DRAFT FINAL
ENVIRONMENTAL ASSESSMENT
FOR
CAMP PINCHOT ADAPTIVE REUSE AT
EGLIN AIR FORCE BASE, FLORIDA

Submitted to:
96 CEG/CEIE
Eglin Air Force Base, Florida

RCS 21-440, 22-266

July 2025

Privacy Advisory

This Draft Environmental Assessment (EA) has been provided for public comment in accordance with the National Environmental Policy Act, which provides an opportunity for public input on United Department of the Air Force (DAF) decision-making, allows the public to offer input on alternative ways for DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects.

Public input allows DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in this EA. Providing personal information is voluntary. Private addresses will be compiled to develop a stakeholders inventory. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in this EA.

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ACRONYMS AND ABBREVIATIONS

96 CEG	96th Civil Engineer Group
96 CEG/CEIEA	96th Civil Engineer Group/Environmental Assets
96 CEG/CEIEC	96th Civil Engineer Group/Compliance
96 SFS	96th Security Forces Squadron
96 TW	96th Test Wing
ACAM	Air Conformity Applicability Model
ADP	Area Development Plan
AF Form	Air Force Form
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
APE	Area of Potential Effects
ARP	Adaptive Reuse Plan
BMP	best management practice
CAA	Clean Air Act
CFR	Code of Federal Regulations
CH_4	methane
CHELCO	Choctawhatchee Electric Cooperative
CO	carbon monoxide
CO_2	carbon dioxide
CRO	Cultural Resources Office
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DAF	Department of the Air Force
DAFMAN	Department of the Air Force Manual
dB	decibel(s)
dBA	A-weighted decibels
DoD	Department of Defense
DoDI	Department of Defense Instruction
DNL	day-night average sound level
DPS	distinct population segment
EA	Environmental Assessment
EAFBI	Eglin Air Force Base Instruction
EGTTR	Eglin Gulf Test and Training Range
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Resource Permit
ESA	Endangered Species Act
ETTC	Eglin Test and Training Complex
EUL	Enhanced Use Lease
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
GHGs	greenhouse gases
HABS	Historic American Buildings Survey
HAPs	hazardous air pollutants
HFCs	hydrofluorocarbon
HVT	High-Value Target
INRMP	Integrated Natural Resources Management Plan
JLUS	Joint Land Use Study
JTTOCC	Joint Test and Training Operations Control Center

L_{max}	maximum noise level
LOS	level of service
MHPI	Military Housing Privatization Initiative
MMPA	Marine Mammal Protection Act
MRTFB	Major Range and Test Facility Base
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NF_3	nitrogen trifluoride
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
No.	Number
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRO	Natural Resources Office
NWFWMD	Northwest Florida Water Management District
Pb	lead
PDC	project design criteria
PFC	perfluorocarbon
PM	particulate matter
PSD	Prevention of Significant Deterioration
RCS	Record Control Symbol
ROI	region of influence
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SR	State Road
SWPPP	Stormwater Pollution Prevention Plan
TBD	to be determined
TCPs	traditional cultural places
tpy	tons per year
US	United States
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

1. PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) programmatically evaluates potential environmental impacts associated with reuse and repurposing of the Camp Pinchot land parcel. Programmatic reviews under the National Environmental Policy Act (NEPA) may provide detailed analysis for project components for which sufficient information is available, or may address general environmental issues on a broad scale and frame the scope of subsequent project-specific evaluations. If necessary, federal agencies can use the programmatic review to make future decisions through tiered NEPA review. Potential uses of the Camp Pinchot parcel include, but are not limited to, all or part of actions described in Air Force Form (AF Form) 813, the Air Force form used to document the need for environmental analysis, Record Control Symbol (RCS) 21-440 (96 CEG, 2021), AF Form 813 RCS 22-266 (96 CEG, 2022a), and a previous Camp Pinchot case study/adaptive use alternatives report (96 CEG, 2005). RCS 22-266 addresses the creation of a Camp Pinchot Area Development Plan (ADP), while RCS 21-440 addresses the potential for establishing an Enhanced Use Lease (EUL) at the site. The 2005 alternatives report discusses a variety of potential reuse options, including relocation of the Eglin Air Force Base (AFB) Natural Resources Office (NRO), currently located at the Jackson Guard Compound, and Cultural Resources Office (CRO) to the site. The Proposed Action is to implement a Camp Pinchot Adaptive Reuse Plan (ARP), which would include relocation of 96th Civil Engineer Group's Environmental Assets (Eglin's NRO and CRO) to the Camp Pinchot area, with implementation of the Camp Pinchot Historic Preservation Plan.

Action alternatives include multiple versions of an EUL, which could include demolition of some or all existing buildings, and Specialized Range mission usage. The actions would occur in the context of previous decisions related to the Military Housing Privatization Initiative (MHPI). Generally, the MHPI allows the Department of Defense (DoD) to work with the private sector to build and renovate military housing. The Department of the Air Force (DAF) prepared an Environmental Impact Statement (EIS) to evaluate potential impacts of housing privatization at Eglin AFB and Hurlburt Field, Florida, including demolition and new construction, under the MHPI (DAF, 2011). The Final EIS stated that the developer would also return units and associated structures within the Historic District at Camp Pinchot to the DAF for purposes other than residential housing (e.g., offices, meeting places) once replacement units are constructed on Main Base. The EIS states that the extent of any future use is to be determined through separate NEPA documentation. The EIS identified all actions with the potential to adversely affect historic properties and to specify National Historic Preservation Act (NHPA) consultation and mitigation requirements. As described in the land use section of the 2011 EIS, if the Camp Pinchot property ceases to be needed for military purposes, the land may be returned to National Forest status at the discretion of the Secretary of Defense.

The Eglin Test and Training Complex (ETTC), located in the northwest Florida Panhandle, is one of 23 component activities that make up the DoD Major Range and Test Facility Base (MRTFB). DoD Directive 3200.11 defines the MRTFB as the designated core set of DoD Test and Evaluation infrastructure and associated workforce that must be preserved as a national asset to provide test and evaluation capabilities to support the DoD acquisition system. An MRTFB activity is defined as an organizational command element of a DoD Component responsible for managing MRTFB capabilities and resources. Eglin AFB is primarily situated among three counties: Santa Rosa County, Okaloosa County, and Walton County (Figure 1-1). In addition, Cape San Blas, part of a peninsula in Gulf County, is part of Eglin AFB.

The primary function of Eglin AFB is to support research, development, test, and evaluation of conventional weapons and electronic systems. As Eglin's host wing, the 96th Test Wing (96 TW) provides essential base operating support and services for 9 wings and wing equivalents, 11 operating locations and detachments, and more than 35 associated units (96th Test Wing, 2022). Eglin AFB also provides support for individual and joint training of operational units and hosts major single service and joint exercises. The ETTC consists of four components, not including the cantonment or main base areas: (1) test areas/sites, (2) interstitial areas (areas beyond and between the test areas/sites), (3) Eglin Gulf Test and Training Range (EGTTR), and (4) airspace (over land and water). The 96 TW Commander is the Range Operating Authority for the ETTC.

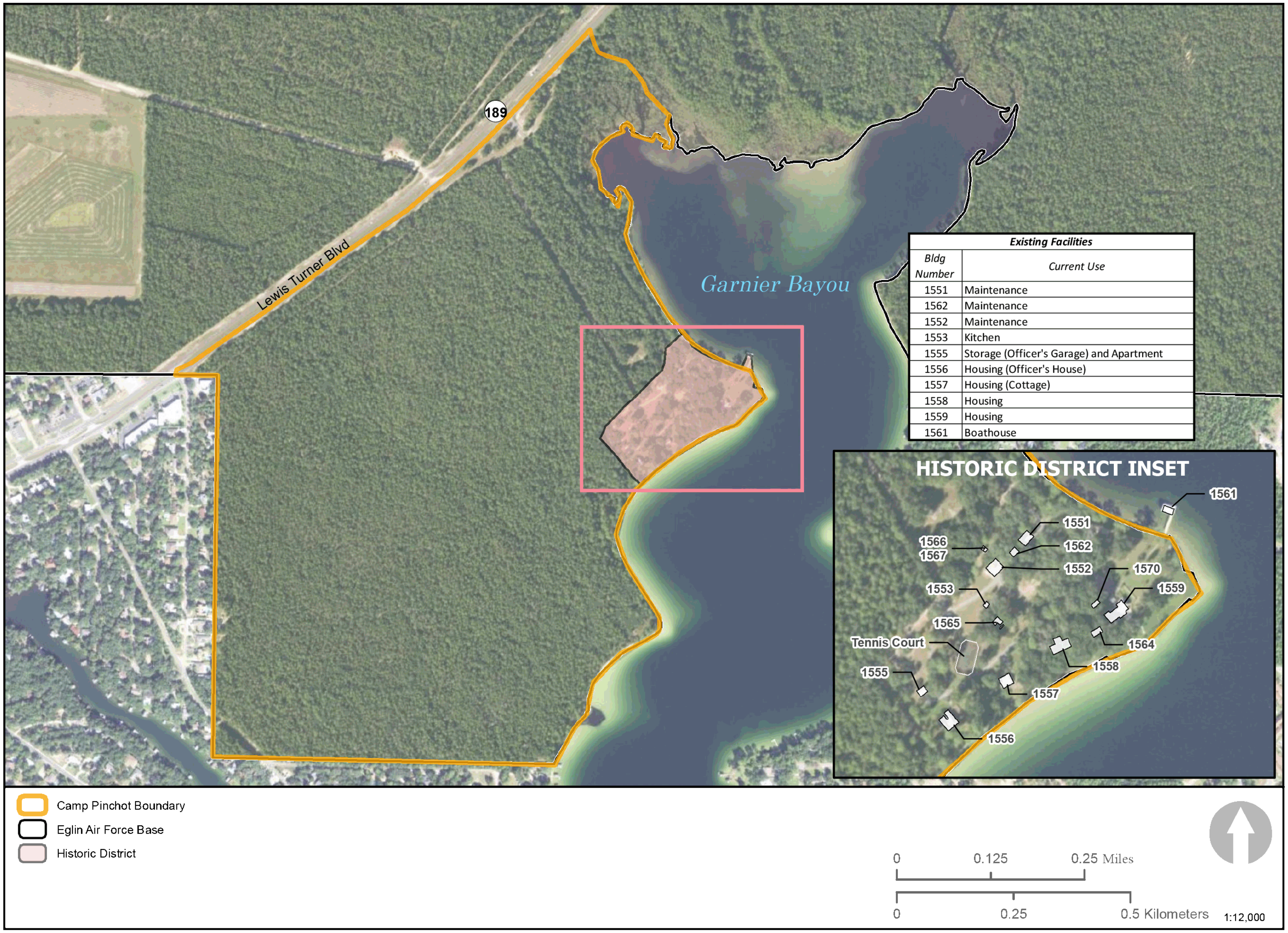
Brief descriptions of the Camp Pichot parcel, Eglin NRO, and Eglin CRO are provided below because of their relevance to the Proposed Action. The Camp Pinchot parcel is located within Okaloosa County.

Camp Pinchot

The location of the Proposed Action is the Camp Pinchot Historic District and adjacent land (Figure 1-2). The study area encompasses approximately 282 acres between Garnier Bayou, Lewis Turner Boulevard, Pamela Ann Drive, and Forest Avenue.

Most of the Camp Pinchot parcel consists of undeveloped pine forest. Developed and cleared/semi-cleared areas are primarily limited to the historic district, a paved road connecting the historic district to Lewis Turner Boulevard, an unpaved road providing access to a Boy Scout/Girl Scout camp site (which contains a pavilion and picnic tables), and a utility corridor. Camp Pinchot was established in 1908 as part of Choctawhatchee National Forest, one of the 11 original National Forests designated by the United States (US) Forest Service (USFS). The parcel, which is named after the first USFS chief forester, was developed as a ranger station and was the seasonal headquarters of Choctawhatchee National Forest. Construction of buildings used for administrative offices and ranger living quarters began in 1910. In 1940, the land was transferred to the War Department for use on what would become Eglin AFB. The existing buildings were initially used for enlisted personnel housing. Beginning in 1950, Camp Pinchot served as the housing location for the Eglin AFB Installation Commander, until recently when the Installation Commander housing was moved to Eglin Main Base. Due to the property being vacated, a ground maintenance program is in place, as agreed upon by the Eglin AFB CRO and using the Air Force Common Levels of Service Standards. Maintenance activities include general landscaping services (e.g., mowing) and emergency pruning, trimming, and tree/stump removal.

Figure 1-1. Location of Eglin Test and Training Complex



Existing Facilities

Bldg Number	*Current Use*
1551	Maintenance
1562	Maintenance
1552	Maintenance
1553	Kitchen
1555	Storage (Officer's Garage) and Apartment
1556	Housing (Officer's House)
1557	Housing (Cottage)
1558	Housing
1559	Housing
1561	Boathouse

Figure 1-2. Camp Pinchot Study Area

Camp Pinchot contains architectural resources (buildings) and archaeological resources, as defined under the NHPA. The buildings were collectively listed in the National Register of Historic Places (NRHP) in 1998 as the Camp Pinchot Historic District. The approximately 18-acre historic district includes 10 contributing buildings (1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561, and 1562) and three non-contributing buildings (1550 [tennis court], 1564, and 1565). The contributing buildings consist of four houses, three garages, a guest house, a shed, and a boathouse. In addition, a dock is present at the Garnier Bayou shoreline. Brief descriptions of the contributing buildings are provided in Table 2-1 in Section 2.1 (Proposed Action – Camp Pinchot Adaptive Reuse Plan). Current and potential future floorplans of buildings 1555, 1556, and 1557 are shown in the DAF Camp Pinchot brief (96 CEG, 2022b). One archaeological site occurs in the historic district (8OK00871), and two are located near the historic district (8OK01197 and 8OK02344). Site 8OK00871 contains significant historic and pre-contact deposits and was determined to be eligible for listing in the NRHP in 1999. The historic component extends over and beyond the boundaries of the historic district and is associated with USFS occupancy. The pre-contact component occurs primarily along Garnier Bayou. The historic district is adjacent to a large area of wooded, DAF-controlled land.

Eglin Air Force Base Natural Resources Section

Eglin NRO functions are located at the Jackson Guard Compound, a 17-acre site in Niceville, Florida (approximately 1.5 miles north of Eglin Main Base). The DAF Wildland Fire Center-Eglin Wildland Support Module is also located at Jackson Guard. Eglin NRO is tasked with natural resources management of Eglin AFB's land, riverine, coastal, and offshore environments. Activities handled by Eglin NRO consist of plant, wildlife, and forest management. These responsibilities include threatened and endangered species management, nuisance and invasive species control, game management, and outdoor recreation. The Wildland Support Module implements the prescribed fire program and responds to wildfires.

Eglin Air Force Base Cultural Resources Office

Eglin CRO currently resides in parts of multiple buildings on Eglin Main Base. The purpose of the CRO is to support the warfighter by meeting compliance responsibilities, planning future activities to minimize cultural resources impacts, and managing those resources responsibly. The cultural resource team manages cultural resources on the 464,000-acre Eglin Reservation and in the EGTTR, which comprises nearly 123,000 square miles of airspace over the Gulf of America. The EGTTR has a rich maritime history and is known for submerged archaeological sites and historic shipwrecks (excluding vessels sunk during military testing and training activities). The Eglin CRO curates archaeological collections for Eglin, Hurlburt, Tyndall, and MacDill AFBs. The Eglin repository currently houses 1,806 cubic feet of artifacts, 722 linear feet of documentation, and over 1 million megabytes of digital records, and the collections continue to grow. The curation program supports the mission through compliance with 36 Code of Federal Regulations (CFR) Part 79; compliant facilities with sufficient storage are rare and costly to construct.

1.2 PURPOSE OF ACTION

The purpose of the Proposed Action is to ensure that any future use of Camp Pinchot includes keeping the property under DAF control for safety and security purposes and utilizing existing facilities to the extent practicable. This EA considers multiple options for use of the land and associated infrastructure.

1.3 NEED FOR ACTION

Camp Pinchot is vacant for the first time since the USFS constructed the facilities in 1910. The need for the Proposed Action is to reuse or repurpose this currently underutilized DAF property in a manner that supports the 96 TW mission. Occupation of these structures will preserve use and encourage maintenance of these buildings for the NRO and CRO. Both the NRO and CRO will be able to continue their mission for the base, range, and community while preserving Eglin land and the heritage of Camp Pinchot.

1.4 INTERAGENCY/INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

1.4.1 Biological Resources

Per the requirements of Section 7 of the Endangered Species Act (ESA) and implementing regulations (50 CFR Part 402), findings of effect and requests for concurrence were submitted to the US Fish and Wildlife Service (USFWS). Consultation with the USFWS was completed on [TBD].

1.4.2 Cultural Resources

In March 2024, Eglin AFB published a memorandum for record from the Eglin AFB Installation Tribal Liaison Officer regarding the history of consultation with six tribes, current initiatives, and the government-to-government tribal consultation with regard to traditional cultural places (TCPs) and sacred sites at the base. In 2021, Eglin AFB completed a comprehensive Section 106 Programmatic Agreement with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation, in coordination with the tribal groups. Eglin AFB and the tribes recognize that previously unknown TCPs could be identified in the future as more information becomes available. However, each tribe has stated that they are unaware of any TCPs or sacred sites currently located on Eglin AFB lands and prefer not to be consulted regarding each specific project whose impacts have been previously assessed and/or proposed for construction in areas already surveyed and determined to be low risk for TCPs or sacred sites. Eglin AFB notified relevant tribes of the Proposed Action on May 20, 2025. All substantive comments will be incorporated into the Final EA.

1.4.3 Coastal Zone Management Act

Copies of the Draft Final EA and a Coastal Zone Management Act (CZMA) determination were provided to the Florida State Clearinghouse for review, comment, and concurrence (Appendix B). All substantive agency comments will be incorporated into the Final EA.

1.5 PUBLIC PARTICIPATION

A Notice of Availability for public review of the Draft EA was published in the *Northwest Florida Daily News*, and the Draft EA was made available for public review online at https://www.eglin.af.mil/About-Us/EglinDocuments/ from July 9, 2025, until August 9, 2025. Local libraries have internet access and librarians to assist in accessing online documents. The public comment period closed on August 10, 2025, and [TBD] comments were received.

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2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section introduces the alternatives evaluated for potential environmental impacts in this EA. The alternatives include the Proposed Action, No Action Alternative, and four action alternatives. The potential environmental consequences of each alternative are summarized in Table 2-4 at the end of this chapter.

- Proposed Action, Adaptive Reuse Plan: Implement a Camp Pinchot ARP, which would include relocation of Eglin NRO and CRO personnel to Camp Pinchot as a duty station. The Proposed Action would also include the potential addition of buildings, parking areas, and a public recreation area outside the historic district. Several existing facilities would be renovated to support new functions. Prior to initiating new construction or other future actions, the DAF would develop and implement a Camp Pinchot ADP. The Proposed Action would include implementation of the Camp Pinchot Historic Preservation Plan, which would support rehabilitation of historic structures as necessary. The Proposed Action would be implemented in three phases occurring over approximately 6 years. Future activities other than conversion of existing facilities, including new construction, are considered notional currently. Future use of facilities vacated by the Eglin NRO, CRO, and Wildland Fire Center-Eglin Wildland Support Module would be assessed in future NEPA documentation if applicable.
- Alternative 1, EUL at Camp Pinchot: An EUL would be established for the currently undeveloped/forested portion of the Camp Pinchot parcel. Development would not occur within the historic district. The parcel could be used for multiple types of development, potentially including a housing community and commercial/retail facilities. A conservation buffer space could be maintained along the Lewis Turner Boulevard property frontage.
- Alternative 2, EUL at Camp Pinchot with Historic Park: The EUL option would be similar to Alternative 1 but would encompass the entire Camp Pinchot parcel, including the historic district. However, per the Camp Pinchot Historic Preservation Plan, there would be a requirement to preserve the historic district and associated buildings as a Historical Park. Site development would therefore include historic preservation activities for relevant facilities and the eligible archaeological site.
- Alternative 3, Demolition Option: Some or all of the existing buildings in the historic district would be demolished to provide new options related to the EUL. If this alternative is chosen, effects to the 10 historic buildings and eligible archaeological site would likely be adverse and potentially significant. Prior to a determination to demolish the facilities, an Economic Analysis would be required per DoD Instruction (DoDI) 4715.16, Enclosure 3 Procedure Items 5.
- Alternative 4, Specialized Range Mission Use: This alternative would involve changing the Camp Pinchot parcel’s classification from Cantonment to Interstitial, as the land has potential for specialized mission capabilities. The parcel could support the mission sets described in Section 2.6.
- No Action Alternative: Current housing functions at Camp Pinchot would remain unchanged, and reuse of the area would not occur. Maintenance and preservation activities for facilities within the historic district would cease.

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federal agency's proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and that meet the purpose and need require detailed analysis.

2.1 PROPOSED ACTION – CAMP PINCHOT ADAPTIVE REUSE PLAN

The Proposed Action consists of implementing a Camp Pinchot ARP. Under the ARP, the Eglin AFB NRO and CRO (including a curation facility/interpretive center) would be relocated to Camp Pinchot as a duty station. There would also be an expansion of the currently developed area, including the addition of buildings, parking areas, and a public recreation area. Building space and water access via Garnier Bayou would be provided for law enforcement personnel (96th Security Forces Squadron [96 SFS]) and the USFWS personnel. New facilities could be constructed to support these and other functions, such as public education and recreation. Several existing facilities, including contributing buildings 1555, 1556, and 1557, would be renovated to support new functions. Future activities other than conversion of existing facilities, including new construction, are considered notional currently. Future use of facilities vacated by the Eglin NRO, CRO, and Wildland Fire Center-Eglin Wildland Support Module would be assessed in future NEPA documentation if applicable.

Prior to initiating new construction or other future actions, the DAF would develop and implement a Camp Pinchot ADP. Although details are not available at this time, the ADP would contain constraints and opportunities evaluation, illustrative plans, regulating plans, implementation plans, and capacity analysis. The ADP process would include a thorough analysis of existing conditions, identification of existing program requirements, and review of the installation's planning vision, goals, and objectives. After initial analysis, conceptual alternatives would be developed and evaluated against measurable criteria. Ultimately, a preferred alternative that best meets the planning vision, goals, and objectives would be identified. The ADP would be completed in accordance with Unified Facilities Criteria 2-100-01, *Installation Master Planning*, and Air Force Instruction 32-1015, *Integrated Installation Planning*.

The NRO and CRO relocation and associated actions described above would be implemented in three phases occurring over approximately 6 years. The immediate action plan (0 to 12 months) would involve movement of some staff and functions to Camp Pinchot, including select Eglin NRO staff, USFWS federal wildlife officers and support vessels, gopher tortoise laboratory staff/facilities, and reticulated flatwoods salamander head-starting program staff/facilities (Figure 2-1). During the intermediate plan (6 months to 3 years), Eglin NRO and CRO functions would complete their relocation to Camp Pinchot. In addition, the ADP would be completed. The long-term plan (3 to 6 years) would involve construction of new facilities (Figure 2-2), although the number and configuration of the facilities are notional at this time. The actions would be conducted in accordance with the ADP. Table 2-1 lists the current and proposed future use of existing facilities. Notional future facilities are listed in Table 2-2. During the construction phase, a parking and equipment/materials laydown area would be temporarily located at the periphery of the historic district. In addition to new facilities, the long-term plan would include construction of public trails and other compatible-use recreational areas.

Table 2-1. Current and Potential Future Use of Existing Camp Pinchot Historic District Facilities

Building Number/Structure (SHPO Number)	Current Use	Proposed Future Use
1551 (8OK03158)	Maintenance	Retain for Storage
1552 (8OK03159)	Maintenance	Retain for Storage
1553 (8OK03160)	Kitchen	Kitchen
1555 (8OK03161)	Storage (Officer's Garage) and Apartment	Convert to Gopher Tortoise Lab
1556 (8OK03162)	Housing (Officer's House)	Convert to Natural Resources Section
1557 (8OK03163)	Housing (Cottage)	Convert to Natural Resources/USFWS Office
1558 (8OK03164)	Housing	TBD
1559 (8OK01988)	Housing	Retain for Future Cultural Resources
1561 (8OK03125)	Boathouse	Retain for USFWS/96 SFS Law Enforcement
1562 (8OK03165)	Maintenance	Retain for Storage
1550 (Tennis Court; non-contributing)	Recreation	Add Picnic Area and Pavilion

Source: (96 CEG, 2022b)
96 SFS = 96th Security Forces Squadron; SHPO = State Historic Preservation Officer; TBD = to be determined; USFWS = United States Fish and Wildlife Service

Table 2-2. Notional Future Facilities at Camp Pinchot

Department of the Air Force Facilities	Public Facilities
Fire Module Office Space (4,200 square feet)	Natural Resources Permit Sales (1,000 square feet)
Engine Bays	Cultural Interpretive Center (10,000 square feet)
Fabrication Shop (5,500 square feet)	Live Animal Displays
Wash Rack	Public Use Picnic/Pavilion
Fuel Pumps	Public Fishing Pier
Conference Center (2,700 square feet)	
Pavilion	

The total acreage of ground disturbance and new impervious surface associated with the Proposed Action is unknown at this time. However, paved areas would likely be constructed adjacent to some existing and notional facilities (see Figure 2-2). In addition, new impervious surfaces would be required for the following:

- Building 1556 – parking area for an estimated 40 vehicles
- Building 1557 – parking area for an estimated 20 vehicles

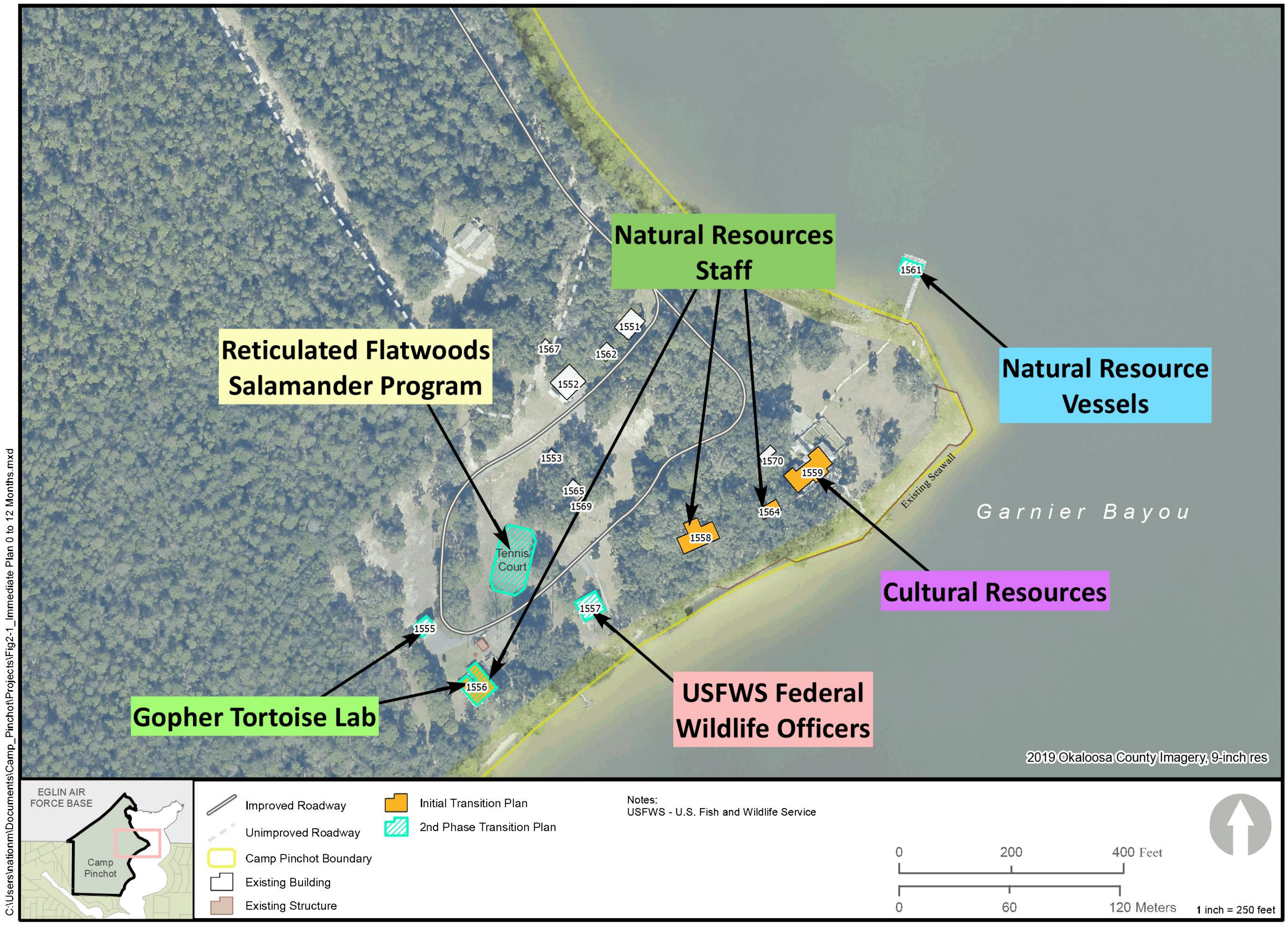
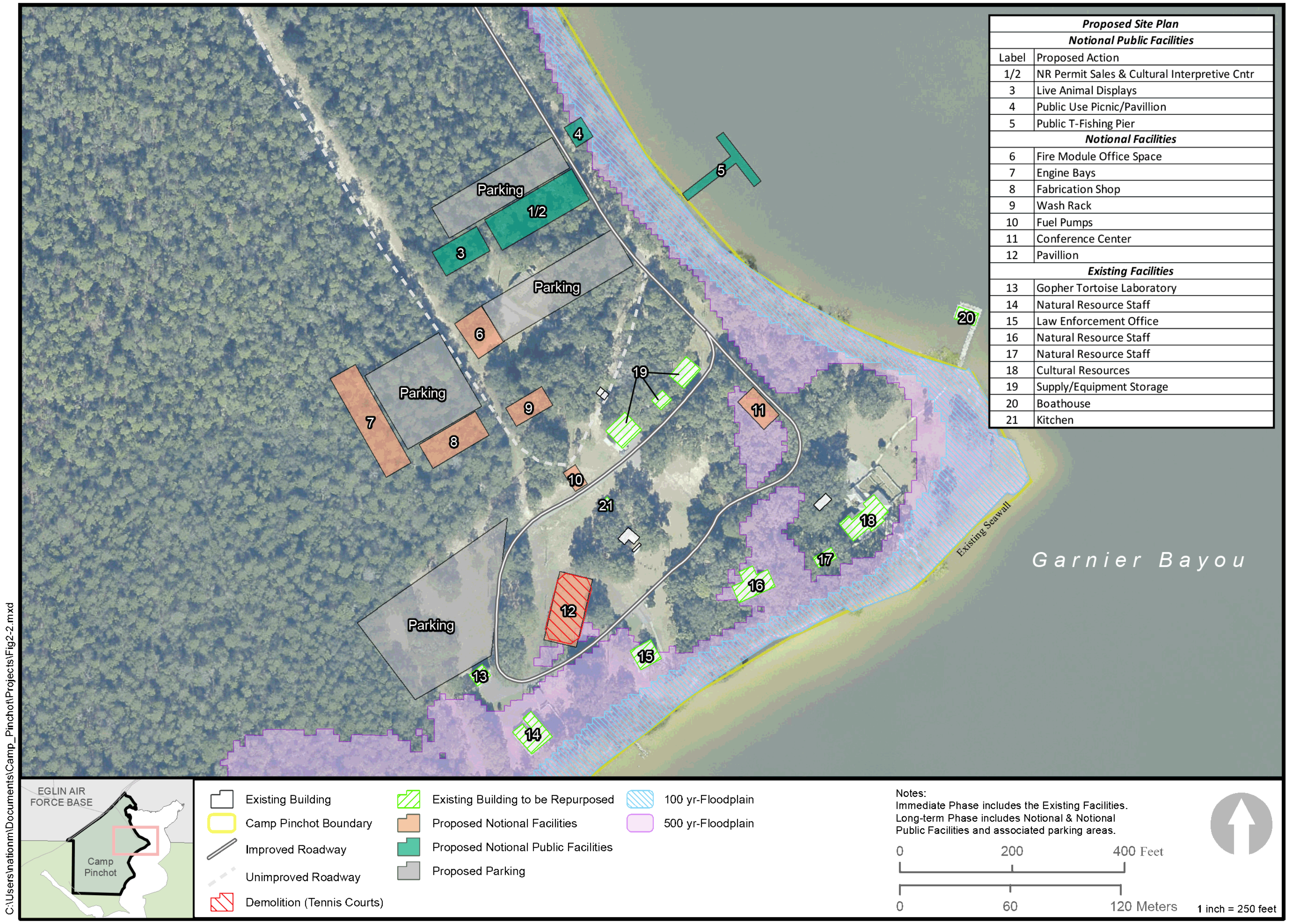


Figure 2-1. Immediate Plan: 0 to 12 Months



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2 **Figure 2-2. Long-Term Plan: 3 to 6 Years**

Facilities in the historic district have generally retained their historic forms, but many require some level of restoration. Primary issues are moisture in walls and roofs, dry rot, and paint degeneration. In addition, some facilities have lost historic characteristics due to past modifications. Accordingly, the Proposed Action would include implementation of the Camp Pinchot Historic Preservation Plan, which was completed by the US Army Corps of Engineers (USACE) in 2007 to meet NHPA requirements. The plan would support rehabilitation through repairs, code upgrades, and other modifications. Activities would require consultation with the SHPO per NHPA Sections 106 and 110. When applicable, Eglin AFB would conduct a condition assessment to evaluate the structural condition of the buildings to determine the level of repair required, or whether demolition and future construction would be most feasible.

Under the Proposed Action, the developed Camp Pinchot footprint could eventually expand by anywhere between 32 and 50 acres to accommodate all natural resources and cultural resources functions, including the Wildland Support Module and a cultural resources curation facility/interpretive center. All buildings would be constructed or updated, as applicable, in accordance with Antiterrorism and Force Protection standards, as well as for compliance with the Americans with Disabilities Act and other building code requirements. Implementing the ARP would support the 96 TW mission and keep the land parcel under DAF control, while also utilizing existing buildings and water access. Adaptive reuse may result in adverse effects on cultural resources, which would be mitigated by following recommendations of the historic preservation plan and the Standard Treatment Measures in the Camp Pinchot Historic Preservation Plan.

2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, current housing functions and other facilities at Camp Pinchot would remain unchanged. Implementation of the Camp Pinchot ARP, including reuse of the area for natural resources and cultural resources functions, would not occur. The undeveloped portion of the parcel would remain unchanged. Maintenance and preservation activities for relevant facilities in the historic district would no longer be conducted, likely resulting in adverse effects on these archaeological resources.

2.3 ALTERNATIVE 1 – ENHANCED USE LEASE AT CAMP PINCHOT

Under Alternative 1, part of the Camp Pinchot parcel would be utilized as an EUL site. An EUL is a lease agreement between the DAF and a private entity to create an economically mutually beneficial commercial project involving non-excess real property assets. In general, non-excess property refers to property that is under the control of a federal agency and that is required to meet the agency's needs or responsibilities. Goals of the DAF EUL program (AFCEC, 2024) include the following:

- Foster private sector investment
- Monetize non-excess real property assets for reinvestment into unfunded installation requirements that support mission growth and sustainability

- Encourage innovative, market-based projects that fund the warfighter mission
- Develop long-term relationships between the DAF and private industry
- Mitigate risk and leverage benefit for the DAF

Under Alternative 1, development associated with an EUL would occur only in the currently undeveloped/forested portion of the Camp Pinchot parcel. Development would not occur within the historic district. Any changes would be dealt with as described in Section 3.4.2.8 (Management Actions). There are no specific development plans, timeline, or EUL approval for the site currently. Conceptually, the parcel could be used for multiple types of development, potentially including a housing community (e.g., townhomes) and commercial/retail facilities. Tree clearing would likely be required in a substantial portion of the undeveloped area. A conservation buffer space could be maintained along the Lewis Turner Boulevard property frontage, and a buffer would be maintained between the historic district and new construction areas. If Alternative 1 were selected, a development plan would be prepared, which would address potential community concerns over development of the Garnier Bayou waterfront in addition to potential impacts on the historic district, historic buildings, and the eligible archaeological site. Selection of a development plan by Eglin AFB would be followed by an Air Force Civil Engineer Center (AFCEC) evaluation. Tiered NEPA documentation would likely be required.

2.4 ALTERNATIVE 2 – ENHANCED USE LEASE AT CAMP PINCHOT OPTION 2

Alternative 2 would be similar to Alternative 1 in that an EUL would be established. However, the entire Camp Pinchot parcel, including the historic district, would be included in the EUL. Although development could occur in much of the parcel, there would be a requirement to preserve the historic district and associated buildings as a Historical Park, in accordance with the Camp Pinchot Historic Preservation Plan. Site development would therefore include historic preservation activities for relevant historic facilities and the eligible archaeological site. Eglin AFB would conduct an assessment to evaluate the structural condition of the buildings and determine the level of repair required. Although demolition of historic buildings is not planned, the condition assessment could potentially result in a recommendation to demolish one or more existing facilities. If demolition or other adverse effects to cultural resources cannot be reasonably avoided, Historic American Buildings Survey (HABS) Level I Documentation and public outreach options would be proposed as mitigation. In addition, Eglin AFB would utilize the Camp Pinchot Historic Preservation Plan discussed in the *Programmatic Agreement Among Eglin Air Force Base, the Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Management of Historic Properties at Eglin Air Force Base, Florida*, signed in October 2021, to address Standard Treatment Measures for the mitigation of adverse effects to the historic properties. Adverse effects would also be mitigated by following the 2007 preservation plan and the Camp Pinchot Historic Preservation Plan.

As per DoDI 4715.16, an economic analysis shall be conducted on all National Register (eligible or listed) historic properties that are being considered for demolition and replacement. The economic analysis of the historic property shall consider the life-cycle cost of the property, incorporating as required those life-cycle costs for historic elements that are significantly different from life-cycle costs for the equivalent new or replacement elements. The economic analysis of the proposed replacement property shall consider the total cost of the replacement project by whatever source funded. If the economic analysis demonstrates that the renovation and life-cycle cost of the historic property will exceed the total replacement project cost and the life-cycle cost of the new construction, replacement construction may be used. However, this threshold may be exceeded where the significance of a particular historic structure warrants special attention.

As with Alternative 1, there are no specific development plans, timeline, or EUL approval for the site currently. If Alternative 2 were selected, a development plan would be prepared, which would address concerns over development of the Garnier Bayou waterfront in addition to potential impacts on the historic district, historic buildings, and eligible archaeological site. Selection of a development plan by Eglin AFB would be followed by AFCEC evaluation. Tiered NEPA documentation would likely be required.

2.5 ALTERNATIVE 3 – DEMOLITION OPTION

Alternative 3 would provide the option to demolish some or all of the Camp Pinchot Historic District structures as a way to provide new options. The historic district is nationally significant as a rare remaining example of an intact complex associated with the earliest years of the USFS. If Alternative 3 is chosen, the effects to the historic buildings would likely be adverse. Additionally, implementation of DoDI 4715.16 would also require an economic analysis of all National Register (eligible or listed) historic properties that are being considered for demolition and replacement prior to a decision. The historic district (8OK01703) includes 10 contributing buildings: Facility 1551, Facility 1552, Facility 1553, Facility 1555, Facility 1556, Facility 1557, Facility 1558, Facility 1559, Facility 1561 and Facility 1562 (Table 2-1). It also includes three non-contributing buildings: Facility 1550 (No Florida State number), Facility 1564 (8OK03166), and Facility 1565 (8OK03167).

Three archaeological sites are also located on the premises: 8OK00871, 8OK01197, and 8OK02344. Site 8OK00871 is a multi-component site with significant historic and pre-contact deposits, and is eligible for listing in the National Register. Ground disturbance in the historic district would potentially adversely affect this archaeological site in its restricted areas. Demolition and, if applicable, new construction would likely require archaeological mitigation of the site.

Under this alternative, HABS Level I Documentation and public outreach options would be proposed as mitigation. In addition, Eglin AFB would utilize the Camp Pinchot Historic Preservation Plan for the mitigation of adverse effects to the historic district and the archaeological site.

2.6 ALTERNATIVE 4 – SPECIALIZED RANGE MISSION USE

Under Alternative 4, the forested part of the Camp Pinchot land parcel would be converted to an Eglin Specialized Range use, which would require a change in land use designation from Cantonment to Interstitial. The land classification change would be necessary before missions could occur. The Camp Pinchot parcel would be added to the one existing water-to-land contrast training areas on Eglin AFB property where personnel can come ashore in estuarine environments and move onto Eglin land. Military units would be the primary users and would consist of military personnel conducting small boat operations and ground training in support of their overall mission. Typical training would involve small teams of 10 to 50 personnel. This training would support their ability to plan for and lead independent and coordinated small boat and dismounted operations in a simulated low-intensity combat environment. Most training would occur in the undeveloped part of the parcel but buildings in the historic district could be used as objectives (an "objective" is a structure or defined area that is the focus of a specific training event); however, there would be no damage to the structures. Other objectives may consist of something as small as a lean-to within a forested area, or may be as large as a few cleared acres containing berms, CONEX containers/boxes, and fighting positions. Although these objectives could occur in previously disturbed areas, they would need to be evaluated on a case-by-case basis by the Environmental Impact Analysis Process (EIAP) for modifications (i.e., new fighting positions/ground-disturbing activities, movement of structures, and all new objective site construction).

