Home Basing of E-130J Phoenix II Aircraft At Marine Corps Air Station Cherry Point, North Carolina

E-130J Phoenix II Aircraft Artist Rendering

DRAFT ENVIRONMENTAL ASSESSMENT
April 2026

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DRAFT

ENVIRONMENTAL ASSESSMENT

For

Home Basing of E-130J Phoenix II Aircraft

At

Marine Corps Air Station Cherry Point, North Carolina

April 2026

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Abstract

Designation:	Environmental Assessment
Title of Proposed Action:	Home Basing of E-130J Phoenix II Aircraft
Project Location:	Marine Corps Air Station Cherry Point, North Carolina
Lead Agency for the EA:	Department of the Navy
Affected Region:	Craven County, North Carolina
Action Proponent:	United States Fleet Forces Command
Point of Contact:	Environmental Planning (EV21JB) Naval Facilities Engineering Systems Command Atlantic 6506 Hampton Boulevard Norfolk, VA 23508
Date:	April 2026

The Department of the Navy, through United States Fleet Forces Command, has prepared this Environmental Assessment in accordance with the National Environmental Policy Act, 42 United States Code section 4321 et seq., and Department of Defense National Environmental Policy Act Implementing Procedures. Under the Proposed Action, the Department of the Navy would home base and operate up to 11 E-130J Phoenix II aircraft (consisting of an operational squadron and a training squadron) at Marine Corps Air Station (MCAS) Cherry Point, North Carolina to support the Take Charge and Move Out mission. The Proposed Action includes the home basing and operation of E-130J Phoenix II aircraft, construction of all necessary facilities, including flightline campus structures, unaccompanied personnel housing, a Weapons School, and a Center for Aviation Technical Training. The Department of the Navy would station approximately 1,000 personnel, plus their family members, at MCAS Cherry Point. Construction would begin no earlier than fiscal year 2028. The phased arrival of aircraft and personnel, along with the commencement of flight operations, would occur between fiscal year 2029 and 2039 as construction and renovation is completed.

This Environmental Assessment evaluates the reasonably foreseeable environmental impacts associated with the Proposed Action and the No Action Alternative for the following resource areas: air quality, water resources, biological resources, transportation, and socioeconomics.

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Environmental Assessment
Home Basing of the E-130J Phoenix II Aircraft
at Marine Corps Air Station Cherry Point, North Carolina

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1 Purpose of and Need for the Proposed Action

1.1 Introduction

The Department of the Navy (DON), through United States (U.S.) Fleet Forces Command, has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), 42 United States Code (U.S.C.) section 4321 et seq., and consistent with Department of Defense (DoD) NEPA Implementing Procedures. Under the Proposed Action, the DON would home base and operate E-130J Phoenix II (Phoenix II) aircraft at Marine Corps Air Station (MCAS) Cherry Point, North Carolina (NC) to support the Take Charge and Move Out (TACAMO) mission. The Proposed Action includes the home basing and operation of up to 11 Phoenix II aircraft (consisting of an operational squadron and a training squadron) and construction of all necessary facilities, including flightline campus structures, unaccompanied personnel housing, a Weapons School, and Center for Naval Aviation Technical Training. The DON would station approximately 1,000 personnel, plus their family members, at MCAS Cherry Point. Construction would begin no earlier than fiscal year (FY)[1] 2028. The phased arrival of aircraft personnel, along with the commencement of flight operations, would occur between FY 2029 and 2039 as construction and renovation is completed. This action supports the DON's national defense requirements under 10 U.S.C. section 8062 by expanding capacity for the strategically important TACAMO mission.

1.2 Background

The TACAMO mission is a critical element of the United States' enduring strategic deterrence mission. Currently, the DON operates one Main Operating Base located at Tinker Air Force Base, Oklahoma, to support the TACAMO mission. The DON has determined a need to home base additional aircraft on the East Coast to enhance the resilience and survivability of this critical communication link. To execute this vital mission, the DON is acquiring Phoenix II aircraft (**Figure 1.2-1**). The Phoenix II uses four turboprop engines and will be a modified version of the C-130J-30 Super Hercules airframe.

Figure 1.2-1 E-130J Phoenix II Aircraft Artist Rendering

[1] Government fiscal year is October 1 to September 30

1.3 Location

The proposed location for home basing Phoenix II aircraft on the East Coast is MCAS Cherry Point, NC. MCAS Cherry Point is in Craven County, within the city of Havelock in eastern NC, approximately 20 miles southeast of New Bern and 17 miles northwest of Morehead City (**Figure 1.3-1**).

MCAS Cherry Point is the primary airfield for Marine Corps aviation on the East Coast. It is home to the 2nd Marine Aircraft Wing, the DON's Fleet Readiness Center East, and other tenant commands including Marine Aircraft Group 14 and Marine Air Control Group 28. MCAS Cherry Point provides individual and unit level air training, which supports the II Marine Expeditionary Force, Marine Air-Ground Task Force, Marine Expeditionary Unit, and Marine Expeditionary Brigade. MCAS Cherry Point currently has a variety of assigned aircraft including F-35B, F-35C, C-130, and MQ-9. Transient aircraft include fighter aircraft, jets, turboprops (both heavy and light), helicopters (heavy and light), and tiltrotors.

1.4 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to establish a home base for Phoenix II aircraft on the East Coast and construct the necessary facilities to support the TACAMO mission.

The Proposed Action is needed to support the DON's national defense requirements under 10 U.S.C. section 8062[2]. Home basing the Phoenix II on the East Coast supports the DON's vital communications strategic deterrence mission.

1.5 Scope of Environmental Analysis

This EA includes an analysis of reasonably foreseeable environmental impacts associated with the Proposed Action and the No Action Alternative.

The environmental resource areas analyzed in detail in this EA include air quality, water resources, biological resources, transportation, and socioeconomics.

Reasonably foreseeable impacts to the following resource areas are negligible or non-existent, so they are not analyzed in detail but are summarized at the beginning of Chapter 3.0, *Affected Environment and Environmental Consequences*: airspace, cultural resources, geological resources, hazardous materials and wastes, infrastructure, land use, acoustic environment, public health and safety, and visual resources.

1.6 Key Documents

Key documents are sources of information incorporated into this EA. Documents are key because of similar actions, analyses, or impacts that may apply to this Proposed Action. Documents incorporated by reference in part or in whole include:

[2] 10 U.S.C. section 8062: "The Navy shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea. It is responsible for the preparation of naval forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Navy to meet the needs of war."

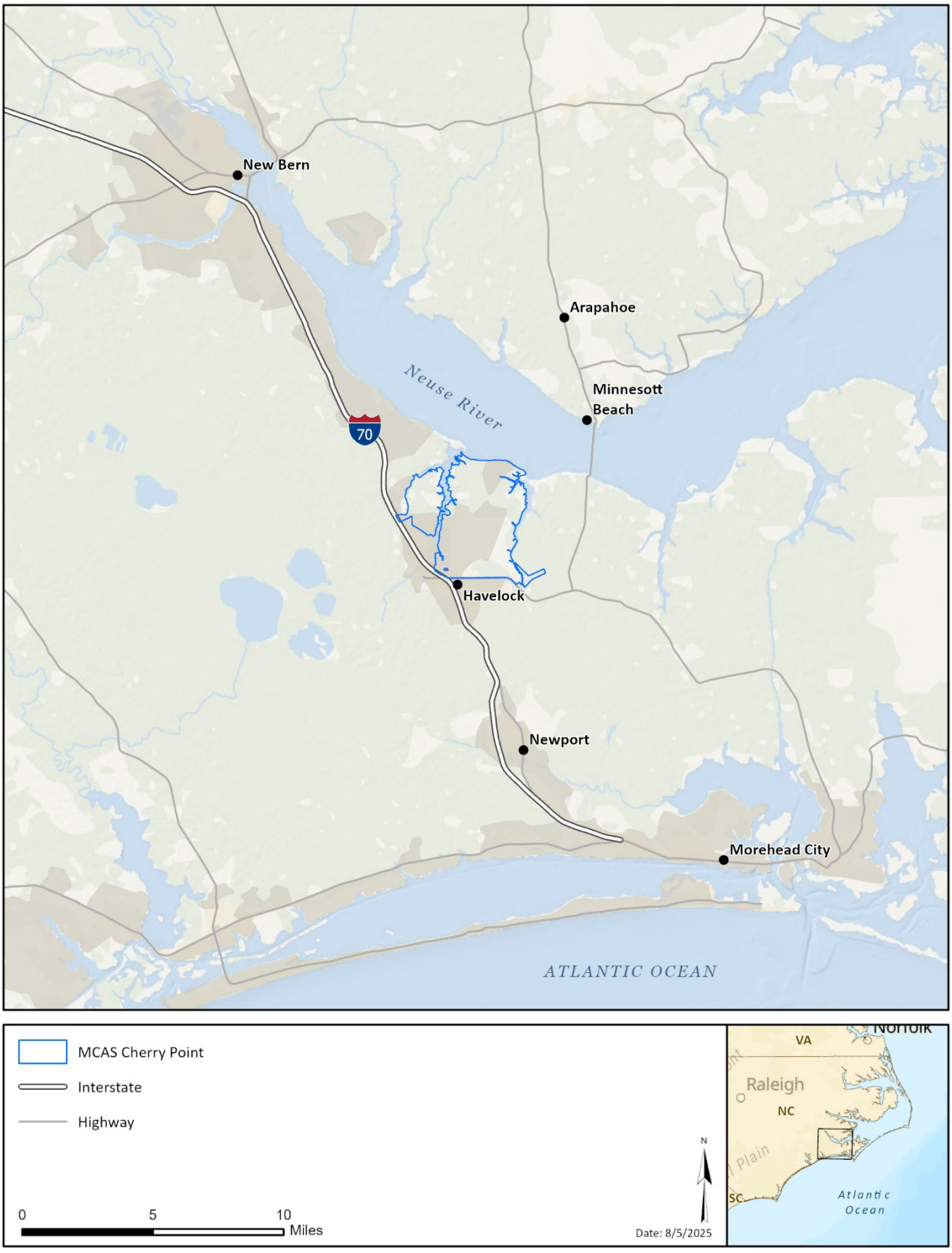

Figure 1.3-1 Location of MCAS Cherry Point

- **Final United States Marine Corps F-35B East Coast Basing Environmental Impact Statement (EIS) (October 2010) and Record of Decision (December 2010)**. This EIS evaluated the reasonably foreseeable environmental impacts of home basing 11 operational F-35Bsquadrons on the East Coast, including at MCAS Cherry Point, NC, and MCAS Beaufort, South Carolina. The phased arrival of aircraft and personnel with the full complement of squadrons was planned to be in place by approximately 2030. The Record of Decision announced the decision to proceed with the Preferred Alternative, which included the establishment of eight operational squadrons at MCAS Cherry Point.
- **Integrated Natural Resources Management Plan for Marine Corps Air Station Cherry Point (April 2024).** This management plan provides guidance regarding long-term planning of the natural resources of MCAS Cherry Point. It supports the military mission while protecting and enhancing natural resources in alignment with legal requirements and stewardship responsibilities. It was endorsed for approval by the DON, U.S. Fish and Wildlife Service (USFWS), North Carolina Wildlife Resources Commission, and National Marine Fisheries Service.
- **Marine Corps Air Station Cherry Point Air Installations Compatible Use Zones Study Update (April 2025).** This Air Installations Compatible Use Zone (AICUZ) Study Update re-evaluates noise exposure contours, accident potential zones, height obstruction criteria, and land use compatibility, and provides updated recommendations to local governments and zoning authorities for incorporation into community planning policies in order to minimize impacts to the surrounding community and ensure surrounding land uses do not impair the military mission. The AICUZ Study Update anticipated annual operations at MCAS Cherry Point would increase to approximately 50,000 by the year 2030. The number of flight operations at MCAS Cherry Point has decreased by over 50 percent in the past few decades since the last AICUZ (2001).
- **Integrated Cultural Resources Management Plan for Marine Corps Air Station Cherry Point (July 2025).** This management plan provides procedural guidance for identifying, evaluating, nominating, and managing historic properties located at MCAS Cherry Point. It supports the military mission while protecting and enhancing cultural resources in accordance with Sections 106 and 110 of the National Historic Preservation Act of 1966.

1.7 Public and Agency Participation and Intergovernmental Coordination

The DON coordinates with relevant federal, state, and local agencies and notifies them and the public of the Proposed Action. Input from the public and from regulatory agencies is incorporated into the analysis of reasonably foreseeable impacts, as appropriate.

1.7.1 Public Involvement

A Notice of Availability of the Draft EA, including information about where the Draft EA can be reviewed, and an announcement of a 30-day public comment period was published in the *New Bern Sun Journal* (see **Appendix C**). The Draft EA is available on the DON's website: https://www.nepa.navy.mil/E130JAtlantic and at four local libraries: New Bern – Craven County Public Library, Havelock – Craven County Public Library, Carteret County Public Library – Newport Branch, and Morehead City Library. The public is invited to submit comments on the Draft EA electronically via the project website, https://www.nepa.navy.mil/E130JAtlantic, and

in writing by mailing to: *E-130J Aircraft Home Basing EA Project Manager, Naval Facilities Engineering Systems Command Atlantic, Attn: Code EV21JB, 6506 Hampton Blvd, Norfolk, Virginia 23508.*

1.7.2 Interagency Coordination

The DON is coordinating or consulting with the following federal and state agencies regarding the Proposed Action: USFWS (**Appendix D**), U.S. Army Corps of Engineers (USACE), NC State Historic Preservation Officer (SHPO) (**Appendix E**), and NC Department of Environmental Quality (DEQ) Division of Coastal Management (**Appendix F**).

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2 Proposed Action and Alternatives

2.1 Proposed Action

The DON proposes to home base and operate the Phoenix II aircraft at MCAS Cherry Point, NC to support the TACAMO mission. The Proposed Action includes the home basing and operation of up to 11 Phoenix II aircraft (consisting of an operational squadron and a training squadron) and construction of all necessary facilities, including flightline campus structures, unaccompanied personnel housing, a Weapons School, and a Center for Naval Aviation Technical Training. Operations would include aircraft and aircrew training flights necessary to achieve and maintain mission readiness.

Under the Proposed Action, the DON would station approximately 1,000 personnel, plus their family members, at MCAS Cherry Point. Construction would begin no earlier than FY 2028. The phased arrival of aircraft and personnel, along with the commencement of flight operations, would occur between FY 2029 and 2039 as construction and renovation is completed.

2.2 Screening Factors

In developing a reasonable range of alternatives that are technically and economically feasible and meet the purpose of and need for the Proposed Action, the DON used a two-phased approach. The first phase applied screening factors to a nationwide search of potential installations to identify any reasonable alternative siting options. This screening process resulted in the identification of a single installation, MCAS Cherry Point, which met the screening criteria. The second phase then used on-base screening factors to identify potential siting alternatives within the installation.

2.2.1 Screening Factors for Alternative Installations

The following screening criteria were used to assess the technical and economic feasibility of alternative sites, and determine whether those alternative sites met the purpose of and need for the Proposed Action. An alternative was assessed to be unreasonable and eliminated from further consideration (as described in *Section 2.4.1*) if it failed to meet one or more of these criteria.

1. **Geographic Considerations**
   - The installation must be located on the East Coast of the continental U.S.
2. **Airfield and Operations**
   - The installation must be a military airfield to comply with operational and security requirements.
   - The installation's runways (8,000 feet required), ramps, and taxiways must support Phoenix II operations.
   - The installation must provide 24/7/365 airfield and air traffic control services without creating unacceptable manning gaps in critical ratings at other naval air stations.

3. **Operational and Logistical Synergy**
    - The alternative must maximize the use of existing infrastructure to avoid the significant cost and schedule impacts of duplicating complex facilities.
    - The alternative must allow for the effective management and synergy of aircraft maintenance equipment, simulators, and logistical support.
    - The alternative must allow for the effective use of personnel and equipment/capacity to provide intermediate level maintenance support for Phoenix II aircraft.
4. **Installation and Personnel Support**
    - The installation must have the capacity to support mission personnel and their families, including having sufficient existing services (e.g., sailor and family readiness, medical) and housing, or the ability to construct new facilities and expand services to the required levels within the mission's timeline.
    - The installation's utility network must have sufficient existing capacity or be reasonably expandable to meet the new and future requirements of the Phoenix II mission.

2.2.2 On-Base Screening Factors

Once MCAS Cherry Point was identified as the only installation that met the primary screening factors, the DON used the following on-base screening factors to identify reasonable siting alternatives for the proposed new campus and facilities.

- **Proximity and Mission Compatibility:** The location must have proximity to airfield runways and taxiways while avoiding conflicts with existing tenants, range safety arcs, and other high-activity operational areas.
- **Infrastructure and Cost:** The location must leverage existing infrastructure (e.g., utilities, roadways) to avoid prohibitive construction costs. It must also maximize the use of existing facilities for renovation where possible, such as for unaccompanied housing.
- **Environmental and Planning:** The location must avoid impacts to sensitive environmental resources, such as extensive wetlands, and be compatible with the installation's long-term development plans.

The two-phased screening and siting process ensured the DON first identified the only installation that qualified as a reasonable alternative and then determined the most operationally effective, cost-efficient, and environmentally suitable location within that installation for the Proposed Action. As further detailed in *Section 2.4.2*, the application of these on-base screening factors concluded that no other locations within MCAS Cherry Point were reasonable for siting the proposed campus and facilities.

2.3 Alternatives Carried Forward for Analysis

Based on the reasonable alternative screening factors, one Action Alternative was identified and will be analyzed within this EA.

2.3.1 No Action Alternative

The No Action Alternative would not meet the purpose of and need for the Proposed Action identified in *Section 1.4*. The No Action Alternative is used to analyze the consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for analysis. Under the No Action Alternative, the Proposed Action would not occur. The DON would not home base Phoenix II aircraft on the East Coast. Facility development and infrastructure upgrades necessary to home base Phoenix II aircraft would not occur, and mission personnel would not relocate to an East Coast home base.

2.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

The DON would home base and operate up to 11 Phoenix II aircraft for the TACAMO mission at MCAS Cherry Point, NC. This includes the operation of aircraft for training and readiness flights, and the stationing of approximately 1,000 personnel, plus their family members. To support the home basing action, maintenance, training, and support facilities would be constructed within a consolidated campus. The proposed location identified for the Phoenix II campus within MCAS Cherry Point is within the north quadrant of the airfield (**Figure 2.3-1**). Proposed unaccompanied enlisted housing would be constructed to accommodate incoming Phoenix II personnel west of the airfield near other existing on-base housing (**Figure 2.3-1**).

2.3.2.1 Required Infrastructure

Primary facilities that would be constructed under the Proposed Action at MCAS Cherry Point would include: hangar space for aircraft (with associated shop, administrative, and mission operations command and control spaces); aircraft parking apron; access aprons; taxiways; aircraft spares/storage; ground support equipment shops and holding sheds; operational trainer facility; unaccompanied housing; operational and tactical laydown areas; personal vehicle parking; sentry house; and gate house. In addition to this new construction, the Proposed Action also includes the renovation of existing buildings on the installation to provide unaccompanied housing and to house the Center for Naval Aviation Technical Training, which would be located outside the primary Phoenix II campus.

2.3.2.2 Supporting Infrastructure

The Proposed Action would require upgrading existing utility lines and pipes (i.e., stormwater, gas, water, sewer, and electric) along Access Road and Roosevelt Road corridors (**Figure 2.3-1)**. Existing stormwater conveyance pipe upgrades would occur in the central airfield area. Existing electrical substation upgrades would be performed. A security fence would be installed around the Phoenix II flightline campus. The proximate taxiway would be improved and repaved. The Proposed Action would include Access Road widening and traffic circle construction to facilitate traffic flows. Utility corridor installation activities would occur along Access Road shoulders, Roosevelt Road, at the airfield center, and in other parts of the air station near the proposed campus site.

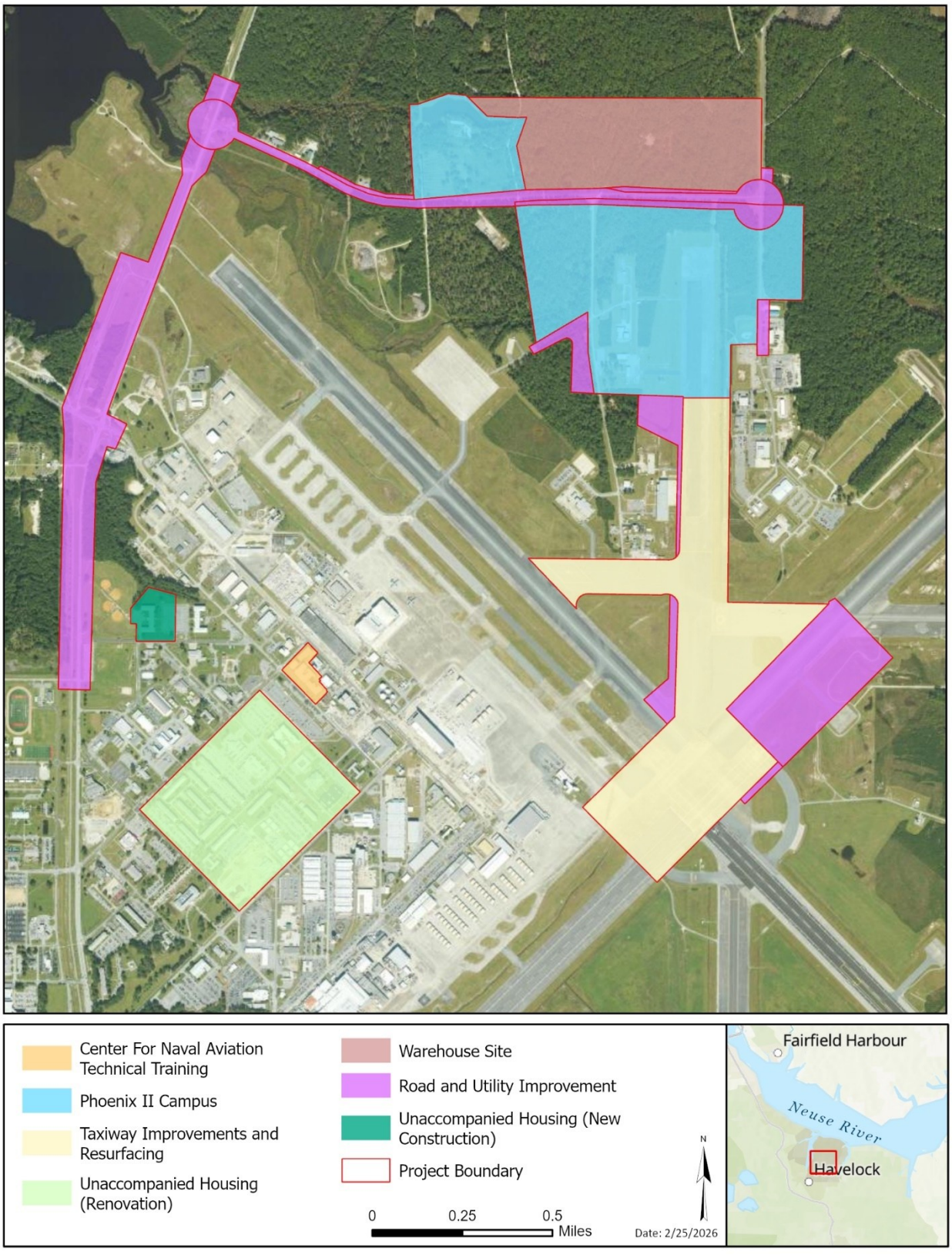

Figure 2.3-1 Project Areas at MCAS Cherry Point Under the Proposed Action

2.3.2.3 Personnel

Under the Proposed Action, approximately 1,000 personnel plus an estimated 1,100 family members (2,100 total) are expected to be stationed at MCAS Cherry Point. The phased arrival of Phoenix II personnel would occur between FY 2029 and 2039 as construction and renovation is completed. No family housing construction is planned under the Proposed Action as a combination of existing family housing at MCAS Cherry Point and off-base housing in the local community would accommodate the anticipated increase in personnel with families.

Unaccompanied enlisted housing would be newly constructed and/or renovated at the air station for incoming Phoenix II personnel. Approximately 300 beds would be needed for the Proposed Action. The Proposed Action would include new construction and/or renovation of existing unaccompanied housing facilities near other existing on-base housing (see **Figure 2.3-1**).

2.3.2.4 Operations

The Phoenix II aircraft would operate similar to other turboprop aircraft at MCAS Cherry Point. Once all aircraft have arrived, the Phoenix II aircraft would execute up to approximately 500 total round-trip flight operations annually (one round-trip flight operation would consist of a departure and an arrival at MCAS Cherry Point). Phoenix II aircraft would not conduct closed pattern training operations in the vicinity of the airfield. Operations would increase incrementally as aircraft arrive on station.

2.4 Alternatives Considered but not Carried Forward for Detailed Analysis

The following alternatives were considered but not carried forward for detailed analysis in this EA, as they did not meet alternative screening factors presented in *Section 2.*2.

2.4.1 Home Basing at Other DON or Department of War Airfields

The DON conducted a multi-phase screening process to identify a reasonable range of alternatives that are technically and economically feasible and meet the purpose of and need for the Proposed Action. This process began with an evaluation of approximately 80 DON, Joint, and non-military airfields against a set of requirements derived from the Phoenix II's operational and support needs.

