there are Public Trust Areas and Public Trust Shorelines AEC's within the project area at Scotts Creek, and at an unnamed tributary to Scotts Creek. If development is proposed in a CAMA AEC, then a CAMA Permit will be required. This process also includes a consistency review by the DCM District Planner to ensure that the project is consistent with all certified CAMA land use plans that are in effect at the time of permit decision. The consideration and incorporation of the comments received from all parties into the final project design will help to expedite the CAMA permit application review.

The North Carolina Wildlife Resources Commission, Habitat Conservation Program noted no specific concerns related to this project; however, to help facilitate document preparation and the review process the following general informational needs are requested:

- Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species.
- Potential borrow areas to be used for project construction should be included in the inventories.
- Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.

- Cover type maps showing wildlife habitat and wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction.
- The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).
- Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.
- A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the improved road access.

The Craven County Emergency Services requested that the project's alternate road access to the community be established before the closure of Williams Road. It is also noted that a detour would have a high impact on 911 responses.

The U.S. Department of Agriculture, USFS indicated that although the Airport abuts USFS lands on the Croatan National Forest to the southwest, if all work stays to the northeast, the agency will not need to be consulted.

The agencies listed below have reviewed the proposed project and have indicated that they have no additional comments or concerns at this time:

- North Carolina Department of Natural and Cultural Resources, SHPO
- North Carolina DEQ, DWR
- USEPA Region 4 Wetlands and Stream Regulatory Section

5.1.2 NCDOT Alternatives Review

NCDOT Division 2 meets quarterly with key agencies (NCDEQ and USACE) to discuss ongoing project's status and any potential challenges.

At the January 24, 2024, Quarterly Agency Meeting, NCDOT shared the 4 proposed alternatives to USACE (Tom Steffens) and NCDEQ (Garcy Ward, Stephen Lane, and Cathy Brittingham) for initial review and comments. The group also took this time to discuss the best procurement method for this project based on funding type. NCDOT followed up with the agencies following the meeting to provide them maps and associated impacts with each proposed alternative and gave two weeks for review and comment.

NCDEQ (Stephen Lane and Garcy Ward) responded on February 19, 2024, stating that it appears that Alternatives 1 and 4 would have significantly less impacts to environmental and human resources as compared to Alternatives 2 and 3 and, therefore, recommended that Alternatives 2 and 3 be eliminated for further study. Additionally, NCDEQ noted that Alternative 4 has less

impact to streams and wetlands than Alternative 1, for relatively minor cost differences and would also require less mitigation than Alternative 1. Overall, NCDEQ suggested that NCDOT look very seriously at Alternative 4 as the possible Least Environmentally Damaging Practicable Alternative (LEDPA) moving forward. USACE comments regarding selection of the LEDPA and anticipated future authorization of the Proposed Action under Section 404 of the CWA are provided in **Appendix D**.

At the April 22, 2024, meeting, NCDOT primarily discussed ongoing coordination internally for project procurement with the agencies. The meeting on August 12, 2024, was cancelled due to severe weather. Additional project coordination meetings between NCDOT, USACE and NCDEQ were held on November 19, 2024, and March 27, 2025.

5.1.3 Tribal Coordination

Coordination letters were sent out to the appropriate Federally recognized tribes on May 21, 2024. Responses were received from the Catawba Indian Nation and Monacan Indian Nation (refer to **Appendix D**). The project is located outside the ancestral territory of the Monacan Indian Nation and the Catawba have no immediate concerns regarding traditional cultural properties, sacred sites, or Native American archaeological sites within the study area.

5.2 PUBLIC INVOLVEMENT

The public will be provided with a 45-day timeframe during which they'll have the opportunity to review and comment on the Draft EA. Notice of the availability of the Draft EA and the date of the Public Meeting will be advertised in the *New Bern Sun Journal* newspaper. Postcards will also be mailed to nearby residents, informing them where the document is available for review and the location, date and time of the public meeting. The Draft EA will also be made available for review in hard-copy form at the Airport and electronically on their website. The Proposed Action is not expected to result in public controversy as it would not cause an increase in the number of annual aircraft operations at EWN in comparison to the No-action Alternative but would enhance airfield safety, would require only 0.03 acre of ROW acquisition, and is also the LEDPA. Thus, a public hearing is not anticipated.