Training in land areas would occur up to two times per month, for up to three days and nights per training event. Most activities would involve quiet, stealthy operations that would not produce noise above ambient levels outside the boundary of this Specialized Range. There would be no live fire. Training could include use of signal or marking smoke (i.e., "smokes"), which is expelled from canisters. The canisters do not produce high-intensity noise. Training could occur during the day or night (to 11:00 p.m.). Security fencing could potentially be constructed along part of the Specialized Range boundary. With selection of Alternative 4, Eglin would develop a training ground profile that would describe and delineate the types of training that would be allowed in various parts of the parcel. If applicable, a description of the range and ground profile would be added to Eglin Air Force Base Instruction (EAFBI) 13-212. Proposed training activities are described in Table 2-3.

Table 2-3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
Littoral operations and small boat team activities	Includes water-to-land transition boat operations training. Water-to-land transitions by boat often occur at designated boat landing sites (BLSs). Unimproved BLSs refer to locations where small, low-draft watercraft typically come ashore. Improved/semi-improved BLS locations (e.g., boat ramps) are where larger watercraft can be launched or brought ashore.	10 to 50	• The number of boats used in a training event can range from 1 to 4 • Small, low-draft watercraft (e.g., rubber-hulled boats, inflatable boats, and Jet Skis) • Rigid craft with outboard engines of 35 to 200 horsepower • 26-foot aluminum boats with diesel inboard engines • Chemical light sticks attached to boats • Eye-safe lasers • Smokes (signal or marking smoke)		X	• Varies, but could be several days per week • Up to 50 boat landings per year	• All boat engines used meet USEPA emission standards. • Use of rigid craft is not restricted to BLSs and can be brought ashore in other areas.
Specialized Skill Training Intelligence, Surveillance, and Reconnaissance activities Human Intelligence activities	During these activities, units conduct training focused on specialized skills and tactics that prepare personnel for national security/defense missions in potentially hostile environments. Training may consist of information gathering using various methods; target identification; and extraction techniques. Activities often require concealment and stealth.	10 to 50	Not identified	X	X	Not identified	• Training activities within the historic district must be pre-approved by Eglin AFB's CRO.

Table 2-3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
Infiltration/ Exfiltration activities	Infiltration is the stealthy movement of personnel or equipment into an enemy-controlled area to carry out a mission, while exfiltration is the covert removal of those personnel or equipment from that area after the mission is complete. The training prioritizes safety and evasion of enemy forces and can involve various methods, such as walking to and from boats or vehicles.	10 to 50	Not identified	X	X	Not identified	• Dismounted maneuver is permitted within most of the Camp Pinchot area, but vehicles must remain on roads within the historic district. • Training activities within the historic district must be pre-approved by Eglin AFB's CRO.
Bivouac activities	Bivouacking/Assembly Areas involve the use of a primitive area, mainly tented, where troops eat and rest overnight in support of training activities. Water purification exercises that involve discharge of filtered water back into natural water bodies could occur. There may be slight ground disturbance (within 6 inches of surface) from placement of tent stakes and pickets.	10 to 50	• Tents and other supplies • Stakes and pickets		X	• Up to 5 times per year, for up to 3 days and 3 nights per training event.	• All expendables and equipment will be recovered prior to leaving the site.
96th Operations Support Squadron Life Support Training Land Navigation Training	These training activities equip personnel with the skills to survive in the environment. Training events include a combination of essential techniques such as basic first aid, starting a campfire,	10 to 50	• Basic outdoor equipment such as compasses and maps	X	X	• Up to quarterly, for 1 to 3 days and 1 to 3 nights per training event.	• Training activities within the historic district must be pre-approved by Eglin AFB's CRO. • Parking is restricted to designated areas

Table 2-3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
Survival, Evasion, Resistance, and Escape Training	finding and purifying water, navigation (potentially without electronic equipment such as GPS devices), and outdoor survival skills.						only within the historic district.
Distance Swim Training and Diving	Training activities include scuba training, open-water swims, and combat diving training in Garnier Bayou.	10 to 50	Not identified		X	• Quarterly, for 1 day per training event.	• Parking is restricted to designated areas only within the historic district.

AFB = Air Force Base; BLS = boat landing site; CRO = Cultural Resources Office; GPS = Global Positioning System; USEPA = United States Environmental Protection Agency

In addition to the restrictions identified for specific training activities in Table 2-3, the following restrictions and conditions will be implemented for all applicable activities:

- Changes to the configuration or use of the Camp Pinchot parcel for training activities must be approved by the Range Operating Authority, which is the 96 TW Commander.
- No off-road mounted maneuvers, fighting positions, concentrated bivouac, or other ground-disturbing activities will occur outside of designated areas.
- Live fire will be prohibited within the entire Camp Pinchot parcel.
- Blank ammunition fire and/or use of pyrotechnics that produce high-intensity noise (e.g., hand grenade simulators and ground burst simulators) will be prohibited within the entire Camp Pinchot parcel.
- Only eye-safe lasers will be used.
- Ground testing will not occur.
- Training activities within the historic district must be pre-approved by Eglin AFB's CRO.
- No damage to eligible or listed historic buildings will occur (i.e., no door-breaching charges or other activities that would cause physical damage).
- No ground disturbance will occur within archaeological sites.
- All historic buildings will be maintained to the Secretary of the Interior standards.
- The historic district will remain gated for the foreseeable future.
- Small boat targeting with simulated weapons will not occur.
- Air-to-water transitions (e.g., troops dropping or parachuting into the water) will not occur.
- No large amphibious vessels such as Landing Craft Air Cushion or Ship to Shore Connector will be operated at the Camp Pinchot parcel.
- US Marine Corps Vehicle Testing will not occur.
- No tracked vehicles will be operated within the Camp Pinchot parcel.
- All boat engines will meet US Environmental Protection Agency (USEPA) emissions standards.

2.7 PERMITS, LICENSES, AND OTHER AUTHORIZATIONS

A list of permits, licenses, and other authorizations are listed below:

- For activities causing ground disturbance of more than 1 acre, obtain a Florida National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities. Permit requirements would include a site-specific Stormwater Pollution Prevention Plan (SWPPP) to manage stormwater discharges and control erosion during and after construction. The SWPPP would specify best management practices (BMPs) (e.g., use of silt fences and revegetation of disturbed sites) that would minimize effects to water quality.
- Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) for ground-disturbing activities and fishing pier construction may be required.

- USACE permits (Clean Water Act [CWA] and/or Rivers and Harbors Act) for pile installation may be required.
- Activities would comply with CWA Section 404 as administered under Florida Administrative Code (FAC 62-331) (State 404 Program) and FAC 62-330 (Environmental Resource Permitting), and all required permits would be obtained.
- Title V Operating Permit
- A Consumptive Use Permit and Potable Water System Permit may be required.
- An Industrial Wastewater discharge permit may be required.

2.8 COMPARISON OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE

Potential environmental consequences under each alternative are summarized in Table 2-4.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
Air Quality	The Proposed Action would involve construction and operational activities resulting in short-term, localized air quality impacts. Over the long term, emissions from relocated personnel, including law enforcement and USFWS, are expected to be minimal. Criteria pollutant emissions would comply with NAAQS, ensuring no significant adverse impacts on air quality. Similarly, GHG emissions would be minimal and are anticipated to contribute only incrementally to overall atmospheric GHG concentrations.	Criteria pollutant and GHG emissions under Alternative 1 are expected to be slightly higher than that of the Proposed Action, but still well below all insignificance indicator thresholds. Short-term increases in emissions would primarily result from construction activities, including equipment operation, vehicle traffic, and ground disturbance. Long-term emissions would stem from increased vehicle traffic and operational activities associated with new residential and commercial development but are expected to be minor. Overall, air quality impacts would be temporary, localized, and minor, with no significant adverse effects anticipated.	Alternative 2 would involve construction activities, including both new development and potential demolition of historic structures. These activities could result in short-term air quality impacts from emissions associated with construction equipment, demolition, and ground disturbance. The inclusion of historic preservation efforts may require additional specialized construction, though emissions would be similar to those for standard construction projects. Criteria pollutant and GHG emissions would be slightly higher than the Proposed Action and Alternative 1, but still well below all insignificance indicator thresholds. Emissions associated with Alternative 2 would not generate significant quantities of any pollutants and there would be no significant impacts on air quality.	Under Alternative 3, the demolition of historic buildings would result in short-term air quality impacts primarily from emissions generated by heavy equipment, increased vehicle traffic, and dust from the demolition process. Long-term air quality impacts would be minimal, as no future development is currently specified. Overall, air quality impacts from this alternative would be localized, temporary, and not significant. Emissions would be well below all insignificance indicator thresholds and no significant impact on air quality is expected.	Under Alternative 4, air quality impacts would be driven primarily by the activities associated with military operations, which could involve vehicle and equipment use, and associated support activities. Although the exact nature and scope of the operations are undefined, emissions are anticipated to be low or insignificant, especially given the likely sporadic and dispersed nature of these activities. Emissions associated with Alternative 4 are not expected to generate significant quantities of any pollutants. Criteria pollutant and GHG emissions are anticipated to be well below all insignificance indicator thresholds. Therefore, it is not likely that Alternative 4 would have a significant impact on air quality.	Emissions would remain at baseline levels. There would be no significant impacts to air quality under the No Action Alternative due to pollutant or GHG emissions at either a county or a regional level.
Biological Resources	Biological resources, including protected species, could potentially be affected by noise and other disturbance, direct physical impacts, habitat alteration, and the introduction or spread of invasive species. Construction noise could cause stress and behavioral reactions in a small number of animals, but the effects would be temporary. After construction is complete, a long-term increase in noise and other disturbance could displace a small	Potential impacts would generally be similar to those identified under the Proposed Action but would be greater in magnitude. Noise and other disturbance would cause harassment of wildlife, potentially including protected species, and land-clearing and construction activities could physically impact wildlife. However, effects would not likely be detectable at the	Potential impacts would generally be the same as those discussed under Alternative 1. The additional development, preservation activities, and demolition in the historic district would not meaningfully change the area or number of animals affected. Impacts would be adverse but insignificant.	Potential impacts would generally be the same as those discussed under Alternative 1. The effects of demolition in the historic district would not meaningfully change the area or number of animals affected. Impacts would be adverse but insignificant.	Noise and other disturbance may cause harassment and physical strikes of wildlife, including protected species, but the effects would not likely be detectable at the population level. Some forest habitat could be removed, but wildlife could potentially use similar habitat nearby. Management measures would decrease the potential for impacts, including the potential to introduce or	There would be no potential for impacts noise, disturbance, physical impacts, habitat alteration, or invasive species. Continued maintenance and preservation activities could disturb wildlife, but the effects would be minor and temporary. Impacts would be negligible and therefore insignificant.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
	number of animals from the site. Direct physical impacts may potentially cause mortality, injury, or harassment of wildlife, including protected species, but the effects would not likely be detectable at the population level. Wildlife may be displaced by forest habitat removal; however, management measures would decrease the potential for habitat effects caused by erosion and the addition of impervious surfaces. Management measures would minimize the potential to introduce or spread invasive species. Overall, detectable effects on habitats and wildlife populations, including protected species, would not be expected. Impacts would be adverse but insignificant.	population level. Habitat loss could cause displacement of some wildlife, including protected species, but individuals could potentially use similar habitat nearby. Management measures would decrease the potential for impacts, including the potential to introduce or spread invasive species. Overall, detectable effects on habitats and wildlife populations, including protected species, would not be expected. Impacts would be adverse but insignificant.			spread invasive species. Impacts would be adverse but insignificant.	
Cultural Resources	The Proposed Action would repair the existing NRHP-eligible structures even though any ground-disturbing activities within the historic district would degrade site 8OK00871. The viewshed disturbance would be kept to a minimum as long as the new structures do not detract from the historic district. New construction avoids as much disturbance of the archaeological sites as possible with planned construction inside the NRHP-eligible sites kept to a minimum. Any disturbance of NRHP-eligible sites would be evaluated and comply with the NHPA.	Under this alternative the historic district would be untouched, but the surrounding land has the potential to be heavily modified and the historic district viewshed may be permanently altered due to the new construction. Areas not currently surveyed for cultural resource may reveal previously unknown archaeological sites. Construction may destroy portions or all of archaeological sites including the NRHP-eligible site 8OK00871.	Alternative 2 has the same impacts as Alternative 1 with the added consequence of the building assessment. This assessment may determine the need for the destruction or alteration of any number of NRHP buildings.	Alternative 3 has the same impacts as Alternative 1 with the added consequences for the potential destruction of some if not all of the NRHP structures for the advantage of a new building construction plan. The effects to the historic buildings would likely be adverse and potentially significant.	Alternative 4 has no potential to degrade archaeological sites where site areas are avoided. The Eglin AFB CRO approval of activities within the historic district will mitigate adverse effects on the district and underlying cultural site. The historic district, although subject to the natural degrading effects of time and wear by personnel use, will be kept up to the Secretary of the Interior standards.	No impacts would directly occur in the No Action Alternative. The expected degradation of the buildings from lack of maintenance over time would lead to significant impacts.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
Infrastructure and Utilities	Existing and notional construction and operations would likely result in an increased demand and use of infrastructure and utilities at Camp Pinchot. Through proper coordination and permitting, no significant impacts related to infrastructure and utilities would be expected.	Potential impacts to infrastructure under Alternative 1 would be similar to those stated under the Proposed Action. However, due to the increase in scope of the potential developments associated with the EUL under this alternative, the utility requirements would increase compared to the Proposed Action. No significant impacts to infrastructure and utilities would be anticipated under this alternative.	Potential impacts to infrastructure and utilities would be similar to the impacts described under Alternative 1.	Under this alternative, there would be potential for adverse impacts to infrastructure (associated with any demolition of historical facilities and archaeological sites) and therefore, would likely require development of an EIS and archaeological mitigations. Potential impacts to utilities (electrical, communication systems, etc.) would be similar to those described under Alternative 1.	Potential impacts to infrastructure and utilities would be similar to those described under the Proposed Action but may result in higher demand and use on infrastructure and utilities during proposed training activities However, the additional personnel and types of activities during training would not be anticipated to result in significant impacts to infrastructure and utilities.	Demand and use of infrastructure and utilities would continue as under baseline conditions under this alternative. There would be no changes in infrastructure and utilities under this alternative and therefore, no significant impacts on existing infrastructure and utilities under the No Action Alternative.
Land Use	Eglin would change the land use classification of the parcel as necessary for transfer of the NRO, CRO, and Wildland Support Module functions. Activities would be compatible with adjacent land use. Impacts would not be significant.	Establishment of an EUL would require a change in land use classification, but there would be no adverse effects on current land use. Any potential noise incompatibilities with land uses would be addressed during the planning process. It is expected that development would be consistent with guidelines in the Eglin AFB JLUS, Tri-County Small Area Studies document, and Okaloosa County Comprehensive Plan. Therefore, activities would be compatible with adjacent land use.	Development in the historic district would not cause meaningfully different impacts compared to Alternative 1. Impacts would not be significant.	Demolition and development in the historic district would not cause meaningfully different impacts compared to Alternative 1.	Conversion of Camp Pinchot to a specialized training range would require a change in land use classification, but the change would not adversely affect any current land uses. Noise levels associated with most training activities would be low. Boats and ground vehicles used would be compliant with Florida statutes. Off-site noise levels would remain below 65 dB DNL. Therefore, activities would be compatible with adjacent land use.	There would be no potential for changes in land use classification, or encroachment on any Eglin AFB activities. Continued maintenance and cultural resource preservation activities would not affect land use. Impacts would not be significant.
Noise	Noise levels associated with proposed construction activities may be audible at times at the closest noise-sensitive location during construction but would remain below 65 dB DNL. Construction	Potential noise impacts that could be associated with construction activities under Alternative 1 would be limited to temporary annoyance. Noise levels associated with	Noise impacts would be similar to those described for the Proposed Action and for Alternative 1, which involve similar activities in the same areas. Noise impacts under	Noise impacts would be similar to those described for the Proposed Action and for Alternative 1, which involve similar activities in the same areas. Noise impacts under	Noise generated by boat and ground vehicle operations would be similar to those generated by activities ongoing in the area. Noise levels at sensitive historic	The would be no changes in noise levels or noise impacts under the No Action Alternative.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
	noise would be temporary, lasting only the duration of the construction projects, and would be expected to be limited to normal working hours. Noise generated by day-to-day operations would not be expected to be audible at the closest residences. Noise impacts would not be significant under the Proposed Action.	day-to-day operations would be expected to be consistent with levels generated in other nearby developed areas. Noise impacts under Alternative 1 would not be significant.	Alternative 2 would not be significant.	Alternative 3 would not be significant.	structures would not exceed 134 dBP and risk of damage would be minimal. Off-site noise levels would remain below 65 dB DNL. Noise impacts under Alternative 4 would not be significant.	
Socioeconomics	Under the Proposed Action, there would be no new change in the number of Eglin NRO and CRO personnel that would affect population, housing, school, and other socioeconomic resources. There would be beneficial localized, low-intensity, and short-term impacts associated with renovation of existing facilities from demand for local labor and supplies. The local labor force would be able to fulfill any construction employment demand. The potential socioeconomic impacts from new construction and operation of proposed and notional facilities would be analyzed in the Camp Pinchot ADP. However, the proposed increase in use would not be anticipated to significantly affect socioeconomic resources.	Under this alternative, there would be potential for a housing community and commercial retail facilities that would require more construction-related employment and income than under the Proposed Action. However, based on the number of construction jobs throughout the county and because activities would occur in phases, it would be expected that the local labor force would fulfill any construction-related employment. Additional commercial retail facilities under this alternative would potentially provide localized, medium-intensity and long-term beneficial impacts from employment and income opportunities but would be analyzed in the Camp Pinchot ADP.	Potential socioeconomic impacts under Alternative 2 would be similar to those described under Alternative 1. Preservation of the historic district and associated buildings as a Historical Park would not be anticipated to significantly affect socioeconomic resources.	This alternative would likely result in the most construction-related employment and income. Implementation of DoDI 4715.16 would require an economic analysis prior to a demolition decision. Additionally, as stated in Section 1.1 (Introduction), development of an EIS would be recommended to identify potential BMPs and mitigations that could minimize adverse effects associated with demolition of the historic building and eligible archaeological site. Therefore, no significant impacts to socioeconomic resources would be anticipated under this alternative.	Construction employment and income would be less under this alternative compared to Alternatives 1, 2, and 3 since there would be no commercial and residential development under this alternative that would provide a revenue stream.	There would be no relocation of personnel to Camp Pinchot, renovations and or new notional construction under this alternative. There would be no change to existing socioeconomic trends and conditions.

Soils	Ground disturbance could cause erosion, contaminant transport, and sedimentation that could affect Garnier Bayou, wetlands, riparian areas, and floodplains, as well as terrestrial wildlife habitats. After construction is completed, increased impervious surface area on the site could cause erosion due to stormwater runoff. The potential would be minimized by implementing erosion control, sediment control, and stormwater management measures identified in associated permits. The potential for erosion-related impacts would be reduced by the low slope and high vegetative cover of the parcel. Sediments disturbed during pile installation would be redistributed, and turbidity would be dispersed. Impacts would not be significant.	The effects of ground disturbance would generally be the same as those discussed for the Proposed Action, but the magnitude would be greater because the total area of ground disturbance, vegetation removal, and new impervious surface would likely be substantially greater. The potential for impacts would be minimized by implementing permit requirements. Impacts would not be significant.	Development could occur within the entire Camp Pinchot parcel, including the historic district. Compared to Alternative 1, the relatively small additional amount of ground-disturbing activities would not meaningfully increase the potential for impacts. Impacts would not be significant.	Demolition and development could occur within the historic district. Compared to Alternative 1, the relatively small additional amount of ground-disturbing activities would not meaningfully increase the potential for impacts. Impacts would not be significant.	Some land clearing, grading, or construction could be required to establish training locations or for other actions such as placement of security fencing. The potential for impacts caused by erosion and runoff would be minimized by implementing permit requirements. Training activities could affect surface waters, wetlands, and floodplains, but most activities would likely occur outside of aquatic habitats. Small personnel groups would likely conduct maneuvers in dispersed locations, decreasing the potential for ground disturbance. Maneuvers would not occur near water bodies or wetlands. Vehicles would remain on roads. Digging and bivouacking would likely be restricted. Boats and personnel movement could disturb sediments at Garnier Bayou. Heavy or repeated use of a particular area has the potential to damage vegetation and cause erosion. Disturbed sediments would be redistributed. Training units could rotate among multiple boat landing sites if erosion is detected. Management measures would decrease the potential for impacts. Impacts would likely not be significant. If this alternative is selected, Eglin would re-evaluate the potential for significant impacts from training.	There would be no potential for ground disturbance, erosion, siltation, or sediment disturbance. Continued maintenance and cultural resource preservation activities would not adversely affect soils. Impacts would not be significant.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
Transportation	Except for construction that would occur at the intersection of SR 189, road refurbishment and replacement activities on Camp Pinchot would not affect off-site traffic operations. The number of personnel and recreationists using the site would not noticeably impact traffic on SR 189 or other nearby roadways, although future traffic studies may be required. Upgrade of the Camp Pinchot Road/SR 189 intersection, if required, would not have a substantial effect. Impacts would not be significant.	New road construction on Camp Pinchot would have little effect on traffic because the site is currently vacant. However, substantially increased use of the site after development could affect traffic operations negatively on SR 189 and possibly other nearby roads. Improvement of the Camp Pinchot Road/SR 189, if implemented according to the Adopted FDOT District 3 Work Program for 2025–2029, this and other potential future improvements would facilitate traffic flow into and out of the parcel. Potential future traffic improvement projects could decrease the effects of Camp Pinchot development. The significance of potential impacts would depend on the specific development pan. If Alternative 1 is selected, a more detailed transportation evaluation would be required.	Development under an EUL could occur within the entire Camp Pinchot parcel, including the historic district. Compared to Alternative 1, the small additional area and potential activity would not meaningfully increase the potential for impacts on the transportation system. Impacts would be the same as described for Alternative 1.	Demolition and development in the historic district would not meaningfully increase the potential for impacts on the transportation system compared to Alternative 1. Impacts would be the same as described for Alternative 1.	Specific development requirements are unknown currently but potentially include actions such as widening or repaving Camp Pinchot Road, establishing trails, and constructing training objectives and security fencing. Except for construction that could occur at the intersection of SR 189 (a notional activity), activities would not affect off-site traffic. Improvement of the Camp Pinchot Road/SR 189 intersection is not anticipated at this time. The movement of training personnel across Lewis Turner Boulevard would occur in vehicles that would be operated in accordance with existing traffic laws and conditions. Based on the types of training activities to be implemented, impacts on transportation would not be significant.	Camp Pinchot ARP would not be implemented, an EUL would not be established, and the parcel would not be converted to an Eglin Range. Traffic operations in the area would continue as under existing conditions. Impacts would not be significant.
Visual Resources and Aesthetics	No significant impacts to visual and aesthetics of the Camp Pinchot ROI would occur under this alternative. Relocation of personnel from existing facilities at Jackson Guard to Camp Pinchot would not change the visual or aesthetics of the area. Construction equipment and vehicles during renovation of existing facilities and rehabilitation of historic structures and during new construction of any notional facilities	Similar to the Proposed Action, construction impacts to visual and aesthetic resources would be localized and temporary and would not be significant. Notional development including housing and commercial/retail facilities would affect the landscape and therefore impact the visual and aesthetics of the area. However, a conservation	Potential impacts to visual and aesthetic resources under this Alternative would be similar to those described under Alternative 1.	Potential impacts to visual resources under this Alternative would be similar to those described under Alternative 1. However, demolition of some or all of the 10 historic buildings under this alternative would change the landscape and therefore impact the visual and aesthetics of the area. As described in Section 1.1	There would be no impacts to visual and aesthetic qualities of the existing ROI from construction. Under this alternative, there may be visual and aesthetic changes for recreational participants in Garnier Bayou and nearby residents from the presence of military vehicles and personnel during mission sets. However, Camp Pinchot would remain a	There would be no construction or renovation of existing and notional facilities under this alternative and therefore, no change in the visual and aesthetic character of the Camp Pinchot ROI.

Table 2-4. Comparison of Environmental Effects by Alternative

Resource	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
	may temporarily disrupt the visual and aesthetic resources at Camp Pinchot but impacts would be localized and short term during each phase and would therefore not be significant.	buffer space would be maintained along the Lewis Turner Boulevard property frontage to minimize adverse impacts to the visual and aesthetics of the area. Additionally, the portion of the parcel that would be developed would not occur within the historic district and would be set back from the shoreline of Garnier Bayou and therefore would minimize adverse impacts to visual and aesthetic resources.		(Introduction), an EIS would be recommended under this alternative to determine mitigations and BMPs to minimize adverse effects to the historical buildings and eligible archaeological site which, in turn, would minimize adverse impacts to visual and aesthetic resources of the historic district.	restricted access area under this alternative and there would be no change to the landscape that would affect visual and aesthetic resources of the area.	
Water Resources	There would be potential for adverse impacts to water resources including surface waters, wetlands, and floodplains from construction activities proposed under this alternative. However, implementation of BMPs and permit requirements would minimize adverse impacts to water resources and no significant impacts to water resources would be anticipated.	Potential impacts to water resources (e.g., surface waters, wetlands, and floodplains) under this alternative would be similar to the Proposed Action. There would be no significant adverse impacts anticipated with implementation of BMPs and permit requirements.	Potential impacts to water resources (e.g., surface waters, wetlands, and floodplains) under this alternative would be like the Proposed Action. the Proposed Action. There would be no significant adverse impacts anticipated with implementation of BMPs and permit requirements.	Potential impacts to water resources (e.g., surface waters, wetlands, and floodplains) under this alternative would be like the Proposed Action. Proposed Action. There would be no significant adverse impacts anticipated with implementation of BMPs and permit requirements.	Vessel and mission activities in Garnier Bayou and the adjacent shoreline may impact wetlands and floodplains, particularly from repetitive activities in the same area. Implementation of BMPs and restrictions outlined in Section 2.6 (Alternative 4 – Specialized Range Mission Use) would minimize potential adverse impacts to water resources associated with water-related mission sets.	There would be no change to the existing Camp Pinchot parcel under this alternative; therefore, no impacts to water resources compared to baseline conditions under the No Action Alternative.

ADP = Area Development Plan; AFB = Air Force Base; ARP = Adaptive Reuse Plan; BMP = best management practice; CRO = Cultural Resources Office; dB = decibel(s); dBP = peak decibels; DoDI = Department of Defense Instruction; DNL = day-night average sound level; EIS = Environmental Impact Statement; EUL = Enhanced Use Lease; FDOT = Florida Department of Transportation; GHG = greenhouse gas; JLUS = Joint Land Use Study; NAAQS = National Ambient Air Quality Standards; NHPA = National Historic Preservation Act; NRHP = National Register of Historic Places; NRO = Natural Resources Office; ROI = region of influence; SR = State Road; USFWS = United States Fish and Wildlife Service

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3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

This chapter defines each environmental resource area and describes the existing conditions within the region of influence (ROI) of the environmental resources that are potentially impacted by the Proposed Action and alternatives. This chapter also presents the analysis of the potential impacts associated with the Proposed Action on the affected environment. The analysis examines the potential impacts of each of the proposed alternatives on the following resource areas: air quality, biological resources, cultural resources, infrastructure/utilities, land use, noise, socioeconomics, soils, transportation, visual resources and aesthetics, and water resources.

3.1.1 Resources Not Carried Forward for Detailed Analysis

Resources eliminated from discussion are shown and described in Table 3-1.

Table 3-1. Resources Not Carried Forward for Detailed Analysis

Resource Area	Rationale for Not Carrying Forward for Detailed Analysis
Safety	Standard contractor safety measures would be implemented during all construction and renovation activities. The Camp Pinchot property is not open to public access without prior approval and therefore members of the public would not be exposed to safety hazards related to construction, demolition, renovation, or training activities.
Hazardous Materials/Waste	There are no active Installation Restoration Program sites in or around Camp Pinchot. Construction activities would adhere to standard procedures.

3.1.2 Past, Present, and Reasonably Foreseeable Future Actions Considered

Table 3-2 lists the past, present, and reasonably foreseeable future actions considered.

Table 3-2. Past, Present, and Reasonably Foreseeable Future Actions Considered

Ongoing and Future Testing and Training Missions
Road Repairs and Maintenance
Local and Regional Construction Projects
Eglin AFB MILCON Projects
Test Area Maintenance Activities
Restoration and Repairs of NRHP-Eligible Structures.
The 2020 Okaloosa County Comprehensive Plan (Okaloosa County, 2020)
Comprehensive Plan, Eglin AFB JLUS (Eglin AFB, 2009)
Tri-County Small Area Studies: Santa Rosa, Okaloosa, Walton document (Okaloosa County, 2012).

AFB = Air Force Base; JLUS = Joint Land Use Study; MILCON = Military Construction; NRHP = National Register of Historic Places

3.2 AIR QUALITY

3.2.1 Affected Environment

Air quality is regulated under the Clean Air Act (CAA), which establishes National Ambient Air Quality Standards (NAAQS) for criteria pollutants to protect public health and the environment. These pollutants include carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone, particulate matter less than or equal to 10 microns and particulate matter less than or equal to 2.5 microns, and lead (Pb). USEPA enforces these standards, and state agencies, such as FDEP, implement air quality regulations and permitting programs.

Okaloosa County, which includes the ROI for this analysis, is classified as an attainment area for all criteria pollutants, meaning air quality meets NAAQS. Federal actions in nonattainment and maintenance areas must comply with the General Conformity Rule, ensuring emissions remain below *de minimis* thresholds. In addition to criteria pollutants, hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are regulated under the CAA. USEPA has identified 188 HAPs, which are managed through emission limits and permitting requirements, while GHGs, such as carbon dioxide (CO_2), nitrous oxide (N_2O), and methane (CH_4), are regulated under the CAA due to their potential to influence atmospheric conditions.

An air emissions inventory qualitatively and quantitatively describes emissions from a facility or within an area by identifying sources, estimating total annual emissions, and assessing compliance with air quality standards. These inventories help determine regulatory needs and evaluate the potential impacts of a proposed action on air quality.

3.2.1.1 Criteria Pollutants

According to USEPA and FDEP, Okaloosa County is currently in attainment for all NAAQS. As a result, the General Conformity Rule does not apply to the ROI for Camp Pinchot, and General Conformity requirements are not considered or addressed in this air quality analysis. Compliance with the NAAQS is due to lack of substantial emission sources, abundant sunshine, sea breezes and frequent rain showers that promote atmospheric mixing and limit the buildup of air pollutants.

For comparison purposes, Table 3-3 presents USEPA's 2020 National Emissions Inventory data for Okaloosa County, Florida, as this is the domain that would experience the highest project air quality impacts (USEPA, 2024a). The transport of project emissions beyond this area would disperse to low levels. The county data include emissions from point sources, area sources, and mobile sources. Point sources are stationary sources identifiable by name and location. Area sources are point sources whose emissions are too small to track individually, such as a home or small office building or a diffuse stationary source, such as wildfires or agricultural tilling. Mobile sources are any kind of vehicle or equipment with gasoline or diesel engine, an airplane, or a ship. Two types of mobile sources are considered: on-road and nonroad. On-road mobile sources consist of vehicles such as cars, light trucks, heavy trucks, buses, and motorcycles. Nonroad sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles.

Table 3-3. Baseline Emissions Inventory for Okaloosa County

County	Emissions (tpy)					
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_X	VOC
Okaloosa County	65,698	3,843	6,887	4,641	416	42,197

Source (USEPA, 2024a)

CO = carbon monoxide; NO_x =nitrogen oxides; PM_{10} = = particulate matter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; SO_x = sulfur oxides; tpy = tons per year; VOC = volatile organic compound

Eglin AFB operates under a Title V Operating Permit as it is classified as a major source of emissions, with the potential to emit more than 100 tons per year (tpy) of regulated pollutants. The Title V permit requires annual inventories of significant stationary air emission sources, as well as regular monitoring and recordkeeping. The primary sources regulated under this permit include boilers and generators.

Greenhouse Gases

The primary GHGs are CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). HFCs, PFCs, NF_3, and SF_6 are produced in relatively very small quantities and most often by very specific niche of industries, such as electronic component manufacturing. As a result, CO_2, CH_4, and N_2O are the primary GHGs of concern and are the only emissions that are considered in this EA; the other constituents do not apply.

3.2.2 Environmental Consequences

This section discusses the potential impacts to air quality as a result of implementing the Proposed Action, four action alternatives, and No Action Alternative. Air quality in the project area and immediately surrounding region would be affected by emissions from sources associated with construction, demolition, and other development efforts, including combustive emissions from heavy machinery, tools, and generators, as well as worker trips. Estimated emissions associated with construction activities, based on air quality modeling, are shown in Appendix A (Air Quality Calculations).

The air quality analysis estimated the effects of the project alternative activities by comparing the increase in annual criteria pollutant emissions to applicable insignificance indicators for attainment areas (AFCEC/CZTQ, 2023). Okaloosa County currently attains all NAAQS and the insignificance indicator used to evaluate actions in such areas is the USEPA Prevention of Significant Deterioration (PSD) permitting threshold of 250 tpy of a criteria pollutant besides Pb. The insignificance indicator for Pb in this area is 25 tpy. The insignificance indicators do not denote a significant impact; however, they do provide a threshold to identify actions that have insignificant impacts to air quality. Any action with net emissions below the insignificance indicators is considered so insignificant that the action would not cause or contribute to an exceedance of any NAAQS.

3.2.2.1 Proposed Action

The Proposed Action, which includes the relocation of Eglin NRO and CRO personnel to Camp Pinchot, the development of new facilities (such as parking areas and recreational spaces), and the renovation of several existing facilities, would be implemented in three phases occurring over approximately 6 years. The Proposed Action would include grading, structure construction and demolition, and paving of parking areas and roads. These operations would also include construction worker trips and stationary equipment (e.g., generators and saws), mobile equipment, and architectural coatings. Construction emissions are mainly related to fossil fuel combustion during use of machinery and fugitive dust emissions from ground disturbance and other physical disturbances.

Total combined direct and indirect emissions associated with the Proposed Action were estimated using the DAF Air Conformity Applicability Model (ACAM) (version 5.0.23a) (Solutio Environmental, Inc, 2022). Activity data developed for this project were used as inputs to ACAM. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, relevant experience with similar projects when proposed action specifics were not known, and ACAM defaults. The air quality analysis assumed a 4-year construction period. In addition to construction emissions, the analysis also accounted for post-construction emissions associated with the ongoing operations of the new and renovated facilities. This includes emissions from commuting activities of the relocated NRO personnel, USFWS federal wildlife officers, gopher tortoise laboratory staff, and other personnel, whose presence at Camp Pinchot is a key element to the Proposed Action, contributing to the overall emissions profile.

While construction and operation activities are expected to increase emissions, they are projected to remain within regulatory thresholds. Table 3-4 provides the net emissions for the Proposed Action compared against the insignificance indicator. All criteria pollutant and GHG emissions would be well below the insignificance indicators. See Appendix A (Air Quality Calculations) for the ACAM analysis for the Proposed Action.

Implementing dust control measures will further mitigate emissions during construction phases, and long-term emissions will be kept in check through energy-efficient building designs and pollutant-reducing technologies.

Table 3-4. Proposed Action Emissions

	Emissions (tpy)[1]						
	CO	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**	**VOC**	**Pb**
2025	2.17	0.59	0.031	0.022	0.002	0.16	0
2026	1.97	0.07	0.002	0.002	0.001	0.22	0
2027	1.97	0.07	0.002	0.002	0.001	0.14	0
2028	7.72	3.14	0.002	0.002	0.01	1.50	0
2029	2.54	0.09	0.002	0.002	0.001	0.27	0
2030 (SS year)	2.54	0.09	0.002	0.002	0.001	0.18	0
Total Emissions	**18.92**	**4.05**	**0.04**	**0.03**	**0.016**	**2.48**	**0**
Insignificance Indicator	250	250	250	250	250	250	25
Exceedance?	No	No	No	No	No	No	No

ACAM = Air Conformity Applicability Model; CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{10} = particulate matter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; SO_x = sulfur oxides; SS = steady state; tpy = tons per year; VOC = volatile organic compound

Note:

1. Estimated from ACAM output (see Appendix A, Air Quality Calculations).

While GHG emissions generated from the Proposed Action alone would not be enough to cause measurable effects, in combination with past and future GHG emissions from all other sources, they would contribute incrementally to overall atmospheric GHG concentrations. However, emissions associated with the Proposed Action would not generate significant quantities of any air pollutant, including GHGs, and there would be no significant impacts on air quality.

3.2.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

For Alternative 1, which involves establishing an EUL on the currently undeveloped portion of Camp Pinchot parcel, emissions are projected to be higher than those under the Proposed Action, primarily due to the large-scale clearing of forested areas and the potential development of residential and commercial facilities. These activities would generate emissions from construction equipment, land disturbance, and potential future development. In addition to construction emissions, operational emissions associated with the new residential and commercial facilities were considered, including on-road commuter emissions for the estimated population that would occupy the residential units constructed under this alternative. Total combined direct and indirect emissions associated with Alternative 1 were estimated through ACAM on a calendar-year basis for the “steady-state” (net gain/loss upon action fully implemented) emissions. Table 3-5 presents the net change in annual emissions associated with Alternative 1 compared against the insignificance indicators. Despite the projected increase, the net change in emissions for this alternative would well below insignificant indicators for all criteria pollutant and GHG emissions. See Appendix A (Air Quality Calculations) for the ACAM analysis for Alternative 1.

Table 3-5. Alternative 1 Emissions

	CO (tpy)	NO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_X (tpy)	VOC (tpy)	Pb (tpy)
2025	5.84	5.1	69.542	0.192	0.011	0.592	0
2026	8.752	0.864	0.031	0.028	0.005	8.295	0
2027 (SS year)	13.6	0.446	0.013	0.012	0.006	0.948	0
Total Emissions	**28.192**	**6.41**	**69.586**	**0.232**	**0.022**	**9.835**	**0**
Insignificance Indicator	250	250	250	250	250	250	25
Exceedance?	No	No	No	No	No	No	No

ACAM = Air Conformity Applicability Model; CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{10} = particulate matter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; SO_x = sulfur oxides; SS= steady state; tpy = tons per year; VOC = volatile organic compound

Note:

1. Estimated from ACAM output (see Appendix A, Air Quality Calculations).

While GHG emissions generated from Alternative 1 alone would not be enough to cause measurable effects, in combination with past and future GHG emissions from all other sources, they would contribute incrementally to overall atmospheric GHG concentrations. However, emissions associated with Alternative 1 would not generate significant quantities of any air pollutant, including GHGs, and there would be no significant impacts on air quality.

3.2.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

For Alternative 2, which would include both the EUL and the establishment of a Historical Park, emissions are projected to be slightly higher than that of the Proposed Action and Alternative 1 due to the inclusion of historic preservation activities. The emissions from construction, maintenance, and development activities are notionally estimated to begin in 2026, with steady-state emissions expected in 2028 and beyond (a more detailed timeline would be determined if this alternative were selected). In addition, on-road commuter emissions from the estimated population associated with the new residential and commercial facilities were also factored into the overall emissions projections. Table 3-6 presents the net change in annual emissions associated with Alternative 2. The net change in emissions for this alternative would still be compared to the 250 tpy insignificance indicator for criteria pollutants (and 25 tpy for Pb), with the expectation that, despite some minor increases, the emissions would remain well below these limits.

Table 3-6. Alternative 2 Emissions

	CO (tpy)	NO_x (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_x (tpy)	VOC (tpy)	Pb (tpy)
2025	5.859	5.114	69.571	0.192	0.011	0.593	0
2026	8.752	0.864	0.031	0.028	0.005	8.295	0
2027 (SS year)	13.6	0.446	0.013	0.012	0.006	0.948	0
Total Emissions	**28.211**	**6.424**	**69.615**	**0.232**	**0.022**	**9.836**	**0**
Insignificance Indicator	250	250	250	250	250	250	25
Exceedance?	No	No	No	No	No	No	No

ACAM = Air Conformity Applicability Model; CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{10} = particulate matter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; SO_x = sulfur oxides; SS = steady state; tpy = tons per year; VOC = volatile organic compound

Note:

1. Estimated from ACAM output (see Appendix A, Air Quality Calculations).

3.2.2.4 Alternative 3 – Demolition Option

Under Alternative 3, demolition of some or all of the existing historic buildings would generate temporary emissions from demolition activities, including particulate matter (PM) and criteria pollutants. Emissions would be highest during the demolition phase, with lower emissions estimated once demolition is complete (see Table 3-7).

Table 3-7. Alternative 3 Emissions

	CO (tpy)	NO_x (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_x (tpy)	VOC (tpy)	Pb (tpy)
2025	0.059	0.06	0.317	0.001	0	0.005	0
2026 (SS year)	0	0	0	0	0	0	0
Total Emissions	**0.059**	**0.06**	**0.317**	**0.001**	**0**	**0.005**	**0**
Insignificance Indicator	250	250	250	250	250	250	25
Exceedance?	No	No	No	No	No	No	No

ACAM = Air Conformity Applicability Model; CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; $PM_{2.5}$ = particulate matter less than 2.5 microns; PM_{10} = particulate matter equal to or less than 10 microns; SO_x = sulfur oxides; SS = steady state; tpy = tons per year; VOC = volatile organic compound

Note:

1. Estimated from ACAM output (see Appendix A, Air Quality Calculations).

3.2.2.5 Alternative 4 – Range Mission Use

Under Alternative 4, which involves reclassifying the Camp Pinchot parcel as a Specialized Eglin Range for mission-related activities (such as littoral operations and bivouac training), emissions would primarily result from military operations, including vehicle use, equipment operation, and various training exercises. These emissions would mainly come from vehicles and boats used during missions such as specialized skill training, small boat team activities, and infiltration/exfiltration activities. These emissions are notionally expected to begin in 2026, with long-term, steady-state emissions in subsequent years. While the overall increase in emissions from these activities may be higher compared to the other alternatives, they are expected to remain within regulatory insignificance indicators for criteria pollutants in attainment areas. In addition, training activities would not be expected to generate substantial quantities of any GHG. Overall, emissions would not be expected to result in significant impacts to air quality.