This initial screening utilized unclassified operational requirements (e.g., runway length, ramp space); classified, mission-specific screening criteria; and defense critical infrastructure security information. The TACAMO mission is vital to the U.S. and any impact on that mission would pose a direct threat to national security and public health and safety. The disclosure of the specific capabilities and capacity requirements of host installations, including infrastructure, security, and installation limitations and vulnerabilities, would put this mission in jeopardy and likely result in significant disruption of operations, destruction or damage to property, and harm to Department of War (DoW) facilities or personnel. Accordingly, a discussion of specific sensitive and classified criteria and the specific installations eliminated during this initial phase is not provided in this unclassified EA. The DON coordinates the review of classified materials as required to meet legal or regulatory requirements; however, this information is not made available to the public.

The first phase of analysis narrowed the list of 80 potential sites to nine installations, including MCAS Cherry Point. These remaining installations were then subjected to a final assessment against the primary screening factors detailed in *Section 2.2.1*. As a result, MCAS Cherry Point was identified as the only location that could meet all requirements for the Proposed Action within the operational timeline, and with the required construction and facility improvements discussed in this EA. The remaining eight airfields were eliminated as they failed to meet one or more of the screening factors, rendering them unreasonable alternatives. The primary reasons for their elimination are described below.

- **Airfield and Operations:** Several installations failed to meet the screening factor for 24/7/365 operations. They could not support this requirement without significant personnel and resource augmentation, which would require diverting personnel from the critically-undermanned Air Traffic Controller rating—a high-value resource with a lengthy development pipeline—thereby creating unacceptable gaps in critical positions at other airfields.
- **Operational and Logistical Synergy:** Installations failed to meet the screening factors for operational and logistical synergy. As the Phoenix II aircraft is a modified version of C-130 aircraft, the lack of an existing C-130 maintenance and training community would require complete duplication of complex facilities, such as maintenance depots, simulators, communications infrastructure. This would fail to maximize the use of existing infrastructure, prevent logistical synergies, and introduce unreasonable costs and schedule delays, contrary to the purpose of and need for the Proposed Action and would be inconsistent with DON's responsibility as a steward of taxpayer dollars. Additionally, a new depot-level maintenance center is under construction in the vicinity of MCAS Cherry Point. If based at another installation, aircraft would have to be routinely transported to the Cherry Point area for depot-level work, creating a significant logistical burden, increasing operational downtime, and incurring substantial transportation and personnel costs.
- **Installation and Personnel Support:** The remaining installations failed to meet the screening factor for personnel support in a reasonable manner. They either lacked sufficient existing housing, or they lacked other support facilities that could be renovated or space for new construction, or could not support the mission's required operational need date. This delay would force the expenditure of significant funds on temporary housing and support facilities pending the completion of permanent construction, making these alternatives economically infeasible.

Based on this evaluation, the DON determined that no other installation on the East Coast met the purpose of and need for the Proposed Action without incurring unacceptable operational trade-offs, costs, and delays. As a result of this screening process, DON concluded that MCAS Cherry Point is the only viable and reasonable location to establish the Phoenix II East Coast main operating base.

2.4.2 Construction at Other Locations within MCAS Cherry Point

Following the process outlined in *Section 2.2*, the DON applied the on-base screening factors (*Section 2.2.2*) to evaluate alternative construction locations for the Phoenix II campus and

facilities within MCAS Cherry Point. This evaluation considered all four quadrants around the airfield (depicted on Figure 2.3-1). The western quadrant was eliminated as it is fully developed; new construction there would fail the "Proximity and Mission Compatibility" screening factor by requiring extensive and costly relocation of existing tenants. The southern and eastern quadrants were also eliminated as developing these largely undeveloped areas would incur prohibitive costs for new taxiways and utilities, failing the "Infrastructure and Cost" screening factor, and would also be incompatible with the "Environmental and Planning" screening factor due to the presence of extensive wetlands. Other areas near the runway were found to be incompatible with mission operations due to conflicts with rifle range safety arcs and high-power test cell activity, also failing the "Proximity and Mission Compatibility" factor. This analysis confirmed the cost-effectiveness of the proposed location of unaccompanied housing, which leverages existing infrastructure by siting new unaccompanied housing in an area where existing facilities can either be renovated or replaced. Therefore, after applying the on-base screening factors, the DON determined that no other locations within MCAS Cherry Point were reasonable alternatives, and only the north quadrant was carried forward for detailed analysis as part of the Proposed Action.

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3 Affected Environment and Environmental Consequences

This chapter presents a description of environmental resources and baseline conditions and an analysis of reasonably foreseeable effects of implementing the Action Alternative.

All potentially relevant environmental resource areas were initially considered for analysis in this EA in compliance with NEPA and consistent with DoD NEPA Implementing Procedures. The discussion of the affected environment (i.e., existing conditions) focuses on those resource areas with reasonably foreseeable impacts. The level of detail used in analyzing a resource area is commensurate with the level of reasonably foreseeable environmental impacts.

In considering whether an adverse effect is significant, the DON examined the context of the action, and the intensity and duration of the effect. This chapter includes an analysis of the affected environment and reasonably foreseeable impacts to air quality, water resources, biological resources, transportation, and socioeconomics. Impacts to resource areas considered negligible or non-existent were not analyzed in detail in this EA. These include airspace, cultural resources, geological resources, hazardous materials and wastes, utilities infrastructure, land use, acoustic environment, public health and safety, and visual resources.

The next section briefly describes the resource areas that were considered negligible or non-existent.

Resource Areas Eliminated from Detailed Analysis

Airspace

Under the Proposed Action, the DON would home base and operate up to 11 Phoenix II aircraft at MCAS Cherry Point. The aircraft would utilize existing flight tracks, training airspace, and operational procedures currently in place for fixed-wing aircraft at MCAS Cherry Point. No creation, modification, expansion, or reclassification of controlled airspace, Special Use Airspace, military training routes, or any other designated airspace would occur because of the Proposed Action. Airspace management responsibilities and coordination with the Federal Aviation Administration and regional air traffic control facilities would remain unchanged.

Although the introduction of the Phoenix II aircraft would result in a minor increase of approximately one percent in air operations, these additional operations would occur within the parameters of existing airspace use and would not require new scheduling blocks, new airspace assignments, or changes to current civilian or military flight patterns. The projected operations would not exceed the existing airspace capacity or require adjustments to current airspace utilization.

Because the Proposed Action would not alter airspace configuration, impose new restrictions, affect civilian aviation access, or conflict with existing Special Use Airspace or regional training uses, no adverse impacts to airspace are anticipated. The minor operational increase would be well within the existing airspace management structure and would not degrade air traffic efficiency, safety, or access. Therefore, impacts to airspace are considered negligible and are dismissed from further detailed analysis in this EA.

Cultural Resources

A Phase I archaeological survey was completed for all proposed construction and ground-disturbing areas associated with the home basing and operation of the Phoenix II aircraft at MCAS Cherry Point within the main Phoenix II campus, taxiway, warehouse, and Access Road improvement areas. The NC SHPO provided concurrence with survey findings in their response received February 13, 2026. This survey is in the process of being supplemented with additional findings for connected utility corridor work and additional proposed road/intersection improvements. The DON will continue to consult with the NC SHPO on the amended survey.

The initial survey findings confirm that no known archaeological sites, including National Register of Historic Places (NRHP)-eligible resources, occur within any of the proposed construction footprints. Based on these negative results, the archaeological report concluded that no additional testing is recommended. Coordination materials prepared for the undertaking, including the Phoenix II SHPO consultation letter, are included in **Appendix E**.

The Proposed Action includes interior renovation of multiple buildings; all those affected are less than 50 years old and/or have been determined not eligible for listing in the NRHP. Building 244, constructed in 1964, has not been formally evaluated for its NRHP eligibility. Buildings of this type are typically not significant under Criterion C for architecture, but may be eligible under Criterion A for their association with the Cold War mission of the installation. Character-defining features would primarily include the overall building plan, massing, exterior fenestration, and primary circulation spaces. The Proposed Action is limited to interior utility upgrades and removal of accordion partitions and would not alter the building's overall plan, spatial organization, or primary circulation patterns. Accordingly, the undertaking would not diminish integrity of location, design, setting, feeling, or association, and the building would continue to convey potential historical significance under Criterion A. Therefore, no impacts to Building 244 are anticipated. The DON is consulting with the NC SHPO on its findings.

There are no known traditional cultural places present within the MCAS Cherry Point installation boundary (MCAS Cherry Point, 2025a).

Planned ground disturbance is confined to areas previously surveyed during the Phase I archaeological survey, completed in 2025, with no archaeological materials present. A follow-on survey to assess utility corridors and edge areas is being undertaken in spring 2026. The Proposed Action is not expected to affect any NRHP-eligible archaeological resources (pending the findings of the ongoing 2026 survey), nor is it reasonably foreseeable that undiscovered archaeological materials would be encountered during implementation of the project. In the event that undiscovered archaeological materials or human remains are discovered during ground disturbing activities, the MCAS Cherry Point Cultural Resources Manager would be notified and standard operating procedures for inadvertent discoveries would be followed. Given the nature of the discovered remains, the Cultural Resources Manager would consider the applicability of Native American Graves Protection and Repatriation Act and would consult the NC SHPO and local tribes to determine the appropriate next steps. No impacts would occur to historic buildings and there are no known traditional cultural places present at MCAS Cherry

Point. As such, cultural resources are not anticipated to be impacted by the home basing, operations, or construction associated with the Phoenix II aircraft.

Geological Resources

The Proposed Action would occur primarily within areas that are currently developed, paved, or previously and routinely disturbed (i.e., actively managed through periodic thinning, prescribed burns, and understory vegetation control in accordance with the MCAS Cherry Point Timber Management Plan, or the location of former demolished facilities). As a result, existing soil conditions within the project footprints have been substantially altered by current or past construction and operational activities, and intact or sensitive soil profiles are not anticipated to be affected.

Construction associated with the home basing and operation of the Phoenix II aircraft would involve ground-disturbing activities such as grading, trenching, and foundation preparation. Implementation of standard construction Best Management Practices (BMPs), including erosion and sediment control measures, stormwater management practices, and stabilization of disturbed ground—would minimize the potential for soil movement or sedimentation into adjacent water bodies.

Topography within the project areas is generally flat and uniform, and no unique or sensitive geologic features occur within the zones proposed for construction or renovation. The Proposed Action would not result in measurable changes to landforms, slopes, or drainage patterns. In addition, none of the project sites are currently used for agricultural purposes, nor would the Proposed Action convert any lands to or from agricultural use.

Given the previously disturbed nature of the soils, the use of BMPs, the lack of geologic sensitivity in the project area, and the absence of expected changes to landform or soil productivity, no impacts on soils or topography are anticipated under the Proposed Action. Therefore, geological resources are dismissed from further detailed analysis in this EA.

Hazardous Materials and Wastes

Hazardous materials and hazardous wastes at MCAS Cherry Point are managed under established installation Standard Operating Procedures that ensure compliance with all applicable federal, state, and DoW regulations. These procedures address proper storage, handling, labeling, spill prevention, waste characterization, and disposal through authorized channels. Existing installation programs include routine inspections, personnel training, and emergency response protocols to support safe and compliant operations.

Short-term, negligible, adverse impacts would occur from the use of hazardous materials and petroleum products, as well as from the generation of hazardous wastes during construction activities. All hazardous materials and wastes would be contained, stored, and managed in accordance with applicable regulations and existing installation requirements. Construction equipment would be operated and maintained according to manufacturer specifications, and drip mats would be placed beneath parked equipment as needed to minimize potential spills or leaks.

The Proposed Action would not introduce new hazardous materials to MCAS Cherry Point beyond those already used for existing aircraft maintenance, facility operations, and installation-wide construction activities. All materials anticipated for use are currently present on the installation and are managed under established hazardous materials and hazardous waste programs. MCAS Cherry Point implements a comprehensive Hazardous Waste Management Plan in accordance with Marine Corps Order (MCO) 5090.2, Volume 9, Chapter 3, Sections 030501.A-030501.M, which governs the proper handling, storage, and disposal of hazardous wastes (MCAS Cherry Point, 2025b). Hazardous wastes generated under the Proposed Action would continue to be managed through these existing procedures and infrastructure. Additionally, the quantity of hazardous waste expected from Phoenix II maintenance activities would be lower than the volumes generated by existing fighter squadron (F-35) operations and Fleet Readiness Center East activities. All hazardous materials and wastes associated with the Proposed Action would continue to be handled, stored, and disposed of in compliance with federal, state, DoW, and DON requirements.

Historic contamination at MCAS Cherry Point has been addressed through long-standing Installation Restoration Program activities. Of relevance to the Proposed Action, Operable Unit 4 (OU4), the Borrow Pit/Landfill, has had extensive investigation and remedial action, resulting in a Record of Decision that established monitored natural attenuation and land use controls for groundwater. Elevated lead concentrations were identified historically in nearby Mill Creek sediments, originating from an inactive skeet and trap range located outside of OU4. The Proposed Action would occur within areas subject to existing land use controls and would not disturb capped or controlled areas, alter established remedial systems, or interfere with ongoing long-term monitoring activities. Any subsurface work associated with construction would be coordinated through existing installation procedures, including review of land use controls and implementation of appropriate health and safety measures, to ensure continued protection of human health and the environment in accordance with the MCAS Cherry Point Site Management Plan (MCAS Cherry Point, 2024e).

Because the types and quantities of hazardous materials and wastes associated with the Proposed Action are already in use at the installation—and because established management systems are in place—no changes to existing hazardous materials or waste management practices would be required. The Proposed Action would not generate hazardous waste volumes exceeding the capacity of current programs or facilities, nor would it increase the potential for spills, releases, or regulatory non-compliance. Therefore, impacts on hazardous materials or waste management are considered negligible and this resource is dismissed from further detailed analysis in this EA.

Utilities Infrastructure

All construction and operational activities associated with the Phoenix II mission would occur within MCAS Cherry Point and would be supported by existing installation utility systems, including drinking water, wastewater, stormwater, solid waste, electric, natural gas, and communications infrastructure. Overall utility production, treatment, and system-wide capacity at the installation is sufficient to support the Proposed Action. However, implementation of the Proposed Action would require upgrades to existing utility lines and extensions of services to

support the new E-130J campus area. Although the Proposed Action would result in a gradual increase in off-installation utility demand associated with the addition of approximately 1,000 personnel and their family members, these effects would be accommodated by existing municipal utility systems serving the surrounding communities, resulting in negligible off-installation utility impacts.

As described in *Section 2.3.2.2*, the Proposed Action would require upgrading existing utility lines or pipes (i.e., stormwater, gas, water, sewer, and electric) along Access Road and Roosevelt Road corridors to convey services to the Phoenix II campus. These improvements would occur entirely within the installation and would utilize existing utility corridors where practicable.

MCAS Cherry Point's potable water supply system has sufficient production, storage, and overall distribution capacity to support additional personnel and facilities associated with the Proposed Action. While existing water lines would be upgraded and extended along the Access Road and Roosevelt Road corridors to serve the E-130J campus, no new water supply sources or treatment facilities would be required.

The installation's wastewater collection system and treatment facilities are adequate to accommodate the increased wastewater flows associated with proposed facilities and personnel. Existing sewer lines would be upgraded and extended to the project area as needed. No expansion of wastewater treatment capacity or new disposal methods would be required.

Stormwater generated from new impervious surfaces would be managed through a combination of existing installation stormwater infrastructure and upgraded conveyance systems. Existing stormwater conveyance pipe upgrades would occur in the central airfield area. Additional stormwater infrastructure improvements may be required along utility corridors serving the Phoenix II campus. Stormwater associated with the Proposed Action would be managed in accordance with applicable federal and state requirements, including the MCAS Cherry Point Post-Construction Stormwater Program and North Carolina stormwater regulations. The Proposed Action would incorporate permanent stormwater control measures designed to meet North Carolina Minimum Design Criteria and may include infiltration practices, bioretention, vegetated conveyances, or detention features, as appropriate to site conditions, to control runoff volume, attenuate peak flows, and protect water quality. All measures are subject to long-term operation, maintenance, and inspection requirements to ensure continued performance. During construction, erosion and sedimentation controls implemented under a Construction General Permit would minimize short-term stormwater and sediment impacts. Implementation of the Proposed Action would result in negligible impacts to stormwater resources and receiving waters.

The installation's electrical power and natural gas systems have sufficient overall capacity to support the additional load associated with the Phoenix II campus. Electrical distribution lines and natural gas service would be upgraded and extended to serve the project area. Minor extensions or upgrades to existing distribution lines would serve new and renovated facilities and would occur within established utility corridors. Existing electrical substation upgrades would be performed, as described in *Section 2.3.2.2*. These improvements would modernize

existing infrastructure rather than expand the installation's electrical footprint beyond current capacity.

MCAS Cherry Point has an established solid waste collection and disposal system with sufficient capacity to manage minor increases in solid waste generated during construction and operation. Based on a review of historical solid waste data at MCAS Cherry Point, construction and demolition debris generation declined by approximately 88 percent between FY 2017 and FY 2021. During the same period, total solid waste generation at the installation decreased by approximately 66 percent. These reductions reflect a substantial downward trend in waste generation over the 5-year period (MCAS Cherry Point, 2023). Collection services would be extended to the E-130J campus area as needed, with no new waste management facilities required. Therefore, the Proposed Action would result in negligible impacts to solid waste collection and disposal.

Communications systems—including data, telephone, radio, and secure military networks—are established throughout MCAS Cherry Point. Communications services would be provided to the Phoenix II campus through upgrades and extensions of existing communication lines within the installation. No new off-installation communications facilities would be required.

Short-term, minor, adverse impacts on utilities would occur from temporary service disruptions during utility line upgrades and tie-ins. Long-term impacts would be negligible, as overall utility demand associated with the Proposed Action would remain within the capacity of existing installation systems. Because utility upgrades and extensions would occur within established corridors and because system-wide capacity is sufficient, impacts on infrastructure would be negligible. Therefore, infrastructure is dismissed from further detailed analysis. Transportation systems and traffic are addressed separately in *Section 3.4*.

Land Use

The Proposed Action would construct and operate the Phoenix II campus entirely within MCAS Cherry Point installation property, on land already designated for military aviation and support functions. All proposed facilities, including flightline structures, support buildings, and associated infrastructure, would be in areas consistent with existing installation land use designations. The siting of these facilities adjacent to the airfield aligns with the current operational and mission-support character of this portion of the base.

Because the Phoenix II campus would occupy areas that are already developed or planned for aviation-related purposes, the Proposed Action would be consistent with existing installation land uses and base planning documents and would be compatible with land uses aboard MCAS Cherry Point. All construction would remain fully contained within the installation boundaries; therefore, no off-station land uses would be affected.

Activities associated with the Proposed Action would not expand development beyond currently controlled federal property, would not result in changes to adjacent or regional land use patterns, and would be fully consistent with existing land use at MCAS Cherry Point. Therefore, land use is dismissed from further analysis in this EA.

Acoustic Environment

The Proposed Action would not result in significant changes to the existing acoustic environment at MCAS Cherry Point. The introduction of the Phoenix II aircraft would add approximately 500 round-trip flight operations annually, representing approximately one percent of the annual operations at MCAS Cherry Point. The Phoenix II utilizes turboprop engines that are quieter than the larger fixed-wing aircraft and fighter aircraft currently operating at MCAS Cherry Point. As a result, the addition of Phoenix II aircraft operations is not anticipated to cause a perceptible increase in the overall acoustic environment or alter the noise contours depicted within the 2025 MCAS Cherry Point AICUZ Study Update. Because all flight activities would remain within established airfield procedures and designated flight tracks already used by other aircraft types, the Proposed Action would not expose any new off-installation receptors to aircraft noise. While existing receptors under these flight tracks would experience additional noise events, the increase in operations is minor and is not projected to cause a perceptible change in the overall acoustic environment or alter the established noise contours.

Construction noise associated with facility development would be temporary and consistent with typical operations on military installations. Short-term, minor, adverse impacts would occur from increased noise levels produced by construction equipment. To reduce noise impacts, heavy equipment use would primarily occur during normal weekday business hours and would be in compliance with applicable noise ordinances, mufflers would be properly maintained and in good working order, and construction workers and equipment operators would wear adequate personal protection equipment to limit noise exposure. These short-term noise increases would not meaningfully change the existing noise environment or affect noise-sensitive resources.

Given the relatively low number of Phoenix II operations, the quieter engine technology compared to other aviation assets stationed at the airfield, and the baseline acoustic environment at MCAS Cherry Point, the Proposed Action would result in negligible impacts to the acoustic environment either on or off the installation. Therefore, noise is dismissed from further detailed analysis in this EA.

Public Health and Safety

The Proposed Action would not introduce new activities at MCAS Cherry Point that would pose elevated risks to public health or safety. All aircraft operations, maintenance activities, and associated support functions for the Phoenix II program would occur within secured areas of the installation that are already designed and managed for military aviation. These areas operate under established U.S. Marine Corps and DON safety regulations, emergency response requirements, and occupational health programs that effectively manage the risks associated with aviation operations and construction activities.

Construction activities supporting the Proposed Action would be carried out in accordance with installation safety protocols, contractor safety plans, Occupational Safety and Health Administration regulations, and all applicable federal and state requirements. These measures include controlled access to construction zones, mandatory personal protective equipment,

hazard communication standards, and established emergency response protocols intended to protect workers and installation personnel.

The Proposed Action would not introduce new hazardous materials, processes, or operational demands that would increase the existing risk profile at MCAS Cherry Point. All aircraft maintenance, fuel handling, and hazardous material practices would remain under established installation Standard Operating Procedures. Emergency services, including fire, medical response, and spill response teams, currently support ongoing aviation operations and construction activity and would not require expansion to meet the needs of the Phoenix II.

MCAS Cherry Point already supports a variety of fixed-wing, rotary-wing, and unmanned aircraft operations and has established aircraft mishap prevention, response, and notification procedures consistent with DON aviation safety programs. The Phoenix II would operate within existing airfield procedures, safety zones, and controlled airspace, and would comply with current airfield operational controls, aircrew training standards, and maintenance protocols designed to minimize aviation risk.

Because the Proposed Action would not require changes to established safety management systems, flight operations infrastructure, or airfield safety buffers, aircraft mishap risk would not increase. All Phoenix II operations would remain within the parameters of existing installation aviation safety programs that are already designed to protect aircrew, ground personnel, and nearby areas.

Executive Order (EO) 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children.

For the Proposed Action, potential risks to children are managed through several factors. The nearest sensitive location where children are regularly present, the MCAS Cherry Point Child Development Center (CDC), is located approximately 1,600 feet from the nearest construction area. Any potential construction-related effects, such as noise or dust, would be localized, temporary, and minimized through standard BMPs. All construction areas would be secured to prevent access by children.

Long-term aircraft operations would remain within the context of the existing airfield environment and would not alter noise contours or significantly increase air emissions at off-base or on-base sensitive locations. Therefore, the Proposed Action would not result in environmental health and safety risks that would disproportionately affect children, and this issue is not carried forward for detailed analysis.

The DON evaluated whether the incremental relocation of approximately 1,000 personnel and their family members associated with the Phoenix II program would result in measurable impacts on police, fire, or emergency medical services off-installation. Although some personnel and family members may reside in nearby communities, their presence would not result in service demands beyond those associated with typical residential population changes and would not necessitate expansion of local emergency response capacity. Existing coordination and mutual aid agreements with surrounding jurisdictions would remain unchanged.

Because the Proposed Action would be fully integrated into existing installation safety protocols; would not introduce new public safety hazards; would not increase aviation risks; would not disproportionately affect children; and would not strain off-installation police, fire, or emergency medical services beyond capacity, public health and safety is dismissed from further detailed analysis in this EA.

Visual Resources

Construction and facility development associated with the Phoenix II mission would occur entirely within the installation boundary, where public views are limited due to controlled access and existing aviation-related infrastructure. No off-installation visual impacts are anticipated because the proposed facilities, construction equipment, and associated activities would not be visible from surrounding public roadways or neighboring communities.

The general character of MCAS Cherry Point already reflects an active military air station with airfield structures, industrial-scale facilities, and operational equipment. The Proposed Action would not introduce visually prominent elements inconsistent with this established setting. Because the Proposed Action would not alter viewsheds accessible to the public and would remain compatible with the existing built environment of the installation, no impacts on visual resources are expected. Therefore, visual resources are dismissed from further detailed analysis in this EA.

3.1 Air Quality

This section analyzes the effects of the Proposed Action on air quality. The analysis considers three categories of emissions: (1) Criteria Pollutants, which are regulated under National Ambient Air Quality Standards (NAAQS); (2) Hazardous Air Pollutants (HAPs); and (3) Greenhouse Gases (GHGs). The following sections describe the regulatory setting for each of these pollutant types and then evaluates the reasonably foreseeable impacts from the Proposed Action. Air quality refers to the level of pollutants in the air that are known to impact the health and welfare of the public. “Ambient” air quality, specifically, refers to that portion of the atmosphere to which the public has access or, more simply, the quality of the outdoor air we breathe in a geographic area. For this analysis, air quality impacts are assessed against national standards for ambient air quality and HAPs. This section also analyzes impacts from GHG emissions associated with the Proposed Action.

3.1.1 Regulatory Setting

3.1.1.1 Criteria Pollutants and National Ambient Air Quality Standards

In accordance with NEPA, the DON uses a systematic, interdisciplinary approach to inform planning and decision-making that may affect the quality of the human environment, including air quality. This EA evaluates reasonably foreseeable effects on air quality. Consistent with DoD NEPA Implementing Procedures, the evaluation of air quality effects considers the potentially affected environment and the degree of effects associated with the Proposed Action. Readily available and reliable data sources are used to characterize air quality conditions, and no new research was required. The assessment considers the affected area at the appropriate geographic scale and evaluates both short- and long-term effects, beneficial and adverse

effects, and potential implications for public health and safety, economic conditions, and quality of life.