CHAPTER 6: LIST OF PREPARERS

6.1 FEDERAL AVIATION ADMINISTRATION, MEMPHIS AIRPORTS DISTRICT OFFICE

Lopa Naik, P.E., Environmental Protection Specialist, project point of contact responsible for review and approval of the EA, Noise Analysis, and Purpose & Need/Alternatives Tech Memo

Jamal Stovall, Team Lead/Community Planner, responsible for review and approval of updated activity forecasts.

6.2 NORTH CAROLINA DEPARTMENT OF TRANSPORATION

Allison McAuliffe, P.E., Project Manager, responsible for project oversight, including team coordination calls, presentation of the project alternatives to the environmental agencies, coordination with the NC Division of Aviation, and review of the EA and associated reports.

Tracy Roberts, AICP, Traffic Noise & Air Quality Group Leader, responsible for review of potential air and noise impacts associated with the relocation of Williams Road.

Phillip Harris, III, P.E., CPM, Division Engineer, responsible for review of NRTR and coordination of PJD request package with USACE.

6.3 COASTAL CAROLINA REGIONAL AIRPORT

Andrew Shorter, C.M., Airport Director, provided input and Airport information throughout the project, participated in team coordination calls, and was responsible for review of the EA and associated reports.

Patrick Manzo, A.C.E., Operations Manager, provided supporting operational data regarding Harrier jets for forecast update.

6.4 CRAVEN COUNTY

Dwayne Alligood, County Engineer, provided input on County data sources and planned development, participated in team coordination calls, and was responsible for review of the EA and associated reports.

6.5 PARRISH AND PARTNERS, LLC

Laura Stevens, AICP, Environmental Lead and principal author of the EA, responsible for land use survey, community characteristics site visit, public involvement, team and agency coordination.

Hillary Crawford, Senior Aviation Planner, responsible for preparation of updated forecasts of aviation activity and runway length justification, assistance with aviation functional designs, review of approach surfaces, community characteristics site visit and NCDOT demographic snapshot tool, public involvement, and formatting of document.

Makyah Savoy, Environmental Specialist, responsible for preparation of report graphics, community impact assessment, public involvement, review and summary of agency scoping comments, GIS analysis, and quantification of potential environmental impacts.

Garrett Eller, P.E., Project Engineer, responsible for roadway functional designs, team coordination, and public involvement.

Chris Mothershead, CADD Technician, assisted with Aviation functional designs.

Jon McCalmont, P.E., Deputy Aviation Director, responsible for review of Aviation functional designs and cost estimates.

Jennifer Martin, P.E., Senior Project Manager, responsible for client coordination, technical input, and coordination with NCDOT Integrated Mobility Division.

Weal Arafat, P.E., Senior Bridge Engineer, responsible for preliminary evaluation of proposed bridge over Scotts Creek.

Josh Hebbard, P.E., Project Engineer, responsible for initial roadway layouts and design.

Patrick Bollinger, Aviation Planner, assisted in preparation of updated forecasts of aviation activity and runway length justification.

Lauren Simonds, Marketing Coordinator, responsible for creation of document cover and various report graphics.

6.6 ENVIRONMENTAL SCIENCE ASSOCIATES

Dominic Scarano, Senior Aviation Noise and Air Quality Analyst, responsible for noise and air quality technical analysis, Noise Technical Report and Air Quality and Climate Technical Report preparation.

Tim Sturtz, PhD, Regional Air Quality Director, responsible for air quality technical analysis, Air Quality and Climate Technical Report preparation.

6.7 THREE OAKS ENGINEERING

Adam Efird, PWS, Natural Resources Lead, responsible for jurisdictional waters delineations, T&E surveys, NRTR preparation and review.

Mark Guerard, responsible for jurisdictional waters delineations, T&E surveys, NRTR preparation and review.

Byron Levan, responsible for jurisdictional waters delineations and T&E surveys

Annie Welch, responsible for jurisdictional waters delineations, T&E surveys, and NRTR preparation.

Nathan Howell, responsible for jurisdictional waters delineations and NRTR review.

Cary Rowells, responsible for GIS Mapping and MicroStation.