Any new missions or training use beyond what is described in Section 2.6 (Alternative 4 – Specialized Range Mission Use) would be subject to the DAF's EIAP, as outlined in DAF Manual (DAFMAN) 32-7002, Section 8.1.3. This process ensures compliance with NEPA and other environmental regulations by evaluating potential environmental impacts and determining the appropriate level of environmental review (e.g., Categorical Exclusion, EA, or EIS). The EIAP would apply to any mission-related activities that require additional environmental analysis before implementation.

3.2.2.6 No Action Alternative

Under the No Action Alternative, emissions would remain consistent with current levels. There would be no new sources of emissions beyond routine maintenance and preservation activities within the historic district. As such, there would be no significant changes to air quality, and the alternative would not pose any new concerns for compliance with NAAQS or PSD criteria. Regional air quality impacts would remain stable, with no anticipated visibility or haze concerns. Under the No Action Alternative, there would be no increased emissions and no impacts to the baseline emissions for the ROI.

3.2.2.7 Reasonably Foreseeable Effects

Past, present, and reasonably foreseeable future actions with the potential for reasonably foreseeable effects include those associated with construction, transportation, or other activities within the ROI that involve combustion of fossil fuels, leading to emissions that would be additive to those produced by the implementation of the Proposed Action. In terms of short-term reasonably foreseeable effects, the Proposed Action and other projects could produce short-term additive amounts of emissions if they are concurrent. However, air emissions were evaluated and considered insignificant for the region. The addition of the small increases in emissions associated with this Proposed Action and alternatives would not be sufficient to elevate the total reasonably foreseeable air emissions to a significant impact.

3.2.2.8 Management Actions

To minimize the potential impacts on air quality during construction and operation under the Proposed Action and alternatives, several management measures would be implemented. These measures would target reducing emissions from construction equipment, minimizing dust generation, and ensuring compliance with relevant air quality regulations. The management strategies would help ensure that the project remains in compliance with NAAQS and other regulatory requirements. These measures would apply during construction, demolition (in applicable alternatives), and ongoing operations to protect air quality both locally and regionally.

Management Strategies:

- **Dust Control Measures**: Implement regular watering of exposed surfaces, particularly during ground-disturbing activities, to reduce PM emissions. Temporary barriers or wind fences may also be installed to prevent dust from leaving the site.

- **Vehicle and Equipment Maintenance**: Ensure that all construction and operational vehicles and equipment are properly maintained to reduce emissions of nitrogen oxides, CO, and VOCs. Use low-emission vehicles and construction equipment where feasible.
- **Engine Idling Reduction**: Limit the idling time of construction and operational vehicles to minimize emissions. This can be enforced through site management protocols and signage.
- **Use of Cleaner Fuels**: Where feasible, use alternative fuels such as low-sulfur diesel or electric-powered construction equipment to reduce emissions from construction machinery.
- **Site Stabilization and Revegetation**: Stabilize disturbed areas as quickly as possible through revegetation or other methods to reduce dust and emissions over the long term.
- **Emissions Monitoring and Reporting**: Regularly monitor air quality on site to ensure that pollutant levels remain within permissible limits and adjust management measures as necessary to ensure compliance with NAAQS and other regulatory requirements.

Long-Term Emissions Management Strategies:

- **Low-Emissions Vehicle Promotion**: Encourage the use of fuel-efficient, hybrid, electric, or alternative-fuel vehicles where feasible to minimize emissions from daily operations.
- **Traffic Flow Optimization:** Implement traffic management planning to reduce congestion-related emissions, including optimizing road layouts and intersection designs within new developments.
- **Sustainable Transportation Support:** Promote public transit, carpooling, and active transportation options to reduce reliance on single-occupancy vehicle trips.
- **Energy-Efficient Building Design:** Incorporate sustainable construction practices and energy-efficient building systems to minimize emissions from long-term facility operations.
- **Idle Reduction Enforcement**: Establish and enforce idle restriction policies in commercial and residential areas to limit unnecessary vehicle emissions from idling.

3.3 BIOLOGICAL RESOURCES

3.3.1 Affected Environment

A summary of the biological resources that occur within the ROI is provided in this section. The ROI consists of the area within the Camp Pinchot parcel boundary (Figure 1-2) as well as adjacent areas supporting biological resources (vegetation and wildlife) that could be affected by the activities identified in Chapter 2 (Description of Proposed Action and Alternatives). Sensitive habitats consist of wetlands, floodplains, estuarine water, and seagrass. Protected species are those species protected by federal or state law, including threatened and endangered species, bald eagles, marine mammals, and migratory birds. State-listed species and species proposed for listing under the ESA are included in this section; however, Eglin does not have the same protection obligations for these species that are required for listed species. Additional information on vegetation communities, sensitive habitats, protected species, and invasive species are provided in Eglin AFB’s Integrated Natural Resources Management Plan (INRMP) and associated component plans (Eglin AFB, 2022), and the Florida Natural Areas Inventory (FNAI) Guide to the Natural Communities of Florida (FNAI, 2010).

3.3.1.1 Habitats and Wildlife

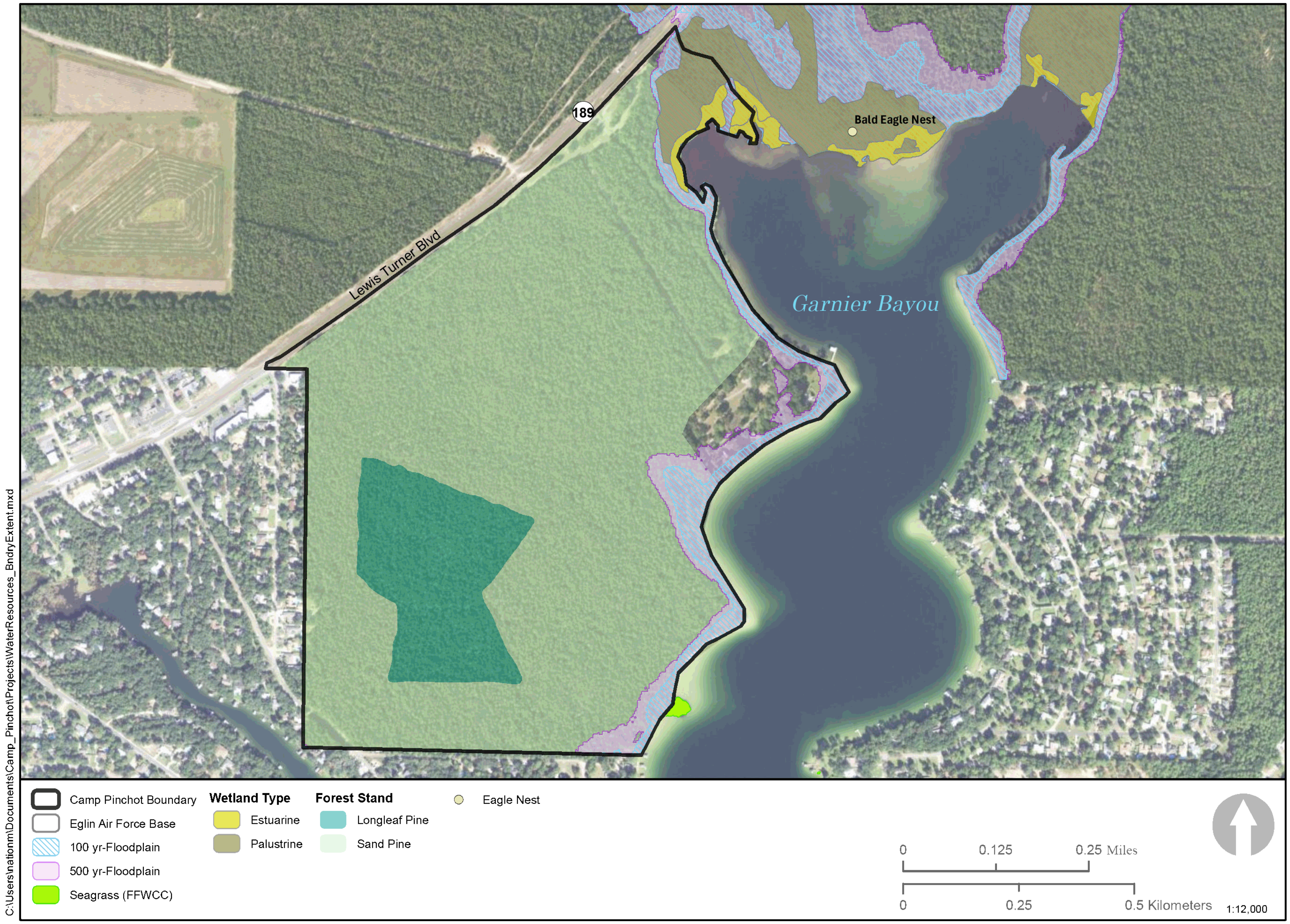
Vegetation on the Camp Pinchot parcel consists primarily of large, undeveloped areas of pine forest, mostly sand pine (*Pinus clausa*) and longleaf pine (*P. palustris*) (Figure 3-1). The northeastern part of the site is categorized as bottomland hardwood and supports woody and herbaceous wetlands. Cleared and turf/landscaped areas occur within and adjacent to the historic district. Landscaped areas typically contain grasses such as Bahia grass (*Panicum notatum*), St. Augustine grass (*Stenotaphrum secundatum*), or centipede grass (*Eremochloa ophiuroides*). Representative plant and animal species typically found in pine and bottomland hardwood habitats are listed in Table 3-8. Although the Camp Pinchot site is not classified as sandhill, the plant and animal species present are likely similar to those found in sandhill habitat.

Table 3-8. Representative Plant and Animals Species by Habitat Type

Plants		Animals	
Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Sandhill			
Longleaf pine	*Pinus palustris*	Cottontail rabbit	*Sylvilagus floridanus*
Turkey oak	*Quercus laevis*	Bobwhite quail	*Colinus virginianus*
Blackjack oak	*Q. marilandica*	Great horned owl	*Bubo virginianus*
Wiregrass	*Aristida stricta*	Gopher tortoise	*Gopherus polyphemus*
Saw palmetto	*Serenoa repens*	Diamondback rattlesnake	*Crotalus adamanteus*
Bracken fern	*Pteridium aquilinum*	Six-lined racerunner	*Aspidoscelis sexlineata*
Yaupon	*Ilex vomitoria*	Raccoon	*Procyon lotor*
Gallberry	*Ilex glabra*	White-tailed deer	*Odocoileus virginianus*
Bottomland Hardwood			
Sweetgum	*Liquidambar styraciflua*	Florida black bear	*Ursus americanus floridanus*
Loblolly pine	*Pinus taeda*	Raccoon	*Procyon lotor*
Sweetbay magnolia	*Magnolia virginiana*	American beaver	*Castor canadensis*
Laurel oak	*Q. laurifolia*	Big brown bat	*Eptesicus fuscus*
Water oak	*Q. nigra*	Wild turkey	*Meleagris gallopavo*
American holly	*I. opaca*	Black-crowned night heron	*Nycticorax nycticorax*
Sparkleberry	*Vaccinium arboreum*	Box turtle	*Terrapene* species
Sedges	*Carex species*	Diamondback rattlesnake	*Crotalus adamanteus*

Habitats in Garnier Bayou generally consist of sediments and the water column. Sediments (sand, silt, clay, rock, shells, and other materials) function as habitat for a wide variety of aquatic invertebrates, fish, and other species. The water column is also habitat for numerous species such as plankton, invertebrates, and fish.

Phytoplankton (plants), zooplankton (animals), or ichthyoplankton (fish eggs and larvae) are an important food source for many other aquatic organisms and may be primary producers. Pelagic invertebrates float or swim in the water column and include species such as jellyfish and squid. Benthic invertebrates live on or within the substrate (e.g., shrimps, crabs, and worms). Many invertebrates are important food sources for fish, birds, and other animal taxa. Common invertebrates in Choctawhatchee Bay and with potential occurrence in adjoining bayous such as Garnier Bayou include comb jellies, tunicates, jellyfish, squid, crabs, and shrimp (FDEP, 2012).



1
2 **Figure 3-1. Habitats and Protected Species at Camp Pinchot**

Many fish species occur in Choctawhatchee Bay and the connected bayous. Based on species collected after a large mortality event, fish commonly occurring in Garnier Bayou include bay anchovy (*Anchoa mitchilli*), skipjack shad (*Alosa chrysochloris*), hickory shad (*Alosa mediocris*), longnose gar (*Lepisosteus osseus*), and juvenile spot (*Leiostomus xanthurus*) (FWC, 2006). Recreational species such as black drum (*Pogonias cromis*) and southern flounder (*Paralichthys lethostigma*) are common in Choctawhatchee Bay. A wide variety of birds may occur over the water and near the shoreline of estuarine areas such as Garnier Bayou, including passerines (songbirds), raptors, shorebirds, wading birds, and waterfowl. Resident and migratory species are present at various times of the year. A total of 133 species were recorded near Choctawhatchee Bay in 2018 (Audubon, 2019). Nesting of various species, including wading bird nesting colonies, has been documented near Choctawhatchee Bay and could potentially occur near Garnier Bayou.

3.3.1.2 Sensitive Habitats

Sensitive habitats in the ROI consist of wetlands, riparian areas, floodplains, and seagrass. The northeastern part of the site is categorized as bottomland hardwood (classified in the FNAI as freshwater forested and non-forested wetlands), which contains estuarine and palustrine wetlands. Wetlands are productive ecosystems that provide food and shelter for many different species. Large numbers of insect, amphibian, reptile, bird, fish, and mammal species use wetlands for part of or all their life cycle. During migration and breeding, various bird and mammal species may rely on wetlands for food, water, and shelter. The dominant herbaceous wetland vegetation species in Choctawhatchee Bay and some adjoining bayous are black needlerush (*Juncus roemerianus*) and smooth cordgrass (*Spartina alterniflora*) (NFWMD, 2017). However, these species have limited occurrence along the northeastern Camp Pinchot shoreline. Woody vegetation typically associated with bottomland hardwood forest includes trees such as sweetgum (*Liquidambar styraciflua*), loblolly pine (*P. taeda*), sweetbay (*Magnolia virginiana*), and red maple (*Acer rubrum*), as well as shrubs such as dahoon (*Ilex cassine*) and wax myrtle (*Myrica cerifera*) (FNAI, 2010).

Riparian and floodplain habitats occur adjacent to surface waters in the ROI. Riparian zones are biologically diverse transition areas between surface water/wetland and terrestrial habitats. Riparian areas are associated with water features such as rivers, streams, and creeks, and may support numerous aquatic and terrestrial species. Floodplains are lowland areas adjacent to surface water bodies that are periodically covered by water during floods. Floodplains, which often contain riparian vegetation, are biologically unique and diverse ecosystems that may also support numerous aquatic and terrestrial species. Riparian habitat occurs adjacent to creeks that flow into Garnier Bayou from the north (e.g., Garnier Creek and Lightwood Knot Creek). Floodplains are mostly associated with the Garnier Bayou shoreline but also occur adjacent to the creeks.

Seagrasses are submerged plants found in shallow, relatively protected areas where there is sufficient sunlight for photosynthesis. Seagrasses provide numerous ecosystem benefits such as sediment stabilization, nutrient production, nursery habitat, and protection for many aquatic and marine species. The most common seagrass species in Choctawhatchee Bay are shoal grass (*Halodule wrightii*) and widgeon grass (*Ruppia maritima*) (CBA, 2022). Seagrass occurrence is patchy in Garnier Bayou and in Choctawhatchee Bay near the Garnier Bayou inlet (McDowell et al., 2018; Ruth & Handley, 2007). A small area of seagrass (unknown species) is located along the Garnier Bayou shoreline in the southern part of the site.

3.3.1.3 Protected Species

Endangered Species Act

ESA-listed species and -proposed species with potential occurrence in the ROI are listed in Table 3-9. Brief species descriptions are provided below. The American alligator (*Alligator mississippiensis*) is listed as threatened under the ESA due to its similarity in appearance with the endangered American crocodile (*Crocodylus acutus*). The American alligator is considered recovered and is not discussed further in this EA. Although the eastern black rail's current range overlaps with the ROI, the species is determined not to occur on Eglin NRO-managed lands and is therefore not discussed further in this EA (Eglin AFB, 2022).

Table 3-9. Endangered Species Act-Listed, Endangered Species Act-Proposed, and State-Listed Species in the Region of Influence

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Florida manatee	*Trichechus manatus latirostris*	T	T
Tricolored bat	*Perimyotis subflavus*	PE	-
Birds			
Southeastern American kestrel	*Falco sparverius paulus*	-	T
Little blue heron	*Egretta caerulea*	-	T
Reptiles			
Eastern indigo snake	*Drymarchon couperi*	T	T
Florida pine snake	*Pituophis melanoleucus mugitus*	-	T
Gopher tortoise	*Gopherus polyphemus*	-	T
Alligator snapping turtle	*Macrochelys temminckii*	PT	T
American alligator	*Alligator mississippiensis*	T (S/A)	T (S/A)
Loggerhead sea turtle (Northwest Atlantic Ocean DPS)	*Caretta caretta*	T	T
Green sea turtle (North Atlantic DPS)	*Chelonia mydas*	T	T
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	E
Fish			
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	T	T
Insects			
Monarch butterfly	*Danaus plexippus*	PT	-

- = not applicable; C = candidate species; DPS = distinct population segment; E = endangered; PE = proposed endangered; PT = proposed threatened; S/A = similarity of appearance; T = threatened

Florida Manatee. The Florida manatee (*Trichechus manatus latirostrus*) is listed as threatened under the ESA and is protected as a depleted stock under the Marine Mammal Protection Act (MMPA). In 2023, the USFWS announced that reclassifying the Florida manatee as endangered may be warranted (88 Federal Register 70634), and a status review is currently ongoing. Critical habitat is designated in various areas of southern and eastern peninsular Florida but does not occur in the Florida Panhandle. The manatee is a warm-water species that is restricted to water temperatures above about 20 degrees Celsius (68 degrees Fahrenheit). Manatees may be found in a variety of freshwater, estuarine, and marine habitats. The species occurs in inland and coastal waters of peninsular Florida and southeastern Georgia during the winter, but in warm months, distribution expands considerably. Manatees feed primarily on seagrass and other marine and freshwater vegetation, including benthic, floating, emergent, and bank vegetation

Manatees are found in Choctawhatchee Bay in spring and summer, but their abundance is not well documented. It is assumed that some portion of the seasonally migrating population moves through Choctawhatchee Bay, which is part of the Gulf Intracoastal Waterway and functions as a travel corridor between the high-use areas of Apalachicola Bay and Mobile Bay (USGS, 2010). The presence of seagrass, freshwater sources, and river access likely contribute to manatee occurrence. Manatees in Choctawhatchee Bay could potentially travel into Garnier Bayou, although seagrass is limited.

Tricolored Bat. The tricolored bat (*Perimyotis subflavus*) was proposed for listing as endangered under the ESA in 2022. During winter, individuals hibernate mostly in caves and mines. During spring, summer, and fall, tricolored bats occur in wooded areas where they roost primarily in trees, although they may also use structures such as buildings and bridges. Tricolored bats feed between dusk and dawn near trees, along waterways, and in riparian habitat. The greatest threat to the species is white-nose syndrome.

Southeastern American Kestrel. The state-designated threatened southeastern American kestrel (*Falco sparverius paulus*) occurs in various habitats including open woodlands, sandhills, fire-maintained savannah pine habitats, and riparian areas. Kestrels prefer open or partly open sandhill habitat. On Eglin AFB, kestrels frequently use cleared test areas for foraging. Kestrels nest in cavities that have been excavated in large trees, including longleaf pines, by woodpeckers or squirrels.

Little Blue Heron. The state-designated threatened little blue heron (*Egretta caerulea*) is a small wading bird that occupies fresh, salt, and brackish water environments in Florida including swamps, estuaries, ponds, lakes, and rivers. Breeding and nesting occur in colonies near freshwater and marine-estuarine habitats. The little blue heron has potential to occur in wetland and riparian habitats of the ROI.

Eastern Indigo Snake. The eastern indigo snake (*Drymarchon couperi*) is listed as threatened under the ESA. Indigo snakes frequently utilize the burrows of other species such as the gopher tortoise (*Gopherus polyphemus*) for overwintering. The snake often occurs in flatwoods, hammocks, stream bottoms, riparian thickets, and elevated areas with well-drained, sandy soils. The indigo snake could occur anywhere on Eglin AFB because it uses such a wide variety of habitats. However, this species is extremely uncommon.

Florida Pine Snake. The state-designated threatened Florida pine snake (*Pituophis melanoleucus mugitus*), one of the largest snakes in eastern North America, occurs throughout most of the state. The species inhabits areas with well-drained sandy soils and a moderate to open canopy, including sandhills, former sandhill areas, pine scrub, and scrubby flatwoods (FNAI, 2001).

Gopher Tortoise. The state-designated threatened gopher tortoise (*Gopherus polyphemus*) is found primarily within sandhills and open grassland habitats on Eglin AFB, where it excavates a tunnel-like burrow for shelter from predators, fire, and temperature extremes. The primary features of good tortoise habitat are sandy soils, open canopy with plenty of sunlight, and abundant food plants (forbs and grasses). Gopher tortoise burrows serve as important habitat for many other species, including the federally listed eastern indigo snake. In 2022, the USFWS determined that the eastern distinct population segment (DPS) of the species (which includes tortoises on Eglin AFB property) is not warranted for listing under the ESA. All DoD entities, including the DAF, signed a Candidate Conservation Agreement with the USFWS in 2008 (updated in 2012). This agreement defines what each agency will voluntarily do to conserve the gopher tortoise and its habitat. In 2020, the USFWS issued a Conference Opinion, which identifies conservation measures related to activities conducted on Eglin AFB (USFWS, 2020).

Alligator Snapping Turtle. The alligator snapping turtle (*Macrochelys temminckii*) was proposed for listing as threatened under the ESA in 2021. This large turtle occurs on the bottom of various types of waterways, including streams, lakes, swamps, and brackish areas, that often contain tree root masses and stumps (USFWS, 2024a). Alligator snapping turtles are primarily carnivorous and feed on a variety of fish, invertebrates, snakes, birds, and other turtles. Primary threats to the species are capture (intentional and accidental) and habitat alteration (e.g., erosion/siltation and pollution of waterways) (USFWS, 2024a; FWC, 2024).

Loggerhead Sea Turtle. In 2009, a status review conducted for the loggerhead sea turtle (*Caretta caretta*) identified nine DPSs within the global population. In 2011, the National Marine Fisheries Service (NMFS) and the USFWS listed five of these DPSs as endangered and four as threatened under the ESA (76 Federal Register 58868). Loggerheads occurring near Eglin AFB are part of the Northwest Atlantic DPS, which is designated as threatened. These turtles use varied habitats ranging from coastal estuaries to open ocean waters. Loggerheads occur in Choctawhatchee Bay and could potentially enter Garnier Bayou. The species nests along the Gulf side of Eglin's Santa Rosa Island property. Critical habitat is designated in association with some nesting beaches, nearshore habitats, and offshore habitats, but does not coincide with the ROI.

Green Sea Turtle. The green sea turtle (*Chelonia mydas*) was listed under the ESA in 1978. In 2016, NMFS and the USFWS reclassified the species into 11 DPSs (81 Federal Register 20058). All nesting green sea turtles occurring near Eglin AFB, as well as most turtles in adjacent estuarine and offshore waters, are part of the North Atlantic DPS (designated as threatened). A small number of individuals from the South Atlantic DPS may forage in the Gulf of America (Foley et al., 2007), but they would not be expected in Choctawhatchee Bay or connecting bayous. Nesting occurs along the Gulf side of Eglin's Santa Rosa Island property. Green sea turtles feed mostly on algae and seagrasses, but they may also consume sponges and other invertebrates. In 2023, NMFS and the USFWS proposed to designate new areas of critical habitat and modify existing areas of critical habitat, including nearshore and offshore Gulf of America waters adjacent to Eglin AFB (88 Federal Register 46572). However, the proposed critical habitat does not coincide with the ROI.

Kemp's Ridley Sea Turtle. The Kemp's ridley sea turtle (*Lepidochelys kempii*) is listed as endangered under the ESA. The species occurs mostly in the Gulf of America, but juveniles may range into the Atlantic Ocean. Adults and juveniles feed primarily on crabs in relatively shallow water. Kemp's ridley turtles are found in Choctawhatchee Bay and could potentially enter Garnier

Bayou. Nearly all nesting occurs along the western Gulf of America, although nests are occasionally documented in other areas. A limited amount of nesting occurs along the Gulf side of Eglin AFB's Santa Rosa Island property.

Gulf Sturgeon. The Gulf sturgeon (*Acipenser oxyrhynchus desotoi*) is listed as threatened under the ESA. The species occurs in fresh water during warm months, when spawning occurs, and migrates into estuarine and marine environments in the fall to forage and overwinter. Migration out of the rivers occurs in October and November, while movement into the river systems occurs from March to May. Many sturgeon overwinter in Choctawhatchee Bay and may be found in connected bayous. For example, sturgeon have been detected in Weekley Bayou, which is connected to northwestern Choctawhatchee Bay. Adults and subadults feed primarily on benthic invertebrates in estuarine and marine environments. Designated critical habitat includes Choctawhatchee Bay, Hogtown Bayou, Jolly Bay, Bunker Cove, and Grassy Cove, but excludes all other bayous, creeks, and rivers at their mouths/entrances.

Monarch Butterfly. The monarch butterfly is an ESA-proposed threatened species. In 2024, the USFWS determined that listing the monarch butterfly and designating critical habitat under the ESA is warranted (89 Federal Register 100662). The eastern North America population migrates annually between Canada and overwintering sites in central Mexico, although there is a small year-round population in southern Florida. Eglin AFB lies along the migration route for monarchs migrating to Mexico or the southern part of the state (Eglin AFB, 2020a). Occurrence in the ROI extends from about March to November. Adults feed on a variety of blooming nectar resources. Eggs are deposited on milkweed species.

Bald Eagles

Bald eagles typically use forested habitats isolated from human disturbance for nesting, and expanses of fresh or saltwater for foraging. Eagles feed on a variety of prey including fish, other birds, and carrion. These birds are territorial and exhibit a strong affinity for a site once a nest has been established. The nesting period in the southeast United States extends from October 1 to May 15, with most nests being completed by the end of November. In northwest Florida, most successful nests are completed by mid-February. One nest site is currently known near the ROI, along the norther Garnier Bayou shoreline (Figure 3-1).

Marine Mammals

In addition to the Florida manatee, which is protected under the ESA as well as the MMPA, bottlenose dolphins (*Tursiops truncatus*) occur in Choctawhatchee Bay and potentially in adjoining bayous. Bottlenose dolphins feed opportunistically on a variety of prey including fish, cephalopods (octopus and squid), and crustaceans (crabs and shrimp). NMFS has designated a Choctawhatchee Bay stock of the bottlenose dolphin (NMFS, 2016). Designation is based on year-round, multi-year residency, although dolphins of this stock may occasionally use Santa Rosa Sound, Pensacola Bay, and the nearshore Gulf of America. In addition, transient dolphins that are not part of the stock may occur in Choctawhatchee Bay. Estimated abundance (combined resident and transient) is 232 dolphins.

Migratory Birds

Migratory birds occur in the ROI, although Eglin AFB is not considered an important stopover area or concentration site for neotropical migratory species (birds that winter in the Caribbean and South and Central America and migrate to more temperate regions during summer) in the spring or fall (Tucker et al., 1996). Breeding neotropical migrants at Eglin AFB are primarily found in riparian, hammock, and barrier island areas, which serve as temporary habitat. The USFWS *Information for Planning and Consultation* website lists 28 migratory bird species that may potentially occur in the ROI (USFWS, 2024b).

3.3.1.4 Invasive Species

Invasive nonnative plant species have been documented at many locations on Eglin AFB (Eglin AFB, 2022). These species may outcompete and displace native species, degrade habitats, and alter natural processes such as fire or wetlands hydrology. The Florida Invasive Species Council has developed a ranking system for invasive nonnative plants based on their degree of impacts on natural areas. Category I species are defined as those species that are altering native plant communities in Florida, while Category II species have increased in abundance or frequency but have not altered native plant communities. A total of 24 Category I species and 12 Category II species have been documented on Eglin AFB. Invasive plant surveys are not known to have occurred at Camp Pinchot.

3.3.2 Environmental Consequences

This section provides an assessment of potential impacts on biological resources that could result from the Proposed Action and alternatives. Impacts are evaluated according to type, context, intensity, and duration, as well as regulatory requirements and the management practices identified in Section 3.3.2.8 (Management Actions). These factors determine the potential significance of the impacts. Potential impacts on biological resources are considered in the context of impact categories, which consist of noise and other types of disturbance; direct physical impacts; habitat alteration; and introduction or spread of invasive species.

Wildlife may be affected by noise and general disturbance resulting from construction, renovation, and demolition activities, and other human activities after construction and related short-term activities are complete. Visual or auditory detection of noise or human presence and activity may startle or disturb wildlife, potentially resulting in stress or behavioral reactions such as avoiding or fleeing an affected area. Individuals could retreat to shelter (e.g., burrows or tree cavities) or temporarily leave an affected area.

Direct physical impact refers to a physical strike or other direct effect on an organism. Direct impacts on wildlife and vegetation could result from trampling or strikes during operation of vehicles or other equipment. Direct impacts may result in mortality, injury, or (for animals) stress response.

A habitat generally refers to an area containing the ecologic and geologic components that support organisms, such as vegetation, soil, topography, and water. Habitat alteration consists of physical damage or disruptions that may adversely alter or degrade terrestrial, freshwater, or estuarine habitats. Degradation of unique and diverse habitats may impact sensitive species. Examples of habitat alteration include damage or destruction of vegetation; soil erosion and sedimentation of aquatic habitats; deposition of materials such as petroleum-based products onto the ground or into water resources; and habitat fragmentation. Habitat alteration can contribute to displacement, stress, injury, or mortality to the wildlife that is supported by those habitats.

Invasive species may compete with and possibly displace native species. They may also degrade protected species habitat and alter natural processes such as wetland hydrology. Invasive species may colonize recently disturbed areas, and therefore, construction and other ground-disturbing activities may allow such species to spread. Seeds and rhizomes of invasive species may be inadvertently transported to new areas by vehicles or other equipment and may be present in fill and landscaping materials.

Section 7 of the ESA requires action proponents to consult with the USFWS or NMFS to ensure their actions are not likely to jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Section 7 consultation will be initiated for the selected preferred alternative.

3.3.2.1 Proposed Action

Noise and Other Disturbance

Under the Proposed Action, construction, renovation, and demolition activities (collectively referred to as construction activities for conciseness) would occur for existing and notional facilities within and adjacent to the historic district (see Table 2-1, Table 2-2, and Figure 2-2). Road widening or repair could be required between the developed area and Lewis Turner Boulevard. Construction of trails and other potential recreational areas would occur in undeveloped areas and would involve the use of vehicles and construction equipment. Noise and other disturbance (e.g., visual perception of human activities) could cause wildlife in nearby pine, shoreline, wetland, and riparian habitats to experience stress or exhibit behavioral reactions such as fleeing or avoiding the affected area. Behavioral reactions require energy, may interfere with activities such as feeding, and may expose an animal to increased risk of predation. Construction noise would affect a relatively small area, and the dense forest would provide a visual buffer for wildlife outside the immediate vicinity. Impacts would be temporary for any given event, as most affected animals would be able to return to the area and resume normal behaviors soon after activities were completed. Construction activities associated with different phases of the Proposed Action would occur intermittently for up to 6 years, and the effects on wildlife discussed above would be expected during each period of activity.

Management measures listed in Section 3.3.2.8 (Management Actions) would decrease the potential for impacts on protected species. The measures include pre-construction surveys for gopher tortoises and eastern indigo snakes and ceasing activities if a gopher tortoise or indigo snake is observed. Nesting bald eagles would not likely be disturbed because the nearest probable construction location would be about 6,000 feet from the documented nest, which is greater than the recommended avoidance distance of 660 feet for construction activities (USFWS, 2007). In addition, there would be a vegetated visual buffer between activities and the bald eagle nest. Overall, due to the relatively small area affected, the temporary nature of impacts, and implementation of management measures, noise and other disturbance associated with construction activities would be minor and would not cause detectable effects on wildlife populations, including protected species (tricolored bat, southeastern American kestrel, little blue heron, eastern indigo snake, pine snake, gopher tortoise, bald eagle, and migratory birds).

After completion of all phases of the Proposed Action, there would be a long-term increase in noise and other disturbance at portions of the site due to personnel activity (NRO, CRO, and Wildland Support Module), recreational activities, and vehicle operation (including wildfire response). The highest noise levels would be in areas currently developed and proposed for facilities construction. Some wildlife could be displaced long term from disturbed areas but could potentially use similar habitat nearby. Some animals could habituate to the disturbance over time. The total area affected would be small relative to similar habitat available in the area. Long-term activities would not be expected to cause detectable effects on wildlife populations, including protected species.

Construction of a public fishing pier is a notional action currently. However, if implemented, pier placement would require pile installation near the Garnier Bayou shoreline. The specific method of installation is currently unknown but could potentially involve impact hammer, jetting, or vibratory methods. Impact pile driving produces repetitive, impulsive sound in the water and in the air (DoN, 2018). Jetting and vibratory installation produces nearly continuous, non-impulsive sound at a lower source level. Sound pressure produced during pile installation moves through the water column and into the substrate and may therefore affect animals in the water and on the bottom. During impact pile driving, noise intensity near a pile may be high enough to cause injury or other physical effects such as temporary or permanent hearing threshold shifts in wildlife such as fish (including the ESA-listed Gulf sturgeon), manatees, dolphins, and sea turtles, and invertebrates. At increased distance from the source, potential effects would consist of stress and behavioral responses such as changes in swimming speed and direction, feeding interruption, and fleeing. The lower sound levels produced by pile jetting or vibratory installation would not be expected to cause injury or hearing impairment, and the distance to which stress or behavioral effects could occur would be less. In addition to disturbance, wildlife could potentially be struck by vessels or equipment during pile placement.

General disturbance in the water during setup could cause animals to leave the area before pile driving began, reducing the potential for injury. Animals would likely avoid areas of high noise levels, although individuals located near the northern shore of Garnier Bayou would have to swim near the pier construction site to move south and away from the affected area. Individuals that leave or avoid the northern part of Garnier Bayou would generally be able to use similar water column and bottom habitats in other areas of the bayou or in Choctawhatchee Bay. For animals that are not injured, other effects (stress and behavioral) would be temporary and would likely subside when activities cease. As described in Section 3.3.2.8 (Management Actions), pile installation would incorporate applicable project design criteria (PDC) identified in a NMFS Programmatic Biological Opinion issued to USACE for pile-supported structure placement (NMFS, 2017). PDCs include actions such as operating vessels so that interactions with protected species are avoided; stopping operation of vessels and equipment if a protected species is observed within a 50-foot radius; and implementing turbidity control measures. Overall, the effects of pile installation would not likely result in substantial consequences to individual animals or populations.

Future fishing pier maintenance, as well as potential renovation or repair to the existing boat house, could disturb animals in the water. It is expected that measures such as observing for protected species would be required. Pile removal, if necessary, would produce lower sound levels than pile installation and would result in short-term stress or behavioral effects in nearby wildlife. Replacing pilings that have been treated with creosote would potentially contribute to a local, beneficial impact to water quality. It is expected that BMPs such as use of a containment boom would be implemented during removal of creosote-treated piles. Specific BMPs related to pile removal would be identified during USACE and FDEP permitting processes.

In-air noise would also be produced during pile installation if a public fishing pier is constructed and, potentially, during pile removal associated with boat house refurbishment. Impact hammer installation would produce noise intensity high enough to cause hearing effects in birds or other wildlife near the source. Vessels, pumps, and other equipment used during jetting or vibratory installation methods would produce noise at lower intensity. Animals would likely leave the immediate vicinity during project setup, reducing the potential for auditory injury. Noise and disturbance impacts would generally be similar to those produced during construction activities, including temporary stress and behavioral changes. Detectable effects on wildlife populations, including protected species, would not be expected.

Vessel noise associated with training activities or USFWS and 96 SFS operations would not cause auditory injury in any species. Behavioral responses to transient vessel noise would be temporary and would not likely cause substantial disruption of important behaviors such as feeding or reproduction.

In summary, noise and other disturbance may potentially cause injury or harassment of wildlife, including protected species, but the effects would not likely be detectable at the population level. Management measures would decrease the potential for impacts on some protected species. Therefore, impacts would be considered adverse but insignificant.

Direct Physical Impacts

Construction and land-clearing activities could potentially result in physical impacts to individual animals (e.g., crushing by vehicles or construction equipment). After completion of all phases of the Proposed Action, the long-term potential for vehicle strikes would increase due to increased personnel presence and activity level. In general, it is unlikely that substantial numbers of animals would be impacted because personnel would be able to see and avoid most individuals. In addition, mobile animals would usually detect activities and avoid vehicles and equipment or leave the immediate vicinity before being struck, although some species are susceptible to strike by moving vehicles. Animals that are less mobile (e.g., tortoises) and structures such as nests and burrows would have greater potential for impacts. Most species that would be expected in construction areas and along roads or parking areas are locally and regionally common, and the loss of a small number of individuals would not result in population effects. However, protected species could potentially be affected, including the tricolored bat, southeastern American kestrel, eastern indigo snake, Florida pine snake, gopher tortoise, monarch butterfly, and migratory birds. As described in Section 3.3.2.8 (Management Actions), management measures would decrease the potential for impacts to some protected species. Gopher tortoise burrows would be avoided by 25 feet or, if avoidance were not feasible, tortoises and any commensals (potentially including eastern indigo snakes) would be relocated in accordance with Florida Fish and Wildlife Conservation Commission (FWC) protocols. Personnel would be instructed to avoid activities that would cause collapse of tortoise burrows. Protected species, if observed, would be allowed to leave without being disturbed. Tricolored bats, kestrels, and migratory birds could be present in affected vegetated areas, but impacts would be generally limited to disturbance, as these species are highly mobile and would usually be able to avoid physical impacts.

Vessel operation by training units and USFWS and 96 SFS personnel would increase the potential for boat-wildlife strikes in Garnier Bayou and Choctawhatchee Bay. Pelagic invertebrates near the surface would typically be displaced rather than struck by vessel hulls because of the hydrodynamic flow of water around the hulls. Plankton and the eggs and larvae of fish and invertebrates could be injured or killed by propeller cavitation and turbulence, but these resources are abundant in the water column and population effects would not occur. Most adult fish can detect and avoid vessels. Exceptions include relatively large, slow-moving species that may occur near the surface, such as sturgeon. However, vessel strikes are not known to be a substantial threat to the Gulf sturgeon. Bottlenose dolphin strikes would not be expected, as this species is highly mobile and can generally avoid moving vessels. Sea turtles and manatees may occur at or near the surface to breathe, feed, or rest and are susceptible to vessel strikes during these times. However, these species are often submerged. Sea turtles and manatees are probably uncommon in Garnier Bayou due to the lack of food sources (e.g., seagrass), although freshwater sources, which are used by manatees, are available at the northern shoreline. Manatees would only occur during warm months. The overall potential for direct strikes of sea turtles and manatees would be decreased because of the presumably low occurrence in Garnier Bayou and percent of time these species spend submerged.

If jetting is used for pile installation, fish (including Gulf sturgeon) and invertebrates could be entrained by the pump intake during operation. Some fish would likely avoid the immediate vicinity of operations due to noise and general disturbance during setup. The potential for entrainment of large species such as sturgeon would be low. Effects on invertebrates and common fish species would not be detectable at the population level.

In summary, direct physical impacts may potentially cause mortality, injury, or harassment of wildlife, including protected species, but the effects would not likely be detectable at the population level. Management measures would decrease the potential for impacts on some protected species. Impacts would be considered adverse but insignificant.

Habitat Alteration

Under the Proposed Action, the total developed area at Camp Pinchot could increase by 32 to 50 acres, including some new impervious surface areas. A substantial percentage of this total would likely involve clearing of trees and other vegetation, which would reduce available wildlife habitat (primarily pine forest). New developed area would represent about 11 to 18 percent of the 282-acre Camp Pinchot footprint. Habitat reduction would decrease food and shelter available to wildlife, including the tricolored bat, southeastern American kestrel, eastern indigo snake, pine snake, and gopher tortoise, and could possibly cause displacement of some individuals. The effects would not likely be significant in the context of other similar habitat available on the Camp Pinchot parcel, east of Garnier Bayou, and on Eglin AFB property across Lewis Turner Boulevard. Construction activities would have little to no effect on nectar resources in the ROI and would therefore not impact the monarch butterfly.

Construction activities would not occur directly adjacent to surface waters or seagrass habitat, or in wetland or riparian habitats. Notional placement of a public fishing pier and pavilion would occur in the floodplain, but these structures would have a negligible effect on wildlife habitat in the ROI. There would be no significant impacts on surface waters, sensitive habitats, or associated wildlife, including the little blue heron, eastern indigo snake, and alligator snapping turtle, due to habitat removal.

Ground disturbance during construction could potentially cause erosion and associated sedimentation and conveyance of contaminants to adjacent habitats. Increased impervious surface could also cause stormwater transport of contaminants to these areas. However, as described in Section 3.12 (Water Resources), permit requirements under the NPDES and FDEP ERP system would substantially reduce the potential for adverse impacts caused by erosion and stormwater runoff. With implementation of the requirements, significant effects to Garnier Bayou (including seagrass habitat) and wetland, riparian, and floodplain habitats, along with associated wildlife, would not be expected.

In summary, forest habitat removal may displace some wildlife, including protected species. Management measures would substantially decrease the potential for habitat effects caused by erosion and the addition of impervious surface area. Effects would not likely be detectable at the population level. Impacts would be considered adverse but insignificant.