The U.S. Environmental Protection Agency (EPA) has established NAAQS for pollutants of concern, called "criteria pollutants," i.e., carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone, particulate matter including particulate matter less than or equal to 10 microns in diameter (PM_{10}) and particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead. The criteria pollutant ozone is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or "ozone precursors." These ozone precursors consist primarily of nitrogen oxides and volatile organic compounds (VOCs) that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling VOC pollutants (also called reactive organic gases) and nitrogen oxides.

The Clean Air Act and EPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. As such, each state must develop air pollutant control programs and promulgate regulations and rules that focus on meeting NAAQS and maintaining healthy ambient air quality levels. When a region or area meets NAAQS for a criteria pollutant, that region or area is classified as in "attainment" for that pollutant.

3.1.1.2 Hazardous Air Pollutants

In addition to the ambient air quality standards for criteria pollutants, national standards exist for HAPs. The National Emission Standards for Hazardous Air Pollutants regulate 188 HAPs based on available control technologies. Examples of HAPs include benzene, which is found in gasoline, and methylene chloride, which is used as a solvent and paint stripper. NC regulates 105 toxic air pollutants under its toxic air pollutant control program. The list of toxic air pollutants differs from the list of HAPs regulated under Section 112(b) of the 1990 Clean Air Act Amendments.

3.1.1.3 Greenhouse Gases

This analysis considers all GHGs emissions associated with the Proposed Action. To account for the different heat-trapping abilities of each gas, all emissions have been converted to and are reported as carbon dioxide equivalent (CO_2e).

3.1.2 Affected Environment

The Air Quality Control Region (AQCR) for MCAS Cherry Point is the Southern Coastal Plain Intrastate AQCR (40 Code of Federal Regulations [CFR] section 81.152). This AQCR includes the NC counties of Brunswick, Carteret, Columbus, Craven, Duplin, Greene, Jones, Lenoir, New Hanover, Onslow, Pamlico, Pender, and Wayne. The Region of Influence (ROI) for assessing air quality impacts comprises Craven County which is in attainment for all criteria pollutants (EPA, 2026b). Therefore, a General Conformity evaluation is not required, nor a detailed project-level analysis for either CO or $PM_{2.5}$ under the federal transportation conformity rule (40 CFR Parts 51 and 93) issued by EPA (i.e., a "hot-spot" analysis). The ROI for assessing GHGs is global.

3.1.3 Environmental Consequences

Effects on air quality are based on estimated direct and indirect emissions associated with the action alternatives. Air emissions from the Proposed Action are attributed to the use of fuel-burning construction equipment, vehicles for commuting, and aircraft operations and ground support equipment.

For analyzing criteria pollutant emissions in an attainment area, the air quality analysis used the EPA's Title V major stationary source permitting threshold of 100 tons per year as a comparative indicator of the local significance of impacts to air quality. For HAPs, a "major source" is defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of any individual HAP or 25 tons per year or more of a combination of HAPs. Thus, 25 tons per year is used as a comparative indicator of the local significance of impacts from HAPs. These comparative indicators provide a value for impacts within or near MCAS Cherry Point, similar to how stationary source emissions are evaluated within the installation for air permitting purposes.

The DON considered the best available science to evaluate the reasonably foreseeable effects of GHG emissions under the Proposed Action. No single statutory or regulatory threshold defines when GHG emissions "significantly" affect the quality of the human environment. The global aggregation and mixing of GHG emissions in the atmosphere have the potential to alter climate conditions worldwide, and thus the effects of GHGs are not attributable to the emissions from any single project in isolation. Therefore, this analysis discloses the differences between the Proposed Action and the No Action Alternative emissions. GHG emissions were quantified using the heat-trapping potential of each gas, which is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period relative to the emission of 1 ton of carbon dioxide (CO_2). GHG emissions are calculated by multiplying the appropriate heat-trapping potential of a non-CO_2 GHG by the amount of that gas emitted, and the results are presented in tons of CO_2e (EPA, 2026c).

3.1.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the DON would not home base Phoenix II aircraft on the East Coast. Facility development and infrastructure upgrades necessary to home base Phoenix II aircraft would not occur, and mission personnel would not relocate to an East Coast home base. Emissions from training would remain consistent with current levels and no significant impacts to air quality would occur with implementation of the No Action Alternative.

3.1.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

For the Proposed Action, the following activities/operations were quantitatively analyzed for emissions:

- Temporary emissions from construction of facilities and infrastructure, and construction worker commutes.
- Recurring emissions from Phoenix II aircraft operations at MCAS Cherry Point (e.g., operation of aircraft ground support equipment, personnel commutes).

See **Appendix G** for the air emissions calculations. Construction emissions were quantified based on construction footprints, duration of planned activities, the equipment needed to complete the work, operating time for that equipment, and construction manpower. Temporary emissions during construction would be generated by the operation of fuel-burning equipment, particulate matter from operating equipment on paved and unpaved surfaces, and exhaust from construction worker commutes. Construction is anticipated to begin in FY 2028 and would involve multiple, phased projects at MCAS Cherry Point that would continue beyond a single calendar year. However, **Table 3.1-1** conservatively presents the estimated emissions from all phases of construction of the Proposed Action as occurring over one calendar year.

Table 3.1-1 Criteria Pollutant, HAPs, and GHG Emission Estimates – Proposed Action Construction (Tons per Year)

Activity	VOCs	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Total HAPs	CO_2e
Construction[1]	0.88	6.86	11.10	0.01	26.46	3.27	0.16	4,402
Comparative Threshold	100	100	100	100	100	100	25	NA
Exceeds Thresholds?	No	No	No	No	No	No	No	NA

Key: CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; HAPs = hazardous air pollutants; NA = Not Applicable; NO_x = nitrogen oxides; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide; VOCs = volatile organic compounds.

Note: [1]Construction emissions conservatively applied to one calendar year, though construction would occur in phases and may extend beyond one calendar year.

Once construction is complete, mobile source emissions would be generated from air station operations under the Proposed Action. These sources include aircraft operations (such as flight training, testing, and maintenance activities), the use of associated ground support equipment, and commuter vehicle trips from the additional personnel required to support the TACAMO mission. Aircraft emissions were estimated using the type of activity, the number of hours of operation, the type of engine, and the mode of operation (i.e., landings, takeoffs, and associated ground maintenance). As described in **Section 2.3.2**, annual operations would begin with fewer flights and increase over several years before reaching the total level of operations. The associated Phoenix II personnel would also arrive incrementally over a period of approximately 10 years, starting no earlier than FY 2029. The analysis employed a conservative methodology to ensure a thorough review of potential impacts that account for personnel and dependents. It models the air quality impact of all 1,000 new personnel as daily commuters. These projections represent a conservative “maximum scenario”, as the actual number of daily commuters on any given day would likely be lower due to factors such as staggered work schedules, personnel being on leave or deployed, and carpooling. **Table 3.1-2** presents the estimated annual emissions under full operations of the Proposed Action.

Table 3.1-2 Criteria Pollutant, HAPs, and GHG Emission Estimates – Proposed Action Operations (Tons per Year)

Activity	VOCs	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Total HAPs	CO_2e
Phoenix II Aircraft Operations[1]	1.85	10.84	42.43	2.12	1.49	1.45	0.04	8,298
Personnel Commutes	0.31	38.17	0.88	0.02	28.50	4.28	0.02	3,027
Total	**2.16**	**49.01**	**43.31**	**2.14**	**30.00**	**5.74**	**0.05**	**11,325**
Comparative Threshold	100	100	100	100	100	100	25	NA
Exceeds Thresholds?	No	No	No	No	No	No	No	NA

Key: CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; HAPs = hazardous air pollutants; NA = Not Applicable; NO_x = nitrogen oxides; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide; VOCs = volatile organic compounds.

Note: [1]Aircraft emissions are presented for a year at full operations, including 11 Phoenix II aircraft for the TACAMO mission, associated ground support equipment, and additional supporting personnel.

Emissions during both construction and operations would occur within Craven County, in the Southern Coastal Plain Intrastate AQCR, both at MCAS Cherry Point and offsite. Offsite emissions include those that would be generated by construction workers and operational personnel commuting to MCAS Cherry Point, along with movement of construction materials and debris to offsite storage and handling locations. As shown in the above tables, the total estimated emissions for completing construction and the subsequent operation of the Phoenix II aircraft would be below the comparative threshold of 100 tons per year for criteria pollutants and 25 tons per year for total HAPs. Therefore, overall, implementation of the Proposed Action would not result in significant impacts to air quality.

Implementation of the Proposed Action would contribute directly to emissions of GHGs from the combustion of fossil fuels. **Table 3.1-3** shows the total GHG emissions from one year of construction and operations under the Proposed Action, along with the 20-year life cycle net change in GHG emissions for the Proposed Action.

Table 3.1-3 Total Estimated GHG Emissions for the Proposed Action (Tons per Year)

Activity	CO_2e
Construction (Annual Emissions – 2028)	4,402
Operations (Annual Emissions – Beginning in 2029)	11,325
One Year Net Change in GHG Emissions from Proposed Action	**15,727**
Total: 20-year Life Cycle GHG Emissions from Proposed Action	**230,894**

Key: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.

When compared against global and national inventories, it is unlikely that any single source of emissions would appear significant. In more concrete terms, the predicted annual net increase in GHG emissions would be equivalent to annual emissions from approximately 3,326 gasoline-powered passenger vehicles driving the national average of 10,917 miles per year (EPA, 2026d). In sum, the Proposed Action would contribute to global atmospheric GHG emissions, but this contribution would not meaningfully affect statewide, national, or global GHG inventories, nor would emissions from the Proposed Action significantly detract from achieving state GHG emissions reduction goals. Therefore, the DON has concluded that the net increase in GHG emissions under the Proposed Action would not be significant.

3.2 Water Resources

This section analyzes impacts to water resources, including groundwater, surface water (streams), wetlands, and floodplains in the project's vicinity. Marine water is not analyzed in detail, as the Proposed Action involves no in-water work, and the implementation of BMPs will control stormwater runoff before it reaches downstream marine environments.

3.2.1 Regulatory Setting

In accordance with NEPA, the DON uses a systematic, interdisciplinary approach to inform planning and decision-making that may affect the quality of the human environment, including water resources. This EA evaluates reasonably foreseeable effects on groundwater, surface water (streams), wetlands, and floodplains. Consistent with DoD NEPA Implementing Procedures, the evaluation of water resource effects considers the potentially affected environment and the degree of effects associated with the Proposed Action. Readily available and reliable data sources are used to characterize existing water resource conditions, and no new research was required. The assessment considers the affected area at the appropriate geographic scale and evaluates both short- and long-term effects, beneficial and adverse effects, and potential implications for public health and safety, economic conditions, and quality of life.

Water resources are protected under the Clean Water Act (CWA). The CWA regulates pollutant discharge through the National Pollutant Discharge Elimination System (NPDES) program, to restore and maintain the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge of point (i.e., end of pipe) and non-point sources (i.e., stormwater) of water pollution. The NC DEQ Division of Water Resources is responsible for administering the NPDES program within the state of NC and has general permitting authority.

The CWA requires that NC establish a section 303(d) list to identify impaired waters and establish Total Maximum Daily Loads for the sources causing the impairment. Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill into wetlands.

Section 438 of the Energy Independence and Security Act establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 square feet must "maintain or restore, to the maximum extent technically feasible, the pre-development hydrology of the property with regard to temperature, rate, volume, duration, and flow."

The criteria and design standards in Unified Facilities Criteria 3-210-10 (DoD, 2023a) are required for the planning, design, and construction of all permanent DoW projects in the U.S. that meet both of the following conditions:

- The project includes construction or expansion of one or more buildings as part of its primary scope (i.e., primary facilities versus supporting facilities).
- The "footprint" is greater than 5,000 gross square feet. Footprint consists of all new impervious surfaces associated with the building(s), including both building area and pavement area of associated supporting facilities (such as parking and sidewalks).

Footprint does not include the existing building area to be renovated, existing pavement area to be resurfaced, or new pavement area other than supporting facilities associated with the building(s).

Requirements and policies regarding stormwater discharges for DON facilities must comply with all substantive and procedural requirements applicable to point and non-point sources of pollution as required by EO 12088, *Federal Compliance with Pollution Control Standards*, DON's Environmental Readiness Program Manual, Office of the Chief of Naval Operations Manual (OPNAV) M-5090.1 (DON, 2021), MCO 5090.2, and the CWA. DON policy regarding point source stormwater discharges from DON facilities is that discharges must meet all applicable federal, state, and local permit requirements, including control requirements for toxic and non-conventional pollutants and best conventional technology limits for conventional pollutants. DON's policy on stormwater management and non-point source pollution control requires commands to ensure that all activities comply with stormwater management and pollution prevention requirements, as stipulated in permits under which the activity is covered.

EO 11988, *Floodplain Management*, requires federal agencies to avoid (to the greatest extent possible) the long-and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development unless it is the only practicable alternative. Flood potential of a site is usually determined by the 100-year floodplain.

3.2.2 Affected Environment

MCAS Cherry Point is situated along the lower basin of the Neuse River watershed, which is part of the larger Albemarle-Pamlico estuary system. The following discussions provide a description of the existing conditions for groundwater, surface waters and other features, and floodplains at MCAS Cherry Point.

3.2.2.1 Groundwater

Groundwater is water that flows or seeps downward and saturates soil or rock, supplying springs and wells. Groundwater can be used for water consumption, agricultural irrigation, and industrial applications. Properties of groundwater include depth to aquifer, aquifer or well capacity, water quality, and surrounding geographic composition.

Groundwater at MCAS Cherry Point is located near or at the surface of broad, level terraces, with small tributaries associated with larger creeks fed by groundwater. Groundwater quality is generally good, with water from the lower portion of the Castle Hayne Aquifer system being withdrawn from deep wells (MCAS Cherry Point, 2024a).

3.2.2.2 Surface Waters and Other Features

Surface water resources generally consist of wetlands, lakes, rivers, and streams which contribute to the economic, ecological, recreational, and human health of a community or locale. Total Maximum Daily Loads are established for the maximum amount of a substance that can be assimilated by a water body without causing impairment. Surface water resources are considered impaired when water quality analysis and testing conclude that water quality standards have been exceeded.

Rivers, Streams, and Creeks

MCAS Cherry Point is in the lower basin of the Neuse River Watershed where it discharges into Pamlico Sound. The watershed spans approximately 6,235 square miles across 18 NC counties. Moreover, the watershed is part of the larger Albemarle-Pamlico estuary system, which provides approximately 90 percent of the State's nursery habitat for commercial seafood species.

Two perennial streams are located within the boundaries of MCAS Cherry Point. Slocum Creek is located on the western border of the installation and flows north into the Neuse River. Hancock Creek bounds MCAS Cherry Point to the east and flows north into the Neuse River. The Neuse River itself borders the northern boundary of the installation. Slocum Creek, Hancock Creek, and the Neuse River are subject to tidal fluctuations, where wind influences water levels throughout the installation (MCAS Cherry Point, 2024a).

Wetlands and Other Features

MCAS Cherry Point is in the Neuse River Basin and contains 1,234 acres of USACE-verified wetlands. Several types of wetlands are present; however, the majority are associated with forested palustrine systems. Approximately 734 acres of forested wetlands are located primarily in the riparian zones of the major streams and their tributaries. Blackwater swamps dominate inland floodplains of the tributary streams. A total of 168 acres of MCAS Cherry Point are classified as emergent wetland. This herbaceous community is most common along the edges of the Neuse River, Slocum Creek, Hancock Creek, and their larger tributaries.

An aquatic resources delineation for the project area was conducted between June and August 2025 and has been submitted to USACE for approval (MCAS Cherry Point, 2025c). A total of 21.27 acres of wetlands, 4.25 acres of ponds, and approximately 7,174.80 linear feet in length (0.94 acre) of streams were identified (MCAS Cherry Point, 2025c).

The Cowardin classification (Cowardin et al., 1979) of the total aquatic resources in the project area is Palustrine Unconsolidated Bottom (PUB) (4.25 acres), Palustrine Scrub-shrub (PSS)/Palustrine Emergent (PEM) (2.76 acres), and Palustrine Forested (PFO) (21.27 acres). This classification system is used to hierarchically define wetland and deepwater habitat types by system, subsystem, class, and subclass for the purposes of inventory, evaluation, and management (MCAS Cherry Point, 2025c). Classification types for each wetland are shown in **Figure 3.2-1**.

The vegetation diversity in the mapped wetlands was typical of managed forests located on south Atlantic DoW installations. The dominant tree species within the mapped wetlands were loblolly pine (*Pinus taeda*), black tupelo (*Nyssa sylvatica*), and sweet gum (*Liquidambar styraciflua*). Dominant saplings and shrubs consisted of black willow (*Salix nigra*) and wax myrtle (*Myrica cerifera*). Common dominant herb and vine species identified were woolgrass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), Carex (*Carex* sp.), knotweed (*Polygonium tenerum*), cinnamon fern (*Osmundastrum cinnamomeum*), netted chain fern (*Woodwardia areolata*), and royal fern (*Osmunda regalis*) (MCAS Cherry Point, 2025c).

Five stream reaches were identified during the survey with three intermittent and two perennial streams. All the stream reaches except two (Stream Reach 1 and 2) scored as high quality on the NC Stream Assessment Method due to the forested buffers, diverse biology, and good geomorphology. Stream Reach 1 and 2 scored medium quality, primarily due to lower quality geomorphology (channelized), herbaceous buffers, and minimal biology (MCAS Cherry Point, 2025c). Wetlands and streams within the project area are shown in **Figures 3.2-1 through 3.2-3**.

3.2.2.3 Floodplains

Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplains provide natural water filtration to maintain water quality and are comprised of a diverse array of plants and animals in their natural vegetation states. Floodplain boundaries are most often referred to by the frequency that they are inundated; for instance, the 100-year and 500-year flood. The Federal Emergency Management Agency (FEMA) produces floodplain delineation maps that provide a basis for comparing the locale of the Proposed Action to the floodplains.

MCAS Cherry Point contains areas that are located within the 500-year and 100-year floodplains. The floodplains located at the installation are associated with various surface water bodies discussed above in *Section 3.2.2.2, Surface Water*. Areas within the 100-year floodplain generally extend inland from the major water bodies (MCAS Cherry Point, 2024a). The proposed project site is not within the 500-year or 100-year floodplain (FEMA, 2020).

3.2.3 Environmental Consequences

The analysis of water resources includes the reasonably foreseeable impacts on groundwater, surface water, wetlands, and floodplains. Groundwater analysis focuses on the reasonably foreseeable impacts to the quality, quantity, and accessibility of the water. The analysis of surface water quality considers the reasonably foreseeable impacts that may change the water quality or uses, including both improvements and degradation of current water quality. The impact assessment of wetlands considers the reasonably foreseeable impacts that may change the local hydrology, soils, or vegetation that support a wetland. The analysis of floodplains considers if any new construction is proposed within a floodplain or may impede the functions of floodplains in conveying floodwaters.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to baseline water resources. Therefore, no significant impacts to water resources would occur with implementation of the No Action Alternative.

3.2.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

The study area for the analysis of effects to water resources associated with the Proposed Action includes waters within the project area as well as any adjacent or downstream water resources that may be affected by the Proposed Action.

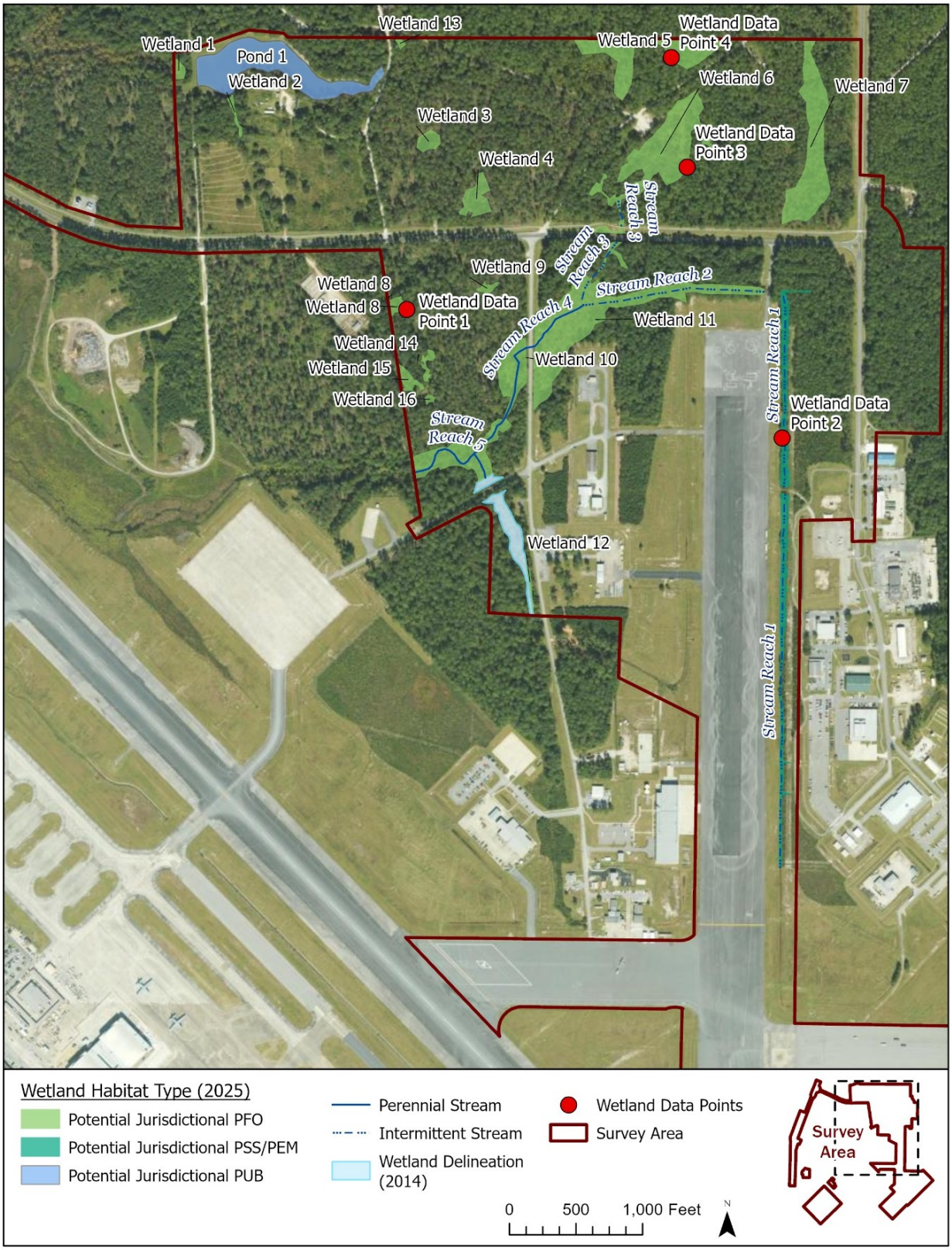

Figure 3.2-1 Wetlands and Streams within the Phoenix II Campus and Warehouse Site

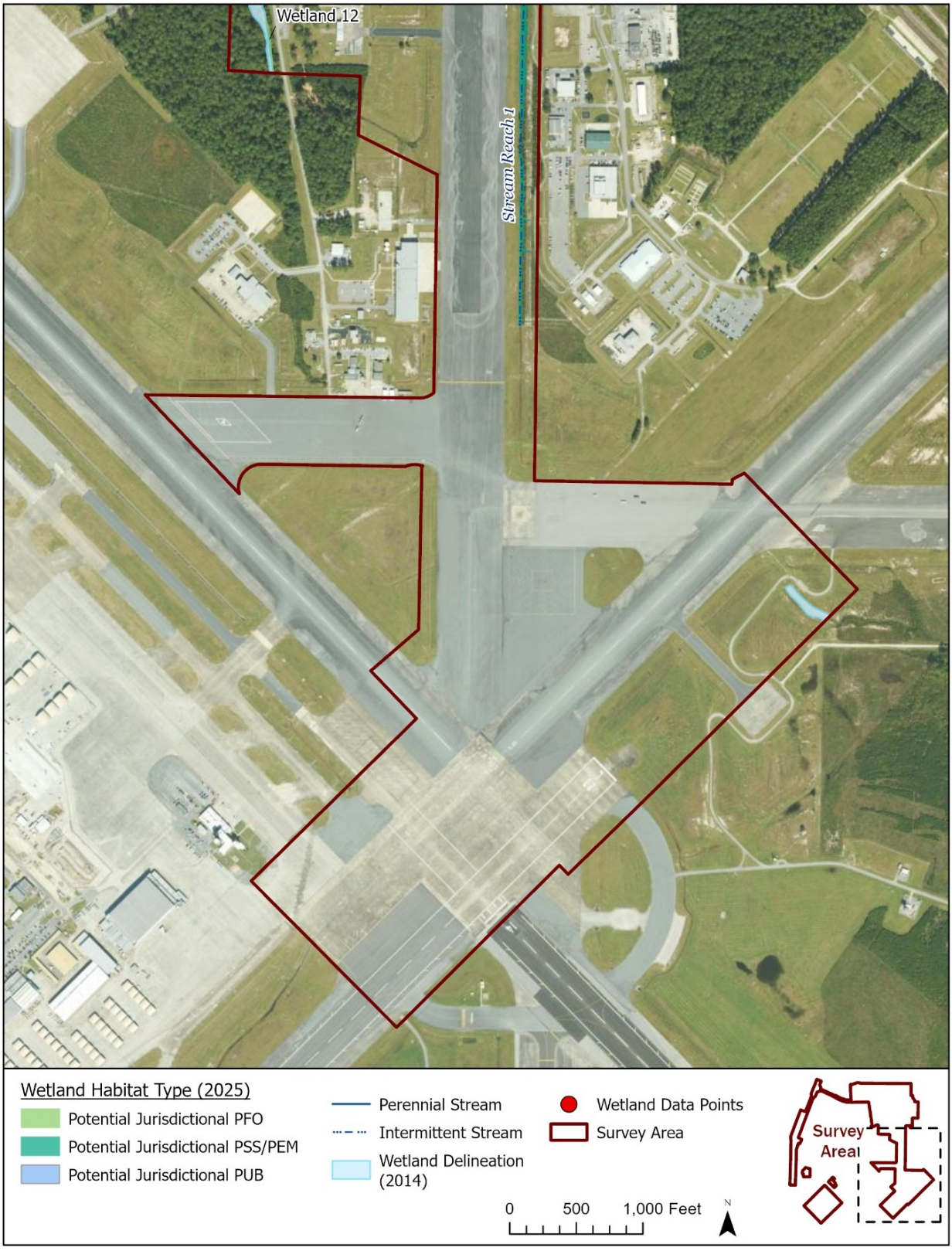

Figure 3.2-2 Wetlands and Streams within the Central Airfield Area

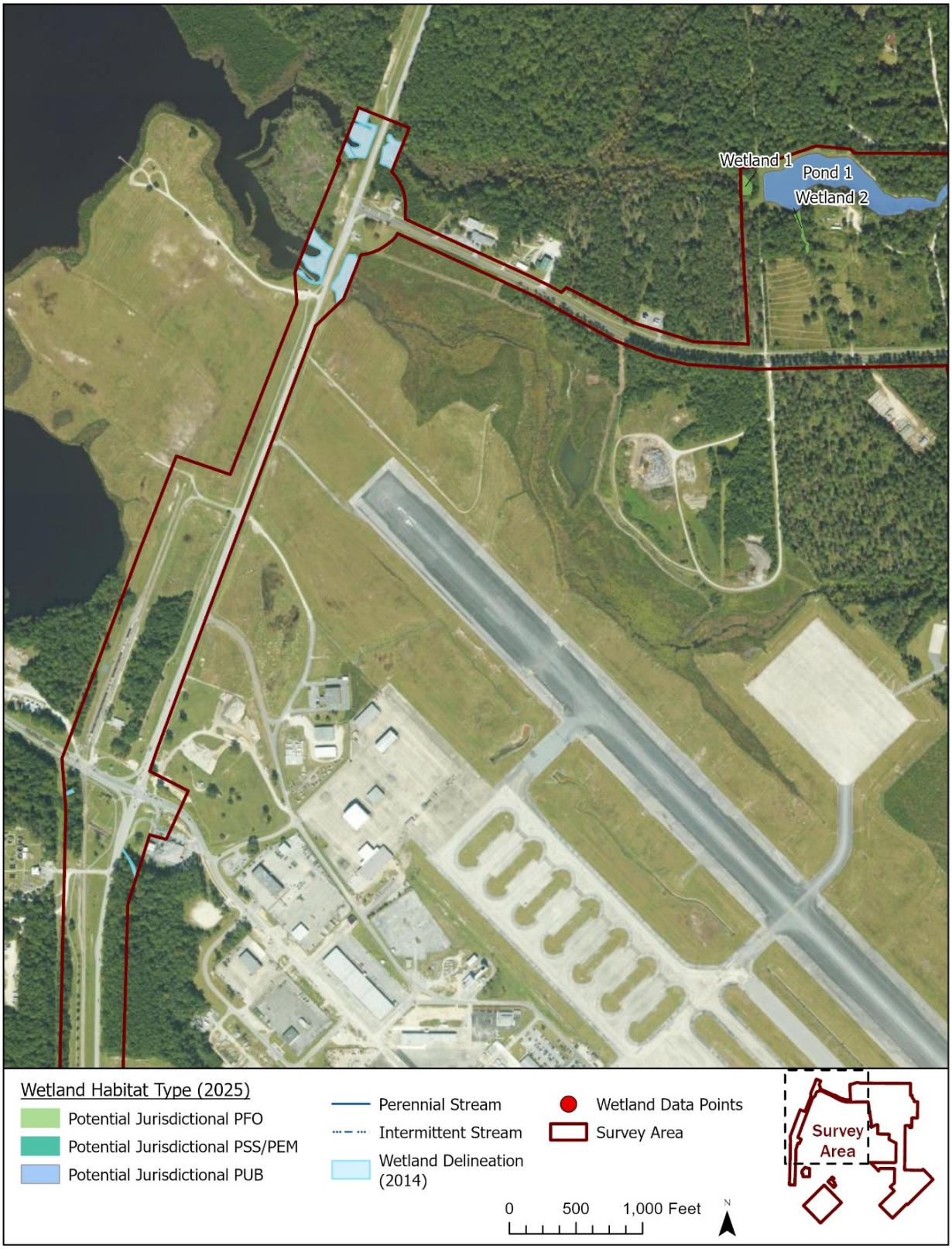

Figure 3.2-3 Wetlands and Streams within the Western Airfield Area

Groundwater

The construction of the new flightline campus structures (i.e., aircraft hangar space, privately owned vehicle parking, taxiways, etc.), unaccompanied housing, and utilities and infrastructure associated with implementation of the Proposed Action would add approximately 43 acres of impervious surfaces to the existing project area at MCAS Cherry Point. Flightline campus structures would account for approximately 38 acres of impervious surfaces (i.e., facilities, roadways, parking areas, sidewalks, concrete pads). Unaccompanied housing would increase impervious surfaces by approximately 5 acres. The proximate taxiway is currently paved and resurfacing the taxiway would not increase impervious surfaces at the existing project area. The Proposed Action would increase impervious surface at MCAS Cherry Point approximately 8.5 percent.

The increase of impervious surfaces at MCAS Cherry Point under the Proposed Action would result in increased volumes of runoff. To mitigate the effects of impervious surfaces added under the Proposed Action, stormwater management practices, landscaping zones, and low impact development strategies would be implemented. Moreover, BMPs for managing stormwater would be utilized to maintain existing runoff rates at the project site. Stormwater management activities could include adding landscaped areas to disconnect impervious areas, discharging roof drainage to grade, and constructing biofiltration swales to capture and filter stormwater. Therefore, a significant net reduction of infiltration and recharge capacity to groundwater is not anticipated to occur under the Proposed Action.

Construction activities associated with the Proposed Action are not expected to extend below ground to a depth that would affect the underlying Castle Hayne Aquifer system. Should construction require penetration into the aquifer, the appropriate and required approvals will be obtained and this analysis will be assessed to determine if supplementation is required. There is potential for fuel or chemicals to be spilled during construction and operational activities. Construction workers and incoming personnel would follow existing BMPs, DON Standard Operating Procedures, applicable pollution prevention requirements, environmental compliance procedures, and hazardous material management responsibilities identified in OPNAV M-5090.1, MCO 5090.2, and protocols outlined in the MCAS Cherry Point Stormwater Pollution Prevention Plan (SWPPP), to contain any spill and minimize the potential for contamination to the Castle Hayne Aquifer system. No impacts to groundwater are expected to occur under the Proposed Action. Implementation of the Proposed Action would not result in significant impacts to groundwater.

Surface Waters and Other Features

Rivers, Streams, and Creeks

Implementation of general construction BMPs (see **Table B-1**) and strict adherence to the DON's erosion control and stormwater management practices would reduce the potential for runoff causing turbidity in the Neuse River, Slocum Creek, Hancock Creek, and wetlands at MCAS Cherry Point. Construction activities under the Proposed Action are not anticipated to degrade water quality or affect the uses of surface waters in the project area. To prevent impacts on existing hydrological connectivity, culverts, bridges, and other measures deemed

appropriate would be implemented, as needed. The Proposed Action would introduce ground disturbing construction that has the potential to affect surface water quality through erosion, sedimentation, and stormwater runoff. To minimize these impacts, the DON would obtain coverage under the State of NC General Permit NCG01000, administered by the NC DEQ (NC DEQ, 2024). This permit authorizes stormwater point source discharges associated with construction activities that disturb 1 acre or more of land and requires implementation of BMPs to control sediment and pollutant loading.

Consistent with the NC Sedimentation Pollution Control Act of 1973, an Erosion and Sedimentation Control Plan would be developed prior to construction. This plan would be integrated into and implemented through the project-specific SWPPP. MCAS Cherry Point maintains an installation-wide SWPPP in accordance with its NPDES Permit No. NCS000314, and construction activities under the Proposed Action would comply with all applicable provisions of that permit (MCAS Cherry Point, 2025d).

Following completion of construction, stormwater generated from new or redeveloped impervious surfaces would be managed under the installation's Post-Construction Stormwater Program, as required by Air Station Order 5090.14 (U.S. Marine Corps, 2022). This program applies to projects that disturb 1 acre or more and requires the design and long-term maintenance of post-construction stormwater controls to reduce runoff volume and pollutant transport. The program requires submittal of an as-built certification verifying that installed stormwater infrastructure conforms to approved engineering plans.

Impervious surfaces at MCAS Cherry Point would increase by a total of approximately 43 acres. DON would adhere to Section 438 of the Energy and Independence Security Act by maintaining pre-development hydrology to the maximum extent technically feasible through construction of stormwater infrastructure to prevent net increases in stormwater runoff. Stormwater runoff due to increased impervious surfaces under the Proposed Action would be managed by MCAS Cherry Point's SWPPP for industrial activities. No downstream impacts to surface waters, including the Neuse River, Slocum Creek, Hancock Creek, and wetlands at MCAS Cherry Point are anticipated under the Proposed Action.

All construction equipment, as well as fuels, oils, hydraulic fluids, and lubricants, would be stored in the proposed project area. To prevent any potential petroleum and hazardous materials spills from impacting surface water, construction personnel would adhere to applicable BMPs (**Appendix B**). In the event of a spill, DON Standard Operating Procedures, applicable pollution prevention requirements, environmental compliance procedures, and hazardous material management responsibilities identified in OPNAV M-5090.1, MCO 5090.2, and BMPs listed in MCAS Cherry Point's SWPPP for industrial activities would be followed to minimize the potential of contamination to surface water resources. No significant impacts to water quality or surface water resources at MCAS Cherry Point would be anticipated under implementation of the Proposed Action.

Wetlands and Other Features

Based on preliminary project designs, approximately 5 to 10 acres of wetlands may be impacted from the construction activities associated with the Proposed Action including excavation,

filling, and grading. Mitigation for stream, wetland, and riparian buffer impacts may be required for activities associated with the Proposed Action. As discussed in *Section 2.2.2*, the project area at MCAS Cherry Point was selected based on extensive on-base siting factors which included avoiding impacts to sensitive environmental resources, such as extensive wetlands, to the greatest extent practicable. Moreover, the flightline campus and supporting infrastructure would be designed to further avoid impacts to wetlands.

With unavoidable impacts to wetlands, the Proposed Action would require CWA Section 404 permitting to determine the type and quantity of required mitigation. Compensation for permanent, unavoidable impacts to wetlands will follow the guidance provided in the Mitigation Rule, a joint regulation promulgated by the USACE (33 CFR parts 325 and 332) and EPA (40 CFR part 230). The Mitigation Rule establishes a hierarchy for compensatory mitigation, the hierarchy preference is as follows: (1) Mitigation Bank credits, (2) In-Lieu Fee program credits, (3) Watershed-approach permittee-responsible mitigation, (4) On-site/In-kind permittee-responsible mitigation, and (5) Off-site/Out-of-kind permittee-responsible mitigation. Moreover, MCAS Cherry Point strives to achieve no net loss of size, function, and value of wetlands in accordance with DoD Instruction 4715.03.

While there would be adverse impacts on wetlands, these impacts would be lessened through avoidance and minimization measures and any required compensatory mitigation. Construction under the Proposed Action would be designed to avoid and minimize wetland impacts to the greatest extent feasible. The amount of compensatory mitigation would be determined through negotiations with the regulators during the Section 404 permit process. There are no coastal wetland impacts associated with the Proposed Action. Therefore, the impacts to wetlands would not be significant under the Proposed Action.

Floodplains

The proposed project site is not within the 500-year or 100-year floodplain (FEMA, 2020). The nearest floodplain to the project site is located approximately 3,600 feet southwest, is a part of the 500-year floodplain, and is associated with Slocum Creek. Segments of the 100-year floodplain are located approximately 3,850 feet to the northwest and approximately 4,000 feet to the northeast. Therefore, the project would be consistent with EO 11988, *Floodplain Management*, and no significant impacts to 100-year or 500-year floodplains would occur with the implementation of the Proposed Action.

Conclusion

Impacts to groundwater, surface water, wetlands, and floodplains associated with the implementation of the Proposed Action at MCAS Cherry Point would not be significant, and all reasonably foreseeable impacts to wetlands would be avoided and minimized to the maximum extent practicable. Unavoidable impacts would be mitigated in accordance with conditions of the CWA Section 404 permit. Implementation of the Proposed Action at MCAS Chery Point would not result in significant impacts to water resources.

3.3 Biological Resources

Within this EA, biological resources are defined as vegetation, wildlife, and special-status species. Vegetation and wildlife are the living, native, or naturalized plant and animal species that occur in an area. Special-status species are those plants and animals afforded protections under the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (BGEPA).

3.3.1 Regulatory Setting

In accordance with NEPA, the DON uses a systematic, interdisciplinary approach to inform planning and decision-making that may affect the quality of the human environment, including biological resources. This EA evaluates reasonably foreseeable effects on vegetation, wildlife, and special-status species. Consistent with DoD NEPA Implementing Procedures, the evaluation of biological resource effects considers the potentially affected environment and the degree of effects associated with the Proposed Action. Readily available and reliable data sources are used to characterize existing biological resource conditions, and no new research was required. The assessment considers the affected area at the appropriate geographic scale and evaluates both short- and long-term effects, beneficial and adverse effects, and potential implications for public health and safety, economic conditions, and quality of life.

The purpose of the ESA is to conserve the ecosystems upon which threatened and endangered species depend and to conserve and recover listed species. Section 7 of the ESA requires action proponents to consult with the USFWS or National Oceanic and Atmospheric Administration Fisheries to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Critical habitat cannot be designated on any areas owned, controlled, or designated for use by the DoW where an INRMP has been developed that, as determined by the Department of Interior or Department of Commerce Secretary, provides a benefit to the species subject to critical habitat designation. The most recent INRMP update for MCAS Cherry Point occurred in 2024 (See Section 1.6, *Key Documents*).

The MBTA prohibits the take of migratory birds, their nests, or eggs without authorization. EO 13186 directs federal agencies to conserve migratory birds. The 2003 National Defense Authorization Act allows incidental take during approved military readiness activities with USFWS coordination on conservation measures when significant effects may occur.

The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

3.3.2 Affected Environment

The following discussions provide a description of the existing conditions for biological resources at MCAS Cherry Point.

3.3.2.1 Vegetation

MCAS Cherry Point is in the Atlantic Coastal Flatlands of the Outer Coastal Plains Mixed Forest Province, as described in *Ecoregions and Subregions of the United States* (Bailey et al., 1994). MCAS Cherry Point has four natural community types: pine, grassland, pine-hardwood, and hardwood-pine (**Table 3.3-1**). Within the pine community type, loblolly pine dominates the canopy in broad interstream areas. Loblolly forests are burned by prescription on a 3-to-5-year cycle to facilitate military training, reduce wildfire danger, improve wildlife habitat, and promote native plant communities (MCAS Cherry Point, 2024a).

Within the project area, the existing airfield (159.8 acres) and facilities (153.1 acres) are already developed or have been previously disturbed. However, the rest of the area contains natural community types. **Table 3.3-1** shows the existing natural community types within the project area on MCAS Cherry Point and their acreage.

Table 3.3-1 Natural Community Types within the Project Area

Natural Community Type	Acres
Pine	220.48
Grassland	101.16
Pine-hardwood	4.89
Hardwood-pine	3.82

Source: MCAS Cherry Point, 2024a.

3.3.2.2 Wildlife

Common mammal species on MCAS Cherry Point include white-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), swamp rabbit (*Sylvilagus aquaticus*), eastern cottontail (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), and many small rodents and shrews (MCAS Cherry Point, 2024a).

Bird species that are widespread throughout MCAS Cherry Point include Eastern wild turkey (*Meleagris gallopavo*), northern bobwhite (*Colinus virginianus*), and the mourning dove (*Zenaida macroura*). Resident and migratory waterfowl are also common. Ibis (subfamily Threskiornithinae), cormorants (family Phalacrocoracidae), herons and egrets (family Ardeidae), and belted kingfisher (*Ceryle alcyon*) are common throughout areas where wetlands and surface water is present. Common songbirds include red-eyed vireo (*Vireo olivaceus*), cardinal (family Cardinalidae), tufted titmouse (*Baeolophus bicolor*), ruby-throated hummingbird (*Archilochus colubris*), eastern towhee (*Pipilo erythrophthalmus*), wood thrush (*Hylocichla mustelina*), summer tanager (*Piranga rubra*), blue-gray gnatcatcher (*Polioptila caerulea*), hooded warbler (*Wilsonia citrina*), and Carolina wren (*Thryothorus ludovicianus*) (MCAS Cherry Point, 2024a).

Common herpetofauna at MCAS Cherry Point include box turtle (*Terrapene* spp.), common garter snake (*Thamnophis sirtalis*), green tree frog (*Hyla cinerea*), squirrel treefrog (*Hyla squirella*), eastern spadefoot (*Scaphiopus holbrookii*), southern toad (*Anaxyrus terrestris*), and American alligator (*Alligator mississippiensis)* (MCAS Cherry Point, 2024a).

3.3.2.3 Special-Status Species

Federally listed species with the potential to occur within the project area are presented in **Table 3.3-2**. This species list was generated using the USFWS Information for Planning and Consultation tool (USFWS, 2025). No critical habitat has been designated within the project area.

Table 3.3-2 Threatened and Endangered Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Federal Listing Status
Northern Long-eared Bat	*Myotis septentrionalis*	E
Tricolored Bat	*Perimyotis subflavus*	PE
West Indian Manatee	*Trichechus manatus*	T
Eastern Black Rail	*Laterallus jamaicensis* ssp. *jamaicensis*	T
Red-cockaded Woodpecker	*Dryobates borealis*	T
Rufa Red Knot	*Calidris canutus rufa*	T
American Alligator	*Alligator mississippiensis*	SAT
Green Sea Turtle	*Chelonia mydas*	T
Southern Hognose Snake	*Heterodon simus*	PT
Monarch Butterfly	*Danaus plexippus*	PT
Rough-leaved Loosestrife	*Lysimachia asperulaefolia*	E

Key: E: Endangered; PE: Proposed Endangered; PT: Proposed Threatened; SAT: Similarity of Appearance, Threatened; T: Threatened.
Source: USFWS, 2025

Though the ranges of species listed in Table 3.3-2 overlap the project area, there is no recent documented occurrence or appropriate habitat for several of these species including: west Indian manatee (*Trichechus manatus*), eastern black rail (*Laterallus jamaicensis* ssp. *Jamaicensis*), red-cockaded woodpecker (*Picoides borealis*), rufa red knot (*Calidris canutus rufa*), green sea turtle (*Chelonia mydas*), southern hognose snake (*Heterodon simus*), and rough-leaved loosestrife (*Lysimachia asperulaefolia*). These species were either determined to not occur at the Proposed Action locations as documented by surveys on base and within Craven County (MCAS Cherry Point, 2024a, 2024b; NC State Parks, n.d.) or that they would not be affected because the Proposed Action's activities would not affect areas of suitable or critical habitat for the species, as described below.

Documented occurrences of the west Indian manatee are limited to offshore waters adjacent to installation parcels between June and October (MCAS Cherry Point, 2024a). Suitable habitat for the species is not present within the Proposed Action area, which consists of previously developed areas as well as forested and grassland habitats. Therefore, this species is not analyzed further.

The eastern black rail and rufa red knot have not been confirmed on MCAS Cherry Point from previous surveys (MCAS Cherry Point, 2024a). High salt marsh, shallow freshwater marsh, and tidal mudflat habitat for the eastern black rail and rufa red knot are not present within the project area and these habitats would not be affected under the Proposed Action. The red-cockaded woodpecker historically occurred on MCAS Cherry Point property, but the species has not been observed since the 1970s. Evidence of an abandoned colony was identified in 1980, and evidence of red-cockaded woodpecker activity was observed in 1982; however, no individuals were observed during this time. There is potential for red-cockaded woodpeckers to

occur in longleaf pine habitats on MCAS Cherry Point due to the presence of a colony at the Croatan National Forest about 3 miles away; however, there is no indication that it is occurring (MCAS Cherry Point, 2024a, 2024b). Therefore, these species are not analyzed further.

Sea turtle nesting has not been documented on any part of MCAS Cherry Point (MCAS Cherry Point, 2024a). Suitable and critical habitat for the species is not present within the Proposed Action area, which consists of previously developed areas as well as forested and grassland habitats. Therefore, suitable and critical habitat would not be affected under the Proposed Action and this species is not analyzed further.

While potential habitat for the southern hognose snake, such as sandy fields and forests, exists within the project area (MCAS Cherry Point, 2024a), there is no recent evidence of the species' presence on the installation or in the surrounding area. A review of the NC State Parks Reptiles of North Carolina Database indicates the species has not been officially documented in Craven County since 1905 (NC State Parks, n.d.). Given the lack of recent or historical sightings in the vicinity, the species is not expected to occur within the project area. Therefore, this species is not analyzed further.

The American alligator (*Alligator mississippiensis*), which is present at MCAS Cherry Point, is listed as threatened by both the State and the USFWS due to its similarity in appearance to the endangered American crocodile (*Crocodylus acutus*). Pursuant to the ESA, federal agencies are not required to conduct Section 7 consultation for species listed solely for this reason.

However, for the purposes of this EA, potential effects were considered. The American alligator, which is present at MCAS Cherry Point, is listed as threatened by both the State and the USFWS due to its similarity in appearance to the endangered American crocodile. Pursuant to the ESA, federal agencies are not required to conduct Section 7 consultation for species listed solely for this reason. However, for the purposes of this EA, potential effects were considered. NEPA requires broader analysis than the ESA. NEPA covers all reasonably foreseeable environmental effects, including to species not listed or to species that do not require consultation, like the American alligator (see Section 3.3.3.2).

Because the project will not directly impact alligator habitat and includes measures to control stormwater and protect downstream water quality, no significant impacts to the American alligator are anticipated. Therefore, this species is not carried forward for detailed analysis in this EA.

Ten migratory birds have the potential to occur within the project area, including the bald eagle (Haliaeetus leucocephalus) (USFWS, 2025). The bald eagle has been observed at the Main Station since 1983 and has the potential to occur at all other land parcels of MCAS Cherry Point (MCAS Cherry Point, 2012). The bald eagle has been removed from the endangered species list, but it remains protected under the BGEPA.

Species with the potential to occur within the project area that may be affected by the Proposed Action are discussed below.

Northern Long-eared Bat (*Myotis septentrionalis*)

The northern long-eared bat was first listed as threatened under the ESA on April 2, 2015 (81 Federal Register [FR] 1900). Later, its status was changed to endangered on November 30, 2022 (87 FR 73488). Northern long-eared bats predominantly overwinter in hibernacula that include various-sized caves and mines. During the summer and portions of the fall and spring, they roost in forested areas. Northern long-eared bats are nocturnal foragers and feed by capturing insects such as moths, flies, leafhoppers, caddisflies, and beetles (USFWS, 2022). During late summer and early autumn, northern long-eared bats migrate from their summering sites to swarming sites, where mating likely occurs (Johnson et al., 2015). In the coastal plain of NC, some northern long-eared bats may not migrate seasonally and may be active during winter. They forage in the understory of forested habitat, emerging at dusk to take insects in the air or from vegetation. The predominant threat to the northern long-eared bat is white-nose syndrome. White-nose syndrome is a disease in bats caused by a fungal pathogen. Habitat loss also influences viability of this species and includes deprivation of suitable roosting or foraging habitat, resulting in longer flights between habitats due to habitat fragmentation, separation of maternity colony networks, and direct injury or mortality (USFWS, 2022). Abundance is low in most occupied areas of NC. A Phase I Habitat Assessment Report for the northern long-eared bat and tricolored bat was completed for MCAS Cherry Point evaluating habitats present for federally-listed or proposed-listing bat species (MCAS Cherry Point, 2024c). There are over 6,000 acres of suitable roosting habitat within MCAS Cherry Point, including the entirety of forest stands that are managed for timber (MCAS Cherry Point, 2024c). However, northern long-eared bats were not captured or detected during on-site acoustic and mist netting surveys at MCAS Cherry Point in 2017 (MCAS Cherry Point, 2024a). Historically, individuals have been captured approximately 9 miles from the installation in Croatan National Forest. In 2025, inventory and monitoring of bat populations at MCAS Cherry Point during surveys identified roost, mist netting, and acoustic sites on the installation. The northern long-eared bat was identified at multiple acoustic sites on base with the Duffy area having the most northern long-eared bat passes per night (**Figure 3.3-1**) (Guilianelli, 2026). The bat survey was performed on the north side of the air station in and near the Phoenix II project area in 2025 to include data collection at the mist net and acoustic sites shown in **Figure 3.3-1**. The report is being finalized at the time of writing by the UNC Institute for the Environment. Based on habitat descriptions in the literature and site-specific habitat assessments (USFWS, 2022; MCAS Cherry Point, 2024c), multiple natural land cover types on MCAS Cherry Point and within the Proposed Action area are considered suitable foraging and roosting habitat for the northern long-eared bat. Specifically, suitable habitat includes forested areas, both upland and wetland, which contain the requisite roost trees and foraging structure. Among the suitable forested habitats, wetland forests are considered preferred.