Invasive Species

Ground disturbance during construction may potentially cause invasive species to become established in the area. As identified in Section 3.3.2.8 (Management Actions), Eglin AFB would use native or non-invasive plant species for revegetation and would ensure that sod and hay bales are free of invasive species to the extent practical. With implementation of these practices, there would be no to negligible potential for adverse effects on habitats and associated wildlife, and therefore no significant impacts.

3.3.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

There are no specific EUL development plans for the Camp Pinchot site currently. The following subsections contain discussion of general types of impacts on biological resources that could potentially occur, based on the conceptual description provided in Section 2.3 (Alternative 1 – Enhanced Use Lease at Camp Pinchot). If Alternative 1, 2, or 3 is selected, specific plans would be developed, and additional tiered NEPA documentation could be required. For example, the analysis below assumes that development would not occur in wetland or riparian habitats.

Noise and Other Disturbance

The potential impacts associated with noise and other disturbance on biological resources under Alternative 1 would conceptually be the same as those discussed for the Proposed Action, but the magnitude of effects would likely be greater. Construction activities could cause wildlife in pine, shoreline, wetland, and riparian habitats, including the protected species identified under the Proposed Action, to experience stress and exhibit behavioral reactions such as fleeing or avoiding the affected area. Compared to the Proposed Action, effects such as fleeing, avoidance, and displacement could occur to more animals and in larger areas because of the larger size of structures (height and footprint), greater visibility of activities, and higher noise levels in some cases. The duration of construction activities is unknown at this time, but stress and behavioral effects would occur throughout the period of development. After completion of site development, there would be a long-term increase in noise and other disturbance due to occupancy and daily activities, and long-term displacement of some wildlife would therefore be possible. However, some animals could habituate to the disturbance over time. As with the Proposed Action, management measures listed in Section 3.3.2.8 (Management Actions) would decrease the potential for impacts on some protected species.

In summary, noise and other disturbance would cause harassment of wildlife, potentially including protected species (tricolored bat, southeastern American kestrel, little blue heron, eastern indigo snake, pine snake, gopher tortoise, and migratory birds). The magnitude of effects (number of animals and area affected) would be greater relative to the Proposed Action. However, effects would not likely be detectable at the population level because of the presence of similar habitat east of Garnier Bayou and on Eglin AFB property across Lewis Turner Boulevard. Therefore, impacts would be considered adverse but insignificant.

Direct Physical Impacts

The potential for direct physical impacts on biological resources under Alternative 1 would conceptually be the same as those discussed for the Proposed Action, but the magnitude of effects would likely be greater because of the larger area of disturbance. Land-clearing and construction activities could potentially result in physical impacts to individual animals. After completion of site development, the long-term potential for vehicle strikes would increase due to occupancy and daily activities. In general, it is unlikely that substantial numbers of animals would be impacted during land clearing and construction because personnel would be able to see and avoid most individuals. In addition, mobile animals would usually detect activities and avoid vehicles and equipment or leave the immediate vicinity before being struck, although some species are susceptible to strike by moving vehicles. Animals that are less mobile and structures such as nests and burrows would have greater potential for impacts. Most species potentially affected are locally and regionally common, and the loss of a small number of individuals would not result in population effects. However, protected species could potentially be impacted, including the tricolored bat, southeastern American kestrel, eastern indigo snake, Florida pine snake, gopher tortoise, monarch butterfly, and migratory birds. As described in Section 3.3.2.8 (Management Actions), management measures (e.g., surveys and avoidance requirements) would decrease the potential for impacts to some protected species. The number of animals potentially killed, inured, or harassed due to direct strikes would likely be higher than that of the Proposed Action. However, effects would not likely be detectable at the population level. Therefore, impacts would be considered adverse but insignificant.

Habitat Alteration

Under Alternative 1, a substantial portion of the Camp Pinchot site would be developed, although the total acreage that would be affected is unknown at this time. Activities in a large percentage of the affected area would involve clearing of trees and other vegetation (primarily pine forest), which would represent a long-term reduction in available wildlife habitat in the ROI. In addition, depending on the final development configuration, remaining habitat could have reduced value to wildlife because of fragmentation effects associated with existing development west and south of the parcel. Potentially affected species would include the tricolored bat, southeastern American kestrel, eastern indigo snake, pine snake, and gopher tortoise. Development would have little effect on nectar resources in the ROI because flowering plants are not likely abundant on the parcel, and there would be no significant impacts on the monarch butterfly. A conservation buffer along Lewis Turner Boulevard and between the historic district and new construction areas could slightly reduce the effects of habitat loss. It is expected that development would not occur in wetlands or riparian zones, as sufficient area is available outside these sensitive habitats. Therefore, development would not significantly affect habitat availability for the, little blue heron, or alligator snapping turtle. If development occurred along the Garnier Bayou waterfront, floodplain habitat would be removed.

Ground disturbance during construction could potentially cause erosion and associated sedimentation and conveyance of contaminants to adjacent habitats. Increased impervious surface could also cause stormwater transport of contaminants. As with the Proposed Action, permit requirements would substantially decrease the potential for impacts associated with erosion and stormwater runoff. With implementation of the requirements, significant effects to Garnier Bayou and seagrass, wetland, riparian, and floodplain habitats, along with associated wildlife, would not be expected.

In summary, development under an EUL would include removal of forest habitat, and potentially floodplain habitat, from a substantial portion of the Camp Pinchot parcel. Habitat loss could cause displacement of some wildlife, including protected species. Similar habitat is available on Eglin property across Lewis Turner Boulevard, although the ability of all affected animals to successfully relocate is uncertain. Management measures would limit the potential for habitat effects caused by ground disturbance and the addition of impervious surface area. Although development would likely cause animals, including protected species, to be displaced and seek alternative locations, effects would not likely be detectable at the population level. Impacts would therefore be considered adverse but insignificant.

Invasive Species

Ground disturbance during construction may potentially cause invasive species to become established in the area. As identified in Section 3.3.2.8 (Management Actions), Eglin would use native or non-invasive plant species for revegetation and would ensure that sod and hay bales are free of invasive species to the extent practical. With implementation of these practices, there would be no to negligible potential for adverse effects on habitats and associated wildlife, and therefore no significant impacts.

3.3.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Noise and Other Disturbance

The effects of noise and other disturbance on wildlife would generally be the same as those discussed under Alternative 1. Differences would pertain to potential development, preservation activities, and demolition in the historic district. Noise and disturbance associated with these activities would be temporary and would affect relatively few additional animals, potentially including protected species. However, effects would not likely be detectable at the population level because of the presence of similar habitat east of Garnier Bayou and on Eglin AFB property across Lewis Turner Boulevard. Therefore, impacts would be considered adverse but insignificant.

Direct Physical Impacts

The potential for direct physical impacts would generally be the same as those discussed under Alternative 1. Differences would pertain to potential development, preservation activities, and demolition in the historic district. These activities would slightly increase the probability of direct wildlife strikes (including protected species) relative to Alternative 1, but the effects would not likely be detectable at the population level. Therefore, impacts would be considered adverse but insignificant.

Habitat Alteration

Additional habitat alteration could occur relative to Alternative 1 due to development, preservation activities, and demolition in the historic district. However, it is expected that most of these activities would occur in areas that are currently disturbed or maintained, and that therefore have reduced habitat value. Disturbance of substantial areas of forest habitat would not be expected. As with Alternative 1, management measures would substantially decrease the potential for habitat effects caused by erosion and the addition of impervious surface area. Effects would not likely be detectable at the population level, and impacts would therefore be considered adverse but insignificant.

Invasive Species

The potential for invasive species to become established due to ground disturbance would not differ meaningfully from the potential under Alternative 1. Management practices would be the same as described previously. With implementation of these practices, there would be no to negligible potential for adverse effects on habitats and associated wildlife due to invasive species, and therefore no significant impacts.

3.3.2.4 Alternative 3 – Demolition Option

Under Alternative 3, some or all of the structures in the historic district could be demolished. Compared to Alternative 2, demolition would contribute additional noise, general disturbance, and ground disturbance, as well as potential for direct impacts, that could affect wildlife and habitats. Demolition would primarily affect developed areas with relatively low wildlife occurrence. Disturbance would be temporary and would affect a small area of the ROI. Management requirements would minimize the potential for habitat effects related to erosion, stormwater runoff, and invasive species. Overall, impacts on biological resources would not differ meaningfully from Alternative 2 and would be considered adverse but insignificant.

3.3.2.5 Alternative 4 – Specialized Range Mission Use

Noise and Other Disturbance

High-intensity noise levels would not occur during training mission activities. General disturbance and low-intensity noise associated with ground training, vehicle and vessel operation, and other mission support activities such as construction of trails and objectives could cause stress and behavioral reactions (e.g., fleeing or avoiding an affected area) in nearby terrestrial wildlife. Most affected individuals would likely resume normal activities soon after activities were completed. Animals may habituate to the noise and disturbance produced during training activities over time, and it is possible that eventually some individuals would exhibit little or no reaction to noise or human presence. Noise and general disturbance could similarly affect protected species located in various habitats on and near the training area. Tricolored bats, kestrels, little blue herons, and migratory birds could move away from or avoid areas exposed to sufficiently high noise levels, potentially affecting other life functions such as feeding, sheltering, and nesting. Such effects would likely be temporary, and individuals might move to adjacent areas of similar habitat. Bald eagle nesting would not likely be disturbed. Indigo snakes, pine snakes, and gopher tortoises, could also exhibit behavioral reactions or move away from affected areas, although reptiles seem to generally exhibit less pronounced reactions to noise than some other types of animals.

The effects of noise and general disturbance associated with range maintenance, construction, and land clearing (if applicable) would be similar to that associated with training activities. Wildlife in the project area, including protected species, could be temporarily disturbed or displaced due to noise and increased human presence. It is expected that the effects would be short term and would affect only animals near the activity. Affected individuals would generally be able to return to the area after completion of activities. While individuals of some species could possibly be displaced long term, the affected areas would be small compared to other available habitat nearby. Noise levels causing significant behavioral or physiological impacts would not be expected.

Vessel noise and general human presence/activity on the water may startle or disturb wildlife in Garnier Bayou (e.g., fish and invertebrates) and in terrestrial habitats near the shoreline, including protected species (Florida manatee, bottlenose dolphin, sea turtles, Gulf sturgeon, little blue heron, and migratory birds). Noise effects may include stress and behavioral responses but would not be expected to cause auditory injury in any species. Impacts from any given activity would be temporary and minor, although vessel operations could occur up to several days per week. Affected animals would generally be able to return to the area and resume typical behaviors after completion of activities.

In-water noise effects on ESA-listed species (Florida manatee, Gulf sturgeon, and sea turtles) from military training activities in estuarine areas such as Garnier Bayou are discussed in the *Estuarine and Riverine Areas Biological Assessment and Essential Fish Habitat Assessment* (Eglin AFB, 2020b), which is incorporated by reference. Manatee occurrence in the ROI is transient, seasonal, and probably uncommon, and sea turtles rarely enter estuarine areas adjacent to Eglin AFB. Therefore, the potential for encounters with these species would be very low. If pile driving occurs, impulsive sound could potentially cause physical injury, stress, and behavioral responses in these species. However, pile installation would incorporate applicable PDC identified in the NMFS Programmatic Biological Opinion for pile-supported structure placement (NMFS, 2017). PDC include actions such as operating vessels so that interactions with protected species are avoided and stopping operation of vessels and equipment if a protected species is observed within a 50-foot radius. The effects of pile installation would not be expected to result in substantial effects. Vessel noise and human activity in the water could also cause stress and behavioral responses, but the effects would be temporary and minor and would affect a small area. To minimize the potential for impacts, if a protected species is observed during in-water operations, vessels/personnel would either move slowly away from the animal, or stop activity until the animal left the area. Management actions in the *Estuarine and Riverine Areas Biological Assessment and Essential Fish Habitat Assessment* (Eglin AFB, 2020b) that are applicable to training activities under Alternative 4 are listed in Section 3.3.2.8 (Management Actions).

In summary, noise and other disturbance would probably cause harassment of wildlife, potentially including protected species, but the effects would not likely be detectable at the population level. Management requirements (Section 3.3.2.8, Management Actions) would decrease the potential for impacts on some protected species. Based on the types and tempo of proposed training activities (Section 2.6, Alternative 4 – Specialized Range Mission Use), impacts would be considered adverse but insignificant.

Direct Physical Impacts

Wildlife, including protected species, could be physically impacted by vehicles, equipment, and personnel during training, construction and land-clearing activities, and if necessary, range maintenance. Wildlife could also be physically impacted by prescribed fires. Overall, the potential for direct strikes would be low. Mobile animals would generally be able to avoid impacts, although some species are susceptible to vehicle strikes. Except for approved training activities with prior permission for off-road driving, vehicles are operated on established roads where wildlife strikes would be less likely. Physical impacts would be mostly associated with small or less-mobile species (e.g., reptiles and small mammals) and structures such as burrows or nests. Personnel would probably be able to see and avoid wildlife in many cases. Most species that would be affected by training activities are locally and regionally common, and the loss or displacement of a small number of individuals would not result in overall population effects. Management requirements (Section 3.3.2.8, Management Actions) would decrease the potential for impacts on some protected species. For example, personnel would be instructed to avoid protected species. Gopher tortoise burrows would typically be avoided by 25 feet. If burrows cannot be avoided, tortoises and any commensals (potentially including the eastern indigo snake) would be relocated in accordance with FWC protocols. Terrestrial vegetation could be physically impacted by training activities. Dispersed, low-density personnel movements are not likely to substantially impact vegetation. Restrictions detailed in Section 3.3.2.8 (Management Actions) would decrease the potential for impacts. The NRO would survey the site as necessary. If damage was detected, the affected area could be temporarily closed to allow vegetation to recover. Vegetation damage to a level requiring restoration would not be expected.

During activities in Garnier Bayou and at the shoreline, the potential for physical impacts to habitats would primarily be associated with effects to vegetation and substrates resulting from boat use and personnel movement. Boats operated in shallow water could physically impact seagrass, although occurrence is known at only one location (Figure 3-1). Wetlands, floodplains, and associated emergent vegetation could be impacted by boat landings and personnel movements, particularly if the same sites are used repeatedly. Emergent vegetation primarily occurs along the northern Garnier Bayou shoreline. Repeated use of the same areas could cause or accelerate erosion. Prevention of erosion in heavily used shoreline areas can be accomplished through restoration and stabilization, rotational use, and avoidance of contact with emergent vegetation. User groups would likely rotate between access points. Disturbance of seagrass and emergent vegetation would be avoided as much as possible, and anchoring would not be allowed in areas of seagrass.

Boat use and personnel movement in shallow water could cause relatively minor disturbance to bottom sediments. Waves and currents would smooth disturbed areas and dissipate suspended sediments. The amount of sediment disturbance and associated sedimentation effects would be inconsequential in the context of the total area of estuarine substrate in Garnier Bayou.

During training activities on Garnier Bayou, vessels could strike birds (feeding in the water or located at the shoreline), fish, and plankton. Adult birds and fish would not likely be struck. Bird nests and eggs, fish eggs and larvae, and plankton are more susceptible, but are widely dispersed throughout the ROI. In addition, fish eggs and larvae and plankton generally occur in large numbers and experience high natural mortality rates. Protected species potentially affected consist of marine mammals, eastern indigo snake, little blue heron, alligator snapping turtle, sea turtles, Gulf sturgeon, and migratory birds. Human-powered boats, which could be used in some training activities, move relatively slowly, and a collision would not likely cause serious injury. Powered boats would be more likely to cause injury. Overall, the potential for vessel strikes would be low and would not be expected to affect populations. Impacts on the indigo snake, alligator snapping turtle, and migratory birds would consist of trampling or contact with vessels at the shoreline. Overall, the likelihood of physically contacting an individual or nest is low, and activities would not result in significant effects to any population. Adherence to requirements in Section 3.3.2.8 (Management Actions) would further reduce the potential for impacts.

As discussed in the *Estuarine and Riverine Areas Biological Assessment and Essential Fish Habitat Assessment* (Eglin AFB, 2020b), the potential for strikes by boats and other watercraft (e.g., Jet Skis) on Gulf sturgeon would be mostly limited to interactions in shallow water and, in the case of military training, where vessels come ashore. There have been no known strikes of Gulf sturgeon during missions in the estuarine areas of Eglin AFB, likely due to the fact that sturgeon prefer to swim along the bottom and close to the shoreline. The potential for manatee strikes would be greater compared to sturgeon, particularly along the northern Garnier Bayou shoreline where emergent vegetation and freshwater sources are available, because manatees spend more time at or near the surface. However, manatee occurrence in the ROI is probably uncommon, and therefore the potential for encounters would likely be very low. Sea turtle strikes would be unlikely because of the presumably low occurrence of turtles in Garnier Bayou and the percent of time these animals spend submerged (vessel strikes would only affect individuals at the surface). Overall, the potential for direct encounters with vessels is considered extremely low. If protected species are observed during in-water operations, personnel will be instructed to either stop the activity until the animal has left the area or maneuver away from the animal. In summary, direct physical impacts may potentially cause mortality, injury, or harassment of wildlife, including protected species, but the effects would not likely be detectable at the population level. Management measures would decrease the potential for impacts on some protected species. Based on the types and tempo of proposed activities (Section 2.6, Alternative 4 – Specialized Range Mission Use), impacts would be considered adverse but insignificant.

Habitat Alteration

Although the details of specific projects are unknown at this time, any land clearing required to establish training areas, facilities, or other structures would likely occur in pine forest areas and would represent long-term habitat loss and fragmentation. While any habitat loss or fragmentation could adversely affect wildlife, including protected species, through effects such as displacement and reduced foraging habitat, the area affected would likely be small in the context of similar habitat available in nearby areas. All proposed projects would undergo EIAP review before implementation. Detectable population-level effects to any species would not be expected. Soil disturbance and increased impervious surface area could result in discharge of sediments and pollutants into Garnier Bayou, wetlands, riparian areas, and floodplains, reducing value as wildlife habitat. However, it is expected that BMPs and stormwater plans would minimize the potential for such impacts.

Except for land clearing to establish new training areas and structures, minimal habitat alteration would be expected because of training activities. The types of training activities identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use) would generally have a low impact on habitats because they typically involve a small number of personnel and would not result in substantial vegetation or ground disturbance. Habitat disturbance would not likely cause measurable impacts to populations of any wildlife species. The risk of wildfires is considered low for most types of training that would occur. There would be relatively higher wildfire potential for activities that involve the use of smokes (e.g., smoke grenades). Personnel would adhere to restrictions associated with daily wildfire danger ratings. The potential for impacts resulting from accidental spills of petroleum-based products would be low. Procedures and responsibilities for responding to spills of fuel or other hazardous materials are described in the Eglin AFB's Final Spill Prevention, Control, and Countermeasures Plan Update.

Maintenance of designated training sites, if required, would represent ongoing habitat alteration. Continued maintenance would prevent transition of the area to pre-disturbance conditions (pine forest). It is expected that any affected areas would be small relative to other habitat available on Camp Pinchot and adjacent areas. Maintenance measures such as prescribed fire and herbicide use would involve vegetation removal and associated loss of shelter, forage, and possibly prey resources, but the effects would be temporary. The potential for impacts resulting from accidental spills of petroleum-based products would be low.

Training activities in Garnier Bayou and at the shoreline could potentially cause sedimentation and increased turbidity in surface waters, wetlands, riparian habitat, and floodplains. Sedimentation and turbidity could result from erosion of banks and shorelines or from suspension of bottom sediments due to vessel hull contact, propeller wash, and personnel movements. Increased amounts of sediment in the water column can adversely affect habitats and species. Sedimentation can decrease photosynthesis, cover benthic species, and expose aquatic species to any contaminants bound to sediment particles. In riparian portions of the ROI, sedimentation resulting from erosion or direct sediment disturbance could negatively impact alligator snapping turtle habitat. However, the number of training missions in these areas would likely be low. Implementation of requirements identified in Section 3.3.2.8 (Management Actions) would decrease the potential for erosion and sedimentation impacts. Units would avoid disturbing emergent and submerged aquatic vegetation as much as possible, and mission debris that lands in the water would be retrieved to the greatest degree possible.

In summary, development of designated training areas and ongoing maintenance, if applicable, would include removal of forest habitat. Similar habitat is available on and near the Camp Pinchot parcel, although the ability of all affected animals to successfully relocate is uncertain. Management measures would limit the potential for habitat effects caused by ground disturbance, addition of impervious surface area, erosion, and sedimentation. Effects on wildlife would not likely be detectable at the population level. Based on the types of proposed training activities (Section 2.6, Alternative 4 – Specialized Range Mission Use), impacts would be considered adverse but insignificant.

Invasive Species

Ground disturbance that could occur during land-clearing, construction, military training, and range maintenance activities may potentially facilitate the spread of invasive vegetation. Wildfires started by missions may have either beneficial or adverse impacts in the context of invasive species. To reduce the potential for spreading invasive species, activities would be subject, as applicable, to requirements and management practices provided in the Eglin AFB Integrated Natural Resources Management Plan, Operational Component Plan for Management of Invasive Non-Native Species, Feral Animals, and Nuisance Native Wildlife (Eglin AFB, 2020c) and Armed Forces Pest Management Board Technical Guide Number (No.) 31, *Operational Washdown and Agricultural Inspection Preparation for Military Conveyances and Equipment* (Armed Forces Pest Management Board, 2021). Herbicide use would occur in accordance with requirements contained in the *Long-Term Vegetation Control for Eglin Air Force Base, Florida, Final Environmental Assessment* (Eglin AFB, 2008a) and associated biological assessment (Eglin AFB, 2007). Implementation of these management practices would substantially reduce the potential for adverse effects from invasive species, and impacts would be insignificant.

3.3.2.6 No Action Alternative

Under the No Action Alternative, a Camp Pinchot ARP would not be implemented, an EUL would not be established, and the parcel would not be converted to an Eglin Range. There would be no potential for associated noise, disturbance, physical impacts on wildlife, habitat removal or damage, or introduction/spread of invasive vegetation. Maintenance and preservation activities would continue to occur in the historic district as necessary. There would be potential for these activities to disturb wildlife in the near vicinity, but the effects would be minor and temporary. Maintenance and preservation activities would occur in developed or previously disturbed areas, which have reduced habitat value. Ground-disturbing activities would not be expected. There would be no activities in Garnier Bayou or at the shoreline. Impacts on wildlife and habitats would be negligible and therefore insignificant.

3.3.2.7 Reasonably Foreseeable Effects

Ongoing and future testing and training missions, construction projects, and road and test area maintenance activities could affect the habitats and species addressed in this EA. Multiple small, incremental effects can become significant if they reach some threshold of significance. For example, multiple actions that individually cause a small amount of habitat removal or fragmentation could eventually result in a significant impact to wide-ranging species. Such effects could be magnified by similar activities conducted outside the installation.

Direct strikes may occur from vehicle and equipment, trampling, and wildfires, but population-level impacts would not be expected. Multiple activities on Eglin AFB may contribute to cumulative habitat degradation or fragmentation on small and large scales. Construction projects will convert some natural habitats to buildings, parking lots, roads, landscaped areas, and testing or training assets. Increased range closures due to mission safety profiles may limit access for NRO personnel to conduct necessary management, including prescribed fire, forest restoration activities, and endangered species monitoring. Accumulated noise levels would not change appreciably for any areas with protected species, and cumulative noise impacts are not anticipated. Invasive plant species could be introduced or spread as a result of ground-disturbing activities.

Substantially increased use of the estuarine areas of Eglin AFB is not anticipated at this time. However, other types of missions could impact the same biological resources. Mobile species, such as birds and large mammals, may move throughout the Eglin Reservation and encounter noise, disturbance, or physical impacts from other actions. Similarly, species such as bottlenose dolphin, sea turtles, and the Gulf sturgeon could experience noise or other disturbance during military, commercial, and recreational activities occurring in Choctawhatchee Bay and the Gulf of America.

Biological resources occurring on Eglin AFB property are actively managed to prevent impacts to sensitive habitats and species. Future projects controlled by Eglin AFB would be reviewed by the NRO and would be subject to all applicable management practices. In addition, Eglin AFB regularly conducts consultations with the USFWS and NMFS regarding impacts to protected species and habitats, and all the resulting required terms and conditions are implemented.

Management practices described in Section 3.3.2.8 (Management Actions) are expected to reduce the potential for cumulative impacts. Based on the discussion above, significant cumulative impacts are not anticipated for any habitat or species due to the Proposed Action or alternatives.

3.3.2.8 Management Actions

- The following procedures have been identified by Eglin AFB to reduce the potential for adverse effects on biological resources. Any additional requirements identified as a result of consultation with the USFWS under the ESA will be added to this section after consultation is finalized.

Adhere to applicable general restrictions in EAFBI 13-212, *Range Planning and Operations*:

- Prior to any field activities, personnel must view an environmental requirements brief and review an Environmental Guidebook.
- Digging is not authorized without prior permission from the 96th Civil Engineer Group (96 CEG).
- Clearing for new roads, road widening, certain maintenance activities, and all non-silvicultural large-scale timber removal efforts must be approved through the EIAP (AF Form 813) and Eglin AFB NRO.
- Prior to initiation of missions that could cause a fire, obtain the daily fire danger rating and conduct activities in accordance with the restrictions associated with that fire danger level.
- Conduct hardstand and tent complex bivouac only at designated areas.
- Vehicles must remain on established roads unless prior approval has been granted for off-road vehicle use.
- Trees will not be cut down or damaged unless authorized by the Eglin NRO, including scrub oak and sand pine.

- To prevent the introduction of invasive nonnative species, inspect all out-of-area equipment prior to deployment in the field. Vehicles and equipment must be cleaned in accordance with Armed Forces Pest Management Board Technical Guide No. 31, *Operational Washdown and Agricultural Inspection Preparation for Military Conveyances and Equipment* (Armed Forces Pest Management Board, 2021).
- Any revegetation efforts must be coordinated with the Eglin NRO.
- Disposal/discharge of hazardous materials to the ground or in water is prohibited. Follow Eglin spill prevention and spill response procedures. Ensure compliance with Eglin AFB Instruction 32-7003, *Hazardous Waste Management*.

Adhere to applicable gopher tortoise restrictions in EAFBI 13-212, *Range Planning and Operations*:

- If sighted, stop activities until the gopher tortoise is out of harm's way.
- Notify the Eglin NRO of the sighting.
- Do not drive over, step on, fill, or in any way cause a gopher tortoise burrow to collapse.
- Avoid gopher tortoise burrows by at least 25 feet.
- Prior to any ground-disturbing activities, coordinate with the Eglin NRO to arrange a gopher tortoise survey.

Adhere to applicable eastern indigo snake restrictions in EAFBI 13-212, *Range Planning and Operations*:

- If sighted, stop activities until the eastern indigo snake is out of harm's way.
- Notify the Eglin NRO of the sighting.

Adhere to applicable Gulf sturgeon restrictions in EAFBI 13-212, *Range Planning and Operations*:

- Use only designated boat landing sites.
- At boat landing sites, do not damage shoreline vegetation.

Adhere to applicable requirements in the *Gopher Tortoise Programmatic Conference Opinion* (USFWS, 2020) for land-clearing and construction activities:

- All personnel and contract crews must be briefed on gopher tortoise requirements.
- "Stumping" operations are allowed only in areas of proposed roads, facilities, planned construction, and other areas as approved by the Chief of Natural Resources.
- For land-clearing and construction activities, the proponent must contact the NRO to arrange a gopher tortoise survey within 30 days on initiation of ground-disturbing activities. Burrows will either be marked with a 25-foot buffer for avoidance, or be relocated per the procedures detailed in the INRMP threatened and endangered species component plan.
- Follow *Silviculture Best Management Practices* published by the Florida Department of Agriculture and Consumer Services.
- Follow the *Florida Forestry Wildlife Best Management Practices for State Imperiled Species* (FDACS, 2014) that pertain to gopher tortoises.
- Where there are gopher tortoises near a construction site, silt fencing or other appropriate must be erected around the construction site to exclude tortoises.

Adhere to applicable requirements in the *Gopher Tortoise Programmatic Conference Opinion* (USFWS, 2020) for test and training missions:

- Prior to field activities, all personnel must be briefed on gopher tortoise requirements.
- Mission ground activities that will involve ground disturbance must contact the Eglin NRO to arrange a gopher tortoise survey within 30 days of initiation of ground-disturbing activities. Burrows will either be marked with a 25-foot buffer for avoidance, or be relocated per the procedures detailed in the INRMP threatened and endangered species component plan.
- Do not place any substances or devices in gopher tortoise burrows.

Adhere to applicable requirements in the *Gopher Tortoise Programmatic Conference Opinion* (USFWS, 2020) for maintenance activities:

- All range maintenance personnel and contractors must be briefed on gopher tortoise requirements.
- NRO personnel will work with maintenance personnel to identify gopher tortoise populations present within areas that are regularly maintained and will jointly develop site-specific strategies to minimize impacts to gopher tortoises from maintenance activities.
- Maintenance activities that will result in ground disturbance require a gopher tortoise survey within 30 days of ground-disturbing activities. The proponent must contact the Eglin NRO to arrange the survey. Burrows will either be marked with a 25-foot buffer for avoidance or be relocated per the procedures detailed in the INRMP threatened and endangered species component plan.
- Equipment operators must be alert to the presence of burrows and tortoises for avoidance.
- In occupied tortoise habitat, or habitats where tortoise occupancy is unknown, avoid or minimize the use of heavy equipment for maintenance activities when other reasonable alternatives are available (e.g., prescribed fire, herbicides).
- When heavy equipment will be used in known gopher tortoise areas, or in areas where tortoise occupancy is unknown, efforts are to be taken to schedule activities during cooler months (November to March) when tortoises are less likely to be active above ground.
- Follow the *Florida Forestry Wildlife Best Management Practices for State Imperiled Species* (FDACS, 2014) that pertain to gopher tortoises.
- When mowing in known gopher tortoise areas, or in areas where tortoise occupancy is unknown, set blades or cutters no lower than 18 inches above the ground when possible.
- Keep mowing of turf grass on road shoulders in tortoise habitat to a minimum width.
- Follow requirements of the Long-Term Vegetation Control Biological Assessment (Eglin AFB, 2007) and Long-Term Vegetation Control EA (Eglin AFB, 2008a).

Adhere to applicable requirements in the *Indigo Snake Programmatic Biological Opinion* (USFWS, 2009), which incorporates actions in the *Standard Protection Measures for the Eastern Indigo Snake* (USFWS, 2021):

- An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel or trainees to follow. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures. This protection/education plan is described in Eglin AFB's threatened and endangered species component plan. The operational contracting office would distribute brochures containing the following information to all contractors:

  - A description of the eastern indigo snake, its habits, and protection under federal law
  - Instructions not to injure, harm, harass, or kill this species
  - Directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing
  - Telephone numbers of pertinent NRO personnel to be contacted if a live or dead eastern indigo snake is encountered.

- Only individuals who have been authorized by a Section 10(a)(1)(A) permit issued by the Service and by the State of Florida through the FWC for such activities are permitted to come in contact with or relocate an eastern indigo snake.
- If necessary, eastern indigo snakes shall be held in captivity only long enough to transport them to a release site; at no time shall two snakes be kept in the same container during transportation.
- Should Eglin encounter an indigo snake that must be relocated due to military operations, the NRO would determine the most appropriate location to release the snake.
- If an indigo snake is observed during training activities, the exact location would be mapped in Geographic Information Systems and the surrounding 2,500 acres will be considered as habitat.
- If a dead eastern indigo snake is found, the specimen should be thoroughly soaked in water and frozen, and Eglin should notify the Panama City Field Office within 60 days of the conclusion of clearing phases if an indigo snake is sighted or relocated. The report should contain the following information:
  - Any sightings of eastern indigo snakes
  - Other obligations required by the FWC, as stipulated in the permit

Adhere to activity-specific guidelines in the *National Bald Eagle Management Guidelines* (USFWS, 2007):

- Minimize activities within a 330-foot buffer around active eagle nests, including low-level aircraft flights, vehicle and boat traffic, and foot traffic visible from the nest.

Adhere to applicable requirements of the Operational Component Plan for Management of Invasive Non-Native Species, Feral Animals, and Nuisance Native Wildlife (Eglin AFB, 2020c):

- Avoid spreading seeds and other propagules from infested to non-infested areas during road maintenance, road reconstruction, and new road construction by avoiding known populations. If avoidance is not possible, consult with installation invasive species program coordinator to treat known populations prior to conducting road maintenance activity.
- Where site conditions permit, allow natural revegetation of roads to occur. If seeding or planting is necessary to minimize the threat of highly damaging invasive species from spreading, use native seed or annual, non-invasive cover crops from a certified “weed-free” source for revegetation.

- Ensure, to the extent practical, that sod, fill, hay bales, gravel, and clay from borrow pits are free of invasive species and their propagules. Discontinue the use of material if invasive species are found at material storage sites.

Adhere to PDC in the NMFS Programmatic Biological Opinion issued to USACE for confined-space pile-supported structure placement (NMFS, 2017). These management actions are applicable only to pile-structure construction:

- All work must occur during daylight hours only.
- All construction personnel will be instructed about the potential presence of ESA-listed and MMPA-protected species in the project area and their responsibility for observing water-related activities to detect the presence of protected species and to avoid them.
- All personnel will be advised that there are potential civil and criminal penalties for harming, harassing, or killing protected species.
- All vessels shall operate at "idle speed/no wake" at all times while operating in water depths where the draft of the vessel provides less than a 4-foot clearance from the bottom, and in all depths after a protected species has been observed in and has departed the area.
- All vessels will follow marked channels and/or routes using the maximum water depth whenever possible.
- Operation of mechanical equipment and vessels shall cease immediately if a listed species is observed within a 50-foot radius of construction equipment and shall not resume until the species has departed the area of its own volition.
- If the detection of species is not possible during certain weather conditions, then in-water operations will cease until weather conditions improve and observation is again feasible.
- Vessels must maintain a minimum distance of 150 feet from sea turtles.
- Vessels must maintain a minimum distance of 300 feet from dolphins.
- When dolphins are sighted when a vessel is underway (e.g., bow riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until they have left the area.
- Install turbidity barriers unless the requirement is waived by USACE.
- Signs must be posed in a visible location alerting users of protected species in the area and susceptible to vessel strikes and hook-and-line capture.
- Additional measures related to noise reduction may be required, depending on installation method, pile size, and pile material (wood, concrete, etc.)

Obtain permits and approvals for applicable activities:

- If piles at the existing boat house are removed, obtain FDEP and USACE permits and adhere to any required BMPs (e.g., potentially deploying a boom around piles treated with creosote). Coordinate disposal with the 96th Civil Engineer Group/Compliance (96 CEG/CEIEC) and dispose in accordance with applicable permits and hazardous/solid waste regulations and instructions.

Additional measures would be required for establishment of a military range at the Camp Pinchot parcel. A list of the measures, based on activities at existing ranges and estuarine areas, is provided below. Additional measures may be determined by the Eglin NRO in the future.

- Conduct training operations only in areas designated/authorized for the operations.
- Ensure that all mission personnel are provided with restrictions regarding protected species (i.e., Range Standard Operating Procedures briefing), including maps when necessary.
- Drive vehicles only on existing roads and areas specifically designated/authorized for off-road vehicle use.
- Do not drive vehicles in wetlands, streams, or ponds.
- Do not dig holes or establish new cleared areas within 100 feet of any water body, wetland, or on steep slopes.
- Do not use smokes within 100 feet of surface water bodies, wetlands, or on steep slopes.
- Immediately notify the Joint Test and Training Operations Control Center (JTTOCC) and Eglin Fire Dispatch of any wildfire observed.
- During fire suppression activities, equipment operators will be directed to avoid gopher tortoises, burrows, and indigo snakes.
- Attend all campfires at all times. Clear all leaves, brush, pine needles, etc., within at least 4 feet from the campfire. Do not start a campfire within 50 feet of a wooden structure or in any location where loss of control might lead to a facility, forest, or brush fire.
- When a range fire is started in a training area, the officer in charge will stop all training and concentrate on fighting the fire using all available personnel in accordance with guidance established in Section 4.3 (Fire Fighting) of EAFBI 13-212.
- Report wildfires immediately to the JTTOCC and Fire Dispatch, giving the location by coordinates or other recognizable geographic reference, when possible.
- Eglin will follow protocols detailed in the latest USFWS-approved INRMP regarding wildfire protection measures for sensitive species and habitats.
- Avoid deposition of chemical light sticks and other debris into water.
- Nails or other objects will not be driven into trees for any reason, unless there is a special authorization to do so from the 96 CEG/CEIEA NRO.
- Eglin AFB NRO personnel will conduct pre-mission surveys to document bird nests along shorelines, as applicable.
- Care shall be taken to minimize erosion into water bodies.
- Disturbing submerged aquatic vegetation and emergent vegetation shall be avoided as much as possible.
- Boats shall not be anchored in areas of submerged vegetation.
- Digging, vegetation cutting, unapproved off-road driving, and other ground-disturbing activities within 100 feet of water bodies and wetlands shall be avoided. Unless prior written approval has been granted by the 96 CEG, digging and off-road vehicle use are restricted to the designated areas listed in EAFBI 13-212. Contact the 96th Operations Support

Squadron/Joint Training and Exercise Section Training Program Manager to initiate request for permission to conduct off-road driving, and follow all pertinent requirements.

- Debris removal and disposal shall be conducted in accordance with Eglin AFB operating procedures.

User groups shall be provided basic guidance in wetland identification and be given instructions to avoid wetlands.

Adhere to applicable requirements in the *Estuarine and Riverine Areas Biological Assessment and Essential Fish Habitat Assessment* (Eglin AFB, 2020b).

General Requirements During Estuarine Operations:

- Follow pertinent restrictions in EAFBI 13-212.
- If any federally protected species is found dead or injured, immediately notify the Eglin AFB NRO. Do not attempt to approach the animal unless directed to do so by NRO personnel; maintain visual observation of the animal until NRO personnel arrives.

General Requirements After Estuarine Operations:

- Police mission areas to ensure that no debris has been left.
- As applicable, coordinate with the 96 TW and Eglin AFB NRO to correct or repair environmental impacts caused by training activities.

Restrictions for In-Water Operations (personnel or watercraft in/on the water):

- Avoid disturbing hard bottom areas, submerged aquatic vegetation, and emergent vegetation as much as possible.
- Do not anchor boats in areas of submerged vegetation or hard bottom.
- If Gulf sturgeon, sea turtles, or manatees are encountered during in-water operations, personnel will either stop the activity until the animal has left the area or maneuver slowly away from the animal.
- Avoid intentional deposition of chemical light sticks and other debris into water. Remove all visible mission debris from the water.

Boat Landing Site Inspections:

DAF personnel or designees will periodically inspect boat landing sites to determine the extent of erosion (if any) and the need for management actions. Examples of such actions include restoration/stabilization, rotational use, and avoidance of contact with emergent vegetation. DAF personnel or designees may conduct submerged aquatic vegetation surveys of areas used for small boat operations and boat landing sites between June 1 and September 30, as required and as resources are available.

3.4 CULTURAL RESOURCES

3.4.1 Affected Environment

As defined under 36 CFR Section 800.16(l)(1), "Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior."

The NHPA of 1966 establishes policies and procedures for the preservation of historical resources by government entities for properties listed on or eligible for listing on the NRHP. In addition, the NHPA encourages state and local historic preservation by the establishment of local preservation offices and regulations. The DAF provides historic preservation guidance and procedures for compliance with the NHPA in DAFMAN 32-7003, *Environmental Conservation.*

The Area of Potential Effects (APE) is predominately a forested plot of land with a small cluster of buildings on the western boundary adjacent to Garnier's Bayou. Cultural surveys were conducted on the majority of the 282 acres APE with only a few culturally significant sites located outside of the building cluster. The cluster of buildings, currently called Camp Pinchot, was erected by the forest service prior to 1914 to serve as a permanent summer headquarters for forest service. The original buildings included a ranger station, office, and administration building. The camp was expanded to include four residences, smokehouse, stable, boathouse, and wagon shed in the following decade. The stable building 1552 and smokehouse building 1555 are identified on the original Camp Pinchot map although the stable was moved to its current location by 1935. The wagon shed building 1551 and the current catering kitchen building 1553 were not original to the camp but were built prior to 1935. The boathouse building 1561 was identified on the original Camp Pinchot figure but moved to its current location by 1935 and reconstructed in or around the 1970s (Hardlines Design Company, 2005).

The forest surrounding Camp Pinchot was recognized as Choctawhatchee National Forest by President Theodore Roosevelt in 1908. Turpentine extraction occurred during the early years of Camp Pinchot. As the turpentine extraction became less feasible in the 1930s, military and civilian infrastructure began to take the place of Choctawhatchee National Forest. In 1940, Camp Pinchot was officially transferred to Eglin AFB. Through the years of military ownership, Camp Pinchot's four residence buildings 1559, 1558, 1557, and 1556 were modified and expanded to today's current conditions. The Camp Pinchot Historic District is listed under the NRHP under criteria A for its association with the establishment of the National Forest and Eglin AFB (Hardlines Design Company, 2005).

The cultural surveys conducted in the APE uncovered three archaeological sites, 8OK01197, 8OK02344, and 8OK00871. All three sites were occupied in historic and prehistoric time periods with only one, 8OK00871, qualifying to be eligible for the NRHP (see Table 3-10).

Table 3-10. Summary of Potentially Affected Cultural Resource Within the APE

Resource	Building Number	Resource Type	Contributes to Historic District	NRHP Eligible
Structure	1550	Tennis Court	No	No
Structure	1551	Wagon Shed	Yes	Yes
Structure	1552	Stable	Yes	Yes

Table 3-10. Summary of Potentially Affected Cultural Resource Within the APE

Resource	Building Number	Resource Type	Contributes to Historic District	NRHP Eligible
Structure	1553	Kitchen	Yes	Yes
Structure	1555	Smoke House	Yes	Yes
Structure	1556	Residence	Yes	Yes
Structure	1557	Residence	Yes	Yes
Structure	1558	Residence	Yes	Yes
Structure	1559	Residence	Yes	Yes
Structure	1560	Seawall	Yes	Yes
Structure	1561	Boathouse	Yes	Yes
Structure	1562	Garage	Yes	Yes
Structure	1564	Guest house	No	No
Structure	1565	Well House	No	No
8OK01197	NA	Archaeological site; multi-component prehistoric and historic	No	No
8OK02344	NA	Archaeological site; multi-component prehistoric and historic	No	No
8OK00871	NA	Archaeological site; multi-component prehistoric and historic	No	Yes

APE = Area of Potential Effects; NA = not applicable; NRHP = National Register of Historic Places

3.4.2 Environmental Consequences

The Eglin AFB CRO is responsible for applying the standards set forth in the NHPA through the implementation of the DAFMAN 32-7003, *Environmental Conservation*, policy and the Integrated Cultural Resources Management Plan (DAF, 2023). As defined under 36 CFR Section 800.16(d), "Area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." The APE for this undertaking is not assumed to extend beyond the Camp Pinchot boundary identified in Figure 1-2.

Properties identified in the APE by the DAF are evaluated according to the NRHP criteria, in consultation with the SHPO and other parties. Typically, if the SHPO and other parties and the DAF agree in writing that an archaeological occurrence is eligible or not eligible for listing in the NRHP, that judgment is sufficient for purposes of Section 106 (36 CFR Section 800.4(c)(2)).

Cultural resources inside the APE were assessed for eligibility as an NRHP. The findings of this assessment and site descriptions are found in Section 3.4 (Cultural Resources). All the cultural resources currently identified in the APE are either eligible or ineligible for listing in the NHPA. Historical structures and multi-component cultural sites are examples of cultural resources found inside the APE.

3.4.2.1 Proposed Action

The implementation of the Proposed Action calls for building repair, upgrades, and code compliance in conjunction with building preservation. These actions limit the impact on the Camp Pinchot Historic District by preserving the original structures and repurposing them with limited detrimental changes. Short-term disturbances are anticipated to occur from the improvement process.

Construction staging areas for historical structure improvement and the construction itself would disrupt the viewshed and day-to-day activities at the historic district. These activities, although disruptive for the duration of construction, would have little if any long-term detrimental effects on the historic district. Site 8OK00871, on the other hand, would be permanently impacted by any ground-disturbing activities occurring inside the historic district. These activities would require compliance with the NHPA up to and including archaeological mitigation of portions of 8OK00871. Any ground-disturbing construction activities required for new structures would have the same impact and consequences as construction implemented for the improvement of existing structure.

Impacts from new construction on the historic district and site 8OK00871, would be dependent on the location and aesthetics of the new structures, as shown in Figure 2-2. New structures inside the historic district could potentially disrupt the viewshed and negatively impact the aesthetics of the historic district if it appeared contrary to the existing historical structures. Structures outside the district could additionally impact the viewshed of the historic district due to the proximity to the historic district and type of building constructed.

Limiting new construction inside the historic district and site 8OK00871 would minimize the impact on cultural resources in the APE. For locations where this is not feasible or possible ensuring that the impact to site 8OK00871 is minimized, reducing the aesthetic differences between the old and new construction, and minimizing the impact to the viewshed will be key to reducing the significant effects on the cultural resources and aid in the success of the Proposed Action. Adaptive reuse may result in adverse effects on cultural resources, which would be mitigated by following recommendations of the historic preservation plan.

3.4.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Adverse effects on cultural resources under Alternative 1 would depend on the development plan, the viewshed impact to the Camp Pinchot Historic District, and the DAF plan for use of the historic district. If the DAF continues the current use of the historic district, no direct adverse effects are anticipated for NRHP-eligible site 8OK00871 or the historic district under this alternative. Any impactful alteration in the development plan to the historic district and site 8OK00871 may result in adverse effects to these NRHP-eligible resources. Additionally, the development plan would need to address the historic district’s viewshed during and after construction.

There is a low probability that new cultural resource sites eligible for NRHP would be identified in the APE due to activities identified in Alternative 1. Cultural resource surveys were previously conducted cover the majority of the area to be developed. These surveys identified two archaeological sites, 8OK01197 and 8OK02344, deemed ineligible for the NRHP. These sites, although deemed to be ineligible, may reveal additional information during excavation activities. Additionally, the development plan would have to evaluate the need for cultural resource surveys in areas not previously surveyed or leave these areas undeveloped.

Any change to the significance of existing cultural resource sites and the historic district caused by Alternative 1 would be heavily dependent on the development plan implemented and the DAF use of the historic district. Restrictions would need to be put in place to reduce or eliminate any significant changes to the resources.

3.4.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Alternative 2 would have the same adverse effects as Alternative 1 plus any effects determined necessary by the structure assessment of the Camp Pinchot Historic District. Even though this alternative includes preservation of cultural sites and historic districts inside the APE, any negative findings discovered during the planned structure assessment and economic analysis would dictate the severity of the impacts on the historic district and surrounding sites. The assessment may dictate the need for repair, modification, or demolition of any number of historic structures with excavation of portions of archaeological site 8OK00871 due to this process. Any major alternations or demolition to the historic district could cause significant effects to the historic district and site 8OK00871 up to and including removal of the NRHP eligibility.

3.4.2.4 Alternative 3 – Demolition Option

Prior to a determination to demolish the facilities, an economic analysis would be required per DoDI 4715.16, Enclosure 3 Procedure Items 5. This alternative has the probability to cause the most severe impacts on cultural resources due to the potential for extensive modification of the historic district, the viewshed, and the surrounding landscape. Alternative 3 calls for unrestricted development of the APE in conjunction with archaeological mitigation. The consequence of this alternative would result in the partial or total loss of the Camp Pinchot Historic District and archaeological sites within the APE. These losses would significantly impact the NRHP eligibility for these cultural resources and would most likely result in a change to the eligibility status. The effects to the historic buildings would likely be adverse and potentially significant.

3.4.2.5 Alternative 4 – Range Mission Use

Impacts to cultural resources would be limited as long as the restrictions identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use) are implemented. As no ground-disturbing activities are approved within the archaeological sites, the only impact to known archaeological sites would be from natural processes and foot traffic. Training activities in the historic district would require prior evaluation and approval by the Eglin CRO. Although the use of NRHP-eligible structures would change from predominantly residential to potentially supporting limited training activities, the structures would be kept up to the Secretary of the Interior standards. No direct adverse effects on NRHP-eligible sites and structures are anticipated from noise and vibration, as training activities associated with high-intensity noise (e.g., live fire, blank ammunition fire, and use of pyrotechnics) would be prohibited.

3.4.2.6 No Action Alternative

Under the No Action Alternative, no adverse effects on cultural resources would occur due to direct disturbance because none of the action alternatives would be implemented. There is a low probability that any new cultural resources would be identified in the APE and no significant change would occur to impact the NRHP eligibility of the historic district or archaeological sites. However, maintenance of historic buildings would no longer occur under the No Action Alternative, which would result in adverse effects on the structures. Accordingly, selection of the No Action Alternative would likely require preparation of an EIS.

3.4.2.7 Reasonably Foreseeable Effects

Cultural resources are a finite record of the past. The more impacts from construction projects, human degradation, and environmental decay a resource endures the less integrity it possesses. The NHPA is crucial to mitigating these effects through preservation and regulation of cultural resources. NRHP-eligible historical structures at Camp Pinchot and elsewhere on the base benefit from the NHPA regulations when a plan is implemented to preserve or restore historic structures. When construction plans avoid archaeological sites and limit ground-disturbing activities inside sites, effects from reasonably foreseeable activities are mitigated.

The Proposed Action benefits the historical district by restoring and repairing the NRHP-eligible structures. Ground-disturbing activities are restricted inside the historic district to the necessary excavations due to existing structure repair, surface paving, and a gazebo construction in a location of an existing ineligible structure. Any extensive ground disturbance would be limited to new construction outside the historic district. In these locations, archaeological sites would be subject to the NRHP regulations and Section 106.

3.4.2.8 Management Actions

- If archaeological deposits are encountered during any activity, all disturbance of the ground surface shall cease, and the discovery will be secured from further harm. The Eglin CRO shall be immediately informed of the discovery.
- If ground-disturbing activities occur inside the historic district and/or archaeological site, evaluate the need for archaeological mitigation actions.
- If demolition or other adverse effects on historic building are proposed, implement consultations, HABS Level I Documentation and public outreach options, and Standard Treatment Measures identified in the Camp Pinchot Historic Preservation Plan.
- If demolition or other adverse effects on historic building are proposed, Camp Pinchot is subject to demolition requirements from the CRO:
    - Perform a condition assessment – focusing on structural integrity/safety.
    - Prior to a determination to demolish the facilities, an economic analysis would be required per DoDI 4715.16, Enclosure 3 Procedure Items 5.
    - Maintain buildings and historic district’s integrities.
    - Consult with SHPO, tribes, the National Park Service, and Advisory Council on Historic Preservation to determine agreed mitigation methodologies (for the historic district, buildings, and the archaeological site [8OK00871]).
    - Consult with tribes/Seminole Tribe of Florida as requested prior to ground-disturbing activities within the archaeological site (8OK00871).
    - Potential Memorandum of Agreement/Standard Treatment Measures with stipulations to complete.
    - HABS Level I – must be accepted by the National Park Service prior to demolition.
    - Public Outreach display creation.
    - Full mitigation of eligible archaeological site – likely complete archaeological excavation, but will be consulted upon with SHPO and tribes.

Selection of the No Action Alternative or Alternative 3 would likely result in potentially significant impacts on cultural resources.

3.5 INFRASTRUCTURE/UTILITIES

3.5.1 Affected Environment

Infrastructure and utilities are the human-made systems and facilities required to support the activities of a developed area. The location of the Proposed Action and alternatives would be Camp Pinchot (Figure 1-2), which is the ROI for the analysis of this resource.

Figure 3-2 and Figure 3-3 show the existing infrastructure and utility systems at Camp Pinchot. Existing infrastructure in relation to water resources within and adjacent to the Camp Pinchot property are discussed in Section 3.12 (Water Resources) and shown in Figure 3-6.

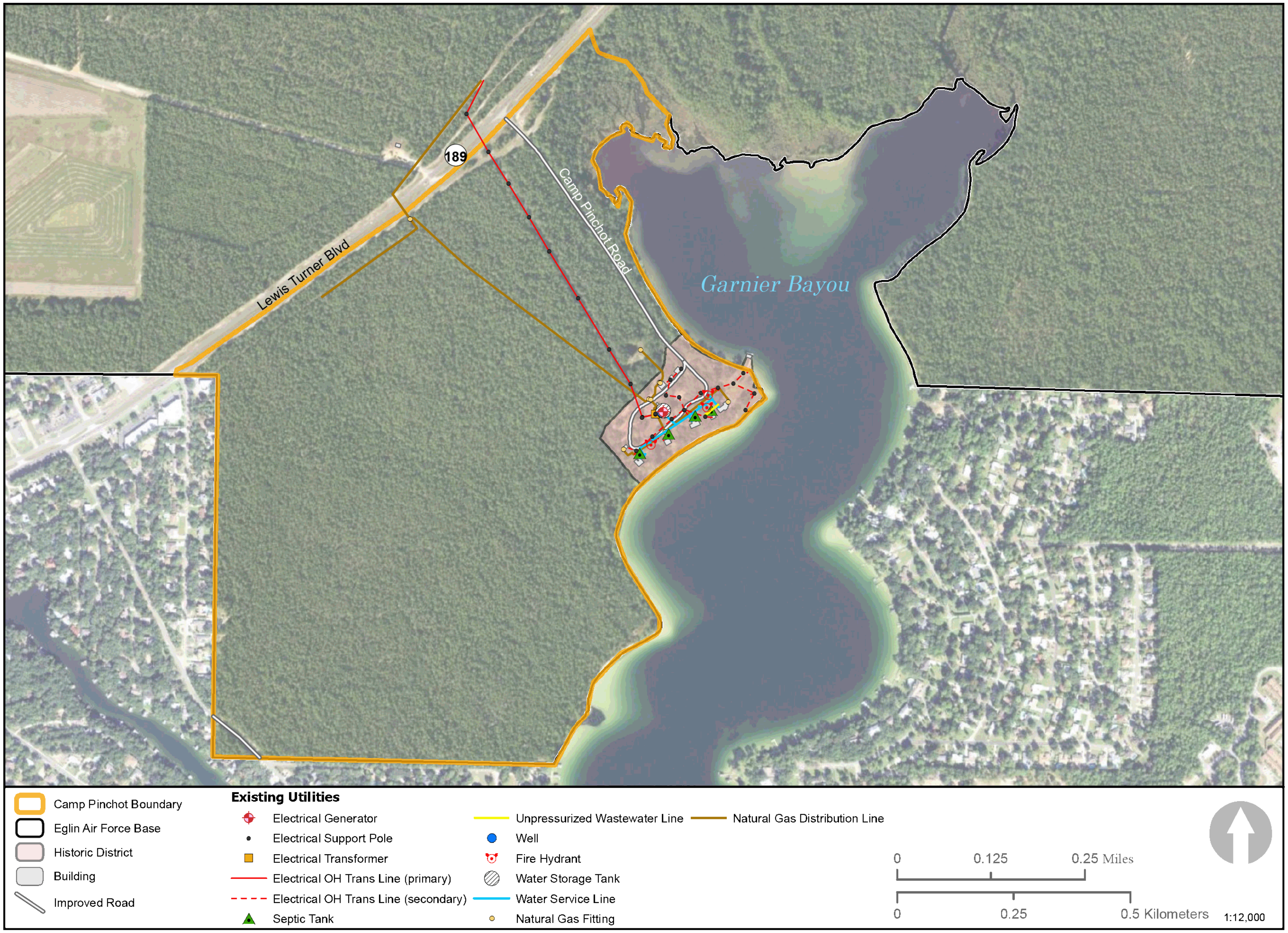
Choctawhatchee Electric Cooperative (CHELCO) owns, operates, and maintains the electrical infrastructure at Eglin AFB. CHELCO took ownership of the system in August 2017 (CHELCO, 2022). Eglin's electrical system infrastructure includes an electrical generator, support pole, transformer, and distribution lines (both overhead and underground). Electrical distribution lines have two tiers: primary (higher voltage) and secondary (lower voltage). CHELCO has a maintenance contract that includes power poles, lines, and transformers. Maintenance is on an as-needed basis.

Natural gas service is owned, operated, and maintained through a privatization contract with the Okaloosa Gas District. The Okaloosa Gas District provides natural gas service to Eglin Main, Duke Field, Hurlbut Field, and local communities surrounding Eglin AFB. Gas lines at Camp Pinchot connect to buildings 1552, 1555, and 1559.

The communication infrastructure system at Eglin AFB is maintained by the 96th Communications Squadron Cable and Antenna Systems section (21st Theater Sustainment Command, 2021). Communication systems include telephone, secure and non-classified internet, and broadcasting connectivity.

The FDEP Northwest Florida Water Management District (NWFWMD) manages water resources, including water supply, in the Florida Panhandle (FDEP, 2024). The Emerald Coast Utility Services, Inc., a subsidiary of American States Utility Service, provides water distribution and wastewater collection systems on Eglin AFB (ASUS, 2023). Water supply at Eglin AFB is typically sourced by groundwater from two wells and the Public Water System. Potable water wells at Eglin AFB primarily draw from the Floridan aquifer. Currently, Eglin has consumptive use permits from FDEP's NWFWMD to draw water from the Floridan aquifer. There is a potable well with water lines connecting to buildings at Camp Pinchot.

Wastewater is water that has been used and contains suspended or dissolved waste material. Wastewater must be treated at a wastewater treatment plant (before it can be released into waterways). The CWA is the federal legislation governing wastewater (USEPA, 2024b). Permits that establish discharge limits, monitoring and reporting requirements, and in some cases, requiring facilities to undertake special measures to protect the environment from harmful pollutants are issued to all wastewater dischargers and treatment facilities through the NPDES.



2 **Figure 3-2. Existing Infrastructure and Utilities Within Camp Pinchot ROI**

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2 **Figure 3-3. Existing infrastructure and Utilities Within Housing District at Camp Pinchot**

A site-specific SWPPP would be required. All construction projects at Eglin AFB are evaluated for stormwater issues and treatment. An ERP is required prior to starting new construction to ensure activities would not harm water resources or may be inconsistent with public interest (FDEP, 2023). Contractors are required to have an on-site Stormwater Management Plan for each project, where BMPs, stormwater control measures, and other applicable stormwater management/treatment measures are outlined. Any on-site contractors shall ensure that the appropriate contract clauses as outlined in FAR 23.406 are incorporated into any subsequent executed contract through coordination with the operational contracting office at Eglin AFB.

3.5.2 Environmental Consequences

The impact assessment for infrastructure and utilities evaluates the potential for the Proposed Action and alternatives to disrupt or improve existing level(s) of service, change demand, and/or degrade the existing systems.

The level of impact to the infrastructure and utility systems is determined by considering how the Proposed Action and alternatives could interact with the existing systems including the potential need for additional capacity. For instance, an impact could be significant if the Proposed Action would result in exceedance of capacity or violation of a permit condition.

3.5.2.1 Proposed Action

Existing and notional construction and operations under the Proposed Action would likely result in increased demand and use of electricity, potable water, and natural gas usage at Camp Pinchot. As stated in Section 2.1 (Proposed Action – Camp Pinchot Adaptive Reuse Plan), prior to initiating new construction or other future actions, the DAF would develop and implement a Camp Pinchot ADP. The ADP would contain constraints and opportunities evaluation, illustrative plans, regulating plans, implementation plans, and capacity analysis. Any new utility lines would likely connect to the existing infrastructure at Camp Pinchot. Any required alterations of potable water systems would be conducted in accordance with FDEP and federal regulations, including the Florida Safe Drinking Water Act and Safe Drinking Water Act (42 United States Code [U.S.C.] 201, 300 et seq.) and the National Primary Drinking Water Regulations. Increased water demand, including additional water service lines and, potentially, additional fire hydrants, would be evaluated in the context of Eglin's existing consumptive use permits.

Any action that would affect wastewater would be conducted in accordance with the CWA. Existing wastewater treatment plants would not be expected to have difficulty accommodating the additional flow from activities associated with the Proposed Action. Operators of construction activities would obtain coverage under an NPDES Stormwater Permit and implement appropriate pollution prevention techniques to minimize erosion and sedimentation and properly manage stormwater. The Florida Air and Water Pollution Control Act governs industrial and domestic wastewater discharges in the state and would also be followed. Permitting and implementation, including an industrial wastewater permit associated with new structures (e.g., wash racks, the engine shop, and fuel pumps), would be coordinated with FDEP as necessary. Eglin would evaluate the potential requirement to use non-aqueous fire suppression at new work sites. Through proper coordination and permitting, no adverse impacts related to infrastructure and utilities would be expected. Potential discharge of oil, fuel, and wastewater to the existing septic tank system, which occurs near Garnier Bayou and in some cases within the floodplain, would be evaluated through the permitting process with FDEP.

3.5.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Potential impacts to infrastructure under Alternative 1 would be similar to those stated under the Proposed Action. However, due to the increase in scope of the potential developments associated with the EUL under this alternative, the utility requirements would increase compared to the Proposed Action. At this time, there are no specific development plans, timeline, or EUL approval for the site currently. However, no adverse impacts related to infrastructure and utilities would be expected under this alternative due to implementation of proper coordination and permitting. Also, as stated in Section 2.3 (Alternative 1 – Enhanced Use Lease at Camp Pinchot), if Alternative 1 were selected, a development plan would be prepared and selected by Eglin AFB followed by AFCEC evaluation and tiered NEPA documentation would also be required to address capacity requirements to support the proposed developments. Therefore, no significant impacts to infrastructure and utilities would be anticipated under this alternative.

3.5.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Under Alternative 2, potential impacts to infrastructure would be similar to the impacts described under Alternative 1.

3.5.2.4 Alternative 3 – Demolition Option

If this alternative is selected, there would be potential for adverse impacts to infrastructure (associated with any demolition of historical facilities and archaeological sites) and therefore, would likely require development of an EIS and archaeological mitigations. Potential impacts to utilities (electrical, communication systems, etc.) would be similar to those described under Alternative 1.

3.5.2.5 Alternative 4 – Specialized Range Mission Use

Under Alternative 4, potential impacts to infrastructure and utilities would be similar to those described under the Proposed Action but could potentially result in higher demand and use of infrastructure and utilities during training activities at Camp Pinchot. However, the additional personnel and types of activities during training would not be anticipated to result in significant impacts to infrastructure and utilities.

3.5.2.6 No Action Alternative

Under the No Action Alternative, there would be no impact on the infrastructure and utilities within the Camp Pinchot ROI.

3.5.2.7 Reasonably Foreseeable Effects

Existing and notional construction and renovation projects over the next 6 years, along with present and reasonably foreseeable future actions within Okaloosa County, would contribute to increased demand and use for infrastructure and utilities in the immediate vicinity of Camp Pinchot and throughout the county. Coordination among utility providers and implementation of BMPs as required under construction and associated permits would minimize impacts to infrastructure and utilities.

3.5.2.8 Management Actions

- Coordination with all utility providers would be required prior to any ground-disturbing activities to minimize potential scheduling conflicts between the providers.
- Eglin Environmental Management Branch would be contacted prior to any ground-disturbing activities if a consumptive Use Permit and Potable Water System Permit may be required.

3.6 LAND USE

3.6.1 Affected Environment

Land use refers to the management and use of land by people. Attributes of land use include general land use patterns, land ownership, land management plans, and special use areas. Typical land uses include residential, commercial, industrial, transportation, military, and recreational, among others. Typically, the primary objective of land use planning is to ensure managed growth and compatible uses relative to adjacent properties. Florida Statute 163.3175 addresses the potential for negative impacts to occur when incompatible land development occurs close to military installations such as Eglin AFB. The state legislature determined that it is desirable for local governments to cooperate with military installations to encourage compatible land use, help prevent incompatible encroachment, and facilitate the continued presence of major military installations in the state.

Elevated noise levels are generally incompatible with land uses that include sensitive noise receptors (e.g., residential areas, schools, churches, hospitals, and certain recreational uses). Noise levels are typically stated in A-weighted decibels (dBA), day-night average sound level (DNL), or maximum noise level (L_{max}) (refer to Section 3.7, Noise, for more information on these metrics). Typically, there are no land use restrictions or planning recommendations in areas with noise levels below 65 dB DNL.

Land use associated with most of the Camp Pinchot parcel is currently designated as Reserved Land Buffer (Figure 3-4). The historic district and an adjacent area is categorized as Family Housing, while a relatively narrow zone coinciding with the existing access road is categorized as Community Service. Land use immediately west and south of Camp Pinchot, as well as east of Garnier Bayou, consists mostly of Low Density Residential. Additional land use categories near the parcel include City, Medium Density Residential, Mixed Use, and Commercial.

Sensitive noise receptors, including Kenwood Elementary School, parks/recreational areas, and a medical facility, are located within one-half mile of Camp Pinchot. Choctawhatchee High School and Hospital Corporation of America Florida Fort Walton-Destin Hospital are located within 2 miles of the parcel boundary. The Camp Pinchot parcel is currently available to the Boy Scouts and Girl Scouts for recreational activities, including camping, with coordination through Eglin NRO's Outdoor Recreation program.

Due to the surrounding land uses and lack of commercial, industrial, and military activities on Camp Pinchot, existing noise levels on the parcel are below 65 dB DNL. Noise levels in areas adjacent to Camp Pinchot are typical of the existing land uses (primarily residential) and are also below 65 dB DNL. Current conditions are therefore compatible with general land use, with no land use restrictions.

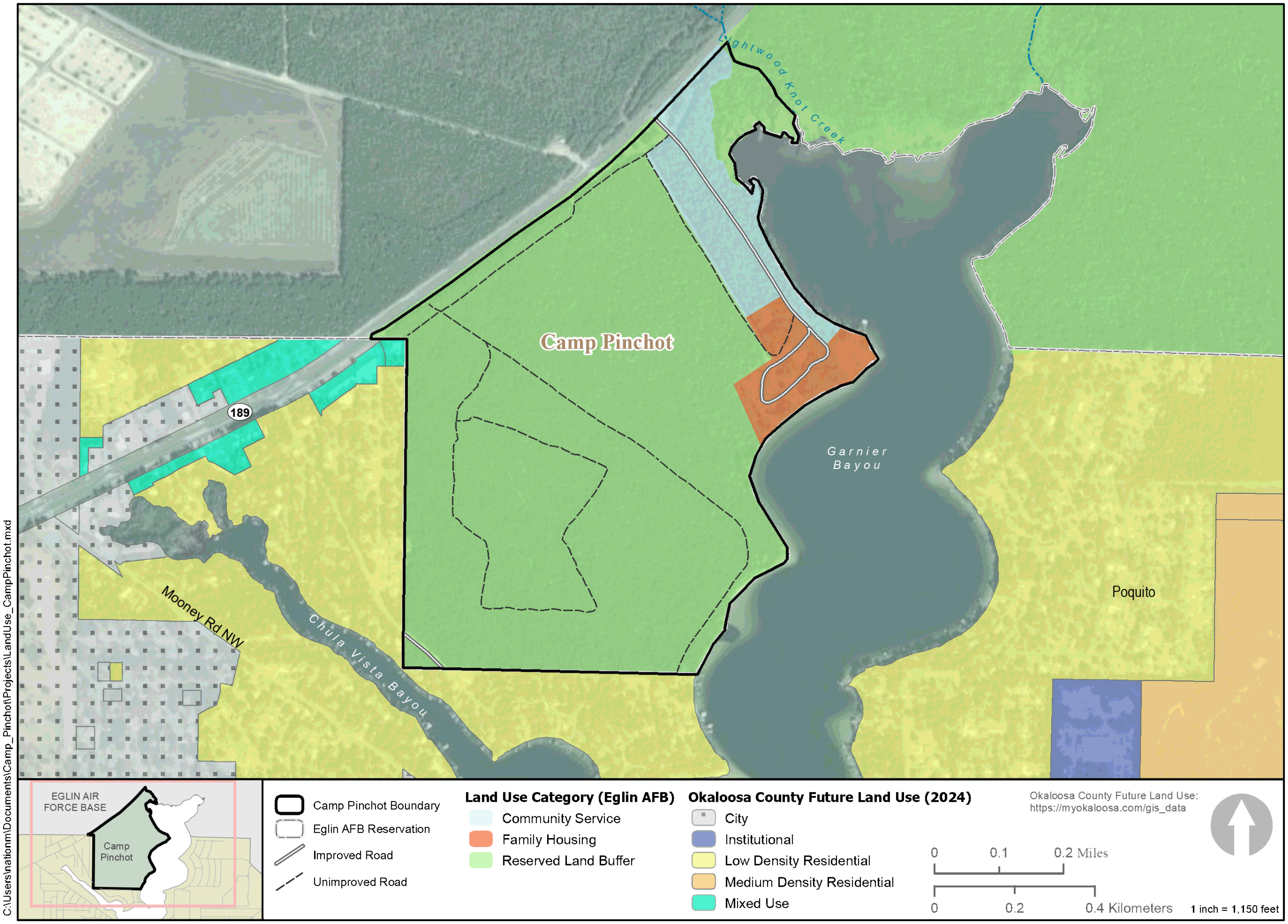

Figure 3-4. Land Use On and Adjacent to Camp Pinchot

3.6.2 Environmental Consequences

Potential impacts of the Proposed Action and alternatives are evaluated quantitatively in terms of estimated noise levels where sufficient project information is available. Otherwise, a qualitative method is used to assess potential land use impacts, based on whether the activities would result in a change to the existing land use, the degree to which the existing land use would be affected by the change, and if the change would be compatible with adjacent land uses and development.

Impacts to land use would be considered significant if project activities were (1) inconsistent or noncompliant with applicable land use plans or policies, (2) preventing or displacing continued use or occupation of an area or substantially diminishing its attributes for ongoing uses, or (3) incompatible with adjacent areas.

3.6.2.1 Proposed Action

Under the Proposed Action, Eglin AFB would evaluate the need to change the land use classification of at least part of the Camp Pinchot parcel. For example, the Family Housing and Community Service categories would be evaluated for applicability with transfer of the NRO, CRO, and Wildland Support Module functions on site. However, changes to land use categories (if applicable) would not adversely affect any uses because the parcel is currently vacant and does not support any functions.

As discussed in Section 3.7 (Noise), construction noise could be perceptible in nearby residential areas, but overall noise levels would remain below 65 dB DNL. In addition, construction activities would be intermittent over the approximately 6-year period of project implementation. After completion of construction projects, there would be low noise levels associated with most functions on the site (NRO, CRO, and recreational activities). Comparatively higher noise levels could be associated with Wildland Support Module activities such as operation of fire engines and the fabrication shop, but these activities would also be intermittent and noise levels outside the parcel boundary would remain below 65 dB DNL. There would be no adverse impacts on sensitive receptors such as schools and medical facilities. Activities would therefore be compatible with adjacent land uses.

Under the Proposed Action, impacts on land use would not be significant.

3.6.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Under Alternative 1, establishment of an EUL would likely require a change in land use classification of at least part of the Camp Pinchot parcel. However, as discussed for the Proposed Action, changes to land use categories would not adversely affect current land use because the parcel is vacant and does not support any functions at this time.

As discussed in Section 3.7 (Noise), depending on the locations in which construction activity would occur, construction noise levels could temporarily exceed 65 dB DNL at residences, potentially resulting in annoyance. Elevated noise levels would be relatively short-lived, occurring only while construction activity is occurring during the day and in the closest portions of the Camp Pinchot parcel. Sensitive receptors such as schools would not be affected. Because specific activities at facilities constructed through EUL are not known at this time, associated long-term sound levels are also not known. However, facilities approved for construction would be compliant with installation planning guidelines. Any potential incompatibilities with adjacent facilities would be addressed as part of the internal DAF planning process. Noise levels generated by day-to-day operations at facilities constructed under an EUL would be expected to be consistent with levels generated by current activities in nearby developed areas.

In general, development near testing and training areas of Eglin AFB may potentially encroach upon and conflict with mission activities. Potential issues related to land use include conflicts associated with military testing and training noise, changes in population density, height of objects (for aircraft operations), outdoor lighting, and radio frequency spectrums (Eglin AFB, 2009). However, testing and training activities on the Eglin Reservation, in local airspace, and in estuarine areas would not likely be affected by development of the parcel because residential, commercial, or other uses would be the same as current uses in nearby off-base areas. It is expected that development on the parcel would be consistent with guidelines in the Eglin AFB Joint Land Use Study (JLUS) (Eglin AFB, 2009), Tri-County Small Area Studies document (Okaloosa County, 2012), and Okaloosa County Comprehensive Plan (Okaloosa County, 2020). These documents outline strategies, goals, and requirements related to compatible land use planning and regulations for properties adjacent to and affected by Eglin AFB operations.

Under Alternative 1, impacts on land use would not be significant.

3.6.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Under Alternative 2, development under an EUL could occur within the entire Camp Pinchot parcel, including the approximately 18-acre historic district. Additional temporary noise associated with construction, as well as additional long-term noise associated with potential activities in this area, would not be meaningfully different from those described for Alternative 1. Therefore, impacts on land use would not be significant.

3.6.2.4 Alternative 3 – Demolition Option

Under Alternative 3, demolition and development under an EUL could occur within the approximately 18-acre historic district. Additional temporary noise associated with demolition and construction, as well as additional long-term noise associated with potential activities in the area, would not be meaningfully different from those described for Alternative 1. Therefore, impacts on land use would not be significant.

3.6.2.5 Alternative 4 – Range Mission Use

Conversion of Camp Pinchot to an Eglin training range would require a change in land use classification to Interstitial. A change in land use classification would not adversely affect any uses of the property because the parcel is currently vacant and does not support any functions.

Based on the description of training activities in Section 2.6 (Alternative 4 – Specialized Range Mission Use), most ground training activities would involve small numbers of personnel operating quietly in small areas, and associated noise levels would be low. Boats and vehicles used in training would be expected to be compliant with Florida statutes regarding noise levels (see Section 3.7, Noise). Residents located close to the Camp Pinchot boundary could hear noise produced during training activities (e.g., vehicle operation), but the noise levels would not differ substantially from ambient conditions and would be temporary, lasting only for the duration of the training event. In addition, training would occur in a baseline acoustic environment that also includes other military operations noise. As discussed in the noise analysis, 96 TW Public Affairs would notify residents close to Camp Pinchot of upcoming construction activities that could cause noise levels exceeding 65 dB DNL. Notification would be conducted in writing or verbally. Noise levels exceeding 65 dB DNL could potentially occur (although unlikely) during construction activities involving the use of all types of heavy equipment during a single day, within 250 feet of the parcel boundary. Such a scenario would be unlikely, and construction noise would be temporary. Otherwise, off-base noise levels would remain below 65 dB DNL and therefore, in the context of adjacent land use compatibility, significant impacts would not occur. Use of the parcel by the Boy Scouts and Girls Scouts would continue, with coordination through Eglin's Outdoor Recreation office. Any additional future use of the parcel for public recreational activities would also be coordinated through the Outdoor Recreation office.

3.6.2.6 No Action Alternative

Under the No Action Alternative, a Camp Pinchot ARP would not be implemented, an EUL would not be established, and the parcel would not be converted to an Eglin Range. There would be no potential for changes in land use classification, noise impacts on surrounding areas, or encroachment on any Eglin AFB activities. Continued maintenance and cultural resource preservation activities would not affect land use. Impacts on land use would not be significant.

3.6.2.7 Reasonably Foreseeable Effects

Land use at the Camp Pinchot parcel would not be affected by other activities conducted on Eglin AFB. However, future development adjacent to or near Camp Pinchot could potentially impact training effectiveness. As discussed in Section 3.6.2.2 (Alternative 1 – Enhanced Use Lease at Camp Pinchot), potential issues related to land use include military training noise, changes in population density, height of objects, outdoor lighting, and radio frequency spectrums (Eglin AFB, 2009). The Okaloosa County Comprehensive Plan (Okaloosa County, 2020) addresses goals, objectives, and policies related to development in the county. It is expected that any development in the vicinity would occur consistent with the guidelines in the Comprehensive Plan, Eglin AFB JLUS (Eglin AFB, 2009), and the *Tri-County Small Area Studies: Santa Rosa, Okaloosa, Walton* document (Okaloosa County, 2012). These documents provide strategies, goals, and requirements related to compatible land use near Eglin AFB. For example, Okaloosa County requires downward-pointing light fixtures for new development in applicable areas to avoid interfering with nighttime aircraft operations where pilots use night vision goggles. Any future development that occurred in nearby areas would therefore not likely affect military training activities on the Camp Pinchot parcel substantially.

3.6.2.8 Management Actions

No management actions are identified for land use.

3.7 NOISE

3.7.1 Affected Environment

Noise is any sound that is undesired or that interferes with one's hearing of something. This discussion focuses on potential noise effects on the human environment. Noise in relation to biological resources is discussed in Section 3.3 (Biological Resources).

Military testing and training noise as well as noise generated by maintenance activities are a part of the baseline acoustic environment on and near the Camp Pinchot parcel. Military noise sources include noise generated by aircraft operations, munitions use, and other assorted military activities. Although these activities are loud at times, noise levels on the Camp Pinchot parcel are below 65 dBA DNL (Eglin AFB, 2018). Maintenance activities conducted on the Camp Pinchot parcel include mowing and other activities involving the use of equipment. When military operations or maintenance equipment noise is not audible, sound levels on and near the Camp Pinchot parcel are relatively low. Sound levels measured in residential areas (that are not being exposed to elevated military operations or maintenance noise) are typically approximately 55 dBA (USEPA, 1974).

The closest noise-sensitive locations to Camp Pinchot are privately owned residences approximately 1,000 feet away on the opposite shore of Garnier Bayou. None of the houses on Camp Pinchot are inhabited currently. Privately owned residences are adjacent to portions of the southern and western boundaries of the Camp Pinchot parcel (see Figure 1-2).

3.7.2 Environmental Consequences

Noise impacts are assessed by comparing noise levels under existing conditions to levels under each alternative. In this EA, noise levels are stated using decibel (dB) scale. Zero dB is the approximate threshold of hearing, 60 dB is the sound level of a typical conversation, and 120 dB is the level above which noise begins to cause discomfort. Decibel values that have been adjusted to reflect frequencies heard best by humans are "A-weighted," and are denoted as dBA, whereas sound levels that have not been frequency weighted are denoted in this EA as "dB." This EA describes noise levels using L_{max}, which reflects the highest dBA noise level reached during a single noise event (e.g., a pass-by of a truck). Noise levels are also described in this EA using the DNL, which is a time-averaged noise metric that accounts for all noise energy at a location over a 24-hour period. The DNL metric includes a 10 dBA penalty applied to noise events that occur between 10:00 p.m. and 7:00 a.m., which accounts for additional sensitivity during that time. The DNL metric is the primary noise metric recommended by the DoD for assessment of community reactions to noise. Noise levels exceeding 65 dBA DNL are not considered compatible with noise-sensitive land uses, such as residences, according to DoD land use guidelines. In this EA, temporary noise impacts associated with construction activities were evaluated using the Federal Highway Administration *Roadway Construction Noise Model User's Manual* (FHWA, 2006).

The significance of noise impacts is assessed in terms of context, intensity, and duration. For this analysis, noise impacts would be considered significant if noise levels at a noise-sensitive location were to increase from below 65 dB DNL (i.e., "context") to above 65 dB DNL (i.e., "intensity"), on a permanent basis (i.e., "duration").

Noise impacts would also be considered significant if regulatory thresholds would be exceeded. Legal thresholds that are applicable to noise include the following:

- The Occupational Safety and Health Administration under the Noise Control Act of 1972
- Florida Statutes 316.272 and 316.293
- Florida Statute 261.20
- Florida Statute 327.65

3.7.2.1 Proposed Action

Under the Proposed Action, there would be temporary noise level increases related to construction activities, and there would be permanent minimal increases in noise levels associated with increased activity levels after construction is complete.

Construction activities would be expected to be conducted during normal working hours (i.e., 7:00 a.m. to 5:00 p.m. Monday through Friday) and would involve use of equipment that is muffled to reduce sound levels in accordance with applicable regulations. Noise levels generated by several equipment types commonly used during construction are listed in Table 3-11 at a reference distance of 50 feet and at a distance of 1,000 feet (i.e., the distance to the closest residences). As described in Section 3.7.1 (Affected Environment), background sound levels at the closest noise-sensitive location (i.e., residences on shore of Garnier Bayou) are approximately 55 dB. At the closest noise-sensitive location, construction activities would slightly exceed background sound levels, and likely become audible, only when a particularly loud piece of equipment, such as a dozer, is operating. Construction noise levels at the closest residences would not exceed 65 dB L_{max} (Table 3-11) and would not occur during the 10:00 p.m. to 7:00 a.m. time period relevant to calculation of DNL, so time-averaged noise levels at the closest residences would not exceed 65 dB DNL.

Table 3-11. Construction Equipment Noise Levels

Equipment Type	Maximum Noise Level (dB L_{max}) at Specified Distance	
	Reference Distance (50 feet)	Closest Residence (1,000 feet away)
Dozer	82	56
Backhoe	78	52
Concrete Mixer Truck	79	53
Paver	77	51
Generator	73	55
Front End Loader	79	53
Air Compressor	78	52
Dump Truck	76	50

Source: (FHWA, 2006)
dB = decibel(s); L_{max} = maximum noise level

After construction is complete, noise sources associated with day-to-day operations on the Camp Pinchot parcel would include but not be limited to the movements of ground vehicles and the operation of heating ventilation and air conditioning equipment. Noise generated by these sources would not be expected to be audible at the closest noise-sensitive locations (i.e., residences on the opposite side of Garnier Bayou).

In summary, noise levels associated with proposed construction activities may be audible at times at the closest noise-sensitive location during construction but would remain below 65 dB DNL.

Construction noise would be temporary, lasting only the duration of the construction projects, and would be expected to be limited to normal working hours. Noise generated by day-to-day operations would not be expected to be audible at the closest residences. Overall, noise impacts would not be significant under the Proposed Action.

3.7.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Under Alternative 1, construction activities would occur within the undeveloped portion of the Camp Pinchot parcel potentially resulting in noise that is audible at noise-sensitive locations. Noise-sensitive locations affected could include privately owned residences located adjacent to southern and western portions of the parcel. Construction activities under Alternative 1 would be expected to be limited to normal working hours (i.e., 7:00 a.m. to 5:00 p.m.) and would be expected to use equipment types similar to those listed in Table 3-11. Under a scenario in which all of the equipment types listed in Table 3-11 are operating on a construction site on a single day, DNL would exceed 65 dB at a distance of 250 feet from the construction activity. Depending on the exact locations in which construction activity would occur, construction noise levels could temporarily exceed 65 dB DNL at residences, potentially resulting in annoyance. Approximately 40 total residences occur within 250 feet of the west and south Camp Pinchot boundary, although the number of residences potentially affected by construction noise would be substantially less for any given construction project. These potential elevated noise levels would be relatively short-lived, occurring only while construction activity is occurring in the closest portions of the Camp Pinchot parcel. Because potential noise impacts would be limited to annoyance, and because any impacts would be temporary, noise impacts associated with construction activities under Alternative 1 would not be significant.

Noise impacts associated with day-to-day operations in facilities constructed under Alternative 1 would also be expected to be non-significant. Because specific activities that would be conducted at facilities constructed through EUL are not known at this time, associated sound levels are also not known. However, facilities approved for construction on Eglin AFB through EUL would be compliant with installation planning guidelines. Any potential incompatibilities of EUL projects with adjacent facilities (e.g., excessive noise levels) are considered and addressed as part of the internal DAF planning process. Noise levels generated by day-to-day operations at facilities constructed under Alternative 1 would be expected to be consistent with levels generated by activities ongoing currently in nearby developed areas (e.g., ground vehicle operations).