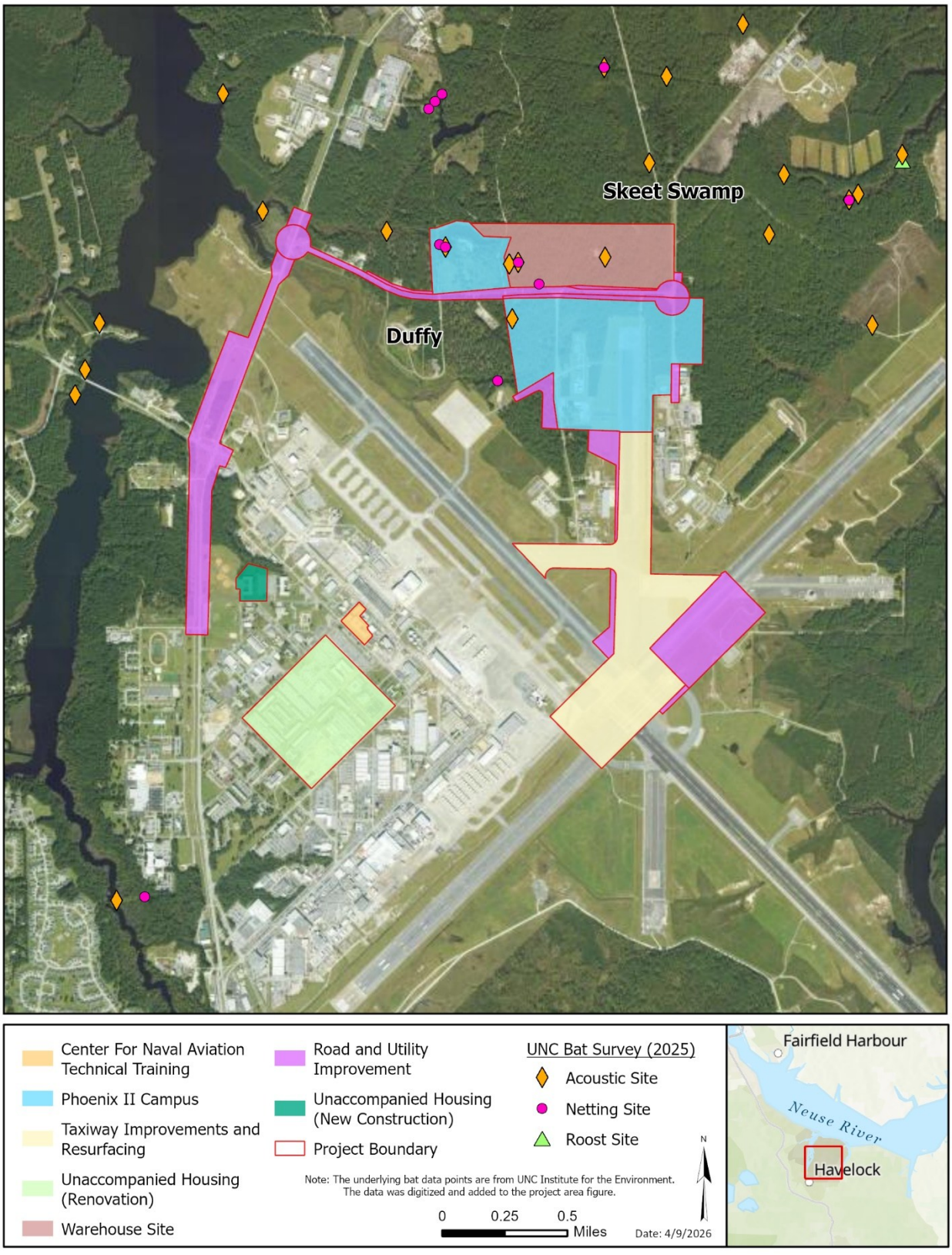

Figure 3.3-1 Roost, Mist Netting, and Acoustic Sites Within the Project Area

Tricolored Bat (*Perimyotis subflavus*)

The tricolored bat was proposed to be listed as an endangered species on September 14, 2022 (87 FR 56381). Tricolored bats primarily roost in the foliage of live and dead deciduous hardwood trees in the spring, summer, and fall. In the winter, tricolored bats hibernate in caves and other subterranean habitats (USFWS, 2021), although individuals may use other structures such as culverts in areas where caves are uncommon (e.g., eastern NC) (MCAS Cherry Point, 2024a). Tricolored bats converge at cave and mine entrances between mid-August and mid-October to swarm and mate. The species disperse from winter hibernacula to summer roosting habitat in the spring. Tricolored bats emerge early in the evening and forage at treetop level or above but may forage closer to ground later in the evening. Tricolored bats are also known to forage most commonly over waterways and forest edges (USFWS, 2021).

Surveys conducted in 2017 documented the presence of tricolored bats on MCAS Cherry Point parcels that are adjacent to open water (MCAS Cherry Point, 2024a). The 2017 surveys also noted that the most commonly observed bat in the acoustic survey was the tricolored bat, accounting for approximately 43 percent of the recorded bat passes (MCAS Cherry Point, 2024c). Tricolored bats have also been captured at the nearby Croatan National Forest and Neuse River Game Land. The inventory and monitoring of bat populations at MCAS Cherry Point in 2025 identified the tricolored bat at multiple acoustic sites on base with the Skeet Swamp area having the most tricolored bat passes per night (see Figure 3.3-1) (Guilianelli, 2026). The Phase I Habitat Assessment Report for the northern long-eared bat and tricolored bat showed over 6,000 acres of suitable roosting habitat within MCAS Cherry Point (MCAS Cherry Point, 2024c). Based on habitat descriptions in the literature and site-specific habitat assessments (USFWS, 2021; MCAS Cherry Point, 2024c), multiple natural land cover types on MCAS Cherry Point are considered suitable foraging and roosting habitat for the tricolored bat. Specifically, the hardwood-dominated habitats are of highest suitability for tricolored bats. However, the forest units consist of almost exclusively mature loblolly pine in the project area.

The primary threats to this species include white-nose syndrome and habitat loss. Similar to the Northern long-eared bat, abundance of this species in most summer and winter colonies has declined due to white-nose syndrome. Loss or modification of winter habitats especially harm the species given the high site fidelity and narrow microclimate requirements for hibernation (USFWS, 2021).

Monarch Butterfly (*Danaus plexippus*)

The monarch is a species of butterfly well known for its phenomenal long-distance migration in the North American populations. Declining population trends led to the petition to list the monarch butterfly for protection under the ESA. On December 12, 2024, USFWS announced the monarch butterfly as a proposed threatened species under the ESA (89 FR 100662). The USFWS continues to update information relevant to the species status for the butterfly (USFWS, 2024a). Monarchs have potential to occur at MCAS Cherry Point. Species abundance varies throughout the year but has a noticeable fall migration, which can occur in any habitat. When not in migration, they are generally found where milkweed (*Asclepias* spp.) or other flowering plants are present. Milkweed patches are used for food/nectar sources as well as for breeding grounds. This species has potential to occur in many areas on base as multiple milkweed

varieties are present. No surveys for milkweed have been done within the project area; however, coastal regions, such as Craven County, are important flyways and nectar (wild or in gardens) is an important resource in such places (MCAS Cherry Point, 2024a).

3.3.3 Environmental Consequences

3.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to biological resources. Therefore, no significant impacts to biological resources would occur with implementation of the No Action Alternative.

3.3.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

Reasonably foreseeable impacts to biological resources from the Proposed Action include displacement, loss of habitat, and increased noise levels from proposed construction and operations of all necessary facilities and aircraft/vehicles.

Vegetation

Construction activities associated with the Proposed Action would result in the removal of approximately 220.5 acres of pine, 101.2 acres of grassland, 4.9 acres of pine-hardwood, and 3.8 acres of hardwood-pine. A remaining approximately 245 acres in the project area are in areas that are developed or have been previously disturbed. Overall loss of vegetation represents a small percentage (3.4 percent) of natural vegetation on the base (approximately 7,633 acres) (MCAS Cherry Point, 2024a), and therefore, the Proposed Action would not result in significant impacts to vegetation.

Wildlife

Impacts on wildlife would include injury, mortality, behavior changes, displacement, and habitat loss from associated construction activities and operation of Phoenix II aircraft.

Wildlife present within project areas could experience injury and mortality from being struck during construction and clearing operations, though based on the temporary nature of construction and the tendency of wildlife to avoid disturbance, this possibility is small. The Proposed Action involves upland construction and does not include any in-water work in the Hancock and Slocum Creek systems where alligators are known to occur. While stormwater runoff from construction sites could potentially flow into these downstream aquatic habitats, the project is required to implement a comprehensive SWPPP and other BMPs. These measures are designed to control erosion and sedimentation, preventing degradation of downstream water quality. The project will not directly impact alligator habitat and includes measures to control stormwater and protect downstream water quality.

Loss of habitat for species would occur within the project area; however, almost half of the project area is already developed and the surrounding areas on base have been previously and continually disturbed. For example, hundreds of acres of prescribed burning occur in forest areas at MCAS Cherry Point every few years temporarily disrupting wildlife. Tree clearing activities would be scheduled to avoid times when species are most likely present (e.g., nesting seasons) to minimize impacts.

Impacts to wildlife from construction and aircraft noise can include behavior changes in wildlife including a startle reflex that induces running or flight, increased likelihood of predation, and interruption of breeding and nursing behavior (Larkin, 1996). Phoenix II aircraft are anticipated to be quieter than existing fighter aircraft (F-35B) operating at MCAS Cherry Point. As bird and animal populations at MCAS Cherry Point are already exposed to elevated noise levels associated with military industrial and training/flight operations, the addition of approximately 500 annual Phoenix II airfield operations would not result in a significant change in noise and would not significantly impact wildlife species. Impacts from construction noise are expected to be temporary and minor because the ambient noise levels within the vicinity of the project area are high under existing conditions and anticipated noise would be temporary and consistent with existing noise levels.

Phoenix II flight operations would increase the potential for Bird/Wildlife Aircraft Strike Hazard (BASH) occurrences. MCAS Cherry Point maintains a BASH Management Plan to reduce the potential for collisions between aircraft and birds and other animals. The BASH Management Plan prescribes an ongoing process that involves the distribution of information and active and passive measures to control how birds use the critical areas around the airfield. Phoenix II flight operations are anticipated to marginally increase total annual airfield operations at MCAS Cherry Point (an increase of approximately 500 annual flights, representing about 1 percent of total installation operations). The proposed additional operations would be within the typical fluctuations in aircraft operations at military airfields from one year to the next. MCAS Cherry Point would continue to manage BASH in accordance with the BASH Management Plan. No significant impacts to birds or other wildlife from construction activities are expected.

Therefore, the Proposed Action would not result in significant impacts to wildlife.

Special-Status Species

ESA-listed Species

Northern Long-eared Bat and Tricolored Bat

Habitat Loss

Construction activities associated with the Proposed Action could result in the removal of approximately 100 non-contiguous acres (comprised of several discrete smaller compartments of 25–35 acres) of forested habitat potentially used by the northern long-eared bat and tricolored bat. The forested area is mainly comprised of loblolly pine which is less suitable compared to other habitats. The Phase 1 Habitat Assessment noted that hardwood-dominated habitats are of the highest suitability for tricolored bats, while wetland habitats are most suitable for the northern long-eared bat (MCAS Cherry Point, 2024c). Effects on bats within the Proposed Action area are expected to be similar to wildlife discussed above. Although, because bats are nocturnal and no roost sites were identified in the Proposed Action Area, it is unlikely they would be present during daytime construction activities. In addition, suitable habitat remains both on and off the installation, so it is expected that bat species would readily relocate to another suitable area during construction activities.

Noise

Noise affect bats by causing reduced predator detection and physiological stress and nighttime noise may distract and interfere with echolocation of foraging bats affecting energy reserves (USFWS, 2024b). The degree of impact would be dependent on the magnitude of noise, proximity of the individual to the source, and an individual's habituation to noise stress as well as whether noise associated with the Proposed Action is detectable above ambient noise levels from the airfield and other installation activities. Proposed runways, ramps, and taxiways to support operations and maintenance may create additional noise compared to existing operations. However, because the Proposed Action area is surrounded by highly developed areas including an existing runway within 1 mile, bats at MCAS Cherry Point are routinely exposed to elevated noise levels and are expected to be habituated to this environment.

Lighting

The addition of artificial lighting from potential nighttime construction and for proposed facilities and the new perimeter fence may create a reduction in foraging and suitable habitat in the vicinity of the project area. Most bat species are sensitive to artificial light at night when commuting and foraging (Voigt et al., 2021). Voigt et al. (2021) evaluated the impacts of light pollution on bats according to foraging guild and habitat context. It was found that narrow-space-foraging bat species consistently avoid artificial lighting at night when foraging. Both the northern long-eared bat and tricolored bat are generally considered narrow-space foraging bats using cluttered forest interiors (USFWS 2021, 2022). In addition, the tricolored bat is also commonly placed in the open space foraging bat species because it can forage along forest edges and openings as well. Open space foraging species may exploit insects lured by artificial lighting at night and be attracted to the area (Voigt et al., 2021). Both the northern long-eared bat and the tricolored bat could experience avoidance behavior and habitat displacement in response to artificial light at night, especially during commuting and foraging; however, nighttime construction, if determined necessary, would use temporary lighting and would cease once construction is complete. Construction of proposed facilities within the Proposed Action area is expected to last approximately 4 years. To the extent practicable, permanent facilities within the project area would incorporate the use of downward facing lighting and internal low-glare optics to minimize the impact of artificial lighting on the surrounding environment.

Injury and Mortality

Proposed Action activities have the potential to result in direct injury or mortality to northern long-eared bats and tricolored bats primarily through construction activities and tree clearing. While bats can flee during tree clearing, the removal of occupied roosts could result in direct injury or mortality. The likelihood of direct mortality is minimized through seasonal restrictions on tree clearing during the winter torpor window and pup season, and with avoidance of tree clearing through site design for the northern long-eared bat and tricolored bat. In addition, ongoing pre-construction surveys would continue before site clearing commences. The addition of the new perimeter fence may result in direct injury or mortality to bats. The new perimeter fencing would be a 7-foot tall chain link fence with slats and topped with 1-foot long single (or dual) extension arms containing three (or six) strands of barbed wire depending on facility

design requirements. Thin strands of barbed wire may be difficult for bats to detect when foraging and can cause them to become entangled. However, several proposed buildings for construction in proximity to the new perimeter fence are taller than the fencing itself, so in these areas bats are unlikely to forage at the height of the fence to avoid collision with the nearby buildings. Moreover, the project would involve the removal of some existing fence sections already presenting a potential collision risk, and use of proposed chain link fencing with slats (for privacy) may present a solid structure reducing collision risk.

Therefore, the effects to the northern long-eared bat and tricolored bat from the Proposed Action would not be significant. The Proposed Action *may affect but is not likely to adversely affect* the northern long-eared bat or tricolored bat. The DON is consulting with USFWS under Section 7 of the ESA to confirm these findings and ensure appropriate conservation measures are implemented, as needed.

Monarch Butterfly

Habitat Loss

Monarch butterfly abundance varies throughout the year on MCAS Cherry Point, but there is a noticeable fall migration, which can occur in any habitat. Approximately 61 acres of grassland habitat occur within the Project Area. Removal of grassland habitat where milkweed could occur would adversely affect monarch habitat. However, approximately 61 acres of grassland habitat represents only a small fraction (2.9 percent) of the total grassland habitat available at MCAS Cherry Point (2,115 acres). In addition, grassland areas located around the airfield clear zone (and within the project area) are regularly mowed for safety and operational reasons, thus limiting the likelihood that milkweed or other suitable habitat would be present in these zones. Installation personnel would continue to manage remaining suitable habitat on MCAS Cherry Point (approximately 2,054 acres) according to the MCAS Cherry Point INRMP, which is designed to protect and benefit threatened and endangered species (MCAS Cherry Point, 2024a).

Noise

The effect of noise associated with construction and operational activities on the monarch butterfly is unknown. However, the level of noise resulting from operations under the Proposed Action would be minimal compared to the existing elevated ambient noise environment at MCAS Cherry Point, particularly so close to an active runway. Construction noise associated with the Proposed Action would also be temporary. For these reasons, noise may affect, but is not likely to adversely affect the monarch.

Injury and Mortality

Vegetation removal, grading, and construction equipment operation have the potential to result in injury or direct mortality to monarch butterflies within the project area. The least mobile stages are the egg and pupal stages, which are immobile, while the larval stage has only limited movement. However, monarch butterflies are highly mobile during the adult life stage and are expected to avoid construction areas. Monarch butterflies are also small in size and typically would only have a brief overlap between their flight paths and active construction

areas. Therefore, it is unlikely that a monarch butterfly would experience injury or mortality from construction equipment operations. In addition, construction activities would be temporary and localized.

Therefore, the effects to the monarch butterfly from the Proposed Action would not be significant. The Proposed Action *may affect but is not likely to adversely affect* the monarch butterfly. The DON is consulting with USFWS under Section 7 of the ESA to confirm these findings and ensure appropriate conservation measures are implemented, as needed.

MBTA and BGEPA Species

Ten migratory birds, including the bald eagle, within the Proposed Action area are protected under the MBTA and BGEPA. For military readiness activities such as those associated with the Proposed Action, the military may incidentally take migratory birds provided they confer with the USFWS for action that may result in a significant adverse effect on a migratory bird population (50 CFR 21.42). Consistent with MBTA implementing regulations, analysis of effects to migratory birds focuses on population-level impacts rather than individual behavioral responses or temporary disturbance.

Implementation of the Proposed Action is not expected to result in take of bald eagles, as defined under the BGEPA, and activities would be conducted in a manner that avoids disturbance to occupied nests and minimizes the potential for injury, mortality, or nest abandonment. Implementation of the Proposed Action could result in short-term habitat disturbance and displacement of migratory birds and bald eagles in the immediate vicinity of construction or operational activities. Birds exposed to these activities may exhibit brief behavioral responses, such as flushing or increased alert behavior (Larkin, 1996). However, these responses are expected to be temporary and would not result in abandonment of suitable habitat or long-term changes in nesting, foraging, or migratory behavior. Aircraft operations and ground-based military activities already occur routinely at MCAS Cherry Point. The literature that was reviewed in support of this EA generally concludes that birds and other wildlife can become habituated, or acclimated, if exposed to noise disturbance repeatedly over time. The Proposed Action would not introduce new types of disturbance or substantially increase the intensity or frequency of activities above existing baseline conditions.

MCAS Cherry Point implements an established migratory bird management program in compliance with EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, and operates a BASH program to support aviation safety. BASH practices are coordinated with natural resources personnel and implemented in a manner that avoids or minimizes adverse effects to MBTA-protected species. While BASH activities may cause localized, temporary displacement of individual birds, they are designed to prevent bird-aircraft collisions and do not result in population-level effects. These programs represent ongoing baseline conditions and demonstrate that the installation fulfills its legal responsibilities under the MBTA for military readiness activities.

Because the Proposed Action would not substantially alter habitat availability, would occur within an environment already subject to routine military operations, and would not increase the likelihood of population-level effects to migratory birds, it would not result in significant

adverse effects to migratory birds under the MBTA. Consistent with 50 CFR 21.42 and EO 13186, any sensory disturbance and temporary displacement associated with the Proposed Action would not threaten the sustainability of migratory bird populations. For bald eagles, although temporary disturbance could occur in the vicinity of activities, such effects would be limited in duration and intensity and are not expected to result in injury, mortality, nest abandonment, or take as defined under the BGEPA.

Therefore, impacts to migratory birds and bald eagles would be minor and not significant.

Conclusion

Impacts to vegetation, wildlife, and special-status species would be minimized through avoidance and the implementation of conservation measures if determined needed through consultation. For federally protected species, the DON has initiated consultation with the USFWS under Section 7 of the ESA. The final determination of effects and any required mitigation measures will be documented upon completion of this consultation and will be included in the Final EA.

With the implementation of project design features and any conservation measures identified through the ongoing consultation process, significant impacts to biological resources are not anticipated.

3.4 Transportation

This section analyzes the reasonably foreseeable impacts to the ground transportation network resulting from the Proposed Action. The analysis focuses on the roadway network, key intersections, and access gates serving MCAS Cherry Point, as these are the components that would be affected by construction traffic and the daily commutes of new personnel. Other modes of transportation, such as public transit, pedestrian, and bicycle networks, were not carried forward for detailed analysis as they either do not exist in the project area or would not be affected by the Proposed Action. The analysis uses Level of Service (LOS) and vehicle queuing as the primary metrics for determining impacts (**Table 3.4-1**).

Table 3.4-1 LOS Thresholds for Signalized Intersections

LOS	Remarks	Signalized Intersection Delay (sec)	Performance
A	Progression is extremely favorable, and most vehicles do not stop at all	≤ 10	Acceptable
B	Good progression, some delay	> 10–20	Acceptable
C	Fair progression, higher delay	> 20–35	Acceptable
D	Unfavorable progression, congestion becomes apparent	> 35–55	Acceptable
E	Poor Progression, substantial delay	> 55–80	Unacceptable
F	Poor Progression, extreme delay	> 80	Unacceptable/ Fail

Key: ≤ = less than or equal to; > = greater than; LOS = level of service

3.4.1 Regulatory Setting

The Craven County Comprehensive Transportation Plan was developed in an effort to determine the county's future transportation needs using available information, like population, economic conditions, traffic trends, and patterns. The Comprehensive Transportation Plan was adopted by the city of Havelock in 2023 and identifies deficiencies and provides recommendations for implementation over a 25- to 30-year timeframe (NC Department of Transportation [DOT], 2022). In July 2025, NC DOT also adopted the 2026–2035 State Transportation Improvement Program, which identified 2,955 transportation projects that will receive funding from 2026 to 2035 (NC DOT, 2026). Of these, one project would widen and implement other road improvements to NC 101/Fontana Boulevard; construction is proposed to start in 2030.

3.4.2 Affected Environment

This section describes the traffic and transportation network in the Proposed Action's ROI. This ROI considers the transportation network in the direct vicinity of the project site. The transportation network within the ROI is largely vehicle-oriented. Major roadways like U.S. 70 are the primary means of access, with personal vehicles being the primary mode of transportation for commuters.

The Proposed Action includes a phased stationing of about 1,000 new personnel, plus their family members, at MCAS Cherry Point between 2029 and 2039. To assess the reasonably foreseeable effects of these new personnel on traffic/roadway capacity, DON conducted a detailed traffic analysis of existing and future conditions at MCAS Cherry Point, and the reasonably foreseeable impacts that would result from the Proposed Action (MCAS Cherry Point, 2026). The analysis employed a conservative methodology to ensure a thorough review of potential impacts. It models the traffic impact of all 1,000 new personnel as daily peak-hour commuters and, in addition, applies a separate 0.5 percent annual growth factor to the existing base population to account for background growth. These projections represent a conservative "maximum potential" scenario, as the actual number of daily commuters on any given day would likely be lower due to factors such as staggered work schedules, personnel being on leave or deployed, and carpooling. The traffic analysis used 2025 as the baseline for existing conditions, and the year 2039 for future conditions (i.e., the No Action Alternative and Proposed Action Alternative), as 2039 is the year by which all proposed personnel would be stationed at the base.

Access to MCAS Cherry Point is provided through two primary gates: the Roosevelt Gate (i.e., the main gate on the south side of the base), and the Slocum Gate, which serves the northern side of the base. In addition to these two gates, the Traffic Study analyzed four intersections (two on-base and two off-base; see **Figure 3.4-1**):

- **Intersection 1** (Roosevelt Boulevard and Fontana Boulevard): an off-base, signalized intersection that directly connects the Roosevelt Gate to regional traffic entering from the north and supports internal and external circulation.