In summary, any potential noise impacts that could be associated with construction activities under Alternative 1 would be limited to temporary annoyance, while noise levels associated with day-to-day operations would be expected to be consistent with levels generated in other nearby developed areas. Overall, noise impacts under Alternative 1 would not be significant.

3.7.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Under Alternative 2, construction activities would occur within the undeveloped portion of the Camp Pinchot parcel and also within the historic district. Noise impacts associated with construction in the undeveloped portions of Camp Pinchot would be the same as the non-significant impacts described in Section 3.7.2.2 (Alternative 1 – Enhanced Use Lease at Camp Pinchot) for Alternative 1. Noise impacts associated with construction in the historic district would be the same as the non-significant impacts described for the Proposed Action in Section 3.7.2.1 (Proposed Action). Because noise impacts associated with construction and operation of facilities in the developed and undeveloped portions of the Camp Pinchot parcel would be equivalent to the non-significant impacts considered in Section 3.7.2.2 and Section 3.7.2.1, noise impacts under Alternative 2 would also not be significant.

3.7.2.4 Alternative 3 – Demolition Option

Demolition of several buildings on Camp Pinchot under Alternative 3 would generate noise levels similar to levels previously described for construction activities in Section 3.7.2.1 (Proposed Action). Following demolition, new facilities would be constructed in the Camp Pinchot Historic District and in currently undeveloped portions of the Camp Pinchot parcel. Noise impacts under Alternative 3 would be the same as the non-significant impacts described for the Proposed Action in Section 3.7.2.1 and for Alternative 1 in Section 3.7.2.2 (Alternative 1 – Enhanced Use Lease at Camp Pinchot). Therefore, noise impacts under Alternative 3 would also not be significant.

3.7.2.5 Alternative 4 – Range Mission Use

Under Alternative 4, training conducted on the Camp Pinchot parcel could include the operation of small vessels (including Jet Skis) and ground vehicles. The vessels and ground vehicles used in training would be equipped with mufflers and would be expected to be compliant with Florida statutes regarding acceptable noise levels. Vessel and vehicle noise generated during training activities would be similar to noise experienced as a result of boat traffic or vehicle operations ongoing in the area currently. Training noise could potentially be audible at some times at the closest noise-sensitive locations, but would be temporary, lasting only for the duration of the training event. Training noise would occur in a baseline acoustic environment that also includes other military operations noise (see Section 3.7.1, Affected Environment). Because training noise would be temporary and similar to noise sources that exist under baseline conditions, and because training nose would be time-limited to the duration of the training event, noise impacts under Alternative 4 would not be significant.

3.7.2.6 No Action Alternative

Under the No Action Alternative, the proposed construction would not occur, and activities conducted on the Camp Pinchot parcel would remain unchanged. There would be no changes in noise levels or noise impacts under the No Action Alternative.

3.7.2.7 Reasonably Foreseeable Effects

The Proposed Action in combination with present and reasonably foreseeable actions would not result in significant noise impacts. Test, training, and maintenance activities conducted at existing ranges, airfields, and other facilities on Eglin AFB are part of the baseline conditions that are described in Section 3.7.1 (Affected Environment). These activities and associated noise are expected to continue over for the foreseeable future. Development of privately owned lands adjacent to the Camp Pinchot parcel could potentially result in additional noise-sensitive land uses, which could, in theory, be exposed to noise associated with the action alternatives. However, privately owned lands immediately adjacent to the Camp Pinchot parcel have, for the most part, already been developed, and substantial further development in these areas is unlikely.

3.7.2.8 Management Actions

One management action would be applied under Alternative 4.

- 96 TW Public Affairs will notify residents close to Camp Pinchot of upcoming construction activities that could cause noise levels exceeding 65 dB DNL at sensitive locations (i.e., if sensitive locations would be within 250 feet of construction activity). Notification will be conducted in writing or verbally.

3.8 SOCIOECONOMICS

3.8.1 Affected Environment

Socioeconomic resources are defined as the basic attributes associated with the human environment, particularly population and economic activity (e.g., employment and income). Changes to these socioeconomic receptors could be accompanied by changes in other components such as housing availability and public services.

The Camp Pinchot Study Area is located in Okaloosa County, Florida. As shown in Table 3-12, the current population estimate in the county is 218,464 people representing an increase of 3.2 percent since the 2020 decennial census (USCB, 2023). Population in the county is expected to reach 236,500 people by the year 2030 (Bureau of Economic and Business Research, 2024).

Table 3-12. Population Estimates and Projections for Okaloosa County and Florida

Location	Population			Percent Change (2020–2023)	Projected Population (2030)[3,4,5]
	2010 Census[1]	2020 Census[1]	2023 Estimate[2]		
Okaloosa County	180,822	211,668	218,464	3.2%	236,500
Florida	18,801,310	21,538,187	22,610,726	5.0%	24,698,500

Source: (USCB, 2023; Bureau of Economic and Business Research, 2024)
% = percent
Notes:
1. Population, Census, April 1.
2. Population estimates from July 1.
3. Starting point for county-level projection was population estimate constructed by the Bureau of Economic and Business Research for April 1, 2023, which was 219,260 people for Okaloosa County.
4. Starting point for state-level projection was decennial census count for April 1, 2020.
5. Shows the medium population projection estimate.

There are more than 104,000 housing units throughout Okaloosa County with a median value of $295,400 and an average of 2.48 persons per household (USCB, 2023).

The closest residential parcel is located approximately 0.2 miles east-southeast of Camp Pinchot across Garnier Bayou. The entrance of Camp Pinchot is located along Lewis Turner Boulevard in the city of Fort Walton Beach and the unincorporated area of Okaloosa County. Portions of Lewis Turner Boulevard have experienced substantial growth over the last several years. However, the portion of Lewis Turner Boulevard near the entrance of Camp Pinchot is still undeveloped pine forest.

There are 152,016 full-time and part-time jobs in Okaloosa County (BEA, 2023). Major industries in the county in terms of the number of jobs includes government and government enterprises industry (24.5 percent of total employment), professional, scientific, and technical services industry (10 percent), and retail trade industry (9.8 percent) (BEA, 2023). There are approximately 7,626 jobs in construction, which comprises 5 percent of total employment in the county (BEA, 2023). The average annual unemployment rate in the county is 2.6 percent (BLS, 2024a), which is less than the state average annual unemployment rate of 2.9 percent (BLS, 2024b) Per capita income in the county is $40,002, which is greater than the per capita income in the state ($38,850) (USCB, 2023).

Eglin AFB is a major economic contributor to the area, with an economic impact of $2.93 billion and support of more than 20,000 personnel (Air Force Test Center, 2025).

3.8.2 Environmental Consequences

The analysis of socioeconomic resources considers economic (e.g., employment and income) impacts in the region from short-term construction activities and long-term effects of the action (e.g., operation of facilities, mission uses) at Camp Pinchot.

The level of impact associated with socioeconomic resources and the impact's potential significance is determined by considering how effectors of the Proposed Action and alternatives could interact with socioeconomic resources in terms of context (e.g., local or regional), intensity (e.g., level of change and extent of mitigations to minimize adverse impacts), and duration (e.g., short term lasting for the duration of the activity or long term lasting more than a year after the activity).

3.8.2.1 Proposed Action

Under the Proposed Action, there would be no new direct jobs that would affect population, housing, school, and other socioeconomic resources because there would be no change in the number of Eglin NRO and CRO personnel. There would be beneficial impacts associated with renovation of existing facilities from demand for local labor and supplies. Impacts associated with renovations would be localized, low intensity, and short term, and therefore would not be considered significant. Construction-related employment and costs are not available at this time but based on the number of construction jobs throughout the county (7,626 jobs), and because activities would occur in phases, it would be expected that the local labor force would be able to fulfill any construction employment demand. An influx of personnel that would affect socioeconomic resources would not be expected.

Since future activities other than conversion of existing facilities are notional, the potential socioeconomic impacts from new construction and operations of proposed and notional facilities are unknown and would be analyzed in the Camp Pinchot ADP. However, the proposed increase in use would not be anticipated to significantly affect socioeconomic resources.

3.8.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Under Alternative 1, socioeconomic impacts would generally be similar to those of the Proposed Action, but the magnitude of demand for labor and services would likely be greater. Under this alternative, there would be potential for a housing community and commercial retail facilities that would require more construction-related employment and income than under the Proposed Action. However, based on the number of construction jobs throughout the county and because activities would occur in phases, it would be expected that the local labor force would fulfill any construction-related employment. Additional commercial retail facilities under this alternative could provide localized, medium-intensity and long-term beneficial impacts from employment and income opportunities.

3.8.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Potential socioeconomic impacts under Alternative 2 would be similar to those described for Alternative 1. Preservation of the historic district and associated buildings as a Historical Park would not be expected to significantly affect socioeconomic resources.

3.8.2.4 Alternative 3 – Demolition Option

Potential socioeconomic impacts under Alternative 3 would likely result in the most construction-related employment and income since this alternative is associated with the most construction and demolition activities. Implementation of DoDI 4715.16 would require an economic analysis prior to a demolition decision. Additionally, as stated in Section 2.1 (Proposed Action – Camp Pinchot Adaptive Reuse Plan), development of an EIS would be recommended to identify potential BMPs and mitigations that could minimize adverse effects associated with demolition of the historic building and eligible archaeological site. Therefore, no significant impacts to socioeconomic resources would be anticipated under this alternative.

3.8.2.5 Alternative 4 – Specialized Range Mission Use

Under Alternative 4, socioeconomic impacts associated with construction employment and income would be less than those described for the EUL alternatives (Alternatives 1, 2, and 3) because there would be no commercial and residential development that would provide a revenue stream. Existing maintenance activities (e.g., general landscaping services, emergency pruning, trimming, and tree/stump removal) would continue under this alternative. Therefore, no significant impacts to employment and income would be anticipated under this alternative. Under Alternative 4, nearby residents would not be expected to experience significant noise and aesthetic/visual impacts from proposed training activities.

3.8.2.6 No Action Alternative

Under this alternative, there would be no change to housing functions or other facilities at Camp Pinchot that would have the potential to impact socioeconomic resources. Socioeconomic conditions and trends would continue as described in Section 3.8.1 (Affected Environment). Therefore, no significant impacts to socioeconomic resources would occur under this alternative.

3.8.2.7 Reasonably Foreseeable Effects

The Proposed Action in combination with present and reasonably foreseeable actions would not have a significant impact on population, employment, and income in the ROI. During construction activities, the use of local labor and supplies would contribute to direct and indirect employment and wages. Benefits resulting from construction associated with the Proposed Action would be localized and short term, lasting only for the duration of the construction activities. However, construction activities associated with the Proposed Action in combination with present and future localized and short-term construction activities could result in long-term sustainable employment, wages, and income. Training missions and personnel under Alternative 4 may affect the quality of the waterfront around Garnier Bayou but mitigation measures identified in Section 3.2.2.8 (Biological Resources, Management Actions) and Section 3.12.2.8 (Water Resources, Management Actions), would minimize adverse effects to biological resources and water resources in and around Garnier Bayou.

3.8.2.8 Management Actions

No management actions are identified for socioeconomics.

3.9 SOILS

3.9.1 Affected Environment

Soils refer to unconsolidated materials on the land surface that are either formed from the breakdown of underlying bedrock or other parent material, or transported to an area by wind, water, or human activities. Sediments generated by erosion can alter water quality, aquatic habitats, and hydrologic characteristics of streams and wetlands. Erosion can also transport chemical contaminants that may be attached to sediment particles. Slope angle and length are the primary topographic factors influencing rainfall erosion. Vegetation is important in intercepting and diffusing water energy from rain splash and overland water flow.

The soils on Eglin AFB have developed from the Citronelle Formation as well as alluvium (gravel, sand, silt, and clay deposited by water) from the floodplains of lowland areas. Soil types present on Camp Pinchot are shown in Figure 3-5. Lakeland sand is the most prevalent soil type on the parcel. Soils of the Lakeland Association are generally excessively drained, with sandy surface layers and sandy subsoils that are more than 80 inches deep (Eglin AFB, 2022). In general, Lakeland sand is slightly susceptible to water and wind erosion under natural conditions, but highly susceptible to wind and water erosion in areas that are cleared of vegetation. The slope of the Lakeland sands is generally modest on Camp Pinchot but is steeper in some small areas near the Garnier Bayou shoreline. Dorovan muck, as well as Chipley and Hurricane soil, also occur at the site. Dorovan muck contains a relatively high amount of organic material, is poorly drained, and occurs in association with creeks draining into northern Garnier Bayou. Chipley and Hurricane soils are moderately acidic sands that occur in a very small area at the southeastern parcel boundary. A summary of soil types and characteristics on Camp Pinchot is provided in Table 3-13.

Table 3-13. Soil Characteristics on Camp Pinchot

Soil Name	Soil Type	Attributes	Erosion Potential	Acres Present[1]
Lakeland Sand (0 to 5% slope)	Sand	Sandy surface layers with sandy subsoils	Moderate to high	262.0
Lakeland Sand (5 to 12% slope)	Sand	Sandy surface layers with sandy subsoils	Moderate to high	12.4
Dorovan Muck	Muck	Highly organic	Low	6.9
Chipley and Hurricane (0 to 5% slope)	Sand	Moderately acidic	Moderate	0.2

% = percent
Note:
1. Does not include approximately 0.2 acres of open water within the site boundary.

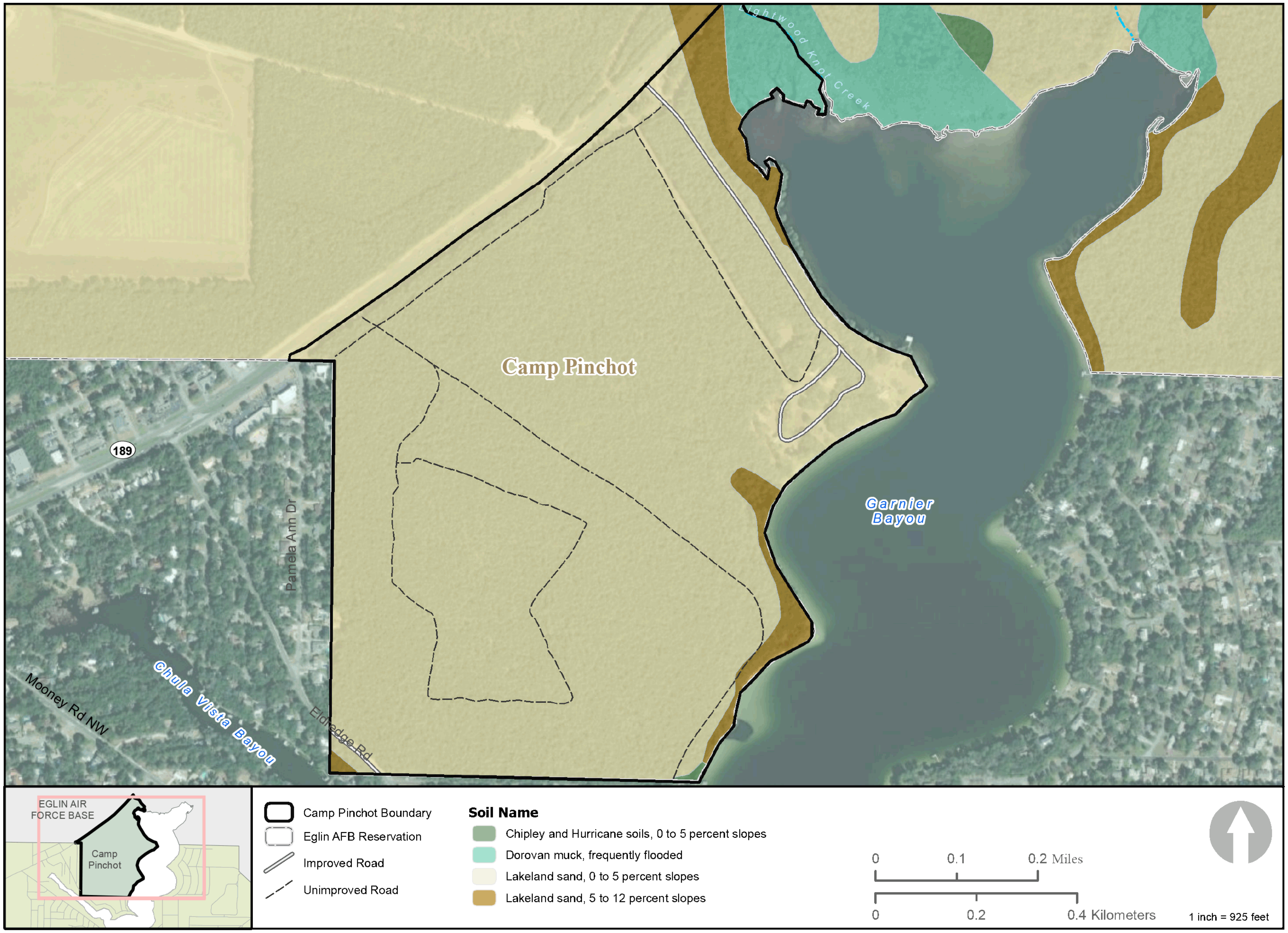

Figure 3-5. Soil Types on Camp Pinchot

3.9.2 Environmental Consequences

Soil types and their physical properties are evaluated to determine the potential for erosion that may occur because of ground-disturbing activities (e.g., construction and military training). If activities were to cause substantial soil disturbance or occur in an area where soil loss or erosion is high, potential sediment transport could damage waterways, cause ground instability, and impact habitats.

An impact would be considered significant if it would cause long-term alteration or damage to soil resources, particularly in the context of erosion. Effects would include erosion at levels that would appreciably alter terrestrial or aquatic habitats, or impact military training activities.

3.9.2.1 Proposed Action

Ground disturbance would occur during facilities construction, addition of parking areas and other impervious surfaces, renovation, and demolition. Soil disturbance during these activities could potentially cause erosion and associated contaminant transport and sedimentation that could affect Garnier Bayou, wetlands, riparian areas, and floodplains, as well as terrestrial wildlife habitats on the parcel. Potential erosion controls are discussed in the Soils and Water Resources discussion areas in the Management Actions section in Section 3.12.2.8 (Water Resources, Management Actions). Development would not be expected to occur in wetlands; potential indirect effects would be limited to areas near the access road, which is located near wetlands in the northern part of the site. Creeks would not likely be affected because construction and other ground-disturbing activities are not anticipated near riparian areas. Ground disturbance during construction of recreational components (e.g., hiking trails) could cause similar impacts, but the area disturbed would be less than that related to construction activities. After construction is completed, increased impervious surface area on the site could cause erosion due to stormwater runoff. The potential for erosion- and stormwater-related impacts would be minimized by implementing permit requirements, as described in Section 3.12 (Water Resources).

The potential for erosion-related impacts would be reduced by the slope and vegetative cover of the parcel. Except for areas near the Garnier Bayou shoreline, where construction activities would not occur, the site is generally flat (0 to 5 percent slope) and composed primarily of Lakeland sand; thus, erosion potential is relatively low for most of the affected area. Existing vegetation in the construction areas would intercept and help to slow overland water flow. Given the site characteristics and implementation of permit requirements, impacts on soils and associated erosion would not be significant.

Sediments at the shoreline and in Garnier Bayou could be disturbed during pile installation associated with notional fishing pier construction and with boat house refurbishment. Disturbed sediments at the shoreline would be redistributed by wind, rain, and waves, and there would be no long-term effects. Sediments disturbed by pile placement or other in-water activities would be resuspended and cause increased turbidity. However, the effects would be short term and would affect a small area of the water column. Suspended sediments would be transported by water currents and would settle to the bottom over time. Impacts on sediments in Garnier Bayou and at the Garnier Bayou shoreline would not be significant.

3.9.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Under Alternative 1, ground disturbance would occur because of land-clearing and construction activities associated with development under an EUL. The potential impacts on soils would generally be the same as those discussed for the Proposed Action, including erosion, stormwater runoff, contaminant transport, and sedimentation that could affect Garnier Bayou, wetlands, creeks, riparian areas, and floodplains, as well as terrestrial wildlife habitats on the site. However, the magnitude of potential impacts would be greater because the total area of ground disturbance, vegetation removal, and new impervious surface would likely be substantially greater than that of the Proposed Action.

As described for the Proposed Action, the potential for such impacts to soils would be minimized by implementing BMPs and other permit requirements, as described in Section 3.12 (Water Resources). The potential for erosion-related impacts would be further reduced by the relatively flat slope and vegetative cover of the parcel, although development under an EUL would probably result in substantial vegetation clearing. Impacts on soils and associated erosion would not be significant.

3.9.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Under Alternative 2, development under an EUL could occur within the entire Camp Pinchot parcel, including the approximately 18-acre historic district. Compared to Alternative 1, the relatively small additional amount of ground-disturbing activities that could occur would not meaningfully increase the potential for erosion and related impacts. Therefore, impacts on soils would not be significant.

3.9.2.4 Alternative 3 – Demolition Option

Under Alternative 3, demolition and development under an EUL could occur within the approximately 18-acre historic district. Compared to Alternative 1, the relatively small additional amount of ground-disturbing activities that could occur would not meaningfully increase the potential for erosion and related impacts. Therefore, impacts on soils would not be significant.

3.9.2.5 Alternative 4 – Range Mission Use

Under Alternative 4, a minor amount of land clearing, grading, or construction could be required to establish training locations and other features such as trails and security fencing. As with the preceding alternatives, the potential for associated impacts caused by erosion and runoff would be minimized by implementing BMPs and other permit requirements, as described in Section 3.12 (Water Resources). Activities such as foot traffic, vehicle and equipment use, bivouac, and land disturbance associated with training activities near and within water bodies, wetlands, and floodplains may degrade these habitats due to sediment disturbance and siltation. However, most ground training activities would occur outside of aquatic habitats. Ground training would mostly consist of small personnel groups conducting dismounted maneuvers in dispersed locations, decreasing the potential for ground disturbance due to frequent use of any area. The potential for impacts from dismounted maneuvers would be further minimized by the requirement to avoid ground-disturbing activities within 100 feet of streams, water bodies, and wetlands. Vehicles would remain on roads unless off-road operation is approved in advance. Digging would be prohibited, and bivouacking would occur in designated locations (e.g., areas without steep slopes). Training units would be required to clear debris from the range, which would decrease the amount of materials that could potentially corrode and leach into the soil.

Boats and personnel movement could disturb sediments along the Garnier Bayou shoreline and in adjacent shallow water. Heavy or repeated use of a particular area has the potential to damage vegetation and lead to erosion, which could negatively affect water quality and lead to further up-gradient erosion. Disturbed sediments at the shoreline would be redistributed by wind, rain, and waves, while disturbed sediments in the water would be redistributed by currents and tidal action. As with other training areas on Eglin, units could rotate among multiple boat landing sites if erosion is detected.

Management measures that would likely be required for water resources, which are listed in Section 3.12.2.8 (Water Resources, Management Actions), would reduce the potential for impacts on soils.

Based on the types and tempo of training activities identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use) and the discussion of potential effects above, impacts on soils under Alternative 4 would not be significant.

3.9.2.6 No Action Alternative

Under the No Action Alternative, a Camp Pinchot ARP would not be implemented, an EUL would not be established, and the parcel would not be converted to an Eglin Range. There would be no potential for associated ground disturbance, erosion, siltation, or sediment disturbance in Garnier Bayou or at the shoreline. Continued maintenance and cultural resource preservation activities would not adversely affect soils. Impacts on soils would not be significant.

3.9.2.7 Reasonably Foreseeable Effects

With implementation of permit requirements and management measures, activities on Camp Pinchot would not cause substantial effects on soils, or associated effects due to erosion and sedimentation, to any terrestrial, aquatic, or estuarine areas beyond the site boundary. Therefore, the actions would not contribute to similar effects potentially caused by development in the surrounding area or activities on other parts of Eglin AFB. In the context of other reasonably foreseeable actions, there would be no significant impacts from the Proposed Action or alternatives.

3.10 TRANSPORTATION

3.10.1 Affected Environment

Transportation resources consist of the infrastructure components required for movement of people, materials, and goods. In this EA, transportation infrastructure refers to the public roadways and associated features (e.g., intersections) that provide access to Camp Pinchot. Transportation systems may be defined qualitatively and quantitatively. Qualitative descriptors refer to travel conditions as they are perceived by travelers using the transportation system and may include factors such as perceived congestion, ease of use, and safety concerns.

Level of service (LOS) is a commonly used quantitative or semi-quantitative indicator of transportation efficiency. Typically, six levels are defined and assigned a letter designation from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. LOS for roadway segments is a measure of operational conditions in terms of travel time, speed, delay, and freedom to maneuver within the traffic stream. Minimum desired LOS standards identified by the State of Florida are shown in Table 3-14.

Table 3-14. Traffic Level of Service Standards in Florida

Transportation Component	Minimum Desired Level of Service
State highway in urbanized area	D
State highway outside of urbanized area	C

Source: (FDOT, 2020)

Camp Pinchot is accessed from State Road (SR) 189 (Lewis Turner Boulevard) via Camp Pinchot Road. SR 189 is a four-lane road that is designated as an urban, major collector/minor arterial (Okaloosa-Walton TPO, 2024; Okaloosa County, 2020). Collectors connect local roads and streets with arterial roadways such as freeways and multi-lane highways. Access to the site from the westbound lane of SR 189 is through an intersection with no traffic light or turn lane. Camp Pinchot Road, which forms a loop through the historic district, is the only paved road on the site.

Various planning entities have evaluated and categorized LOS for SR 189 in the study area. Analysis in the Base Realignment and Closure Final EIS (Eglin AFB, 2008b) identified the segment of SR 189 adjacent to Camp Pinchot as having an overall LOS of E and a peak hour/peak direction LOS of F, with these designations expected to continue after implementing decisions. The Okaloosa County Comprehensive Plan designates the segment adjacent to Camp Pinchot as LOS D (Okaloosa County, 2020). The Okaloosa-Walton Transportation Planning Organization identifies a segment of SR 189 in Fort Walton Beach (north of Mary Esther Boulevard) as operating below the target LOS, but shows the segment near Camp Pinchot to be within the target level overall (Okaloosa-Walton TPO, 2022).

3.10.2 Environmental Consequences

Potential impacts on transportation are assessed with respect to changes in traffic volume and congestion that could occur on the Camp Pinchot parcel, as well as in off-base areas adjacent to and near the parcel, with implementation of the Proposed Action or alternatives. Analysis is primarily qualitative because specific project details are unknown currently for the EUL development alternatives, and there have been no related project-specific traffic studies.

Potential impacts would be considered significant if the Proposed Action or alternatives would likely result in disruption of existing traffic operations or decreased corridor or intersection LOS.

3.10.2.1 Proposed Action

During the immediate action plan (0 to 12 months), personnel would likely be able to use the existing Camp Pinchot Road, possibly with minor refurbishment. However, to complete the long-term plan (3 to 6 years) for property development, it is anticipated that the existing road would need to be widened and repaved to support additional personnel and vehicles, particularly wildfire response vehicles. In addition, a new road segment would be required to accommodate new functions in currently undeveloped areas (Figure 2-2). Except for construction that would occur at the intersection of SR 189, road refurbishment and replacement activities on Camp Pinchot would not affect traffic flow or LOS in adjacent off-site areas. Although subject to future traffic studies should this alternative be selected, the number of personnel and recreationists ultimately using the site would not be expected to noticeably impact traffic on SR 189 or other nearby roadways. Although there are no specific plans currently, it is possible that upgrade of the Camp Pinchot Road/SR 189 intersection (e.g., adding a turn lane or traffic signal) could be required to support wildfire response and generally increased use of the site. However, related effects on traffic operations would not be substantial. Overall, impacts on transportation under the Proposed Action would not be significant.

3.10.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Under Alternative 1, new road construction would be substantially more than that associated with the Proposed Action. Construction activities would have little effect on traffic on the site because Camp Pinchot is currently vacant, and existing traffic is mostly limited to maintenance and preservation personnel. However, given that LOS is near or below the desired standard in adjacent areas under existing conditions, substantially increased use of the site after development could affect traffic operations negatively on SR 189 and possibly other roads in northern Fort Walton Beach or near Eglin Main Base. Specific development plans and the associated number of residents and other persons using residential, commercial, or retail facilities on the site is unknown currently. However, it is anticipated that increased use would cause some traffic delays and safety concerns, particularly during peak times and direction. Although specific development plans are unknown currently, the Camp Pinchot Road/SR 189 intersection could be upgraded, potentially including the addition of turn lanes and a traffic light. Construction at the intersection could temporarily cause minor traffic impacts. After completion, an improved intersection would facilitate traffic flow into and out of the parcel.

Potential future traffic improvement projects identified in the Okaloosa-Walton Long Range Transportation Plan and the Okaloosa County Comprehensive Plan (Okaloosa County, 2020; Okaloosa-Walton TPO, 2022) could improve overall traffic operations in the area and diminish the effects of Camp Pinchot development. Projects identified in these documents include increasing the number of lanes for SR 189 (including the segment adjacent to Camp Pinchot) and other roads in the area.

Impacts on transportation under Alternative 1 would depend on the specific type and extent of development ultimately selected, along with the associated changes in population and traffic operations. Thus, a significance determination regarding traffic LOS is not feasible at this time. If Alternative 1 is selected, Eglin would likely conduct a more detailed transportation evaluation as part of the development planning process.

3.10.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Under Alternative 2, development under an EUL could occur within the entire Camp Pinchot parcel, including the approximately 18-acre historic district. Compared to Alternative 1, the relatively small additional roadway placement and increased residential, commercial, or retail use of the site would not meaningfully change the potential for impacts on the transportation system. If Alternative 2 is selected, Eglin would likely conduct a more detailed transportation evaluation as part of the development planning process.

3.10.2.4 Alternative 3 – Demolition Option

Under Alternative 3, demolition and development in the historic district would not meaningfully change the potential for impacts on the transportation system compared to Alternative 1. If Alternative 3 is selected, Eglin would likely conduct a more detailed transportation evaluation as part of the development planning process.

3.10.2.5 Alternative 4 – Range Mission Use

Specific types and areas of development that could occur at the site under Alternative 4 are unknown currently but potentially include actions such as widening or repaving Camp Pinchot Road, establishing trails, and constructing training objectives. Except for construction that could occur at the intersection of SR 189 (a notional activity), road refurbishment and construction activities on Camp Pinchot would not affect traffic flow or LOS in adjacent off-site areas. Based on the training activities and associated number of personnel identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use), upgrade of the Camp Pinchot Road/SR 189 intersection (e.g., adding turn lanes or a traffic light) is not anticipated at this time. Some training activities would involve personnel transiting from Camp Pinchot to Eglin property across Lewis Turner Boulevard. All such movements would occur in vehicles (no pedestrian road crossings), which would be operated in accordance with existing traffic laws and conditions. Overall, impacts on transportation would not be significant.

3.10.2.6 No Action Alternative

Under the No Action Alternative, a Camp Pinchot ARP would not be implemented, an EUL would not be established, and the parcel would not be converted to an Eglin Range. Traffic operations and LOS in the area would continue as under existing conditions. Impacts on transportation would not be significant.

3.10.2.7 Reasonably Foreseeable Effects

Future development in areas near Camp Pinchot could cause increases in population and associated use of SR 189 and other parts of the local transportation system. The action alternatives would cumulatively contribute to increased traffic operations and potentially decreased LOS to varying degrees. The Proposed Action and Alternative 4 would be expected to have minor effects. The EUL alternatives could cause potentially significant impacts due to increased traffic operations. However, further evaluation would be conducted if any EUL options were selected.

The Okaloosa-Walton Long Range Transportation Plan identifies numerous improvement projects that could be undertaken on SR 189, including capacity and intersection projects. In addition, both the Okaloosa-Walton Long Range Transportation Plan and the Okaloosa County Comprehensive Plan identify widening of SR 189, including the segment adjacent to Camp Pinchot, to six lanes (Okaloosa County, 2020; Okaloosa-Walton TPO, 2022). While the projects are being implemented, there could be adverse effects to traffic operations due to actions such as shoulder closure, lane closure, or reduced speed limits. However, such effects would be relatively short term, ceasing at project completion. The projects would ultimately be expected to improve traffic operations and LOS.

3.10.2.8 Management Actions

No management actions are identified for transportation.

3.11 VISUAL RESOURCES AND AESTHETICS

3.11.1 Affected Environment

Visual resources are the natural and human-made features that give a particular environment its aesthetic qualities. As shown in Figure 1-2, Camp Pinchot is surrounded by undeveloped pine forest to the northwest, west, and southwest, and by Garnier Bayou to the northeast, east, and southeast. The entrance to Camp Pinchot is along Lewis Turner Boulevard. There is no view of Camp Pinchot from Lewis Turner Boulevard; only the access road is visible.

Several existing facilities at Camp Pinchot are visible from Garnier Bayou and from a few residential parcels east-southeast of Camp Pinchot across the bayou. The closest residential parcel is located 0.2 miles from the shoreline of Camp Pinchot. Buildings 1556, 1557, 1558, 1564, 1559, and 1561 can be seen from Garnier Bayou. However, the distance from these facilities to residential areas and to public access on the bayou significantly limits the views of facilities. The facilities are set back from the shoreline and the area is restricted to the public.

The northern area of Garnier Bayou is undeveloped and owned by Eglin AFB. The aesthetics along the northern area are typical of wetlands, marshes, and grass beds.

3.11.2 Environmental Consequences

The analysis methodology for potential impacts to visual and aesthetic resources considers changes in the design and development of human-made elements to present a visually cohesive image to users, visitors, and off-site views into the site. Impacts to visual resources are evaluated by considering the degree of visible change that a proposed action may cause, taking into account the value and sensitivity of the visual environment. An impact on aesthetics would occur if the changes in the existing environment were visually incompatible with surrounding areas, affected a large number of viewers, or modified the visual character of an area that contributes to the public’s appreciative enjoyment of the environment.

3.11.2.1 Proposed Action

Under the Proposed Action, construction equipment and vehicles used during renovation of existing facilities and rehabilitation of historic structures may temporarily disrupt the aesthetics at Camp Pinchot but impacts would be localized and short term and would therefore not be significant. The existing view of Camp Pinchot from Lewis Turner Boulevard is limited due to the conservation buffer space, which would be maintained under this alternative. Thus, the visual and aesthetics of Camp Pinchot from Lewis Turner Boulevard would remain relatively consistent with the existing conditions.

The viewshed from within Camp Pinchot and the public view from Garnier Bayou would benefit from continued maintenance and repairs of historic buildings and facilities by keeping them at the same level or improving their conditions. New construction of notional facilities under this alternative would potentially change the aesthetics of the historic district and natural areas and may result in adverse impacts to the aesthetics of the area. Potential adverse impacts to the aesthetics of the historic district would be minimized by considering design and placement of new facilities, maintaining a buffer between the historic district and new construction, and following recommendations of the Camp Pinchot Historic Preservation Plan. Therefore, no significant impacts to aesthetics would be anticipated.

3.11.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Similar to the Proposed Action, under Alternative 1, there would be potential for development that could interfere with the visual and aesthetic characteristics of Camp Pinchot. During construction, equipment and vehicles may be visible to passengers along Lewis Turner Boulevard and/or recreational participants in Garnier Bayou or at the closest residential locations across the bayou. However, construction impacts to visual and aesthetic resources would be localized and temporary and would not be significant.

Notional development, including housing and commercial/retail facilities, would affect the landscape and therefore permanently impact the visual and aesthetic characteristics of the area within Camp Pinchot. However, as described in Section 1.1 (Introduction,) and Section 2.3 (Alternative 1 – Enhanced Use Lease at Camp Pinchot), a conservation buffer space would be maintained along the Lewis Turner Boulevard property frontage to minimize adverse impacts to the view and aesthetics of the area. Additionally, development would not occur within the historic district and would be set back from the shoreline of Garnier Bayou, which would minimize adverse impacts to visual and aesthetic resources. Under this alternative, the Camp Pinchot Historic Preservation Plan would be followed to minimize impacts to the aesthetics of the historic district. Therefore, no significant impacts to aesthetics would be anticipated.

3.11.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Potential impacts to visual and aesthetic resources under this Alternative would be similar to those described under Alternative 1. Implementation of mitigations and recommendations of the Camp Pinchot Historic Preservation Plan would minimize adverse impacts to the visual and aesthetics of the historic district. Impacts would not be significant.

3.11.2.4 Alternative 3 – Demolition Option

Potential impacts to visual resources under this Alternative would be similar to those described under Alternative 1. However, demolition of some or all of the 10 historic buildings under this alternative would change the landscape and therefore, permanently impact the visual and aesthetic characteristics of the area. As described in Section 1.1 (Introduction), the potential impacts to aesthetics under this alternative may be adverse and significant and therefore, an EIS would be recommended under this alternative to determine mitigations and BMPs to minimize adverse effects to the historical buildings and eligible archaeological site.

3.11.2.5 Alternative 4 – Specialized Range Mission Use

Under this alternative, Camp Pinchot would remain a restricted access area, with continued limited access to and views of the parcel. The aesthetics and visual landscape could change for recreational participants in Garnier Bayou and nearby residents due to training activities (e.g., presence of military vehicles, watercraft, and personnel) and potential changes to the shoreline from erosion if there is any topsoil or vegetation loss. The presence of vehicles, watercraft, and personnel would be temporary. New training objectives would be constructed in the interior of the parcel and would not be visible from outside the Camp Pinchot boundary. Any potential adverse impacts to visual qualities and aesthetics would be minimized by following standard operating and construction procedures to reduce erosion of the shoreline, and by following recommendations in the Camp Pinchot Historic Preservation Plan to minimize impacts to the historic district. Therefore, no significant impacts to visual resources and aesthetics would be anticipated under this alternative.

3.11.2.6 No Action Alternative

There would be no significant impacts to visual and aesthetic resources under the No Action Alternative. There would likely be no construction or development, and no substantial changes made to the human-made or natural environment. No impacts to visual resources or aesthetics would occur from construction.

Under this alternative, Camp Pinchot would maintain its current use and maintenance schedule. Because no changes are expected in its type and duration of use, there would be no impacts on visual resources and aesthetics.

3.11.2.7 Reasonably Foreseeable Effects

Visual and aesthetic qualities under the Proposed Action would be consistent with those associated with existing structures and ongoing activities on and adjacent to Camp Pinchot. Visibility of the property from those traversing Lewis Turner Boulevard, recreational participants, and residents would continue to be limited, and the structures would be compatible with other similar features in the immediate vicinity. Any maintenance, renovation, or restoration of aging facilities and of the historic district would result in an overall improvement to the visual character of Camp Pinchot. When combined with other past, present, and reasonably foreseeable future actions, the Proposed Action would not result in significant impacts to visual and aesthetic resources.

3.11.2.8 Management Actions

Implement standard operating and construction procedures to minimize erosion of the shoreline and maintain the visual/aesthetic character of the area.

Implement recommendations in the Camp Pinchot Historic Preservation Plan to minimize visual impacts to the historic district.

3.12 WATER RESOURCES

3.12.1 Affected Environment

This section describes the water resources within the ROI. The ROI for water resources encompasses areas that may be potentially impacted directly or indirectly by the Proposed Action, which includes water resource within and adjacent to the Camp Pinchot property (see Figure 3-6). Water resources include surface water, groundwater, wetlands, floodplains, and the coastal zone.

Surface Water

Surface water is defined as any water visible on Earth's surface and includes lakes, rivers, streams, ponds, estuaries, and the ocean. Surface water may also include wetlands in some cases. Surface waters occur where local geologic conditions (shallow rock, clay, or silt layers) restrict the downward movement of water to the water table. Surface waters are important for a variety of reasons, including economic, ecological, and recreational functions and human health.

The CWA (33 U.S.C. Sections 1251–1387) establishes the structure for regulating pollutant discharge into waters of the United States, including surface waters and wetlands. Applicable sections include Section 303(d) (requires states to develop lists of impaired waters), Section 401 (requires water quality certification prior to issuance of a 404 permit), Section 402 (NPDES permit program), and Section 404 (regulates discharge of dredged or fill material into waters of the United States). The Florida Division of Water Resources Management ERP Program regulates activities in, on, or over wetlands or surface waters and any activity that involves surface water flow alteration, including dredge and fill activities and construction-generated stormwater runoff. FDEP is responsible for administration of water resources and permitting of activities that may affect them at the state level. FDEP also provides enforcement oversight for federal and state water resource laws and programs.

Groundwater

Groundwater is defined by the US Geological Survey as "water that exists underground in saturated zones beneath the land surface" (USGS, 2024). Water that occurs at the ground surface, due to precipitation or the presence of surface waters such as streams or lakes, is pulled downward by gravity and may saturate the ground at some depth. Below the water table, nearly all open spaces in sediments and rocks are filled with water, and the water contained in this zone is called *groundwater*. An aquifer is a geological formation (e.g., a layer of rock or sediment) that stores relatively large volumes of groundwater. Water from the ground surface, along with any associated contaminants or other substances, may easily infiltrate the ground and enter unconfined aquifers.

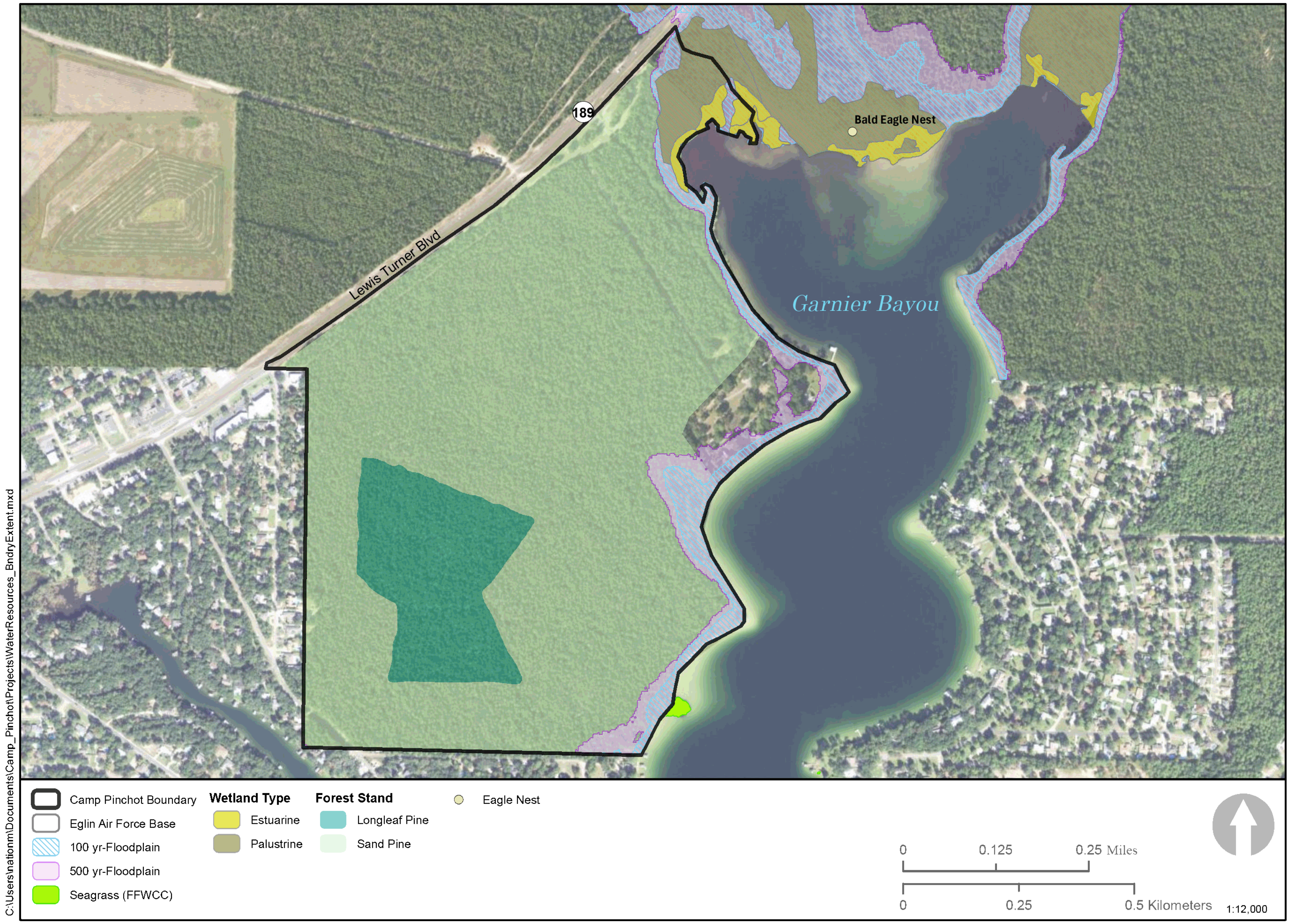

Figure 3-6. Water Resources in the Camp Pinchot ROI

Wetlands

Wetlands are areas of transition between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by shallow water (Cowardin et al., 1979). Wetlands generally include swamps, marshes, bogs and similar areas" (USACE, 1987). Wetlands are among the most productive ecosystems in the world, providing food and shelter for many different species. Wetlands provide other ecologically important functions such as groundwater recharge, flood control, shoreline protection, and watershed protection.

FDEP is the lead agency in protecting wetland resources and water quality in Florida per Section 404 of the CWA, as implemented under FAC 62-331 (State 404 Program) and FAC 62-330 (Environmental Resource Permitting). When applicable, USACE has jurisdiction under Section 10 of the Rivers and Harbors Act (33 Part 322) for activities that may interfere with navigation. Wetlands on federal lands are afforded additional protection under Executive Order (EO) 11990, *Protection of Wetlands*, which sets a goal of "no net loss" of wetlands and directs federal agencies to "minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands" when carrying out agency actions.

FDEP issues a Section 401 certification under the authority of the CWA (40 CFR Section 121). Section 401 of the CWA requires federal agencies to obtain certification from the state before issuing permits that would result in increased pollutant loads to a water body. The certification is issued if the federally licensed or permitted activity complies with applicable water quality requirements, which include water quality standards, effluent limitations, new source performance standards, toxic pollutants restrictions, and other appropriate water quality requirements of state and tribal law (USEPA, 2024c).

Floodplains

A floodplain is a relatively flat area of land adjacent to a stream or other surface water that is subject to flooding during periods of high water discharge. Floodplain functions include natural moderation of floods, floodwater storage and conveyance, groundwater recharge, and nutrient cycling. Floodplain boundaries are typically described in terms of average frequency of inundation. The 100-year floodplain is defined as the area that has a 1 percent chance of inundation by a flood in any given year (once per 100 years on average). The 500-year floodplain has a 0.2 percent chance of flooding in any year (once per 500 years on average).

Actions potentially affecting a floodplain are subject to the requirements of EO 11988, *Floodplain Management*, and EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input.* EO 13690 was revoked in 2017 but was reinstated in 2021 through EO 14030, *Climate-Related Financial Risk*. EO 11988 requires federal agencies to avoid, to the extent possible, the adverse impacts associated with occupancy and modification of floodplains and to avoid floodplain development unless it is the only practicable alternative. Federal actions occurring within flood zones may require a Finding of No Practical Alternative.

The land surrounding the structures rises 20 feet above the bayou's water. As some of the buildings began construction in 1910 with additional major modifications through the 1950s, significant storm events from the Gulf have been at least partially mitigated by its protected bayou location and elevation. Only three of the structures fall within or partially within the 500-year floodplain.

Coastal Zone

The CZMA provides for the effective management, beneficial use, protection, and development of the US coastal zone. Under the CZMA, the term "coastal zone" is defined as coastal waters and adjacent shore lands strongly influenced by each other and in proximity to the coastal states, including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. The landward boundaries of the state of Florida are defined by the state, in accordance with Section 306(d)(2)(A) of the CZMA, as the entire state of Florida. Eglin AFB has provided a consistency determination with respect to Florida's Coastal Zone Management Plan and the CZMA (Appendix B).

Water resources in the ROI include surface waters, wetlands, and floodplains and are shown in Figure 3-6. The 96 CEG/CEIEC Environmental Compliance Office (Eglin's Environmental Compliance Office) is the established point of contact for regulatory issues involving water quality and wetland resources. Eglin's Environmental Compliance Office provides support and guidance regarding policy and permits for specific environmental programs, including Sections 401 and 404 of the CWA.

Groundwater in the vicinity of Eglin AFB is associated with two aquifers: (1) the Floridan aquifer and (2) the sand and gravel aquifer (also known as the surficial aquifer). The upper boundary of the Floridan aquifer is 50 to 350 feet below the land surface and is the primary water source in most of the county. Water quality of both aquifers is generally good, but the sand and gravel aquifer is vulnerable to contamination from pollutants due to its proximity to the ground surface. Eglin's wells that use Florida aquifer waters are required to be sampled for all state and federal primary and secondary drinking water standards on a regular basis as part of their operating permit. All operating production wells currently meet drinking water standards set by the state.

3.12.2 Environmental Consequences

Impact analysis considers the potential for the Proposed Action and alternatives to affect water resources in the Camp Pinchot ROI. Potential impacts primarily consist of erosion and contamination from surface pollutants. The potential for contaminants that are present on the surface during maintenance and construction activities to migrate into the aquifer and impact groundwater is considered. Analysis examined the potential to violate state or federal laws (i.e., state water quality standards set per Section 303 of the CWA). Any potential to adversely impact wetlands with respect to Part IV of Chapter 373 of the Florida Statutes or EO 11990 was considered. Compliance with EO 11988 and EO 13690 was considered regarding impacts to floodplains.

The potential impacts of the Proposed Action and alternatives on water resources were evaluated to determine whether or not they would be adverse. An adverse impact would degrade surface water or groundwater quality or otherwise diminish the health or distribution of aquatic habitats (e.g., wetlands). A significant adverse impact would be likely to alter water quality or reduce available aquatic habitat to the degree that ecosystem functions or availability for human consumption is diminished long term. Significant adverse impacts would also consist of impacts to water quality that would cause water quality to fall below levels required by Section 303 of the CWA, result in noncompliance with EOs related to wetlands and floodplains, or result in failure to meet the requirements of the CZMA.

3.12.2.1 Proposed Action

Ground disturbance during construction could potentially cause erosion and associated sedimentation and conveyance of contaminants to nearby wetlands, floodplains, and to Garnier Bayou. Increased impervious surface could also cause stormwater transport of contaminants into these habitats. The NWFWMD regulates ground-disturbing activities that may impact surface waters through the ERP Program. Any disturbances of 1 acre or more of total land would require a Florida NPDES Construction Generic Permit for Stormwater Discharge from Large and Small Construction Activities. The permit requirements include a site-specific SWPPP to manage stormwater discharges and control erosion during and after construction until the area is stabilized. The SWPPP would specify BMPs that would minimize effects to water quality. BMPs would be project specific but may include actions such as the use of silt fences, use of secondary containment for hazardous materials, and revegetation of the site in a timely manner. It is expected that an FDEP ERP would be required. With implementation of permit requirements, significant adverse effects to water resources would not be expected.

The probability of impacts from storm surge (e.g., hurricane effects) and potential sea level rise would likely be low due to the site's elevation and relatively protected location along Garnier Bayou, and the presence of a seawall along a portion of the parcel. Although three existing facilities are located in the 500-year floodplain, previous flooding issues are not known to have occurred. One additional notional enclosed facility (conference center) is proposed within the 500-year floodplain, and none are proposed within the 100-year floodplain.

3.12.2.2 Alternative 1 – Enhanced Use Lease at Camp Pinchot

Potential impacts to water resources under Alternative 1 would be similar to those described under the Proposed Action, but with a potentially greater magnitude associated with the larger construction footprint. However, implementation of BMPs and permit requirements would minimize potential adverse impacts to water resources. Therefore, potential impacts to water resources under this alternative would not be significant.

3.12.2.3 Alternative 2 – Enhanced Use Lease at Camp Pinchot Option 2

Potential impacts to water resources under Alternative 2 would be similar to those described under Alternative 1. Implementation of BMPs and permit requirements would minimize potential adverse impacts to water resources. Therefore, potential impacts to water resources under this alternative would not be significant.

3.12.2.4 Alternative 3 – Demolition Option

Potential impacts to water resources under Alternative 3 would be similar to those described under the Proposed Action but would potentially have the greatest impact to water resources associated with the larger construction footprint and potential demolition of some or all of the Camp Pinchot Historic District. However, implementation of BMPs and permit requirements would minimize potential adverse impacts to water resources. Therefore, potential impacts to water resources under this alternative would not be significant.

3.12.2.5 Alternative 4 – Range Mission Use

Under Alternative 4, potential impacts to water resources would not be significant. Vessel use and training activities in Garnier Bayou and along the adjacent shoreline could impact wetlands and floodplains, particularly from repetitive activities in the same area. Implementation of BMPs would minimize potential adverse impacts to water resources associated with water-related mission sets. The training missions identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use) would not include expenditures of munitions and explosives, and there would be no associated potential for metals and explosives to migrate to groundwater. Implementation of the restrictions identified in Section 2.6 (Alternative 4 – Specialized Range Mission Use) would minimize adverse impacts to groundwater from training activities at Camp Pinchot.

3.12.2.6 No Action Alternative

There would be no change to the existing Camp Pinchot parcel under this alternative; therefore, no impacts to water resources compared to baseline conditions would be anticipated under the No Action Alternative.

3.12.2.7 Reasonably Foreseeable

Water resources could be impacted from erosion and sedimentation caused by routine maintenance and construction projects. Management practices, such as those described in Section 3.12.2.8 (Management Actions), would be required for any ground-disturbing activities. Implementation of these management actions would minimize impacts due to erosion and sedimentation.

3.12.2.8 Management Actions

- Eglin AFB has provided a CZMA consistency determination (Appendix B, Federal Agency Coastal Zone Management Act Consistency Determination).
- Activities would comply with CWA Section 404 as administered under FAC 62-331 (State 404 Program) and FAC 62-330 (Environmental Resource Permitting), and all required permits would be obtained.
- Activities would be conducted in accordance with all permit requirements (e.g., ERP, Erosion and Sediment Control Plan requirements, NPDES permit, SWPPP).

Obtain permits and approvals for applicable activities:

- For activities causing ground disturbance of more than 1 acre, obtain a Florida NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities. Permit requirements would include a site-specific SWPPP to manage stormwater discharges and control erosion during and after construction. The SWPPP would specify BMPs (e.g., use of silt fences and revegetating disturbed sites) that would minimize effects to water quality.
- Obtain an FDEP ERP for ground-disturbing activities and fishing pier construction.
- Obtain USACE permits (CWA and/or Rivers and Harbors Act) for pile installation.

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APPENDIX A
AIR QUALITY CALCULATIONS

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This appendix presents an export of results directly from the air quality modeling software retaining the organizational headings, text, and table formatting produced by the software.

1. General Information

- Action Location

Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Camp Pinchot Adaptive Reuse at Egin Air Force Base

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 1 / 2025

- Action Purpose and Need:

The purpose and need of the Proposed Action is to reuse or repurpose this currently underutilized Air Force property in a manner that supports the 96 TW mission. Goals of any future use include keeping the property under Air Force control for security purposes and utilizing existing facilities to the extent practical.

- Action Description:

The Proposed Action would involve the repurposing of the Camp Pinchot land parcel to include the relocation of Eglin NRO and CRO personnel to Camp Pinchot as a duty station, the potential addition of buildings, parking areas, and a public recreation area outside the historic district, and the renovation of several existing facilities to support new functions.

- Point of Contact

Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

Report generated with ACAM version: 5.0.23a

- Activity List:

Activity Type		Activity Title
2.	Personnel	Immediate Action Plan (0 - 12 Months) - Staffing
3.	Personnel	Intermediate Phase (6 Months - 3 Years) - Staffing
4.	Personnel	Long-Term Phase (3 - 6 Years) - Staffing
5.	Construction / Demolition	Renovation of Existing Buildings to Accommodate New Purpose
6.	Construction / Demolition	New Building Construction - Fire Module Office Space
7.	Construction / Demolition	New Building Construction - Engine Bays
8.	Construction / Demolition	New Building Construction - Fabrication Shop
9.	Construction / Demolition	New Building Construction - Wash Rack
10.	Construction / Demolition	New Building/Structure Construction - Fuel Pump
11.	Construction / Demolition	New Building Construction - Conference Center
12.	Construction / Demolition	New Building Construction - Natural Resource Permit Sales
13.	Construction / Demolition	New Building Construction - Cultural Interpretive Center
14.	Construction / Demolition	New Building Construction - Live Animal Displays
15.	Construction / Demolition	New Building Construction - Public Use Picnic/Pavilion
16.	Construction / Demolition	New Building Construction - Public Fishing Pier
17.	Construction / Demolition	New Building Construction - Building 1556 - parking area for an estimated 40 vehicles
18.	Construction / Demolition	New Building Construction - Building 1557 – parking area for an estimated 20 vehicles

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Personnel

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Immediate Action Plan (0 - 12 Months) - Staffing

- Activity Description:
The Immediate Action Plan would involve the movement of some staff and functions to Camp Pinchot including select Eglin NRO Staff, USFWS Federal Wildlife Officers and Support Vessels, Gopher Tortoise Laboratory Staff/Facilities, and Reticulated Flatwoods Salamander Head-Starting Program Staff/Facilities.

Select Eglin NRO Staff: Estimated Personnel: 5-10 staff
USFWS Federal Wildlife Officers and Support Vessels: Estimated Personnel: (3-5 officers plus 2-3 additional staff/support vessels): 5-8 staff
Gopher Tortoise Laboratory Staff/Facilities: 2-4 staff
Reticulated Flatwoods Salamander Head-Starting Program Staff/Facilities: 2-4 staff
Total Estimated Personnel for Immediate Phase: 12-20 staff

- Activity Start Date
Start Month: 1
Start Year: 2025

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.038216
SO_x	0.000229
NO_x	0.019460
CO	0.525723

Pollutant	Emissions Per Year (TONs)
PM 10	0.000500
PM 2.5	0.000443
Pb	0.000000
NH_3	0.005483

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.001976
N_2O	0.000745

Pollutant	Emissions Per Year (TONs)
CO_2	45.440108
CO_2e	45.711042

2.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel: 20
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

2.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

2.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year
$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year
$VMT_{Total} = VMT_{AD} + VMT_{C} + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_{C}: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year
$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3. Personnel

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Intermediate Phase (6 Months - 3 Years) - Staffing

- Activity Description:
During the Intermediate Phase, the full relocation of Eglin NRO and CRO functions would be completed.
Eglin NRO Full Relocation: Estimated Personnel 20-30 staff
CRO Functions Relocation: Estimated Personnel: 10-15 staff
ADP Completion: Estimated Personnel: 5-10 staff
Total Estimated Personnel for Intermediate Phase: 35-55 staff

- Activity Start Date
Start Month: 6
Start Year: 2025

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.105094
SO_x	0.000631

Pollutant	Emissions Per Year (TONs)
PM 10	0.001375
PM 2.5	0.001217

NO_x	0.053514
CO	1.445738

Pb	0.000000
NH_3	0.015078

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.005434
N_2O	0.002050

Pollutant	Emissions Per Year (TONs)
CO_2	124.960297
CO_2e	125.705366

3.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel:	55
Civilian Personnel:	0
Support Contractor Personnel:	0
Air National Guard (ANG) Personnel:	0
Reserve Personnel:	0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule

Active Duty Personnel:	5 Days Per Week (default)
Civilian Personnel:	5 Days Per Week (default)
Support Contractor Personnel:	5 Days Per Week (default)
Air National Guard (ANG) Personnel:	4 Days Per Week (default)
Reserve Personnel:	4 Days Per Month (default)

3.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

3.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331

MC	0.11395	0.00333	391.06501	394.90588

3.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year
$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year
$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year
$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Personnel

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Long-Term Phase (3 - 6 Years) - Staffing

- Activity Description:
The Long-Term Phase (3 to 6 years) focuses on the construction of new facilities. While the exact staffing numbers are not available at this stage, new facilities generally require a combination of project management, and eventually operational staff for the newly built structures. The Cultural Interpretive Center could require educational staff, administrative staff and maintenance, the Public Use Faculties might require park rangers, maintenance staff and public-facing personnel. Estimates Personnel 15-25 staff.
Total Immediate Phase (0-12 Months): 12-20 staff
Total Intermediate Phase (6 months-3 years): 35-55 staff
Total Long-Term Phase (3-6 years): 15-25 staff.

- Activity Start Date
Start Month: 1
Start Year: 2028

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.039589
SO_x	0.000273
NO_x	0.016385
CO	0.569455

Pollutant	Emissions Per Year (TONs)
PM 10	0.000589
PM 2.5	0.000521
Pb	0.000000
NH_3	0.006179

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.001950
N_2O	0.000835

Pollutant	Emissions Per Year (TONs)
CO_2	54.182244
CO_2e	54.479194

4.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 25
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

4.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

4.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991

HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

4.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Construction / Demolition

5.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Renovation of Existing Buildings to Accommodate New Purpose

- Activity Description:

To accurately simulate the renovation project for buildings 1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561, 1562, and 1550 using the construction and demolition module, the following parameters have been established. The total renovation area is projected to range from 15,000-28,500 square feet. The scope of renovations is equivalent to approximately 33% of new building construction, translating to 4,999.5-9,499 square feet. It is anticipated that 10% of that area (or 2,850 square feet) will require demolition. which is estimated that 6,700 square feet would require architectural coating. These estimates ensure a comprehensive simulation of the renovation project within the software framework.

- Activity Start Date

Start Month: 1
Start Month: 2025

- Activity End Date

Indefinite: False
End Month: 1
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.141121
SO_x	0.001272
NO_x	0.541807
CO	0.801988

Pollutant	Total Emissions (TONs)
PM 10	0.029796
PM 2.5	0.020801
Pb	0.000000
NH_3	0.001574

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005697
N_2O	0.001604

Pollutant	Total Emissions (TONs)
CO_2	142.615440
CO_2e	143.235486

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005697
N_2O	0.001604

Pollutant	Total Emissions (TONs)
CO_2	142.615440
CO_2e	143.235486

5.1 Demolition Phase

5.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration

Number of Month: 2
Number of Days: 0

5.1.2 Demolition Phase Assumptions

- General Demolition Information

Area of Building to be demolished (ft^2): 2850
Height of Building to be demolished (ft): 12

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

5.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.43930	0.00743	3.63468	4.34820	0.10060	0.09255
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02333	0.00467	575.01338	576.98668
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02159	0.00432	532.17175	533.99803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444

HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

5.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5.2 Building Construction Phase

5.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 10
Number of Days: 0

5.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 9499
Height of Building (ft): 12
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

5.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02140	0.00428	527.58451	529.39505
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.10822	528.91712
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

5.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5.3 Architectural Coatings Phase

5.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 0
Number of Days: 13

5.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 6700
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

5.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

5.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

6. Construction / Demolition

6.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Fire Module Office Space

- Activity Description:

For the new construction of the fire module office space, which spans 4,200 square feet, the following assumptions have been made: The building will be 15 feet in height, 4200 square feet will be grated, 2,500 square feet of this area will be paved, and that 7,800 square feet would need architectural coating.

- Activity Start Date

Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 1
End Month: 2029

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.143872
SO_x	0.001236
NO_x	0.436020
CO	0.743167

Pollutant	Total Emissions (TONs)
PM 10	0.023785
PM 2.5	0.014782
Pb	0.000000
NH_3	0.001378

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005524
N_2O	0.001586

Pollutant	Total Emissions (TONs)
CO_2	140.156454
CO_2e	140.766911

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005524
N_2O	0.001586

Pollutant	Total Emissions (TONs)
CO_2	140.156454
CO_2e	140.766911

6.1 Site Grading Phase

6.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration

Number of Month: 0
Number of Days: 4

6.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 4200
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 160

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

6.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6.2 Building Construction Phase

6.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 11
Number of Days: 0

6.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 4200
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

6.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

6.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6.3 Architectural Coatings Phase

6.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2029

- Phase Duration
Number of Month: 0
Number of Days: 2

6.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 7800
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

6.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
VMT_{WT} = (1 * WT * PA) / 800

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

6.4 Paving Phase

6.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

6.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 2500

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989

Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

6.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560 / 2000

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

7. Construction / Demolition

7.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Engine Bays

- Activity Description:

For the new building construction of engine bays, the following assumptions have been made: The building is estimated to be 5,000 square feet in area with a height of 25 feet. The site grating and paving are expected to cover 5,000 square feet. And finally, it is assumed that approximately 20,000 square feet will require architectural coating.

- Activity Start Date

Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 12
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.281013
SO_x	0.001131
NO_x	0.400484
CO	0.679297

Pollutant	Total Emissions (TONs)
PM 10	0.026284
PM 2.5	0.013618
Pb	0.000000
NH_3	0.001263

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005055
N_2O	0.001489

Pollutant	Total Emissions (TONs)
CO_2	128.421466
CO_2e	128.991357

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.005055
N_2O	0.001489

Pollutant	Total Emissions (TONs)
CO_2	128.421466
CO_2e	128.991357

7.1 Site Grading Phase

7.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration

Number of Month: 0
Number of Days: 5

7.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 5000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 185

- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

7.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

7.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

7.2 Building Construction Phase

7.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 10
Number of Days: 0

7.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 5000
Height of Building (ft): 25
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

7.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

7.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

7.3 Architectural Coatings Phase

7.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 12
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 7

7.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 20000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

7.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

7.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

7.4 Paving Phase

7.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 3

7.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 5000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

7.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

7.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560 / 2000

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / $acre)^2$ / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

8. Construction / Demolition

8.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Fabrication Shop

- Activity Description:
For the new building construction of a Fabrication Shop, which spans 5,500 square feet (provided in DOPAA), the following assumptions have been made: It is anticipated that the building is 20 feet tall, with 2,000 square feet of access roads and loading bays needing paving. The total area for site grating is estimated at 5,500 square feet, while the architectural coating required for both interior and exterior surfaces is estimated at 12,500 square feet.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 11
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.189233
SO_x	0.001020
NO_x	0.361476
CO	0.613805

Pollutant	Total Emissions (TONs)
PM 10	0.026011
PM 2.5	0.012310
Pb	0.000000
NH_3	0.001151

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004563
N_2O	0.001339

Pollutant	Total Emissions (TONs)
CO_2	115.900432
CO_2e	116.413463

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004563
N_2O	0.001339

Pollutant	Total Emissions (TONs)
CO_2	115.900432
CO_2e	116.413463

8.1 Site Grading Phase

8.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

8.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 5500
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 205

- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

8.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497

Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

8.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

8.2 Building Construction Phase

8.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 9
Number of Days: 0

8.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 5500
Height of Building (ft): 20

Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

8.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

8.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

8.3 Architectural Coatings Phase

8.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 4

8.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 12500

Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

8.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

8.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

8.4 Paving Phase

8.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

8.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 2000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

8.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

8.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560 / 2000

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

2000: Conversion Factor square pounds to TONs (2000 lb / TON)

9. Construction / Demolition

9.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Wash Rack

- Activity Description:

For the new building construction of a Wash Rack, the following assumptions have been made: The building will have an area of 1,000 square feet and a height of 15 feet. Site grating is expected to cover 1,000 square feet, with 1,000 square feet of paving required for access roads and other external areas. Additionally, 4,000 square feet of architectural coating is anticipated for the project.

- Activity Start Date

Start Month: 1

Start Month: 2028

- Activity End Date

Indefinite: False

End Month: 9

End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.074533
SO_x	0.000656
NO_x	0.228515
CO	0.393945

Pollutant	Total Emissions (TONs)
PM 10	0.008870
PM 2.5	0.007736
Pb	0.000000
NH_3	0.000672

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.002930
N_2O	0.000686

Pollutant	Total Emissions (TONs)
CO_2	73.630131
CO_2e	73.907666

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.002930
N_2O	0.000686

Pollutant	Total Emissions (TONs)
CO_2	73.630131
CO_2e	73.907666

9.1 Site Grading Phase

9.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1

Start Quarter: 1

Start Year: 2028

- Phase Duration

Number of Month: 0
Number of Days: 1

9.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 1000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 37

- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

9.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

9.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

9.2 Building Construction Phase

9.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 6
Number of Days: 0

9.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial

Area of Building (ft²): 1000
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

9.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

9.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

9.3 Architectural Coatings Phase

9.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

9.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information

Building Category: Non-Residential
Total Square Footage (ft^2): 4000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

9.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

9.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

9.4 Paving Phase

9.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

9.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 1000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

9.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

9.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560 / 2000

VOC_P: Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

10. Construction / Demolition

10.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building/Structure Construction - Fuel Pump

- Activity Description:
These inputs were adapted to fit the software's building construction module. The project construction module assumptions are as follows: 5,000 square feet to be grated and paved. Canopy/structure covering 5,000 square feet and standing 15 feet tall.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 1
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.005011
SO_x	0.000087
NO_x	0.041476
CO	0.056684

Pollutant	Total Emissions (TONs)
PM 10	0.013170
PM 2.5	0.001556
Pb	0.000000
NH_3	0.000182

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000381
N_2O	0.000335

Pollutant	Total Emissions (TONs)
CO_2	10.708874
CO_2e	10.818288

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000381
N_2O	0.000335

Pollutant	Total Emissions (TONs)
CO_2	10.708874
CO_2e	10.818288

10.1 Site Grading Phase

10.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

10.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 5000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 185

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

10.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

10.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)

0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

10.2 Building Construction Phase

10.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

10.2.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial
Area of Building (ft^2): 5000
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

10.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516

Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
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MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

10.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

10.3 Paving Phase

10.3.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

10.3.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 5000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

10.3.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.11688	589.13172

Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

10.3.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560 / 2000

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

11. Construction / Demolition

11.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Conference Center

- Activity Description:
For the new building construction of a Conference Center, spanning 2,700 square feet in area, as provided in DOPAA, the following assumptions have been made: The building is anticipated to be 15 feet tall, with 3,700 square feet requiring grating, 1,000 sq feet require paving, and 5,817 sq feet requiring architectural coating.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 10
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.115458
SO_x	0.001111
NO_x	0.390426
CO	0.668688

Pollutant	Total Emissions (TONs)
PM 10	0.021249
PM 2.5	0.013294
Pb	0.000000
NH_3	0.001161

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004969
N_2O	0.001218

Pollutant	Total Emissions (TONs)
CO_2	125.103804
CO_2e	125.590649

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004969
N_2O	0.001218

Pollutant	Total Emissions (TONs)
CO_2	125.103804
CO_2e	125.590649

11.1 Site Grading Phase

11.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 4

11.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 3700
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 137

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

11.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e

LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

11.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

11.2 Building Construction Phase

11.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 10
Number of Days: 0

11.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 2700
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- **Worker Trips Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- **Vendor Trips**

Average Vendor Round Trip Commute (mile): 40 (default)

- **Vendor Trips Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

11.2.3 Building Construction Phase Emission Factor(s)

- **Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)**

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- **Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)**

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- **Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)**

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- **Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)**

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

11.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

11.3 Architectural Coatings Phase

11.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

11.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 5817
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

11.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680

MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

11.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

VMT_{WT} = (1 * WT * PA) / 800

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

11.4 Paving Phase

11.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

11.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft²): 1000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

11.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

11.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

12. Construction / Demolition

12.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Natural Resource Permit Sales

- Activity Description:
For the new building construction of a natural resource permit sales, spanning 1,000 square feet, as provided in the DOPAA, the following assumptions have been made: the building is anticipated to be 12 feet tall, with 1,000 square feet requiring grating, 1,500 sq feet requiring paving, and 2,500 square feet requiring architectural coating.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 8
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.057243
SO_x	0.000656
NO_x	0.228468
CO	0.395594

Pollutant	Total Emissions (TONs)
PM 10	0.008871
PM 2.5	0.007736
Pb	0.000000
NH_3	0.000689

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.002934
N_2O	0.000681

Pollutant	Total Emissions (TONs)
CO_2	73.734988
CO_2e	74.011033

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.002934
N_2O	0.000681

Pollutant	Total Emissions (TONs)
CO_2	73.734988
CO_2e	74.011033

12.1 Site Grading Phase

12.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 1

12.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 1000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 37

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

12.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e

LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

12.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

12.2 Building Construction Phase

12.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 6
Number of Days: 0

12.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 1000
Height of Building (ft): 12
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

12.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

12.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

12.3 Architectural Coatings Phase

12.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 4

12.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 2500
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

12.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680

MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

12.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

12.4 Paving Phase

12.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

12.4.2 Paving Phase Assumptions

- General Paving Information

Paving Area (ft^2): 1500

- Paving Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

12.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

12.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

13. Construction / Demolition

13.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Cultural Interpretive Center

- Activity Description:
For the new building construction of a Cultural Interpretive Center, spanning 10,000 square feet, as provided in the DOPAA, the following assumptions have been made: The building is anticipated to be 25 feet high, with 22,000 sq feet requiring grated (for building footprint, parking and access, sidewalks and landscaping), 10,700 square feet requiring paving (for sidewalk, parking, and access roads) and 20.000 square feet requiring architectural coating.

- Activity Start Date
Start Month: 1

Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.275498
SO_x	0.001013
NO_x	0.357812
CO	0.604365

Pollutant	Total Emissions (TONs)
PM 10	0.043336
PM 2.5	0.011987
Pb	0.000000
NH_3	0.001338

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004533
N_2O	0.001850

Pollutant	Total Emissions (TONs)
CO_2	117.525507
CO_2e	118.189886

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.004533
N_2O	0.001850

Pollutant	Total Emissions (TONs)
CO_2	117.525507
CO_2e	118.189886

13.1 Site Grading Phase

13.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 3

13.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 22000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 815

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

13.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

13.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

13.2 Building Construction Phase

13.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 9
Number of Days: 0

13.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 10000
Height of Building (ft): 25
Number of Units: N/A
- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- **Worker Trips**
  Average Worker Round Trip Commute (mile): 20 (default)

- **Worker Trips Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- **Vendor Trips**
  Average Vendor Round Trip Commute (mile): 40 (default)

- **Vendor Trips Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

13.2.3 Building Construction Phase Emission Factor(s)

- **Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)**

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- **Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)**

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- **Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)**

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- **Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)**

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721

HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

13.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

13.3 Architectural Coatings Phase

13.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 15

13.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 20000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

13.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861

HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

13.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

13.4 Paving Phase

13.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

13.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 10700

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

13.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

13.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

14. Construction / Demolition

14.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Live Animal Displays

- Activity Description:
For the new building construction of live animal displays, the following assumptions have been made: the building is anticipated to be 2,000 square feet in area, standing 15 feet tall, and construction is anticipated to require 2,000 square feet to be grated and paved for building footprint, with 4,500 square feet requiring architectural coating.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 6
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.081352
SO_x	0.000672
NO_x	0.236183
CO	0.405832

Pollutant	Total Emissions (TONs)
PM 10	0.010563
PM 2.5	0.008026
Pb	0.000000
NH_3	0.000726

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.003003
N_2O	0.000754

Pollutant	Total Emissions (TONs)
CO_2	75.715396
CO_2e	76.014903

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.003003
N_2O	0.000754

Pollutant	Total Emissions (TONs)
CO_2	75.715396
CO_2e	76.014903

14.1 Site Grading Phase

14.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration

Number of Month: 0
Number of Days: 2

14.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 2000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 74

- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

14.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

14.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

14.2 Building Construction Phase

14.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 6
Number of Days: 0

14.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 2000
Height of Building (ft): 15
Number of Units: N/A
- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

14.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956

MC	0.10949	0.00331	391.35035	395.07321

14.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

14.3 Architectural Coatings Phase

14.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

14.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 4500
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

14.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861

HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

14.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

VMT_{WT} = (1 * WT * PA) / 800

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

14.4 Paving Phase

14.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 3

14.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 2000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

14.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

14.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

15. Construction / Demolition

15.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Public Use Picnic/Pavilion

- Activity Description:
For the new building construction of a Public Use Picnic/Pavilion, the following assumptions have been made: The structure/pavilion is anticipated to be 1,000 square feet in area and stand 15 feet tall. The project is anticipated to require 2,700 square feet of grating, 1,500 of paving (to include pavilion footprint and pathways), and 2,000 square feet of architectural coating (for beams, rafters, posts, roof, and picnic tables).

- Activity Start Date
Start Month: 1
Start Month: 2028

- **Activity End Date**
  Indefinite: False
  End Month: 3
  End Month: 2028

- **Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	0.031127
SO_x	0.000179
NO_x	0.064325
CO	0.108430

Pollutant	Total Emissions (TONs)
PM 10	0.003631
PM 2.5	0.002200
Pb	0.000000
NH_3	0.000205

- **Activity Emissions of GHG:**

Pollutant	Total Emissions (TONs)
CH_4	0.000796
N_2O	0.000235

Pollutant	Total Emissions (TONs)
CO_2	20.236444
CO_2e	20.326449

- **Global Scale Activity Emissions for SCGHG:**

Pollutant	Total Emissions (TONs)
CH_4	0.000796
N_2O	0.000235

Pollutant	Total Emissions (TONs)
CO_2	20.236444
CO_2e	20.326449

15.1 Site Grading Phase

15.1.1 Site Grading Phase Timeline Assumptions

- **Phase Start Date**
  Start Month: 1
  Start Quarter: 1
  Start Year: 2028
- **Phase Duration**
  Number of Month: 0
  Number of Days: 1

15.1.2 Site Grading Phase Assumptions

- **General Site Grading Information**
  Area of Site to be Graded (ft^2): 2700
  Amount of Material to be Hauled On-Site (yd^3): 0
  Amount of Material to be Hauled Off-Site (yd^3): 100

- **Site Grading Default Settings**
  Default Settings Used: Yes
  Average Day(s) worked per week: 5 (default)

- **Construction Exhaust (default)**

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- **Vehicle Exhaust**

Average Hauling Truck Capacity (yd³): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

15.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

15.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

15.2 Building Construction Phase

15.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 15

15.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 1000
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

15.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956

MC	0.10949	0.00331	391.35035	395.07321

15.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

15.3 Architectural Coatings Phase

15.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 3
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 4

15.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 2000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

15.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861

HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

15.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

15.4 Paving Phase

15.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

15.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 1500

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

15.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

15.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

16. Construction / Demolition

16.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Public Fishing Pier

- Activity Description:
This project involves the construction of a public fishing pier. The available emissions software does not include a dedicated module for simulating emissions related to the construction of piers or similar structures. As such, the emissions were estimated using the software’s construction and demolition module. For this purpose, the pier was treated as a building, and the area (in square feet) and height inputs were adjusted to reflect the pier's dimensions: a length of 500 feet, a width or 10 feet and a height of 15 feet above the water. These inputs were used as a proxy to estimate emissions associated with construction activity. Assumptions are as follows: Pier Length 500 feet, 15

feet tall, 4,000 feet of site grating and paving required for access walkways and parking and 10,000 square feet of architectural coating would be applied.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 8
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.148815
SO_x	0.000766
NO_x	0.267353
CO	0.459160

Pollutant	Total Emissions (TONs)
PM 10	0.011623
PM 2.5	0.009001
Pb	0.000000
NH_3	0.000858

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.003427
N_2O	0.000988

Pollutant	Total Emissions (TONs)
CO_2	86.964927
CO_2e	87.344759

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.003427
N_2O	0.000988

Pollutant	Total Emissions (TONs)
CO_2	86.964927
CO_2e	87.344759

16.1 Site Grading Phase

16.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 1

16.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 4000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 148

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

16.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794

LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

16.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

16.2 Building Construction Phase

16.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 7
Number of Days: 0

16.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 5000
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

16.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18743	0.00487	1.60126	1.62784	0.06620	0.06090
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21591	0.00487	2.03219	3.56543	0.07876	0.07246
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.75405	529.56516
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.02495	528.83357
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

16.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (0.42 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

16.3 Architectural Coatings Phase

16.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 5

16.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 10000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

16.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

16.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

16.4 Paving Phase

16.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

16.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 4000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

16.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

16.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

17. Construction / Demolition

17.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Building 1556 - parking area for an estimated 40 vehicles

- Activity Description:

For the new building construction of a parking area for an estimated 40 vehicles, the following assumptions have been made: 12,000 square feet (300 square feet per vehicle) will require grating and paving.

- Activity Start Date

Start Month: 1
Start Month: 2028

- Activity End Date

Indefinite: False
End Month: 1
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.002980
SO_x	0.000044
NO_x	0.021735
CO	0.029629

Pollutant	Total Emissions (TONs)
PM 10	0.017451
PM 2.5	0.000849
Pb	0.000000
NH_3	0.000064

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000192
N_2O	0.000100

Pollutant	Total Emissions (TONs)
CO_2	5.067471
CO_2e	5.102133

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000192
N_2O	0.000100

Pollutant	Total Emissions (TONs)
CO_2	5.067471
CO_2e	5.102133

17.1 Site Grading Phase

17.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration

Number of Month: 0
Number of Days: 3

17.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 12000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 222

- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

17.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

17.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

17.2 Paving Phase

17.2.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 3

17.2.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 12000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

17.2.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.11688	589.13172
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
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LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e

LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

17.2.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

18. Construction / Demolition

18.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Building Construction - Building 1557 – parking area for an estimated 20 vehicles

- Activity Description:
For the new building construction of a parking are for an estimated 20 vehicles, the following assumptions have been made: 6,000 square feet - 300 square feet per vehicle will require grating and paving.