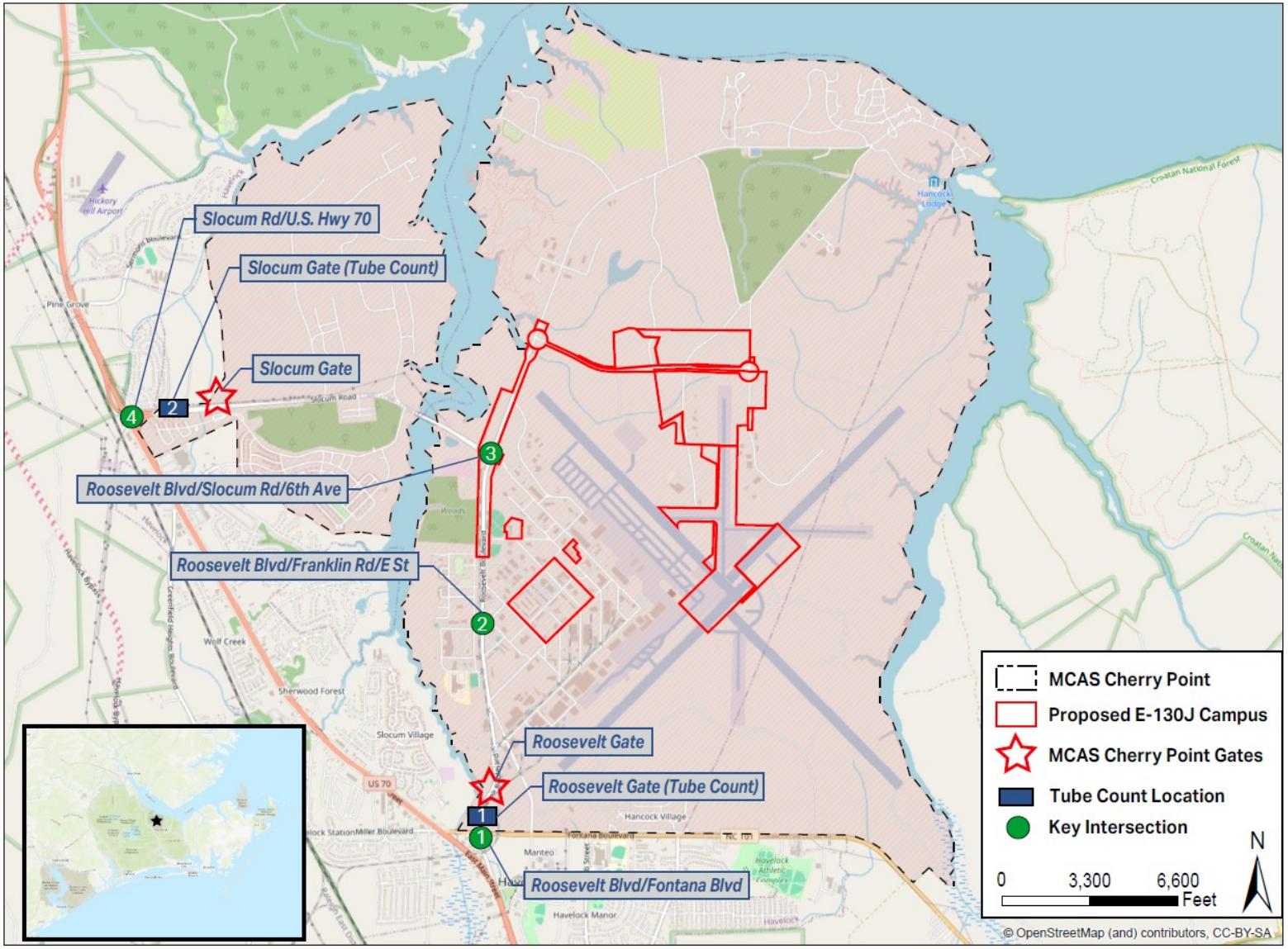

Figure 3.4-1 Traffic and Transportation Region of Influence

- **Intersection 2** (Roosevelt Boulevard, Franklin Road, and E Street): an on-base, signalized intersection that links major internal destinations (commissary, exchange, CDC, barracks, administrative areas) to the main internal arterial.
- **Intersection 3** (Roosevelt Boulevard, Slocum Road, and 6th Avenue): an on-base, signalized intersection that serves as a key internal junction where traffic from Slocum Gate merges with internal circulation along Roosevelt Boulevard.
- **Intersection 4** (U.S. 70 and Slocum Road): an off-base, signalized intersection that serves as the primary off-base intersection for vehicles entering from the regional highway network traveling toward Slocum Gate.

Analyses considered the morning (AM), midday, and evening (PM) peak periods to capture the times of highest activity. The Traffic Study used field data collected in May 2025, observed peak-period travel patterns, personnel information and traffic assumptions, and operational modeling (MCAS Cherry Point, 2026).

MCAS Cherry Point's primary access gates and supporting intersections are subject to noticeable operational stress during peak periods under existing conditions. Traffic conditions are characterized by predictable surges in demand that align with the installation's daily shift patterns, resulting in recurring congestion at key entry points. Comprehensive traffic counts were conducted at all study intersections and gates in May 2025, with the PM peak hour identified as the period of highest overall demand.

The Roosevelt Gate consistently accommodates the highest overall volume of vehicles and serves as the principal access point for both inbound morning and outbound afternoon traffic. This gate is also underperforming under existing conditions. During the AM peak hour, inbound queues at the Roosevelt Gate, which is located approximately 250 feet north of the Roosevelt/Fontana Boulevard intersection, frequently exceed the available storage space for waiting vehicles between the gate and the intersection. This gate has limited storage capacity, about 30 waiting vehicles, and the queue often reaches 100 vehicles (with a peak of 127 vehicles) using approximately 423 percent of the available space. These vehicles currently spill back through the intersection, thereby affecting progression along Roosevelt Boulevard. The Slocum Gate experiences moderate inbound queuing (about 43 percent of its total queue capacity) during peak periods but generally operates with fewer constraints than the Roosevelt Gate due to the much longer distance between the gate and the U.S. 70 ramps, which can store approximately 160 vehicles. Outbound traffic at both the Roosevelt and Slocum Gates peaks during the afternoon, corresponding with end-of-day departures, with minimal recurring outbound congestion observed at the Slocum Gate (MCAS Cherry Point, 2025f).

The delays and LOS under existing conditions for the studied intersections are shown in **Table 3.4-2**. Of the four intersections studied, Intersection 1 operates at an unacceptable LOS during the AM peak hour, with an average delay of 55.7 seconds, while Intersection 3 experiences a failing LOS during the PM peak hour, with an average delay of 98.5 seconds. Both intersections operate at acceptable LOS during the remaining peak periods, and the other two intersections maintain acceptable LOS throughout the day (MCAS Cherry Point, 2025f).

Table 3.4-2 LOS for Studied Intersections Under Existing Conditions (2025), No Action Alternative (2039), and Proposed Action Alternative (2039)

Intersection Number	Crossing Street Name	AM Peak		Midday Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2025 – Existing Conditions							
1	Roosevelt Boulevard & Fontana Boulevard (Off-Base)	55.7	E	45.3	D	39.3	D
2	Roosevelt Boulevard & Franklin Road/E Street (On-Base)	14.9	B	23.0	C	19.0	B
3	Roosevelt Boulevard & Slocum Road/6th Avenue (On-Base)	22.6	C	22.2	C	98.5	F
4	US 70 & Slocum Road (Off-Base)	5.2	A	6.3	A	8.4	A
2039 – No Action Alternative							
1	Roosevelt Boulevard & Fontana Boulevard (Off-Base)	55.8	E	45.7	D	39.9	D
2	Roosevelt Boulevard & Franklin Road/E Street (On-Base)	15.3	B	23.7	C	19.4	B
3	Roosevelt Boulevard & Slocum Road/6th Avenue (On-Base)	23.1	C	22.4	C	123.4	F
4	US 70 & Slocum Road (Off-Base)	5.5	A	6.6	A	9.0	A
2039 – Proposed Action Alternative							
1	Roosevelt Boulevard & Fontana Boulevard (Off-Base)	67.8	E	45.7	D	42.3	D
2	Roosevelt Boulevard & Franklin Road/E Street (On-Base)	17.9	B	23.7	C	19.4	B
3	Roosevelt Boulevard & Slocum Road/6th Avenue (On-Base)	62.0	E	22.4	C	214.3	F
4	US 70 & Slocum Road (Off-Base)	5.8	A	6.6	A	9.8	A

Key: A–D = Acceptable Conditions; E = Unacceptable Conditions; F = Unacceptable/Failing Conditions; LOS = Level of Service; sec = second

3.4.3 Environmental Consequences

Impacts on ground traffic and transportation are analyzed by considering the possible changes to existing traffic conditions and the capacity of area roadways from proposed increases in commuter and construction traffic. A transportation impact would be significant if the alternative would result in a long-term increase in traffic such that an off-base intersection with an acceptable LOS under baseline conditions would degrade to a failing LOS under future conditions. This criterion considers off-base intersections specifically because they are publicly used by a substantially greater number of people than on-base intersections that primarily serve military personnel. While the analysis focuses primarily on the off-base intersections, the EA evaluates on-base traffic impacts as on-base traffic impacts are also environmental effects under NEPA.

3.4.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the DON would not home base Phoenix II aircraft on the East Coast. The associated construction, including the

proposed widening of Access Road and other infrastructure upgrades, would not occur, and mission personnel would not relocate to the installation.

The traffic analysis considered the future expected traffic conditions at the two primary gates and four key intersections under the No Action Alternative. This alternative assumes that the base, which currently hosts about 12,000 personnel, will continue to grow at about 0.5 percent per year.

Under the No Action Alternative, queuing at the Roosevelt Gate would remain about the same as under baseline conditions, which already exceed the available storage space for waiting vehicles. However, queuing at the Slocum Gate would increase from about 43 to 63 percent of total vehicle storage capacity, thus remaining within existing capacity.

Expected intersection performance in 2039 generally mirrors existing conditions, with negligible increases in delay at most locations (see **Table 3.4-2**). Intersection 1 would remain a constraint, particularly in the morning. At Intersection 3, PM peak delays would be expected to increase by about 25 seconds, resulting in a worsened failing LOS. Intersections 2 and 4 would continue to operate acceptably (MCAS Cherry Point, 2025).

While the No Action Alternative would not meet the purpose and need as described in **Section 1.4**, and is not considered a reasonable alternative, it is used to analyze the consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for analysis. While one intersection would be expected to worsen under the No Action Alternative, no significant impacts to traffic and transportation would occur with implementation of the No Action Alternative.

3.4.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

During construction of the Proposed Action, workers in personal vehicles and trucks would travel to and from the project area. Construction workers commuting to the project area would be distributed throughout the entire construction phase (4-year period), but truck trips would primarily occur during the early phases of construction (i.e., while delivering construction materials). Truck traffic would be spread across the entire workday, minimizing impacts during local peak hours when traffic volume is higher. While this traffic would contribute slightly to traffic volumes and congestion, this increase would be temporary and minor relative to total traffic in the ROI.

Long-term, queuing at the Roosevelt Gate would increase to about 517 percent of available vehicle storage space (22 percent increase). However, the incremental effect of the Proposed Action would be the addition of 18 to 28 vehicles to the peak (an increase of up to 22 percent over the course of 10 years). This incremental effect is less than significant. Queuing at the Slocum Gate would increase to about 81 percent of available storage space.

The expected LOS in 2039 under the Proposed Action for the studied intersections is shown in **Table 3.4-2**. These intersections are projected to experience increased delays as future demand increases. Intersection 3 would continue to demonstrate failing conditions in the PM peak hour, with the delay increasing from 123 to 214 seconds. It would also be expected to begin operating at an unacceptable LOS in 2039 during the AM peak hour, degrading from LOS C to

LOS E; however, since this is an on-base intersection, the projected reduction in service level would not constitute a significant impact on public roads. The only off-base intersection projected to operate at an unacceptable LOS in 2039 under the Proposed Action is Intersection 1. This intersection currently operates at an unacceptable LOS E and is projected to continue operating at an unacceptable LOS E in 2039 under the No Action Alternative. Under the Proposed Action, the projected delay is only approximately 12 seconds greater than under the No Action Alternative. All other changes in delays at the studied intersections would be negligible—a few seconds or less (MCAS Cherry Point, 2025f).

However, the Proposed Action includes infrastructure upgrades designed to mitigate new on-base traffic demands and improve existing conditions. Specifically, the Proposed Action would include Access Road widening and traffic circle construction and Roosevelt/Slocum intersection improvements to facilitate on-base traffic flows. While the detailed traffic model did not quantitatively analyze specific improvements from these roadway upgrades, these measures are expected to offset increased demand from new personnel. They would manage queues at the Slocum Gate and reduce congestion at on-base intersections, particularly Intersection 3.

Renovations of the unaccompanied housing facilities as well as all proposed new facilities on the north side of base would be designed to accommodate additional vehicle parking for future base population growth. When considering both the phased increase in personnel and the concurrent infrastructure improvements designed to manage that increase, overall implementation of the Proposed Action would not result in significant impacts on traffic or transportation.

3.5 Socioeconomics

This section discusses population, employment and income, schools, housing, economic activity, tax revenue and related data providing key insights into the socioeconomic conditions that might be affected by the Proposed Action.

3.5.1 Regulatory Setting

Socioeconomic data shown in this section are presented at the city, county, and state levels to characterize baseline socioeconomic conditions in the context of local, regional, and state trends. MCAS Cherry Point is located within the New Bern U.S. Census Bureau Metropolitan Statistical Area. Metropolitan Statistical Areas are geographical entities defined for use by federal statistical agencies based on the concept of a core urban area with a high degree of economic and social integration with surrounding communities. Data has been collected from previously published documents issued by federal, state, and local agencies and from state and national databases (e.g., U.S. Census Bureau and U.S. Bureau of Economic Analysis).

3.5.2 Affected Environment

3.5.2.1 Population

According to the U.S. Census Bureau, Craven County had a population of 100,720 in 2019. Havelock accounted for 16.5 percent of the county population and New Bern accounted for 31.1 percent (U.S. Census Bureau, 2020). As shown in **Table 3.5-1**, New Bern, Craven County, and the state of North Carolina experienced overall population growth between 2010 and 2019,

while Havelock experienced population decline during the same period (U.S. Census Bureau, 2020).

Table 3.5-1 Population for Havelock, New Bern, Craven County, and North Carolina 2010–2019

Year	Havelock	New Bern	Craven County	North Carolina
2010	20,735	29,524	103,505	9,535,483
2019	16,621	31,291	100,720	10,439,388
Percent Change	-19.8%	6.0%	-2.7%	9.5%

Source: U.S. Census Bureau, 2020.

3.5.2.2 Employment and Income Characteristics

In 2024, Craven County had a civilian labor force of 41,946, with 1,530 unemployed residents, resulting in an unemployment rate of 3.6 percent (U.S. Bureau of Labor Statistics, 2024a). The statewide unemployment rate was 3.6 percent, with a labor force of 5,284,620 and 191,776 unemployed individuals (U.S. Bureau of Labor Statistics, 2024b).

Table 3.5-2 2024 Employment Figures: Craven County and North Carolina

Area	Civilian Labor Force	Employed	Unemployed	Unemployment Rate
Craven County	41,946	40,416	1,530	3.6
North Carolina	5,284,620	5,092.844	191,776	3.6

Source: U.S. Bureau of Labor Statistics, 2024a, 2024b.

Civilian employment by industry is summarized in **Table 3.5-3**. In Craven County, the education, health care, and social assistance sector is the largest civilian employment category (24.4 percent), followed by retail trade (12.7 percent) (U.S. Census Bureau, 2023a). Between 2019 and 2023, arts, entertainment, recreation, and accommodation/food services represented the largest employment share in Havelock (18.5 percent). In New Bern, education and health care services accounted for 29.4 percent of employment (U.S. Census Bureau, 2023a).

Table 3.5-3 Civilian Employment by Industry in Havelock, New Bern, Craven County, and North Carolina 2023

Industry	Havelock	New Bern	Craven County	North Carolina
Agriculture, forestry, fishing and hunting, and mining	29	156	630	53,130
Construction	242	660	1,994	373,723
Manufacturing	436	1,710	4,644	585,340
Wholesale trade	31	222	550	110,206
Retail trade	801	1,407	5,132	559,862
Transportation and warehousing, and utilities	286	538	1,900	264,618
Information	19	63	411	81,216
Finance and insurance, and real estate and rental and leasing	41	715	1,730	351,217
Professionalism, scientific, and management, and administrative and waste management services	420	1,207	3,467	614,086

Industry	Havelock	New Bern	Craven County	North Carolina
Education services, and health care and social assistance	857	4,074	9,897	1,124,308
Arts, entertainment, and recreation; and accommodation and food services	978	1,679	4,379	429,589
Other services, except public administration	463	521	2,181	239,461
Public administration	683	884	3,583	203.954

Source: U.S. Census Bureau, 2023a.

According to 2019–2023 5-year estimates, median household income in Craven County was $64,635, mean household income was $86,928, and per capita income was $36,745 (U.S. Census Bureau, 2023a). Havelock's median and mean household incomes were slightly lower than the county average (**Table 3.5-4**), while New Bern's median household income was lower, but its mean income was higher. New Bern's per capita income was higher than Craven County's.

Table 3.5-4 Income Data; Havelock, New Bern, Craven County, and North Carolina 2019–2023, 5-Year Estimates

Area	Median Household Income (USD)	Mean Household Income (USD)	Per Capita Income (USD)
Havelock	64,433	76,007	29,437
New Bern	56,893	84,404	38,594
Craven County	64,635	86,928	36,745
North Carolina	69,904	97,403	39,616

Source: U.S. Census Bureau, 2023a.

3.5.2.3 Schools

Craven County includes 36 public and private schools serving 14,212 students. Havelock has 10 schools serving 3,874 students, and New Bern has 20 schools serving 8,520 students (**Table 3.5-5)** (National Center for Education Statistics, 2025a, 2025b).

Table 3.5-5 Public and Private Schools in Havelock, New Bern, and Craven County

Area	Public Schools	Public School Students	Private Schools	Private School Students	Total Schools	Total School Students
Havelock	9	3,735	1	139	10	3,874
New Bern	15	7,221	5	1,299	20	8,520
Craven County	27	12,526	9	1,686	36	14,212

Source: National Center for Education Statistics, 2025a, 2025b.

3.5.2.4 Housing

DON provides on-base housing for eligible personnel through bachelor quarters (officer or enlisted) and family housing units. MCAS Cherry Point has approximately 1,500 homes across five housing areas (MCAS Cherry Point, 2024d).

Between 2019 and 2023, Craven County contained 47,404 housing units. Havelock accounted for 5,840 units (11.6 percent) and New Bern accounted for 16,314 units (34.4 percent). The

county had 5,932 vacant units, including 719 in Havelock and 1,969 in New Bern. Rental vacancy rates ranged from 5.9 percent in Havelock to 7.1 percent in New Bern (**Table 3.5-6)**.

Table 3.5-6 Housing Data: Havelock, New Bern, Craven County, and North Carolina

Area	Total Housing Units (2019–2023)	Vacant Housing Units (2019–2023)	Rental Vacancy Rate (2019–2023)	Median Value of Owner-occupied Housing Units (2019–2023)	Average Rental Price (December 2025)
Havelock	5,840	719	5.9%	$186,800	n/a
New Bern	16,314	1,969	7.1%	$211,500	$1,370
Craven County	47,404	5,932	6.5%	$206,200	$1,361
North Carolina	4,815,195	628,271	6.9%	$259,400	$1,551

Source: U.S. Census Bureau, 2023b; Rent Cafe, 2025a, 2025b, 2025c, 2025d.

The DoW evaluates community housing based on affordability, proximity (within a 60-minute commute), adequate condition and facilities, and bedroom entitlement (DoD, 2025). When area housing is unaffordable or inadequate, military households may be forced to live in substandard units, outside the market area, or in homes with too few bedrooms.

3.5.2.5 Economic Activity

Table 3.5-7 summarizes gross domestic product (GDP) by industry for Craven County and North Carolina. Craven County's GDP in 2023 was approximately $6.5 billion. North Carolina's GDP in 2024 was approximately $828 billion. In both geographies, the finance, insurance, real estate, rental, and leasing sector contributed the largest share of economic output.

Table 3.5-7 Gross Domestic Product for Craven County and North Carolina (Thousands of Current Dollars)

Industry	Craven County (2023)	North Carolina (2024)
Agriculture, forestry, fishing and hunting, and mining	$54,534	$7,063,200
Construction	$193,977	$41.213,100
Manufacturing	$660,425	$103,883,800
Wholesale trade	$290,460	$49,272,900
Retail trade	$410,474	$54,132,500
Transportation and warehousing, and utilities	$94,801	$21,885,000
Information	$37,922	$33,507,100
Finance and insurance, and real estate and rental and leasing	$1,038,963	$191,042,300
Professionalism, scientific, and management, and administrative and waste management services	$461,421	$109,644,500
Education services, and health care and social assistance	$423,865	$67,393,600
Arts, entertainment, and recreation; and accommodation and food services	$213,067	$33,268,200
Other services, except public administration	$121,181	$18,365,500
Public administration	$2,473,547	$97,408,000
All industry total	$6,474,637	$828,079,700

Source: Bureau of Economic Analysis, 2023, 2024.

3.5.2.6 State and Local Tax Revenue

Fiscal conditions in the region are supported by a combination of municipal, county, and state revenue sources that fund local government services, public safety, and infrastructure (**Table 3.5-8**). Overall, the jurisdictions surrounding MCAS Cherry Point demonstrate stable revenue performance and adequate fiscal capacity to support existing public services.

Table 3.5-8 Tax Revenues for Havelock, New Bern, Craven County, and North Carolina

Area	Total Revenue (Fiscal Year 2023)	Tax Revenue (Fiscal Year 2023)
Havelock	$30,200,000	$4,709,512
New Bern	$138,035,480	$15,453,912
Craven County	$224,000,000	$56,500,000
North Carolina	$33,200,000,000	$30,800,000,000

Source: City of Havelock, 2023; City of New Bern, 2023; Craven County 2023; NC Department of Revenue, 2024.

3.5.3 Environmental Consequences

Analysis of impacts to socioeconomics focuses on the effects of the alternatives on population, employment and income, schools, housing, economic activity, and tax revenue.

3.5.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to the socioeconomics of the local area or region. Therefore, no significant impacts would occur with implementation of the No Action Alternative.

3.5.3.2 Home Base Phoenix II Aircraft at MCAS Cherry Point

The study area for socioeconomic analyses for the Proposed Action is defined as Craven County with a particular focus on the cities of New Bern and Havelock.

Under the Proposed Action, construction worker jobs and other construction spending as well as the influx of personnel to MCAS Cherry Point would have impacts on population, employment and income, schools, housing, economic activity, and tax revenue.

Population

Facility construction and renovation activities under the Proposed Action would begin no earlier than FY 2028, followed by the phased occupancy of the facilities by aircraft and personnel between FY 2029 and 2039. In 2023, the construction industry in Craven County totaled approximately $194 million (refer to **Table 3.5-7**) and employed 1,994 people (refer to **Table 3.5-3**). Due to the sizeable number of local construction industry workers that are currently in the study area, it is assumed that the Proposed Action would partially draw workers from within Craven County and partially draw workers from outside Craven County. This conclusion is based on the scale of the Proposed Action relative to the existing construction workforce in Craven County, as expected construction labor represents a fraction of the approximately 1,994 construction workers currently employed in the county and would be consistent with normal year-to-year fluctuations in local construction activity. Therefore, no significant impacts to population would occur due to construction of the Proposed Action.

Once facilities are fully occupied and operational, an estimated 1,000 additional personnel would be stationed at MCAS Cherry Point. Personnel would be added in phases over approximately 10 years. Some personnel may come from the surrounding community; however, most personnel would come from outside the study area. For this analysis, it is assumed that all the personnel would move from outside the area. Using information from the 2024 U.S. DoD demographic survey and profile of the military community, it is estimated that each of the 1,000 new personnel would bring an average of 1.1 family members (0.4 adult and 0.7 child on average) (DoD, 2024). This would equate to 1,100 family members and with the 1,000 new personnel there could be a total of approximately 2,100 new people moving to the area at full operation of the Proposed Action. The new personnel and their families would likely take up residence throughout Craven County. This would represent a population increase of 2.1 percent for Craven County (refer to **Table 3.5-1**). As Craven County lost -2.7 percent of its population between 2010–2019, an increase of 2.1 percent would nearly return Craven County to its 2010 population. Therefore, the Proposed Action may have a beneficial impact and the level of increase in the case of the Proposed Action would not be significant.

Employment and Income Characteristics

During construction, direct temporary employment and income would be created through hiring construction workers, and indirect employment and income would be created through additional jobs associated with the purchase of construction materials and the rental or purchase of construction equipment in the study area. These impacts would be minor and beneficial to local employment and income.

Once the Proposed Action is implemented, there would be an additional 1,000 permanent full-time jobs created. The additional jobs would represent approximately 2.4 percent of the Craven County workforce (refer to **Table 3.5-2**). Because it is assumed that jobs would be filled from outside the study area, this would not have a significant impact on the unemployment level in Craven County. The additional incomes from the new personnel in the study area would result in local spending, which would have a minor, beneficial impact to the economy. In addition, some accompanying family members may seek employment in the local area; however, any resulting increase in labor supply would occur incrementally, be dispersed across multiple employment sectors, and would be absorbed within the regional economy, resulting in negligible impacts on employment conditions.

Schools and Childcare

During the temporary construction phase of the Proposed Action, the workforce is expected to be sourced partially from outside the area and partially from the existing local population. Therefore, construction activities would not result in a permanent increase in population or the number of school-aged children in the study area, and no impacts on local schools are anticipated from this phase.

In the long-term, operation of the Proposed Action would result in an increase in the school-aged population. The 2024 U.S. DoD demographic survey showed that active-duty personnel averaged 0.7 children. Additionally, the report showed that 55.1 percent of the child dependents were between 6 and 18 years old and would therefore be enrolled in school (DoD,

2024). This results in an estimated 386 additional school children in the study area that would result from the 1,000 incoming personnel during operation of the Proposed Action. The overall increase of school children throughout Craven County would be approximately 2.7 percent (refer to **Table 3.5-5**). According to data from the U.S. Census Bureau, Craven County and Havelock saw a decline in population between 2010 and 2019, with Craven County decreasing by 2.7 percent and Havelock decreasing by 19.8 percent (U.S. Census Bureau, 2020). With the decline in population in Craven County and Havelock, it is assumed that local schools have the capacity to accommodate additional students. Moreover, Federal Impact Aid funds are payments made to local school districts that have federally connected students or that have federal property that limits the property tax base. These payments would help mitigate any fiscal or funding impacts caused by an increase in students under the Proposed Action, resulting in negligible impacts on local schools.

Operation of the Proposed Action would result in an increase in demand for childcare services associated with the influx of personnel and their dependents. According to the 2024 DoD demographic survey, 41.1 percent of dependent children of active duty personnel are between the ages of 0 and 5 years (DoD, 2024). Based on this data, the arrival of approximately 1,000 personnel under the Proposed Action would result in an estimated 288 additional children requiring childcare services within the study area.

MCAS Cherry Point currently operates three CDCs and is undergoing an expansion project at CDC #1, which is expected to be completed by 2030. Upon completion, this project would increase on-installation childcare capacity and would be capable of accommodating a portion of the projected increase in demand. Should on-base CDC capacity be met, childcare needs would be met by facilities in the surrounding community. According to data from Child Care Resources, Inc., Region 2, which includes the Havelock and New Bern areas, contains 89 licensed childcare providers, with approximately 69.7 percent currently accepting infants and 77.5 percent accepting toddlers (NC Child Care Data, 2026).

In addition, the Military Child Care in Your Neighborhood-PLUS program provides financial assistance to eligible military families to offset the cost of enrolling children in community-based childcare facilities when on-installation services are unavailable or at capacity. Given the planned expansion of on-base childcare facilities, the availability of community providers, and the presence of financial assistance programs, impacts to childcare services resulting from the implementation of the Proposed Action would be minor and not significant.

Housing

As construction workers are expected to be hired from the community and region, impacts to housing during construction of the Proposed Action would not be significant.

During implementation of the Proposed Action, the additional 1,000 personnel and their dependents would require housing in the study area. Three hundred of the 1,000 personnel are expected to be unaccompanied sailors who would occupy unaccompanied housing proposed to be constructed on MCAS Cherry Point. Family housing at MCAS Cherry Point is a public-private venture managed by Hunt Military Communities. The projected 2029 military family housing requirement for MCAS Cherry Point is 1,393 units. MCAS Cherry Point has approximately 1,500

homes across five housing areas (MCAS Cherry Point, 2024d). Therefore, approximately 107 of the 700 personnel and their families would be accommodated by family housing at MCAS Cherry Point. As the surrounding area of Craven County is within commuting distance of the base, new personnel not accommodated by family housing at MCAS Cherry Point would have the option to live throughout the county. The additional housing demand would represent 11.8 percent of the vacant housing units in Craven County. Average rental prices in New Bern are $1,370 and the average rental price in Craven County is $1,361 (refer to **Table 3.5-6**). The 2026 Basic Allowance for Housing in Craven County (Military Housing Area NC177) ranges from $1,683 to $2,940, depending on rank and dependency status (Military Benefits, 2026), which generally exceeds the average rental cost in the county. Incoming personnel would have multiple housing options, including on-base family housing, military housing, and off-base rentals within the local market. Although some increase in demand for off-base housing would occur, the number of incoming personnel would represent a small increment relative to the existing housing supply and would not substantially affect local availability or affordability. Moreover, the phased arrival of personnel over a 10-year period would reduce the potential for a sudden or concentrated influx of population into Craven County. Therefore, impacts to housing conditions would be minor and not significant.

Economic Activity

During construction, the hiring of local workers and spending on construction materials and equipment in the study area would increase economic activity. The existing construction industry in Craven County generated approximately $194 million of GDP in 2023 (refer to **Table 3.5-7**), so as a proportion of the overall construction industry, the construction activities associated with the Proposed Action would have a minor but beneficial impact.

During operations, economic activity would be stimulated through the new personnel spending their earnings in the study area. Large expenses such as housing and groceries would be captured within the study area economy, and this influx of spending would be beneficial. The overall county Gross Domestic Product for Craven County was $6.5 billion in 2023 (refer to **Table 3.5-7**), so the increased economic activity associated with the 1,000 new personnel and their dependents would represent a minor but beneficial impact.

State and Local Tax Revenue

During construction, the purchase of construction materials and equipment in the study area would directly generate sales tax revenue for Craven County and the state of North Carolina. Construction workers would pay income tax on their earnings, which would also provide revenue to the state. Indirect impacts would occur when the suppliers purchase goods and hire workers and induced impacts would occur when construction workers spend their earnings in the local area. The increased tax revenues associated with construction of the Proposed Action would be a minor but beneficial impact.

During operations, the addition of 1,000 new permanent positions would expand the tax base, and the payment of income taxes by personnel would benefit the state of North Carolina. Induced impacts would occur as the personnel and dependents spend their earnings in the

study area, which would generate property taxes on their housing and sales and use taxes on other spending. These increased tax revenues would have a minor but beneficial impact.

Conclusion

The construction phase of the Proposed Action would have minor beneficial impacts on employment and income, economic activity, and state and local tax revenues. Construction would have no impact on the population, schools, or housing in the project area.

The operational phase of the Proposed Action would cause an increase in population, would generate minor beneficial impacts on employment and income, economic activity, and state and local tax revenues, and would create insignificant impacts on schools, childcare facilities, and housing. Therefore, implementation of the Proposed Action would not result in significant impacts to the socioeconomics of the local area or region.

4 Summary of Reasonably Foreseeable Impacts to Resources and Impact Avoidance and Minimization

A summary of the reasonably foreseeable impacts associated with the Proposed Action and the No Action Alternative are presented in **Table 4-1**. **Table 4-2** provides a comprehensive list of avoidance, minimization, and mitigation measures associated with the Proposed Action.

Table 4-1 Summary of Reasonably Foreseeable Impacts on Resource Areas

Resource Area	No Action Alternative	Home Base Phoenix II Aircraft at MCAS Cherry Point
Air Quality	The No Action Alternative would have no significant impacts on air quality.	Construction and operations would generate emissions of criteria pollutants, HAPs, and GHGs. For criteria pollutants, the analysis shows that project emissions would not cause or contribute to an exceedance of the NAAQS. For HAPs, emissions would remain well below the major source thresholds. Because the region meets all NAAQS and no Clean Air Act conformity requirements are triggered, impacts to regional air quality would not be significant. For GHGs, the analysis discloses the total project emissions and finds that this contribution would represent a negligible fraction of the NC and U.S. GHG inventories. As such, the net increase in GHG emissions under the Proposed Action would not be significant. Therefore, the overall impacts to air quality would not be significant.
Water Resources	The No Action Alternative would have no significant impacts on water resources.	Construction would increase impervious surface area by approximately 43 acres, potentially affecting runoff and localized turbidity. However, compliance with NPDES permitting, erosion and sediment control requirements, low impact development stormwater design, and the MCAS Cherry Point industrial SWPPP would prevent downstream degradation. Wetland and stream impacts (estimated 5–10 acres) would be avoided, minimized, and mitigated through the CWA Section 404 permit process, ensuring no net loss of wetland function. No floodplain impacts would occur. Therefore, impacts to groundwater, surface water, wetlands, and floodplains would not be significant.
Biological Resources	The No Action Alternative would have no significant impacts on biological resources.	Construction would remove portions of pine, grassland, and mixed forest habitats. The Proposed Action may affect but is not likely to adversely affect northern long-eared bat, tricolored bat, and monarch butterfly. No critical habitat occurs in the project area. Impacts would be minimized through seasonal restrictions, lighting controls, and implementation of conservation measures developed in ongoing ESA Section 7 consultation. Wildlife species accustomed to existing airfield activity would experience only minor behavioral disturbance. Since impacts are localized, mitigated, and avoid sensitive coastal or estuarine habitats, biological resource impacts would not be significant.
Transportation	The No Action Alternative would have no significant impacts on transportation.	Construction traffic would add temporary vehicle trips but would not degrade off-base intersection LOS. Under full operations, one off-base intersection (Roosevelt/Fontana) would remain at LOS E, consistent with the No Action Alternative. Other intersections exhibit only minimal delay changes. Therefore, transportation impacts would not be significant.

Resource Area	No Action Alternative	Home Base Phoenix II Aircraft at MCAS Cherry Point
Socioeconomics	The No Action Alternative would have no significant impacts on socioeconomics.	Construction would produce short-term beneficial employment and spending. Long-term addition of 1,000 personnel and families (approximately 2,100 people total) would increase local population, economic activity, and school enrollment, all within community capacity. Housing demand would be partly met through on-base housing, with remaining demand within existing county vacancy rates. Therefore, socioeconomic impacts would not be significant.

Key: CWA = Clean Water Act; ESA = Endangered Species Act; GHG = greenhouse gas; HAP = Hazardous Air Pollutant; LOS = Level of Service; MCAS = Marine Corps Air Station; NC = North Carolina; NAAQS = National Ambient Air Quality Standards; NPDES = National Pollutant Discharge Elimination System; SWPPP = Stormwater Pollution Prevention Plan; U.S. = United States

Table 4-2 Impact Avoidance and Minimization Measures

Applicable Resource Area	Impacts Avoidance/ Minimization Measures	Anticipated Benefit/ Evaluating Effectiveness
Water Resources	Implement appropriate construction management BMPs, such as requiring all construction equipment to be in good condition and properly maintained to avoid the potential for spills and leaks.	Minimize impacts to water quality during construction.
Water Resources	Obtain coverage under the State of NC General Permit NCG01000, administered by the NC DEQ.	Minimize impacts to water resources during construction.
Water Resources	Comply with all applicable provisions of MCAS Cherry Point NPDES Permit No. NCS000314.	Minimize impacts to water resources during construction.
Water Resources	Consider adding landscaped areas to disconnect impervious areas, discharging roof drainage to grade, and constructing biofiltration swales.	Capture and filter stormwater to avoid reducing infiltration and recharge capacity to groundwater.
Water Resources	Incorporate stormwater management features into the project planning and site design to ensure compliance with the Energy Independence and Security Act (Section 438) and DON Low Impact Development Policy.	Prevent net increases in stormwater runoff to avoid impacts to water resources.
Water Resources	Manage stormwater generated from new or redeveloped impervious surfaces under the air station's Post-Construction Stormwater Program, as required by MCAS Order 5090.14. Submit as-built certification verifying that installed stormwater infrastructure conforms to approved engineering plans.	Prevent net increases in stormwater runoff to avoid impacts to water resources.
Wetlands	Avoid and minimize impacts to the maximum extent practicable.	Avoids or minimizes impacts to wetlands and associated ecological functions.
Wetlands	Obtain CWA Section 404 permit to determine the type and quantity of required mitigation. Compensation for unavoidable impacts would follow the guidance provided in the Mitigation Rule USACE (33 CFR parts 325 and 332) and EPA (40 CFR part 230).	Compensates for unavoidable wetland impacts.
Biological Resources	Continued implementation of avoidance and minimization measures outlined in the air station's BASH Program and INRMP.	Minimizes the risk of collision with wildlife, including migratory birds, during aircraft operations.
Biological Resources	Nighttime construction, if determined necessary, would use temporary lighting and would cease once construction is complete.	Minimizes impacts to bat foraging.

Applicable Resource Area	Impacts Avoidance/ Minimization Measures	Anticipated Benefit/ Evaluating Effectiveness
Biological Resources	Avoid, to the maximum extent practicable, tree clearing during the winter torpor window (15 December–15 February) and pup season (1 May–15 July) for the northern long-eared bat and tricolored bat.	Minimizes impacts to endangered bat species.
Biological Resources	Tree clearing activities would be scheduled to avoid times when species are most likely present (e.g., nesting seasons).	Minimize impacts to protected species.
Biological Resources	To the extent practicable, permanent facilities within the project area would incorporate the use of downward facing lighting and internal low-glare optics to minimize the impact of artificial lighting on the surrounding environment.	Minimizes impacts to endangered bat species.
Transportation Resources	Access Road expansion and Slocum/Roosevelt intersection improvements.	Improve existing on-base traffic conditions, accommodate anticipated new demand from Proposed Action, and facilitate traffic flows.

Key: BASH = bird/wildlife aircraft strike hazard; BMP = best management practice; CFR = Code of Federal Regulations; CWA = Clean Water Act; DON = Department of the Navy; EPA = United States Environmental Protection Agency; INRMP = Integrated Natural Resources Management Plan; MCAS = Marine Corps Air Station; NC = North Carolina; NC DEQ = North Carolina Department of Environmental Quality; NPDES = National Pollutant Discharge Elimination System; U.S. = United States; USACE = United States Army Corps of Engineers

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Appendix A
Abbreviations and Acronyms

Acronym	Definition
AICUZ	Air Installations Compatible Use Zone
AQCR	Air Quality Control Region
BASH	Bird/Wildlife Aircraft Strike Hazard
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
CDC	Child Development Center
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DoD	United States Department of Defense
DON	United States Department of the Navy
DOT	Department of Transportation
DoW	Department of War
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FR	Federal Register
FY	Fiscal Year
GHG	greenhouse gas
HAP	hazardous air pollutant
INRMP	Integrated Natural Resources Management Plan
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCO	Marine Corps Order
NAAQS	National Ambient Air Quality Standards
NC	North Carolina
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OPNAV-M	Office of the Chief of Naval Operations Manual
OU	Operable Unit
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
ROI	Region of Influence
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TACAMO	Take Charge and Move Out
TSCA	Toxic Substances Control Act
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

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Appendix B
Best Management Practices

This section presents an overview of the Best Management Practices (BMPs) that are incorporated into the Proposed Action. BMPs are existing policies, practices, and measures that the DON applies to its activities to reduce environmental impacts. Although BMPs mitigate impacts by avoiding, minimizing, or reducing/eliminating them, BMPs are distinguished from potential mitigation measures because BMPs are (1) existing requirements for the Proposed Action, (2) ongoing, regularly occurring practices, or (3) not unique to this Proposed Action. In other words, BMPs identified in this document are not inherently part of the Proposed Action and are not potential mitigation measures proposed as a function of the National Environmental Policy Act (NEPA) environmental review process. BMPs include actions required by federal or state law or regulation. Table B-1 includes a list of BMPs. Impact avoidance and minimization measures are discussed individually by resource area in Chapter 3.0, *Affected Environment and Environmental Consequences*.

Table B-1 Best Management Practices for MCAS Cherry Point

BMP	*Description*	*Impacts Reduced/Avoided*
General Construction Best Management Practices	Work area is restricted to the authorized project footprint as shown in the design plans.	Reduces reasonably foreseeable water quality impacts. These requirements include adherence to construction permit requirements, stormwater management, erosion control, maintenance of construction equipment, spill containment, spill response, and dust control.
	Prior to construction activities, all site limits will be marked using stakes and flagging.	
	Refueling equipment shall only be permitted at approved fueling facilities. All equipment will use ultra-low sulfur fuel.	
	There will be no discharge of oil, fuels, or chemicals onto land or water.	
	Solid waste containers must be closed or covered at all times, except when waste is being added.	
	Containments such as tarps, drapes, shrouding, or other protective devices must be securely fastened to collect materials when applicable.	
	Cleanup of all collected materials must be conducted as necessary, or at least by the end of shift, to prevent their release into the environment.	
	Soil exposed as part of the project shall be protected from erosion (with plastic sheeting, filter fabric, etc.) after exposure.	
Stormwater Pollution Prevention Plan as part of the Construction General Permit	The construction contractor shall prepare and implement a site-specific construction SWPPP and ensure that all BMPs and other appropriate control measures specified in both the permit and SWPPP are implemented, monitored, and submitted to the DON for regular review.	Reduces reasonably foreseeable water quality impacts

BMP	*Description*	*Impacts Reduced/Avoided*
GHG Emission Control	Minimize GHG and other emissions to the greatest extent possible by using electric-powered equipment, renewable electricity generation and/or grid-based electricity during construction activities, which leverages the greater efficiency of utility-scale power generation compared to individual combustion engines.	Reduces impacts from GHG and other emissions
Dust Control	The use of control equipment, enclosures, and wet suppression techniques, as practical, and curtailment during high winds.	Reduces visible fugitive dust emissions
	Cover all moving, open-bodied trucks transporting materials that can generate fugitive dust.	
	Install dust screens or wind barriers around construction site.	
	During earth-moving activities, pre-apply and re-apply water as necessary to maintain soils in a damp condition, limit the number of exposed areas through planning and timing of project phases, and cover temporarily exposed areas.	
	The contractor shall cover excavated material and stockpiles when not in use.	
	Promptly remove “carry out” materials from roads adjacent to the site.	
Inadvertent Discovery Procedures	If archaeological resources are discovered during project activities, work shall be stopped immediately, and Marine Corps Cultural Resources personnel shall be notified. Those involved will then adhere to the provisions of 36 CFR 800.13(b)(3). If human remains are encountered during project activities, work shall be stopped immediately, and the project Plan of Action will be followed.	Reduces impacts to cultural resources
Visual Resource Compliance	New facilities shall be painted/treated consistently with surrounding infrastructure.	Reduces impacts to visual resources
Construction Safety Plan	A construction safety plan shall be developed for on-site construction personnel including evacuation procedures in the event of adverse weather conditions. The DON shall approve the construction safety plan prior to work occurring.	Reduces impacts to public health and safety

Key: BMP = Best Management Practice; CFR = Code of Federal Regulations; DON = Department of the Navy; GHG = greenhouse gas; MCAS = Marine Corps Air Station; SWPPP = Stormwater Pollution Prevention Plan

Appendix C
Public Involvement

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NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT FOR HOME BASING OF E-130J PHOENIX II AIRCRAFT AT MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

United States (U.S.) Fleet Forces Command, a Command of the U.S. Navy, has prepared a draft Environmental Assessment (EA) to home base and operate E-130J Phoenix II (Phoenix II) aircraft at Marine Corps Air Station (MCAS) Cherry Point, North Carolina in accordance with the National Environmental Policy Act, 42 United States Code (U.S.C.) section 4321 et seq., and Department of Defense NEPA Implementing Procedures. The purpose of this notice is to advise you of the release of the draft EA and request comments during the public comment period.

The home basing of Phoenix II aircraft at MCAS Cherry Point would support the Department of the Navy's national defense requirements under 10 U.S.C section 8062 by expanding capacity for the strategically important mission. The Proposed Action includes home basing Phoenix II aircraft at MCAS Cherry Point, construction of necessary facilities to support the aircraft, and the stationing of approximately 1,000 personnel and their family members.

Interested parties may view a paper copy of the draft EA at the New Bern-Craven County Public Library: 400 Johnston St, New Bern, North Carolina 28560; Havelock-Craven County Public Library: 301 Cunningham Blvd, Havelock, North Carolina 28532; Carteret County Public Library-Newport Branch: 210 Howard Blvd, Newport, North Carolina 28570; or Morehead City Public Library: 202 S 8th St, Morehead City, North Carolina 28557. A digital copy is available at: https://www.nepa.navy.mil/E130JAtlantic.

All comments must be postmarked or received online no later than 31 May 2026 to be considered in preparation of the final EA. Written comments may be submitted online via the project website or mailed to: E-130J Aircraft Home Basing EA Project Manager, Naval Facilities Engineering Systems Command Atlantic, Attn: EV21JB, 6506 Hampton Boulevard, Norfolk, Virginia 23508.

For additional information regarding the EA and media queries, please contact Mr. Ted Brown, Installations and Environmental Public Affairs Officer, U.S. Fleet Forces Command by phone (757) 836-4427 or by email at theodore.c.brown4.civ@us.navy.mil.

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Appendix D
Endangered Species Act Documentation

To be included in the Final EA.

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Appendix E
National Historic Preservation Act Section 106 Documentation

Consultation under Section 106 of the National Historic Preservation Act is ongoing. Documentation associated with this process, including consultation materials and agency correspondence, will be made available in the Final EA appendix once the Section 106 process is complete and materials are finalized.

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Appendix F
Coastal Zone Management Act Documentation

To be included in the Final EA.

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Appendix G
Air Quality Methodology/Calculations and Applicability Analysis

Analytical Methodology

Construction

Increased direct emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases (GHGs) would result from the following potential construction activities:

- Use of diesel- and gas-powered construction equipment
- Movement of trucks containing construction and removal materials
- Commute of construction workers
- Earth disturbance dust emissions from equipment and truck operations

Projects developed to planning-level schematics typically do not have engineering plans available from which conventional construction cost estimates would be developed. Thus, construction activity inputs have been developed on the basis of the size and type of the structures, and/or site work and some basic assumptions of anticipated work. Estimates of construction crew and equipment requirements and productivity are based on data presented in the sources referenced within the calculation spreadsheets.

Operations

Mobile source emissions were calculated for the following sources:

- Road surface re-entrainment dust emissions
- On-road and off-road training personnel vehicles
- Fixed-wing aircraft

Emissions were estimated for the operation of the E-130J Phoenix II aircraft, including landings, takeoffs, ground maintenance, and use of associated ground support equipment. Emissions factors are derived the U.S. DON Aircraft Environmental Support Office (AESO) Memorandum Report No. 2000-09 Revision D, December 2015, Table S-1, using C-130J emission factors.

GHG emissions associated with the Proposed Action were estimated for both construction and operational activities. Because GHG emission impacts are independent of altitude, the entire flight horizon for all aircraft sorties was estimated.

Tab A. Assumptions

Construction work duration based on

8	hr/day		
7	days/wk		
56	hr/wk		
243	hr/month	based on average month =	30.4 days

Assume	22	mile round trip commute (avg - from Havelock, New Bern, or Trent Woods area) for worker trips and operational personnel
	260	avg working days per year

Note: MOVES does not calculate N2O for nonroad equipment. The ratio of N2O to CH4 has been used to derive emission values for nonroad equipment (lb):

0.45614

The ratio is from EPA. 2016. Direct Emissions from Mobile Combustion Sources, Table B-8. January.

Std dump truck capacity =		12 CY	
Std concrete truck capacity =		9 CY	
weight of CY asphalt =	3960	lbs	Source: aws-fd.com/weight-calculator
weight of CY concrete =	4050	lbs	Source: www.wasteremovalusa.com

All production rates are from the Federal Highway Adminstration CFL production rate spreadsheet: https://highways.dot.gov/federal-lands/design/tools/cfl/production-rates.xls

Tab B. Emissions Summary

Aircraft and AGE Emissions in Tons/Year								
Activity	**Location**	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**CO2e**
Air Operations	Onsite	1.85	10.84	42.43	2.12	1.49	1.45	8,298

Operational Personnel Commute Emissions in Tons/Year								
Activity	**Location**	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**CO2e**
Personnel Commutes	Offsite	0.31	38.17	0.88	0.02	28.50	4.28	3,027
Annual Total (Ongoing Full Operations)		**2.16**	**49.01**	**43.31**	**2.14**	**30.00**	**5.74**	**11,325**

Construction Activity in Tons/Year								
Activity	**Location**	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**CO2e**
Site Improvements	Onsite	0.38	2.03	6.29	0.01	23.09	2.57	2,819
	Offsite	0.50	4.83	4.81	0.01	3.37	0.70	1,583
Annual Total (One Year Construction)		**0.88**	**6.86**	**11.10**	**0.01**	**26.46**	**3.27**	**4,402**

Total HAP Emissions in Tons/Year					
Activity	**Location**	**Formaldehyde**	**Benzene**	**Total HAPs**	
Air Operations	Onsite	0.03	0.00	0.04	Total Operations HAPs:
Personnel Commutes	Offsite	0.00	0.01	0.02	**0.05**
Site Improvements	Onsite	0.10	0.02	0.11	Total Construction HAPs:
	Offsite	0.03	0.01	0.04	**0.16**
Total Onsite		0.13	0.02	0.15	
Total Offsite		0.04	0.02	0.06	
Total Emissions		**0.17**	**0.04**	**0.21**	
Exceed 10-ton Individual HAP Threshold?		No	No	NA	
Exceed 25-ton Total HAP Threshold?		NA	NA	No	

Greenhouse Gases - Tons/Year	
Activity	**CO2e**
Construction (occurs once)	4,402
Operations (occur annually)	11,325
One Year Net Change in GHG Emissions	**15,727**
20-year Lifecycle GHG Emissions	**230,894**

Converted to Metric Tons:
One Year Net Change in GHG Emissions 14,267 metric ton

CO2e/vehicle/year 4.29 metric ton
3,326 # cars driving
10,917 miles per year

Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator-calculations-and-references#vehicles

Tab C. Criteria Pollutant Emissions from Aircraft Operations Below 3,000 feet

1 pound= 453.59 grams

Assume the engines are the same as the C-130J (4x T56-A-15, with a GTCP 85L APU)
These calculations are for steady-state operations once all aircraft arrive at MCASCP

E-130J LTOs 500 total aircraft operations (landings and take offs)

	VOC	CO	NOx	SO2	PM10	PM2.5
Emissions per LTO in pounds	2.51	20.42	23.95	1.11	3.32	3.32
Emissions for 500 LTO in pounds	1,254	10,210	11,975	557	1,660	1,660
Emissions for 500 LTO in Tons	0.63	5.11	5.99	0.28	0.83	0.83

Emissions per LTO are from US Navy Aircraft Environmental Support Office (AESO) Memorandum Report No. 2000-09 Revision D, December 2015, Table S-1, using C-130J emission factors.
A factor of 1.15 was used to convert THC to VOC, per page 1 of the above-referenced document.
The AESO document does not include SO2 emissions, so they are calculated using AFCEC Air Emissions Guide for Air Force Mobile Sources, June 2025. Assumed Military mode to be conservative.
SO2 EF is 1.07 lb/1000 gal fuel, fuel flow rate is 1563 gal/hr, and assumed time per LTO is 40 minutes. 1.07*1563/1000*40/60 = 1.11 lb SO2/LTO.

HAP emissions from LTO

	Emission Factors (lb/1000 lb fuel)		Fuel Flow rate (lb/hr)	Time (hours)	Number of Engines	Emissions (lb/yr)		Emissions (ton/yr)	
Aircraft	**Formaldehyde**	**Benzene**				**Formaldehyde**	**Benzene**	**Formaldehyde**	**Benzene**
E-130J	0.01	0.001	2002	333	4	24.82	3.58	0.01	1.79E-03

HAP emission factors are from Air Emissions Guide for Air Force Mobile Sources, AFCEC, June 2025
Emission factors for T56-A-7, Intermediate mode
Assume 40 minutes per LTO cycle

Emissions from ground run time 500 Hours of ground run time per year
4 Engines per aircraft

		Emission Factors (lb/1000 lb fuel)					
Aircraft	**Fuel Flow rate (lb/hr)**	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**
E-130J	1409.00	0.04	1.07	10.30	1.07	0.17	0.15
Total emissions for 500 hours of operation (pounds/yr)		112.72	3015.26	29025.40	3015.26	479.06	422.70
Total emissions for 500 hours of operation (tons/yr)		**0.06**	**1.51**	**14.51**	**1.51**	**0.24**	**0.21**

Emission factors are from Air Emissions Guide for Air Force Mobile Sources, AFCEC, June 2025
Emission factors for Imtermediate setting

HAP emissions from ground run time

	Emission Factors (lb/1000 lb fuel)		Fuel Flow rate (lb/hr)	# of Engines	Time (hours)	Emissions (lb/yr)		Emissions (ton/yr)	
Aircraft	**Formaldehyde**	**Benzene**				**Formaldehyde**	**Benzene**	**Formaldehyde**	**Benzene**
E-130J	0.01	0.001	2002	4	500	37.24	5.37	0.02	2.68E-03

HAP emission factors are from Air Emissions Guide for Air Force Mobile Sources, AFCEC, June 2025
Emission factors for T56-A-7, Intermediate mode

			Emission Factors (lb/1000 lb fuel)					
APU Emissions	**Fuel Flow rate (lb/hr)**	**Time (hours)**	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**
APU	293		0.48	3.20	5.65	0.25	0.22	0.22
LTO (assume 20 minutes APU use per LTO), lb/yr		333	47.17	312.53	551.82	24.42	21.49	21.49
Ground Run Time (Assume APU on during all runs), lb/yr		500	70.76	468.80	827.73	36.63	32.23	32.23
Total APU emissions (ton/year)			**0.06**	**0.39**	**0.69**	**0.03**	**0.03**	**0.03**

APU emission factors are from US Navy Aircraft Environmental Support Office (AESO) Memorandum Report No. 2000-09 Revision D, December 2015, Table 6.
A factor of 1.15 was used to convert THC to VOC, per page 1 of the above-referenced document.
The AESO document does not include SO2 emissions, so they are calculated using AFCEC Air Emissions Guide for Air Force Mobile Sources, June 2025.
SO2 EF is 0.25 lb/1000 lb fuel (from Table 2-12, GTCP-85)

Total emissions from aircraft operations below 3,000 feet

Activity	**VOC**	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**Formaldehyde**	**Benzene**
Air Operations	0.74	7.00	21.19	1.82	1.10	1.07	0.03	4.47E-03

Time per LTO cycle Assumptions

APU use: 10 minutes Landing and 10 minutes Takeoff	20 minutes	from AESO document
Takeoff	21 minutes	from AESO document
Landing	19 minutes	from AESO document
Total LTO time	40 minutes	

Tab D. Aircraft GHG Emissions

GHG Emission Factors (lb/1000 lb fuel)			
CO2	CH4	N2O	CO2e
3,203	0.13	0.03	3,214

T56-A-15	2,302 lb/hr	Assume Military mode to be conservative
GTCP-85	293 lb/hr	
Hours per LTO	1	Assume each flight is 1 hour
APU hours per LTO	1	Assume APU is operating during entire aircraft operation.
Total flight hours	500	
Total APU hours	500	

Total aircraft GHG emissions in pounds/year

	CO2	CH4	N2O	CO2e
Flight	14,748,638	620.16	120.99	14,798,085
APU	469,304	19.73	3.85	470,877

Total aircraft GHG emissions in tons/year

	CO2	CH4	N2O	CO2e
Flight	7,374	0.31	0.06	7,399
APU	235	0.01	0.00	235
Total	7,609	0.32	0.06	7,634

Tab E. AGE Equipment

# of units	Hours per LTO	Equipment	Designation
1	1	Air compressor	MC-1A-18.4 hp
1	1	Air conditioner	MA-3D-120 hp
1	11	Generator	A/M32A-86D
1	1	Heater	H1
1	3	Hydraulic Test Stand	MJ-2A
1	10	Light Cart	NF-2
1	0.25	Start Cart	A/M32A-60A

AGE equipment list and hours of operation are from Air Emissions Guide to Air Force Mobile Sources, AFCEC, June 2025, Table 3-2.

AGE Equipment Emission Factors (lb/hr)

Equipment	VOC	CO	NOx	SO2	PM10	PM2.5	CO2e
Air compressor	0.267	0.267	0.419	0.008	0.0071	0.0068	25
Air conditioner	0.053	0.317	4.167	0.052	0.167	0.162	161
Generator	0.294	0.457	6.102	0.0047	0.091	0.089	146
Heater	0.105	0.18	0.16	0.003	0.006	0.006	9
Hydraulic Test Stand	0.2	2.46	3.85	0.238	0.083	0.076	185
Light Cart	0.011	0.08	0.11	0.031	0.01	0.01	24
Start Cart	0.284	5.48	1.82	0.306	0.211	0.205	238

AGE emission factors are from Air Emissions Guide to Air Force Mobile Sources, AFCEC, June 2025, Table 3-3.

AGE Equipment Emissions per LTO (tons)

Equipment	Hours per LTO	VOC	CO	NOx	SO2	PM10	PM2.5	CO2e
Air compressor	1	0.0001	0.0001	0.0002	4.00E-06	3.55E-06	3.40E-06	0.0123
Air conditioner	1	2.65E-05	0.0002	0.0021	2.60E-05	0.0001	0.0001	0.0804
Generator	11	0.0016	0.0025	0.0336	2.59E-05	0.0005	0.0005	0.8033
Heater	1	0.0001	0.0001	0.0001	1.50E-06	3.00E-06	3.00E-06	0.0044
Hydraulic Test Stand	3	0.0003	0.0037	0.0058	0.0004	0.0001	0.0001	0.2779
Light Cart	10	0.0001	0.0004	0.0006	0.0002	0.0001	0.0001	0.1191
Start Cart	0.25	3.55E-05	0.0007	0.0002	3.83E-05	2.64E-05	2.56E-05	0.0298

AGE Equipment Emissions for 500 LTOs (ton/year)

Equipment	VOC	CO	NOx	SO2	PM10	PM2.5	CO2e
Air compressor	0.07	0.07	0.10	2.00E-03	1.78E-03	1.70E-03	6
Air conditioner	0.01	0.08	1.04	0.01	0.04	0.04	40
Generator	0.81	1.26	16.78	0.01	0.25	0.24	402
Heater	0.03	0.05	0.04	7.50E-04	1.50E-03	1.50E-03	2
Hydraulic Test Stand	0.15	1.85	2.89	0.18	0.06	0.06	139
Light Cart	0.03	0.20	0.28	0.08	0.03	0.03	60
Start Cart	0.02	0.34	0.11	0.02	0.01	0.01	15
Total	**1.11**	**3.84**	**21.24**	**0.30**	**0.40**	**0.38**	**664**

Tab F. Site Improvements

Construction of hangars, parking, warehouses, and taxiways

1 acre = 43,560 SF 1 pound= 453.59 grams

1 pound= 453.59 grams

			Asphalt	Concrete	Gravel		Depth Assumptions:
			2,607	84,974	48,214	CY	Concrete: 1.25 ft for taxiways/aircraft aprons, etc.; 4 in (0.33 ft) for non-aircraft paving
Paving			Truck Trips	217	9,442	4,018 #	Gravel: 8 in (0.66 ft) for taxiways/aprons; 2 in (0.16 ft) for non-aircraft surfaces
Access road improvements	5 acres, or	211,200 SF	Assume 2 miles of new paved roads, 20 feet wide				
Taxiway/aprons improvements	30.81 acres, or	1,342,122 SF	Assume 17 inch (~1.23 ft) concrete depth for taxiway				5,163 Tons asphalt
Phoenix II Campus	37.25 acres, or	1,622,805 SF	Assume 4 inch (~0.33 ft) concrete depth for other construction				172,072 Tons concrete
Center for Naval Aviation Technical Training	4.52 acres, or	196,949 SF					
Unaccompanied Housing (renovation)	1.12 acres, or	48,849 SF					
Site Clearing							
Phoenix II Campus	75.37 acres, or	3,282,958 SF					
Center for Naval Aviation Technical Training	2.27 acres, or	98,822 SF					
Unaccompanied Housing (renovation)	9.15 acres, or	398,430 SF					
Total Area	**86.78 acres, or**	**3,780,210 SF**					
Site Grading							
Phoenix II Campus	108.12 acres, or	4,709,624 SF					
Center for Naval Aviation Technical Training	3.25 acres, or	141,766 SF					
Unaccompanied Housing (renovation)	13.12 acres, or	571,575 SF					
Total Area	**124.49 acres, or**	**5,422,965 SF**					
Building construction							
Phoenix II Campus	10.37 acres, or	451,920 SF	New build	Assume includes warehouse space			
Center for Naval Aviation Technical Training	0.62 acres, or	26,790 SF	Renovation				
Unaccompanied Housing (renovation)	1.23 acres, or	53,580 SF	Renovation				
Total Area	**12.22 acres, or**	**532,290 SF**					
Demolition							
Site Demo		**4,198,913 SF**					

Worker Trips: 1.25 Factor based on CalEEMod App A: based on 1.25 workers per equipment, per phase

Asphalt paving	16.25	worker trips per day	13 # construction equipment
	84	total worker trips	
Concrete paving	16.25	worker trips per day	13 # construction equipment
	19,324	total worker trips	
Site clearing/grading	11.25	worker trips per day	9 # construction equipment
	792	total worker trips	

Phase Lengths:

Asphalt paving	5 days	1,000 tons/day	CFL Production Rates		
Concrete paving	1,189 days	300 SY/day	CFL production Rates	356,747 SY	0.111111 SY per SF
Site clearing/grading	70 days	3 acres/day	CFL Production Rate - 3 acres/day = 14,520 SY/day		
	1,260 total days				

General Materials Trips 87 Trips based on 0.1639 vendor trips/1000 SF (from South Coast AQMD Field Survey 2008/2010 and used in CALEEMOD).
1,260 days total

Truck Transport - Demolition Debris

Task	Vehicle Type	Assumed Avg. Speed (mph)	Round Trip Distance (miles)	Total Project Trips (trucks)	Total Project VMT (miles)	Total Travel Time (hours)	Fraction Time in Idle	Total Time in Idle (hours)	Total Project Emissions (tons)											
									VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Total GHGs (CO2e)	Formaldehyde	Benzene
Waste Hauling	Dump Truck	35	24	43,807	1,051,378	30,039	0.3	9,012	0.41	2.23	4.04	4.03E-03	1.62	0.41	1184	0.02	3.56E-03	1186	0.03	3.05E-03
All waste conservatively assumed to be hauled to the Coastal Region Solid Waste Landfill (Approximately 12 miles one way)								**Totals**	**0.41**	**2.23**	**4.04**	**4.03E-03**	**1.62**	**0.41**	**1184**	**0.02**	**3.56E-03**	**1186**	**0.03**	**3.05E-03**

Truck Transport - Material Deliveries

Task	Vehicle Type	Assumed Avg. Speed (mph)	Round Trip Distance (miles)	Total Project Trips (trucks)	Total Project VMT (miles)	Total Travel Time (hours)	Fraction Time in Idle	Total Time in Idle (hours)	Total Project Emissions (tons)											
									VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Total GHGs (CO2e)	Formaldehyde	Benzene
Gravel Delivery	Dump Truck	35	28	4,018	112,498	3214	0.3	964	0.04	0.24	0.43	4.32E-04	0.17	0.04	127	2.09E-03	3.81E-04	127	3.27E-04	3.42E-03
Asphalt Delivery	Dump Truck	35	54	217	11,733	335	0.3	101	4.54E-03	0.02	0.05	4.50E-05	0.02	4.56E-03	13	2.18E-04	3.97E-05	13	3.41E-05	3.56E-04
Concrete Delivery	Concrete Truck	35	4	9,442	37,766	1079	0.3	324	0.01	0.08	0.14	1.45E-04	0.05	0.01	43	7.02E-04	1.28E-04	42.60	1.10E-04	1.15E-03
General Materials Delivery	Delivery Truck	35	260	87	22,683	648	0.3	194	0.01	0.05	0.09	8.70E-05	0.03	0.01	26	4.22E-04	7.68E-05	25.58	6.59E-05	6.89E-04
Notes: The following area businesses were used for estimating distance and travel time -								**Totals**	**0.07**	**0.39**	**0.71**	**7.09E-04**	**0.28**	**0.07**	**208**	**3.44E-03**	**6.26E-04**	**208**	**5.36E-04**	**0.01**

Gravel - Heidelberg Materials, Aggregates - 14 miles one way
Asphalt - Barnhill Asphalt Plant - 27 miles one way
Concrete - SRM Concrete - 2 miles one way
General Materials - Assume from Raleigh, 130 miles one way

Construction

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emissions VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb	CH4 lb	N2O lb	Formaldehyde lb	Benzene lb	Notes on Hour Estimates
Excavator	771	450	0.53	12.96	82.46	222.59	0.60	13.21	12.81	217,708	1.14	0.52	3.31	0.59	based on 500 CY/day productivity rate*2 pc of equip
Grader	32	145	0.58	0.12	0.79	2.74	0.01	0.18	0.18	3,199	0.01	0.00	0.03	0.01	based on 3000 SY/day productivity rate for 2 passes
Roller	5,506	401	0.58	131.06	862.10	2,410.83	4.28	120.44	116.83	1,515,294	9.75	4.45	33.85	5.86	based on paving machine productivity X 2 pc equip.
Paving Machine	2,753	164	0.58	31.92	158.23	502.28	0.87	35.53	34.46	309,847	2.49	1.13	8.74	1.52	based on 500 tons/day productivity rate
Asphalt Curbing Machine	5,506	130	0.58	50.57	241.20	788.63	1.37	53.34	51.74	491,222	3.86	1.76	13.85	2.41	based on paving machine productivity X 2 pc equip.
Dozer	209	275	0.58	1.44	6.48	21.51	0.11	1.22	1.18	39,395	0.12	0.05	0.33	0.06	based on 231 CY/hr productivity rate
Skidsteer Loader	4,757	95	0.23	168.37	890.89	873.09	0.51	127.03	123.22	158,992	6.54	2.99	40.66	5.35	based on loader activity X 2 pc equip
Loader	2,378	300	0.48	26.14	125.20	374.87	1.11	23.24	22.54	405,251	2.27	1.04	6.73	1.21	based on 25% of total construction days
25 ton Crane	1,189	150	1	16.29	68.96	339.63	0.58	16.02	15.54	208,785	1.41	0.64	4.52	0.81	based on 4 hr/day usage for 25% of total construction days
Telehandler	1,189	130	0.48	1.57	9.66	30.69	0.23	1.84	1.78	87,816	0.11	0.05	0.37	0.07	based on 4 hr/day usage for 25% of total construction days
Forklift	4,757	74	0.48	19.04	72.67	948.79	0.58	5.90	5.72	221,999	3.34	1.52	5.44	0.96	based on 4 hr/day usage for 100% of total construction days
Misc Curing Equipment	2,753	60	0.58	23.57	147.56	598.64	0.35	16.91	16.40	125,853	2.55	1.16	6.44	1.07	based on 500 tons/day productivity rate
Concrete Finisher	5,506	74	0.58	58.14	363.99	1,476.64	0.87	41.71	40.46	310,438	6.29	2.87	15.89	2.64	based on paving machine productivity X 2 pc equip.
Concrete Truck	8,497	300	0.21	170.37	771.35	3,218.91	2.02	103.11	100.02	626,258	10.31	4.70	44.48	7.16	based on 6 min/truck productivity at pour site
			Subtotal (lbs):	**711.57**	**3,801.55**	**11,809.83**	**13.49**	**559.66**	**542.87**	**4,722,059**	**50.20**	**22.90**	**184.65**	**29.70**	
			Construction Total in Tons	**0.36**	**1.90**	**5.90**	**0.01**	**0.28**	**0.27**	**2,361.03**	**0.03**	**0.01**	**0.09**	**0.01**	

Worker Trips

Equipment	MPH	Miles	g/VMT Emission Rate VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Formaldehyde	Benzene
Passenger Truck	45	425,123	0.04	4.52	0.13	2.57E-03	3.01	0.45	386	0.01	2.00E-03	1.77E-03	6.01E-04
			Total Emissions in Pounds										
			VOC	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Formaldehyde**	**Benzene**
		Subtotal in pounds	**40.08**	**4,233.53**	**123.66**	**2.40**	**2,823.00**	**424.77**	**362,027**	**13.30**	**1.88**	**1.66**	**0.56**

Site Clearing and Grading

Off-Road Equipment	Quantity	Hours	HP	Load Factor	Emissions in lb VOC	CO	NOx	SO_2	PM10	PM2.5	CO_2	CH4	N2O	Formaldehyde	Benzene
Loader	5	2,817	300	0.48	30.96	148.30	444.02	1.32	27.53	26.70	480,002	2.69	1.23	7.97	1.43
Dozer	2	1,127	275	0.58	7.75	34.99	116.12	0.57	6.56	6.37	212,684	0.63	0.29	1.76	0.31
Grader	1	563	145	0.58	2.10	13.90	48.06	0.15	3.24	3.14	56,071	0.18	0.08	0.56	0.10
Excavator	1	563	450	0.53	9.47	60.22	162.57	0.44	9.65	9.36	159,002	0.84	0.38	2.42	0.43
			Subtotal in pounds		**50.28**	**257.41**	**770.77**	**2.48**	**46.97**	**45.56**	**907,761**	**4.33**	**1.98**	**12.71**	**2.28**

Worker Trips

Equipment	MPH	Miles	g/VMT Emission Rate VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Formaldehyde	Benzene
Passenger Truck	45	17,430	0.04	4.52	0.13	0.00	3.01	0.45	386	0.01	2.00E-03	6.01E-04	1.77E-03
			Total Emissions in Pounds										
			VOC	**CO**	**NOx**	**SO2**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Formaldehyde**	**Benzene**
		Subtotal in pounds	**1.64**	**173.58**	**5.07**	**0.10**	**115.74**	**17.42**	**14,843**	**0.55**	**0.08**	**0.02**	**0.07**

Fugitive Dust

PM 10 tons/acre-mo	acres	months of disturbance	**PM10 Total Tons**	PM2.5/ PM10 Ratio	**PM2.5 Total Tons**
0.11	5.0	41	**22.79**	0.1	**2.28**

Emission factor and ratio from WRAP Fugitive Dust Handbook, 2006
Based on productivity estimate allowing that approx 5 acres are disturbed at any time.

Total emissions for site improvements/land clearing

Activity	tons VOCs	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	CO2e	Formaldehyde	Benzene
Truck trips	0.48	2.63	4.74	4.74E-03	1.90	0.48	1,392	2.30E-02	4.19E-03	1,394	0.03	0.01
Construction	0.36	1.90	5.90	0.01	0.28	0.27	2,361	0.03	0.01	2,365	0.09	0.01
Site clearing/grading	0.03	0.13	0.39	1.24E-03	0.02	0.02	454	2.17E-03	9.88E-04	454	0.01	1.14E-03
Fugitive Dust	NA	NA	NA	NA	22.79	2.28	NA	NA	NA	NA	NA	NA
Worker Trips	0.02	2.20	0.06	1.25E-03	1.47	0.22	188	0.01	0.00	189	8.42E-04	3.16E-04
Total on-site	0.38	2.03	6.29	0.01	23.09	2.57	2,815	0.03	0.01	2,819	0.10	0.02
Total off-site	0.50	4.83	4.81	0.01	3.37	0.70	1,581	0.03	0.01	1,583	0.03	0.01
Total	**0.88**	**6.86**	**11.10**	**0.01**	**26.46**	**3.27**	**4,396**	**0.06**	**0.02**	**4,402**	**0.13**	**0.02**

Tab G. Operations – Personnel Commutes

1 pound= 453.59 grams

Phoenix II Personnel - typ 1400 workers and dependents per day commuting
Assume each worker commutes alone 1,400 commutes per day
22 mile round trip 30,800 miles per day (assume all commutes are from Trent Woods, approximately 22 miles away)
Assume 50% split between passenger cars and passenger trucks

Worker Trips

Equipment	MPH	Miles	g/VMT Emission Rate										
			VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Formaldehyde	Benzene
Passenger Truck	45	4,004,000	0.04	4.52	0.13	2.57E-03	3.01	0.45	386	0.01	2.00E-03	6.01E-04	1.77E-03
Passenger Car	45	4,004,000	0.03	4.13	0.07	1.98E-03	3.45	0.52	298	0.01	1.23E-03	3.94E-04	1.18E-03
			Total Emissions in Pounds										
			VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Formaldehyde	Benzene
		Subtotal in pounds	377.46	39,873.23	1,164.65	22.65	26,588.31	4,000.66	3,409,734	125.28	17.69	5.31	15.65
			243.25	36,464.81	597.02	17.47	30,417.99	4,568.34	2,629,466	98.44	10.90	3.48	10.45
		Total Tons	**0.31**	**38.17**	**0.88**	**0.02**	**28.50**	**4.28**	**3,020**	**0.11**	**0.01**	**4.39E-03**	**1.30E-02**

Tab H. Equipment Data and Emission Factors

Construction Equipment	HP	Load Factor	Emissions Factors									
			VOC	CO	NOx	SO_2	PM10	PM2.5	CO_2	CH4	Benzene	Formaldehyde
			g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Grader	145	0.58	0.02	0.13	0.46	0.001	0.03	0.03	536.77	0.002	9.85E-04	5.39E-03
Dozer	275	0.58	0.02	0.09	0.29	0.001	0.02	0.02	536.77	0.002	7.92E-04	4.44E-03
Excavator	450	0.53	0.03	0.20	0.55	0.001	0.03	0.03	536.74	0.003	0.001	0.01
Skidsteer Loader	95	0.23	0.73	3.89	3.81	0.002	0.55	0.54	693.89	0.029	0.023	0.18
Loader	300	0.48	0.03	0.17	0.50	0.001	0.03	0.03	536.73	0.003	0.002	0.01
25 ton Crane	150	1	0.04	0.18	0.86	0.001	0.04	0.04	530.93	0.004	0.002	0.01
Misc Curing Equipment	60	0.58	0.11	0.70	2.83	0.002	0.08	0.08	595.83	0.012	0.005	0.03
Concrete Finisher	74	0.58	0.11	0.70	2.83	0.002	0.08	0.08	595.83	0.012	0.005	0.03
Telehandler	130	0.48	0.01	0.06	0.19	0.001	0.01	0.01	536.80	0.001	0.0004	0.002
Forklift	74	0.48	0.05	0.20	2.55	0.002	0.02	0.02	595.99	0.009	0.003	0.01

Note: The MOVES model does not include emission factors for N2O for nonroad equipment. N2O for nonroad equipment is estimated using ratio N2O/CH4 ratio of 0.26/0.57 from EPA (2016), Table B-8.

Tab I. Onroad Emission Factors

Road Type	Vehicle Type	Speed (MPH)	Emission Factor Units	Emission Factor											
				VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Total GHGs (CO2e)	Benzene	Formaldehyde
Highway	Passenger Car	35	g/VMT	0.0276	4.1309	0.0676	0.0020	3.4459	0.5175	297.8770	0.0112	0.0012	298.5200	0.0012	0.0004
Sidestreets	Passenger Car	15	g/VMT	0.0430	6.5931	0.0844	0.0031	6.9147	1.0377	469.0130	0.0173	0.0029	470.2970	0.0018	0.0006
Idle	Passenger Car	0	g/hr	0.1700	1.9367	0.2963	0.0209	0.0219	0.0000	3151.2200	0.0623	0.0432	3165.6400	0.0071	0.0024
Highway	Passenger Truck	35	g/VMT	0.0428	4.5170	0.1319	0.0026	3.0120	0.4532	386.2690	0.0142	0.0020	387.2170	0.0018	0.0006
Sidestreets	Passenger Truck	15	g/VMT	0.0673	6.8668	0.1584	0.0040	6.3331	0.9513	595.2660	0.0218	0.0047	597.1980	0.0028	0.0009
Idle	Passenger Truck	0	g/hr	0.2009	4.0675	0.5445	0.0266	0.0132	0.0116	4000.8500	0.0687	0.0701	4023.4500	0.0085	0.0029

Truck Emission Factors

Road Type	Vehicle Type	Speed (MPH)	Emission Factor Units	Maximum Emission Factor											
				VOC	CO	NOx	SO2	PM10	PM2.5	CO2	CH4	N2O	Total GHGs (CO2e)	Benzene	Formaldehyde
Highway	SUSH Truck	35	g/VMT	3.07E-01	1.74E+00	3.19E+00	3.31E-03	1.37E+00	3.33E-01	9.73E+02	1.46E-02	2.36E-03	9.74E+02	2.30E-03	2.41E-02
Sidestreets	SUSH Truck	15	g/VMT	6.07E-01	3.40E+00	5.80E+00	4.92E-03	4.37E+00	8.88E-01	1.45E+03	3.12E-02	5.52E-03	1.45E+03	4.52E-03	4.74E-02
Idle	SUSH Truck	0	g/hr	5.23E+00	2.20E+01	3.42E+01	1.95E-02	2.54E+00	2.34E+00	5.73E+03	2.70E-01	8.27E-02	5.76E+03	3.88E-02	4.06E-01

SUSH = Single Unit Short Haul

Tab J. NAAQS Table

Air Pollutant	Averaging Time	Federal Primary Standard	Federal Secondary Standard
CO	1-hour 8-hour	35 ppm 9 ppm	None
NO_2	1-hour Annual	100 ppb 53 ppb	None 53 ppb
PM_{10}	24-hour Annual	150 µg/m^3 None	150 µg/m^3 None
$PM_{2.5}$	24-hour Annual	35 µg/m^3 9 µg/m^3	35 µg/m^3 15 µg/m^3
O_3	8-hour	0.070 ppm	0.070 ppm
SO_2	1-hour 3-hour 24-hour Annual	75 ppb None None None	None None None 10 ppb

Notes : (1) The period over which pollutant concentrations are measured.

(2) Primary Standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.

(3) Secondary Standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

Legend: µg/m^3 = microgram per cubic meter; CO = carbon monoxide; NO_2 = nitrogen dioxide; O_3 = ozone; ppb = parts per billion; ppm = parts per million; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide

Appendix H
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Appendix I
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