- Activity Start Date
Start Month: 1
Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 1
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.002208
SO_x	0.000034
NO_x	0.016655
CO	0.023251

Pollutant	Total Emissions (TONs)
PM 10	0.006204
PM 2.5	0.000639
Pb	0.000000
NH_3	0.000056

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000148
N_2O	0.000081

Pollutant	Total Emissions (TONs)
CO_2	3.934984
CO_2e	3.962908

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000148
N_2O	0.000081

Pollutant	Total Emissions (TONs)
CO_2	3.934984
CO_2e	3.962908

18.1 Site Grading Phase

18.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 2

18.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 6000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 222

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

18.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.28126	0.00491	2.08618	3.41790	0.11550	0.10626
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.24470	0.00487	2.43300	3.48645	0.12364	0.11375
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.34206	0.00492	3.04082	2.66346	0.13374	0.12304
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.33158	533.15497
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02137	0.00427	526.92217	528.73043
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02162	0.00432	532.85820	534.68684
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
LDDV	0.08684	0.00131	0.14947	7.04002	0.00409	0.00376	0.01711
LDDT	0.05401	0.00137	0.09728	3.81363	0.00378	0.00348	0.01861
HDDV	0.08503	0.00405	1.95058	1.50159	0.03144	0.02892	0.06680
MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01214	0.00472	330.53784	332.24361
LDGT	0.01142	0.00661	407.07660	409.32787
HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

18.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

18.2 Paving Phase

18.2.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 0
Number of Days: 3

18.2.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 6000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

18.2.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55275	0.00855	4.19697	3.25556	0.16292	0.14989
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.21588	0.00486	2.33827	3.43520	0.10542	0.09699
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	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.50057	0.00542	3.50905	4.08429	0.13206	0.12150
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.17299	0.00489	1.74942	3.49553	0.04787	0.04404

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02314	0.00463	570.33256	572.28980
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02133	0.00427	525.89644	527.70118
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	CH_4	**N_2O**	**CO_2**	**CO_2e**
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Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02148	0.00430	529.56544	531.38277

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.24587	0.00167	0.09178	4.28365	0.00350	0.00310	0.04794
LDGT	0.20702	0.00205	0.11489	3.51844	0.00390	0.00345	0.03991
HDGV	0.75078	0.00484	0.47955	8.99559	0.01811	0.01602	0.09140
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MC	3.09924	0.00193	0.54295	12.24220	0.02291	0.02026	0.05235

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
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HDGV	0.04586	0.02625	957.55984	966.51237
LDDV	0.04247	0.00073	389.00594	390.28476
LDDT	0.03230	0.00108	409.85665	410.98721
HDDV	0.01869	0.16427	1208.51903	1257.92956
MC	0.10949	0.00331	391.35035	395.07321

18.2.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

A.1.2

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:
Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Camp Pinchot Adaptive Reuse at Egin Air Force Base

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2025

e. Action Description:

The Proposed Action would involve the repurposing of the Camp Pinchot land parcel to include the relocation of Eglin NRO and CRO personnel to Camp Pinchot as a duty station, the potential addition of buildings, parking areas, and a public recreation area outside the historic district, and the renovation of several existing facilities to support new functions.

f. Point of Contact:
Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

____ applicable
_X_ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (hsba.e., not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.163	250	No
NOx	0.592	250	No
CO	2.169	250	No
SOx	0.002	250	No
PM 10	0.031	250	No
PM 2.5	0.022	250	No
Pb	0.000	25	No
NH3	0.016	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.221	250	No
NOx	0.073	250	No
CO	1.973	250	No
SOx	0.001	250	No
PM 10	0.002	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.021	250	No

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.143	250	No
NOx	0.073	250	No
CO	1.971	250	No
SOx	0.001	250	No
PM 10	0.002	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.021	250	No

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.501	250	No
NOx	3.140	250	No
CO	7.723	250	No
SOx	0.010	250	No
PM 10	0.224	250	No
PM 2.5	0.106	250	No
Pb	0.000	25	No
NH3	0.036	250	No

2029

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.273	250	No
NOx	0.089	250	No
CO	2.541	250	No
SOx	0.001	250	No
PM 10	0.002	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.027	250	No

2030 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.183	250	No
NOx	0.089	250	No
CO	2.541	250	No
SOx	0.001	250	No
PM 10	0.002	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.027	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Allison Williams, Environmental Scientist — Sep 18 2024

Name, Title — **Date**

A.2.1

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:
- **Base:** EGLIN AFB
- **State:** Florida
- **County(s):** Okaloosa
- **Regulatory Area(s):** NOT IN A REGULATORY AREA

b. Action Title: Alternative 1 - Camp Pinchot at Egin Air Force Base

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2025

e. Action Description:

Under Alternative 1, an Enhanced Use Lease (EUL) would be established for the undeveloped, forested portion of the Camp Pinchot Parcel, excluding the historic district. The EUL would allow a private entity to develop the land for economical beneficial purposes, potentially including a housing community and commercial/retail facilities. A conservative buffer would be maintained along Lewis Turner Boulevard and between the historic district and new construction. Tree clearing and site development would be required. No specific development plans or timelines exist at this time, but the project would undergo Air Force evaluation and community consideration if selected.

f. Point of Contact:

Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

____ applicable
__X__ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (hsba.e., not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.592	250	No
NOx	5.100	250	No
CO	5.840	250	No
SOx	0.011	250	No

PM 10	69.542	250	No
PM 2.5	0.192	250	No
Pb	0.000	25	No
NH3	0.014	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.295	250	No
NOx	0.864	250	No
CO	8.752	250	No
SOx	0.005	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.087	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.948	250	No
NOx	0.446	250	No
CO	13.600	250	No
SOx	0.006	250	No
PM 10	0.013	250	No
PM 2.5	0.012	250	No
Pb	0.000	25	No
NH3	0.146	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Allison Williams, Environmental Scientist — Oct 01 2024

Name, Title — **Date**

A.2.2

1. General Information

- Action Location

Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Alternative 1 - Camp Pinchot at Egin Air Force Base

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 1 / 2025

- Action Purpose and Need:

The purpose and need of the Proposed Action is to reuse or repurpose this currently underutilized Air Force property in a manner that supports the 96 TW mission. Goals of any future use include keeping the property under Air Force control for security purposes and utilizing existing facilities to the extent practical.

- Action Description:

Under Alternative 1, an Enhanced Use Lease (EUL) would be established for the undeveloped, forested portion of the Camp Pinchot Parcel, excluding the historic district. The EUL would allow a private entity to develop the land for economical beneficial purposes, potentially including a housing community and commercial/retail facilities. A conservative buffer would be maintained along Lewis Turner Boulevard and between the historic district and new construction. Tree clearing and site development would be required. No specific development plans or timelines exist at this time, but the project would undergo Air Force evaluation and community consideration if selected.

- Point of Contact

Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

Report generated with ACAM version: 5.0.23a

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Alternative 1 - Residential Housing Project
3.	Construction / Demolition	Alternative 1 - Retail/Commercial Construction
4.	Personnel	Residential Addition of Civilian Personnel

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Alternative 1 - Residential Housing Project

- Activity Description:

It was assumed that 20 acres of site grating would be needed (871,200 sq ft), requiring 30,000 cubic yards of material to be hauled on site, and 30,000 cubic yards to be hauled off site. The grating and hauling process was assumed to take an estimated 6 months to complete. For Alternative 1, we are assuming the housing project will involve the construction of 100-200 single-family units, at 1,500 sq ft each, equaling 150,000-300,000 sq ft of residential development. Construction will begin once part of the site is grated, between April & May and will take an estimated 12 months. For this project, the assumption is that 80,000 sq ft of paving would be needed for driveways, 260,000 sq ft of paving for roads, and 100,000 sq ft for sidewalks. It will be assumed to take an estimated 3 months beginning in March. Architectural coatings for 200 single-family homes is assumed to take 4 months to complete beginning in February of 2026.

- Activity Start Date
Start Month: 1
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 5
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	6.019382
SO_x	0.007353
NO_x	3.381793
CO	3.720476

Pollutant	Total Emissions (TONs)
PM 10	52.139674
PM 2.5	0.128496
Pb	0.000000
NH_3	0.008419

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.032878
N_2O	0.018432

Pollutant	Total Emissions (TONs)
CO_2	868.780306
CO_2e	875.093849

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.032878
N_2O	0.018432

Pollutant	Total Emissions (TONs)
CO_2	868.782403
CO_2e	875.095958

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 6
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 871200
Amount of Material to be Hauled On-Site (yd^3): 30000
Amount of Material to be Hauled Off-Site (yd^3): 30000

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Scrapers Composite [HP: 423] [LF: 0.48]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20447	0.00489	1.90932	1.57611	0.07394	0.06803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.13772	589.15263
Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				

	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.74261	529.55369
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02159	0.00432	532.17175	533.99803
Scrapers Composite [HP: 423] [LF: 0.48]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02146	0.00429	528.94235	530.75755
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 3
Start Year: 2025

- Phase Duration
Number of Month: 12
Number of Days: 0

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Single-Family

Area of Building (ft^2): 1500
Height of Building (ft): N/A
Number of Units: 200

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02140	0.00428	527.58451	529.39505
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e

Emission Factors	0.02138	0.00428	527.10822	528.91712
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = NU * 0.36 * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
NU: Number of Units
0.72: Conversion Factor units to trips
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = NU * 0.11 * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
NU: Number of Units
0.11: Conversion Factor units to trips
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Architectural Coatings Phase

2.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 4
Number of Days: 0

2.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Single-Family
Total Square Footage (ft^2): N/A

Number of Units: 200

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (NU * 1800 * 2.7 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
NU: Number of Units
1800: Conversion Factor units to square feet (1800 ft^2 / unit)
2.7: Conversion Factor total area to coated area (2.7 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.4 Paving Phase

2.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 3
Number of Days: 0

2.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 440000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.24787	0.00486	2.64574	3.44523	0.13933	0.12819
Paving Equipment Composite [HP: 89] [LF: 0.36]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.20238	0.00487	2.21583	3.41771	0.08945	0.08229
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.56682	0.00541	3.67816	4.11298	0.16639	0.15308

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02136	0.00427	526.53742	528.34436
Paving Equipment Composite [HP: 89] [LF: 0.36]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.68636	529.49724
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02381	0.00476	586.90234	588.91644

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower

LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Alternative 1 - Retail/Commercial Construction

- Activity Description:
For the commercial/retail facilities, it is assumed that 10 acres will be needed to construct 50,000-100,000 sq ft of retail space, the assumption is that the buildings will be 1-2 stories (which is ~20-30 feet) tall. It is assumed that 10 acres of site grating would be needed (435,600 square feet), requiring 24,000 cubic yards to be hauled on-site, and 7,000 to be hauled off-site. The grating/hauling process was assumed to take an estimated 4 months beginning in January of 2025. The construction is assumed to begin in May of 2025 and take approximately 12 months to complete. The assumption is that 325,000 square feet of paving (parking lots, access roads, and loading zones) would be needed for this portion of the project, and it would take approximately 2 months. Architectural coatings for 175,000 square feet is assumed to take 2.5 months to complete beginning in April of 2026.

- Activity Start Date
Start Month: 1
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 6
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.314497
SO_x	0.004677
NO_x	2.321898
CO	2.938544

Pollutant	Total Emissions (TONs)
PM 10	17.425503
PM 2.5	0.084789
Pb	0.000000
NH_3	0.007939

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.019568
N_2O	0.013865

Pollutant	Total Emissions (TONs)
CO_2	531.261728
CO_2e	535.881411

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.019568
N_2O	0.013865

Pollutant	Total Emissions (TONs)
CO_2	531.261728
CO_2e	535.881411

3.1 Site Grading Phase

3.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 4
Number of Days: 0

3.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 435600
Amount of Material to be Hauled On-Site (yd^3): 24000
Amount of Material to be Hauled Off-Site (yd^3): 7000

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.13772	589.15263
Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.74261	529.55369
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02159	0.00432	532.17175	533.99803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3.2 Building Construction Phase

3.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 5
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 12
Number of Days: 0

3.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Commercial or Retail
Area of Building (ft^2): 100000
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

3.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418

Generator Sets Composite [HP: 14] [LF: 0.74]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.54223	0.00793	4.34662	2.86938	0.17681	0.16267
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119
Welders Composite [HP: 46] [LF: 0.45]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.49757	0.00735	3.67618	4.52476	0.11274	0.10373

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02140	0.00428	527.58451	529.39505
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.10822	528.91712
Generator Sets Composite [HP: 14] [LF: 0.74]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02305	0.00461	568.32220	570.27253
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105
Welders Composite [HP: 46] [LF: 0.45]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02305	0.00461	568.30078	570.25105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = BA * BH * (0.32 / 1000) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.32 / 1000): Conversion Factor ft^3 to trips (0.32 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.05 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.05 / 1000): Conversion Factor ft^3 to trips (0.05 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3.3 Architectural Coatings Phase

3.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 2
Number of Days: 14

3.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 175000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639

HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
VMT_{WT} = (1 * WT * PA) / 800

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

3.4 Paving Phase

3.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 5
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 2
Number of Days: 0

3.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 325000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24787	0.00486	2.64574	3.44523	0.13933	0.12819
Paving Equipment Composite [HP: 89] [LF: 0.36]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20238	0.00487	2.21583	3.41771	0.08945	0.08229
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.56682	0.00541	3.67816	4.11298	0.16639	0.15308

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02136	0.00427	526.53742	528.34436
Paving Equipment Composite [HP: 89] [LF: 0.36]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.68636	529.49724
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02381	0.00476	586.90234	588.91644

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

4. Personnel

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Residential Addition of Civilian Personnel

- Activity Description:
This activity assumes the addition of 550 new civilian personnel who will occupy the 200 newly constructed residential units under Alternative 1. These personnel are expected to commute to and from the site as part of ongoing operations. This is an estimated assumption used to calculate emissions related to post-construction operational activities, including commuting emissions.

- Activity Start Date
Start Month: 6
Start Year: 2026

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.947887
SO_x	0.006195
NO_x	0.446363
CO	13.599503

Pollutant	Emissions Per Year (TONs)
PM 10	0.013483
PM 2.5	0.011929
Pb	0.000000
NH_3	0.145813

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.047760
N_2O	0.019666

Pollutant	Emissions Per Year (TONs)
CO_2	1228.826339
CO_2e	1235.865391

4.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel:	0
Civilian Personnel:	550
Support Contractor Personnel:	0
Air National Guard (ANG) Personnel:	0
Reserve Personnel:	0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule

Active Duty Personnel:	5 Days Per Week (default)
Civilian Personnel:	5 Days Per Week (default)
Support Contractor Personnel:	5 Days Per Week (default)
Air National Guard (ANG) Personnel:	4 Days Per Week (default)
Reserve Personnel:	4 Days Per Month (default)

4.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

4.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26860	0.00172	0.11494	4.59156	0.00364	0.00322	0.05129
LDGT	0.22958	0.00212	0.14451	3.87645	0.00408	0.00361	0.04304
HDGV	0.88395	0.00483	0.59039	11.06281	0.01969	0.01741	0.09480
LDDV	0.08708	0.00132	0.14749	6.56557	0.00364	0.00335	0.01705
LDDT	0.15078	0.00150	0.41118	5.60763	0.00583	0.00536	0.01751
HDDV	0.10944	0.00419	2.34024	1.60034	0.04742	0.04363	0.06571
MC	3.20770	0.00193	0.54558	12.49470	0.02291	0.02026	0.05171

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01351	0.00495	340.96759	342.77490
LDGT	0.01304	0.00715	419.83935	422.29139
HDGV	0.05499	0.02808	955.36623	965.09057
LDDV	0.04285	0.00073	393.05215	394.34113
LDDT	0.03067	0.00109	441.62237	442.71351
HDDV	0.01948	0.16187	1248.10200	1296.81517
MC	0.11230	0.00331	391.17366	394.96854

4.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year
$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year
$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year
$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

A.3.1

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:
Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Alternative 2 - Camp Pinchot at Egin Air Force Base

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2025

e. Action Description:

Under Alternative 2, an Enhanced Use Lease (EUL) would be established for the entire Camp Pinchot Parcel, including the historic district. The EUL would allow a private entity to develop the land for economical beneficial purposes, potentially including a housing community and commercial/retail facilities. Tree clearing and site development would be required. While development would be similar to Alternative 1, a key distinction would be the requirement to preserve the historic district and associated buildings as part of a Historical Park. Historical preservation activities would be incorporated, including the potential demolition of historic buildings if they are found to be structurally unsound following an assessment.

f. Point of Contact:

Name:	Allison Williams
Title:	Environmental Scientist
Organization:	Leidos Corporation

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

_____ applicable
__X__ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (hsba.e., not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.593	250	No
NOx	5.114	250	No
CO	5.859	250	No
SOx	0.011	250	No
PM 10	69.571	250	No
PM 2.5	0.192	250	No
Pb	0.000	25	No
NH3	0.015	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.295	250	No
NOx	0.864	250	No
CO	8.752	250	No
SOx	0.005	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.087	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.948	250	No
NOx	0.446	250	No
CO	13.600	250	No
SOx	0.006	250	No
PM 10	0.013	250	No
PM 2.5	0.012	250	No
Pb	0.000	25	No
NH3	0.146	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Allison Williams, Environmental Scientist Oct 01 2024

Name, Title **Date**

A.3.2

1. General Information

- Action Location

Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Alternative 2 - Camp Pinchot at Egin Air Force Base

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 1 / 2025

- Action Purpose and Need:

The purpose and need of the Proposed Action is to reuse or repurpose this currently underutilized Air Force property in a manner that supports the 96 TW mission. Goals of any future use include keeping the property under Air Force control for security purposes and utilizing existing facilities to the extent practical.

- Action Description:

Under Alternative 2, an Enhanced Use Lease (EUL) would be established for the entire Camp Pinchot Parcel, including the historic district. The EUL would allow a private entity to develop the land for economical beneficial purposes, potentially including a housing community and commercial/retail facilities. Tree clearing and site development would be required. While development would be similar to Alternative 1, a key distinction would be the requirement to preserve the historic district and associated buildings as part of a Historical Park. Historical preservation activities would be incorporated, including the potential demolition of historic buildings if they are found to be structurally unsound following an assessment.

- Point of Contact

Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

Report generated with ACAM version: 5.0.23a

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Alternative 2 - Housing Project
3.	Construction / Demolition	Alternative 2 - Retail/Commercial Construction
4.	Construction / Demolition	Demolition of Select Buildings in Camp Pinchot Historic District
5.	Personnel	Residential Addition of Civilian Personnel

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Alternative 2 - Housing Project

- Activity Description:

It was assumed that 20 acres of site grating would be needed (871,200 sq ft), requiring 30,000 cubic yards of material to be hauled on site, and 30,000 cubic yards to be hauled off site. The grating and hauling process was assumed to take an estimated 6 months to complete. For Alternative 1, we are assuming the housing project will involve the construction of 100-200 single-family units, at 1,500 sq ft each, equaling 150,000-300,000 sq ft of residential development. Construction will begin once part of the site is grated, between April & May and will take an estimated 12 months. For this project, the assumption is that 80,000 sq ft of paving would be needed for driveways, 260,000 sq ft of paving for roads, and 100,000 sq ft for sidewalks. It will be assumed to take an estimated 3 months beginning in March. Architectural coatings for 200 single-family homes is assumed to take 4 months to complete beginning in February of 2026.

- Activity Start Date

Start Month: 1

Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 5
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	6.019382
SO_x	0.007353
NO_x	3.381793
CO	3.720476

Pollutant	Total Emissions (TONs)
PM 10	52.139674
PM 2.5	0.128496
Pb	0.000000
NH_3	0.008419

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.032878
N_2O	0.018432

Pollutant	Total Emissions (TONs)
CO_2	868.780306
CO_2e	875.093849

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.032878
N_2O	0.018432

Pollutant	Total Emissions (TONs)
CO_2	868.782403
CO_2e	875.095958

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 6
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 871200
Amount of Material to be Hauled On-Site (yd^3): 30000
Amount of Material to be Hauled Off-Site (yd^3): 30000

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8

Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Scrapers Composite [HP: 423] [LF: 0.48]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.20447	0.00489	1.90932	1.57611	0.07394	0.06803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02382	0.00476	587.13772	589.15263
Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.74261	529.55369
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02159	0.00432	532.17175	533.99803
Scrapers Composite [HP: 423] [LF: 0.48]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**

Emission Factors	0.02146	0.00429	528.94235	530.75755
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)

HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 3
Start Year: 2025

- Phase Duration
Number of Month: 12
Number of Days: 0

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Single-Family
Area of Building (ft^2): 1500
Height of Building (ft): N/A
Number of Units: 200

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02140	0.00428	527.58451	529.39505
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.10822	528.91712
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3

LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = NU * 0.36 * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
NU: Number of Units
0.72: Conversion Factor units to trips
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = NU * 0.11 * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
NU: Number of Units
0.11: Conversion Factor units to trips
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Architectural Coatings Phase

2.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 4
Number of Days: 0

2.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Single-Family
Total Square Footage (ft^2): N/A
Number of Units: 200

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (NU * 1800 * 2.7 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
NU: Number of Units
1800: Conversion Factor units to square feet (1800 ft^2 / unit)
2.7: Conversion Factor total area to coated area (2.7 ft^2 coated area / total area)

0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.4 Paving Phase

2.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 3
Number of Days: 0

2.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 440000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24787	0.00486	2.64574	3.44523	0.13933	0.12819
Paving Equipment Composite [HP: 89] [LF: 0.36]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20238	0.00487	2.21583	3.41771	0.08945	0.08229

Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.56682	0.00541	3.67816	4.11298	0.16639	0.15308

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02136	0.00427	526.53742	528.34436
Paving Equipment Composite [HP: 89] [LF: 0.36]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.68636	529.49724
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02381	0.00476	586.90234	588.91644

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Alternative 2 - Retail/Commercial Construction

- Activity Description:

For the commercial/retail facilities, it is assumed that 10 acres will be needed to construct 50,000-100,000 sq ft of retail space, the assumption is that the buildings will be 1-2 stories (which is ~20-30 feet) tall. It is assumed that 10 acres of site grating would be needed (435,600 square feet), requiring 24,000 cubic yards to be hauled on-site, and 7,000 to be hauled off-site. The grating/hauling process was assumed to take an estimated 4 months beginning in January of 2025. The construction is assumed to begin in May of 2025 and take approximately 12 months to complete. The assumption is that 325,000 square feet of paving (parking lots, access roads, and loading zones) would be needed for this portion of the project, and it would take approximately 2 months. Architectural coatings for 175,000 square feet is assumed to take 2.5 months to complete beginning in April of 2026.

- Activity Start Date

Start Month: 1
Start Month: 2025

- Activity End Date

Indefinite: False
End Month: 6
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.314497
SO_x	0.004677
NO_x	2.321898
CO	2.938544

Pollutant	Total Emissions (TONs)
PM 10	17.425503
PM 2.5	0.084789
Pb	0.000000
NH_3	0.007939

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.019568
N_2O	0.013865

Pollutant	Total Emissions (TONs)
CO_2	531.261728
CO_2e	535.881411

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.019568
N_2O	0.013865

Pollutant	Total Emissions (TONs)
CO_2	531.261728
CO_2e	535.881411

3.1 Site Grading Phase

3.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration

Number of Month: 4
Number of Days: 0

3.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 435600
Amount of Material to be Hauled On-Site (yd^3): 24000
Amount of Material to be Hauled Off-Site (yd^3): 7000

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.13772	589.15263

Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02141	0.00428	527.74261	529.55369
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02159	0.00432	532.17175	533.99803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3.2 Building Construction Phase

3.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 5
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 12
Number of Days: 0

3.2.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Commercial or Retail
Area of Building (ft^2): 100000
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

3.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418
Generator Sets Composite [HP: 14] [LF: 0.74]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.54223	0.00793	4.34662	2.86938	0.17681	0.16267
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119
Welders Composite [HP: 46] [LF: 0.45]						

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.49757	0.00735	3.67618	4.52476	0.11274	0.10373

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02140	0.00428	527.58451	529.39505
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02138	0.00428	527.10822	528.91712
Generator Sets Composite [HP: 14] [LF: 0.74]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02305	0.00461	568.32220	570.27253
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105
Welders Composite [HP: 46] [LF: 0.45]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02305	0.00461	568.30078	570.25105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.32 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.32 / 1000): Conversion Factor ft^3 to trips (0.32 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.05 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.05 / 1000): Conversion Factor ft^3 to trips (0.05 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3.3 Architectural Coatings Phase

3.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 2
Number of Days: 14

3.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 175000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

3.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

3.4 Paving Phase

3.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 5
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 2
Number of Days: 0

3.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 325000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.24787	0.00486	2.64574	3.44523	0.13933	0.12819
Paving Equipment Composite [HP: 89] [LF: 0.36]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.20238	0.00487	2.21583	3.41771	0.08945	0.08229
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.56682	0.00541	3.67816	4.11298	0.16639	0.15308

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02136	0.00427	526.53742	528.34436
Paving Equipment Composite [HP: 89] [LF: 0.36]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.68636	529.49724
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02381	0.00476	586.90234	588.91644

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331

MC	0.11395	0.00333	391.06501	394.90588

3.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

4. Construction / Demolition

4.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demolition of Select Buildings in Camp Pinchot Historic District

- Activity Description:
In Alternative 2, it is assumed that approximately 4,500 square feet of historic structures may need to be demolished, based on the potential findings of a structural assessment within Camp Pinchot Historic District. While demolition is not the primary intent, these activities could become necessary if certain buildings are found to be beyond repair. The demolition would require the use of heavy machinery to remove the structures and transport the debris off-site. Additionally, these actions would be accompanied by mitigation measures, including Historic American Buildings Survey (HABS) Level I documentation and public outreach, to preserve the historical significance of the site.

- Activity Start Date
Start Month: 1
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 1
End Month: 2025

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.001495
SO_x	0.000029
NO_x	0.014323
CO	0.018879

Pollutant	Total Emissions (TONs)
PM 10	0.028818
PM 2.5	0.000431
Pb	0.000000
NH_3	0.000117

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000122
N_2O	0.000242

Pollutant	Total Emissions (TONs)
CO_2	4.089959
CO_2e	4.165045

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000122

Pollutant	Total Emissions (TONs)
CO_2	4.089959

N_2O	0.000242		CO_2e	4.165045

4.1 Demolition Phase

4.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration

Number of Month: 0
Number of Days: 5

4.1.2 Demolition Phase Assumptions

- General Demolition Information

Area of Building to be demolished (ft^2): 4500
Height of Building to be demolished (ft): 30

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

4.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.43930	0.00743	3.63468	4.34820	0.10060	0.09255
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5

Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02333	0.00467	575.01338	576.98668
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02159	0.00432	532.17175	533.99803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

4.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower

LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Personnel

5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Residential Addition of Civilian Personnel

- Activity Description:

This activity assumes the addition of 550 new civilian personnel who will occupy the 200 newly constructed residential units under Alternative 2. These personnel are expected to commute to and from the site as part of ongoing operations. This is an estimated assumption used to calculate emissions related to post-construction operational activities, including commuting emissions.

- Activity Start Date

Start Month: 6
Start Year: 2026

- Activity End Date

Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.947887
SO_x	0.006195
NO_x	0.446363
CO	13.599503

Pollutant	Emissions Per Year (TONs)
PM 10	0.013483
PM 2.5	0.011929
Pb	0.000000
NH_3	0.145813

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.047760
N_2O	0.019666

Pollutant	Emissions Per Year (TONs)
CO_2	1228.826339
CO_2e	1235.865391

5.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel: 0
Civilian Personnel: 550
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule

Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

5.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

5.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26860	0.00172	0.11494	4.59156	0.00364	0.00322	0.05129
LDGT	0.22958	0.00212	0.14451	3.87645	0.00408	0.00361	0.04304
HDGV	0.88395	0.00483	0.59039	11.06281	0.01969	0.01741	0.09480
LDDV	0.08708	0.00132	0.14749	6.56557	0.00364	0.00335	0.01705
LDDT	0.15078	0.00150	0.41118	5.60763	0.00583	0.00536	0.01751
HDDV	0.10944	0.00419	2.34024	1.60034	0.04742	0.04363	0.06571
MC	3.20770	0.00193	0.54558	12.49470	0.02291	0.02026	0.05171

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01351	0.00495	340.96759	342.77490
LDGT	0.01304	0.00715	419.83935	422.29139
HDGV	0.05499	0.02808	955.36623	965.09057
LDDV	0.04285	0.00073	393.05215	394.34113
LDDT	0.03067	0.00109	441.62237	442.71351
HDDV	0.01948	0.16187	1248.10200	1296.81517
MC	0.11230	0.00331	391.17366	394.96854

5.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

A.4.1

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:
Base: EGLIN AFB
State: Florida
County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Alternative 3 - Camp Pinchot at Egin Air Force Base

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2025

e. Action Description:

Under Alternative 3, some of all of the historic buildings in the Camp Pinchot Historic District would be demolished to provide new options related to the Enhanced Use Lease (EUL). This option involves the potential removal of ten contributing historic buildings and could also impact three archaeological sites, including one eligible for the National Register. As a result, this alternative would likely require an Environmental Impact Statement due to the adverse effects on the historic and archaeological resources. Mitigation would include Historic American Buildings Survey (HABS) Level I Documentation, public outreach, and adherence to the 2021 Programmatic Agreement to the address adverse impacts. In this alternative, all emissions would be associated with demolition activities, including machinery used for demolition and debris transportation, with the potential for archaeological mitigation work.

f. Point of Contact:
Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

_____ applicable
__X__ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr

Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are “Attainment” (hsba.e., not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.005	250	No
NOx	0.060	250	No
CO	0.059	250	No
SOx	0.000	250	No
PM 10	0.317	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.001	250	No

2026 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Allison Williams, Environmental Scientist Sep 23 2024
Name, Title **Date**

A.4.2

1. General Information

- Action Location
Base: EGLIN AFB
State: Florida

County(s): Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Alternative 3 - Camp Pinchot at Egin Air Force Base

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 1 / 2025

- Action Purpose and Need:
The purpose and need of the Proposed Action is to reuse or repurpose this currently underutilized Air Force property in a manner that supports the 96 TW mission. Goals of any future use include keeping the property under Air Force control for security purposes and utilizing existing facilities to the extent practical.

- Action Description:
Under Alternative 3, some of all of the historic buildings in the Camp Pinchot Historic District would be demolished to provide new options related to the Enhanced Use Lease (EUL). This option involves the potential removal of ten contributing historic buildings and could also impact three archaeological sites, including one eligible for the National Register. As a result, this alternative would likely require an Environmental Impact Statement due to the adverse effects on the historic and archaeological resources. Mitigation would include Historic American Buildings Survey (HABS) Level I Documentation, public outreach, and adherence to the 2021 Programmatic Agreement to the address adverse impacts. In this alternative, all emissions would be associated with demolition activities, including machinery used for demolition and debris transportation, with the potential for archaeological mitigation work.

- Point of Contact
Name: Allison Williams
Title: Environmental Scientist
Organization: Leidos Corporation

Report generated with ACAM version: 5.0.23a

- Activity List:

	Activity Type	Activity Title
2.	Construction / Demolition	Demolition of All Buildings in Camp Pinchot Historic District

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Okaloosa
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demolition of All Buildings in Camp Pinchot Historic District

- Activity Description:
Under Alternative 3, the demolition of all ten contributing historic buildings in the Camp Pinchot Historic District, an assumed 50,000 square feet, is to be demolished. This option would open the site for new development related to the Enhanced Use Lease (EUL). The demolition would generate emissions associated with the use of heavy

machinery, including greenhouse gases, particulate matter and fugitive dust, as well as from the transportation of debris off-site.

- Activity Start Date
Start Month: 1
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 1
End Month: 2025

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.004535
SO_x	0.000111
NO_x	0.059686
CO	0.058505

Pollutant	Total Emissions (TONs)
PM 10	0.316627
PM 2.5	0.001497
Pb	0.000000
NH_3	0.001050

- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000495
N_2O	0.002497

Pollutant	Total Emissions (TONs)
CO_2	24.086395
CO_2e	24.842731

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.000495
N_2O	0.002497

Pollutant	Total Emissions (TONs)
CO_2	24.086395
CO_2e	24.842731

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 0
Number of Days: 14

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 50000
Height of Building to be demolished (ft): 30

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.43930	0.00743	3.63468	4.34820	0.10060	0.09255
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02333	0.00467	575.01338	576.98668
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02159	0.00432	532.17175	533.99803
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30440	0.00175	0.13290	4.77199	0.00371	0.00328	0.05325
LDGT	0.26083	0.00216	0.17973	4.20900	0.00418	0.00370	0.04444
HDGV	0.98518	0.00481	0.66400	11.99902	0.02092	0.01850	0.09582
LDDV	0.08914	0.00133	0.14951	6.42748	0.00351	0.00323	0.01693
LDDT	0.20580	0.00152	0.47872	6.07454	0.00570	0.00525	0.01788
HDDV	0.12304	0.00426	2.47202	1.65242	0.05496	0.05057	0.06504
MC	3.22233	0.00193	0.54715	12.64378	0.02290	0.02026	0.05135

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01506	0.00514	346.03787	347.94148
LDGT	0.01548	0.00747	427.58921	430.19622
HDGV	0.05923	0.02786	951.90377	961.66618
LDDV	0.04271	0.00073	395.50643	396.79223
LDDT	0.03143	0.00108	447.56743	448.67639
HDDV	0.01995	0.16036	1266.81748	1315.09331
MC	0.11395	0.00333	391.06501	394.90588

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (0.00042 * BA * BH) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL}* 0.002205) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

APPENDIX B
FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION

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FEDERAL AGENCY *COASTAL ZONE MANAGEMENT ACT* CONSISTENCY DETERMINATION

Introduction

This document provides the State of Florida with the Department of the Air Force's (DAF) Consistency Determination under the Coastal Zone Management Act (CZMA) Section 307 and 15 Code of Federal Regulations (CFR) Part 930 Subpart C. The information in this Consistency Determination is provided pursuant to 15 CFR Section 930.39 and Section 307 of the CZMA, 16 United States Code Section 1456, as amended, and National Oceanic and Atmospheric Administration regulations in 15 CFR Part 930.

This Consistency Determination addresses the Proposed Action in combination with Alternative 4 (the Preferred Alternative) of the *Camp Pinchot Adaptive Reuse at Eglin Air Force Base (AFB) Environmental Assessment* (EA), which programmatically evaluates potential environmental impacts associated with reuse and repurposing of the Camp Pinchot land parcel.

Purpose and Need

The purpose of the Proposed Action is to ensure that any future use of Camp Pinchot includes keeping the property under DAF control for security purposes and utilizing existing facilities to the extent practical.

Camp Pinchot is vacant for the first time since the United States Forest Service constructed the facilities in 1910. The need for the Proposed Action is to reuse or repurpose this currently underutilized DAF property in a manner that supports the 96 Test Wing mission. Occupation of these structures will preserve use and encourage maintenance of these buildings for the Natural Resources Office (NRO) and Cultural Resources Office (CRO). Both the NRO and CRO will be able to continue their mission for the base, range, and community while preserving Eglin land and the heritage of Camp Pinchot.

Proposed Federal Agency Action

The Proposed Action consists of implementing a Camp Pinchot Adaptive Reuse Plan (ARP). Under the ARP, the Eglin AFB NRO and CRO (including a curation facility/interpretive center) would be relocated to Camp Pinchot as a duty station. There would also be an expansion of the currently developed area, including the addition of buildings, parking areas, and a public recreation area. Building space and water access via Garnier Bayou would be provided for law enforcement personnel (96th Security Forces Squadron [96 SFS]) and United States Fish and Wildlife Service (USFWS) personnel. New facilities could be constructed to support these and other functions, such as public education and recreation. Several existing facilities, including contributing buildings 1555, 1556, and 1557, would be renovated to support new functions. Future activities other than conversion of existing facilities, including new construction, are considered notional currently. Future use of facilities vacated by the Eglin NRO, CRO, and Wildland Fire Center-Eglin Wildland Support Module would be assessed in future National Environmental Policy Act (NEPA) documentation if applicable.

Prior to initiating new construction or other future actions, the DAF would develop and implement a Camp Pinchot Area Development Plan (ADP). Although details are not available at this time, the ADP would contain constraints and opportunities evaluation, illustrative plans, regulating plans, implementation plans, and capacity analysis. The ADP process would include a thorough analysis of existing conditions, identification of existing program requirements, and review of the installation's planning vision, goals, and objectives. After initial analysis, conceptual alternatives would be developed and evaluated against measurable criteria. Ultimately, a preferred alternative that best meets the planning vision, goals, and objectives would be identified. The ADP would be completed in accordance with Unified Facilities Criteria 2-100-01, *Installation Master Planning*, and Air Force Instruction 32-1015, *Integrated Installation Planning*.

The NRO and CRO relocation and associated actions described above would be implemented in three phases occurring over a time of approximately 6 years. The immediate action plan (0 to 12 months) would involve movement of some staff and functions to Camp Pinchot, including select Eglin NRO staff, USFWS federal wildlife officers and support vessels, gopher tortoise laboratory staff/facilities, and reticulated flatwoods salamander head-starting program staff/facilities (Figure 1). During the intermediate plan (6 months to 3 years), Eglin NRO and CRO functions would complete their relocation to Camp Pinchot. In addition, the ADP would be completed. The long-term plan (3 to 6 years) would involve construction of new facilities (Figure 2), although the number and configuration of the facilities are notional at this time. The actions would be conducted in accordance with the ADP. Table 1 lists the current and proposed future use of existing facilities. Notional future facilities are listed in Table 2. During the construction phase, a parking and equipment/materials laydown area would be temporarily located at the periphery of the historic district. In addition to new facilities, the long-term plan would include construction of public trails and other compatible-use recreational areas.

Table 1. Current and Potential Future Use of Existing Camp Pinchot Historic District Facilities

Building Number/Structure (SHPO Number)	Current Use	Proposed Future Use
1551 (8OK03158)	Maintenance	Retain for Storage
1552 (8OK03159)	Maintenance	Retain for Storage
1553 (8OK03160)	Kitchen	Kitchen
1555 (8OK03161)	Storage (Officer's Garage) and Apartment	Convert to Gopher Tortoise Lab
1556 (8OK03162)	Housing (Officer's House)	Convert to Natural Resources Office
1557 (8OK03163)	Housing (Cottage)	Convert to Natural Resources/USFWS Office
1558 (8OK03164)	Housing	TBD
1559 (8OK01988)	Housing	Retain for Future Cultural Resources
1561 (8OK03125)	Boathouse	Retain for USFWS/96 SFS Law Enforcement
1562 (8OK03165)	Maintenance	Retain for Storage
1550 (Tennis Court; non-contributing)	Recreation	Add Picnic Area and Pavilion

Source: (96 CEG, 2022b)

96 SFS = 96th Security Forces Squadron; SHPO = State Historic Preservation Officer; TBD = to be determined; USFWS = United States Fish and Wildlife Service

Table 2. Notional Future Facilities at Camp Pinchot

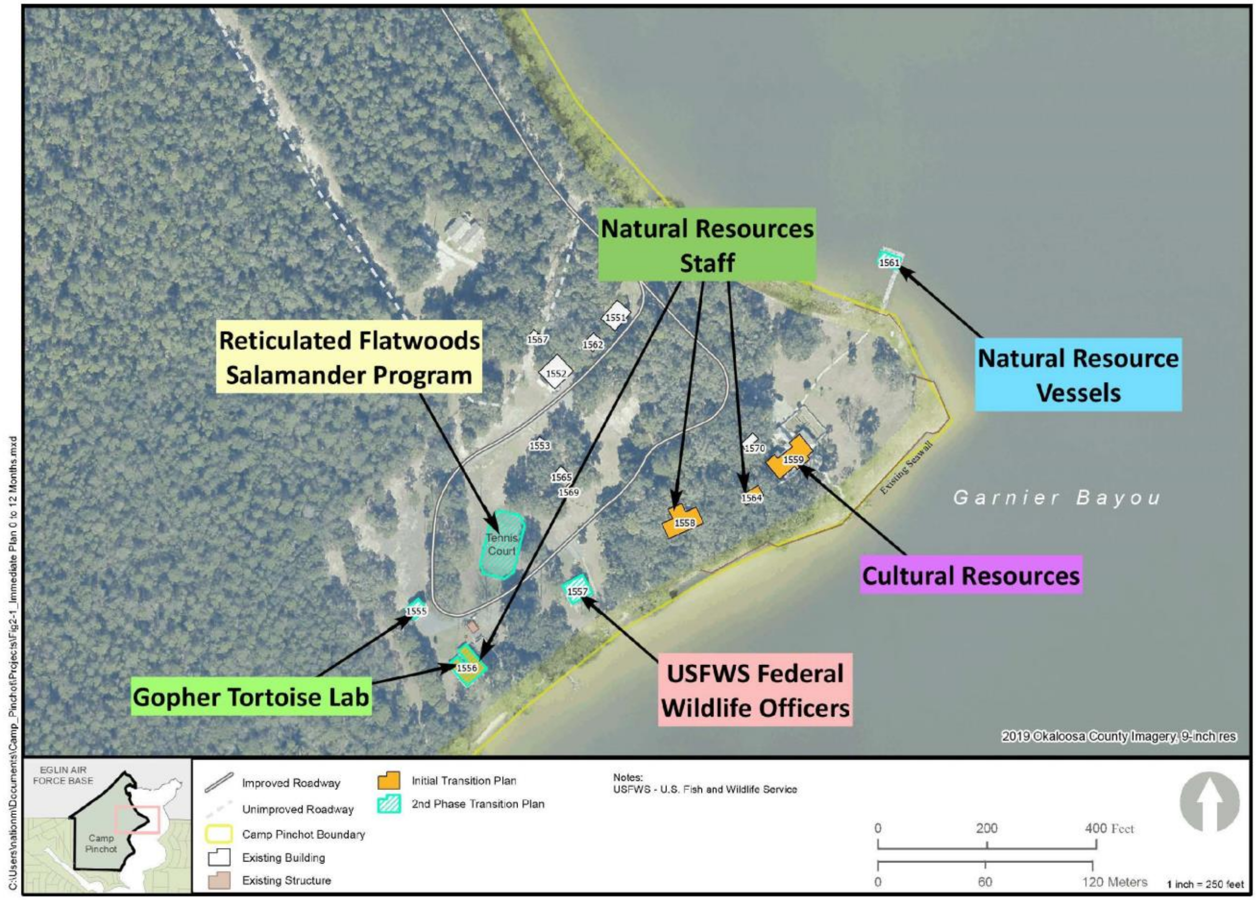
Department of the Air Force Facilities	Public Facilities
Fire Module Office Space (4,200 square feet)	Natural Resources Permit Sales (1,000 square feet)
Engine Bays	Cultural Interpretive Center (10,000 square feet)
Fabrication Shop (5,500 square feet)	Live Animal Displays
Wash Rack	Public Use Picnic/Pavilion
Fuel Pumps	Public Fishing Pier
Conference Center (2,700 square feet)	
Pavilion	

The total acreage of ground disturbance and new impervious surface associated with the Proposed Action is unknown at this time. However, paved areas would likely be constructed adjacent to some existing and notional facilities (see Figure 2). In addition, new impervious surfaces would be required for the following:

- Building 1556 – parking area for an estimated 40 vehicles
- Building 1557 – parking area for an estimated 20 vehicles

Facilities in the historic district have generally retained their historic forms, but many require some level of restoration. Primary issues are moisture in walls and roofs, dry rot, and paint degeneration. In addition, some facilities have lost historic characteristics due to past modifications. Accordingly, the Proposed Action would include implementation of the Camp Pinchot Historic Preservation Plan, which was completed by the US Army Corps of Engineers in 2007 to meet National Historic Preservation Act (NHPA) requirements. The plan would support rehabilitation through repairs, code upgrades, and other modifications. Activities would require consultation with the State Historic Preservation Officer per NHPA Sections 106 and 110. When applicable, Eglin AFB would conduct a condition assessment to evaluate the structural condition of the buildings to determine the level of repair required, or whether demolition and future construction would be most feasible.

Under the Proposed Action, the developed Camp Pinchot footprint could eventually expand by anywhere between 32 and 50 acres to accommodate all natural resources and cultural resources functions, including the Wildland Support Module and a cultural resources curation facility/interpretive center. All buildings would be constructed or updated, as applicable, in accordance with Antiterrorism and Force Protection standards, as well as for compliance with the Americans with Disabilities Act and other building code requirements. Implementing the ARP would support the 96 TW mission and keep the land parcel under DAF control, while also utilizing existing buildings and water access. Adaptive reuse may result in adverse effects on cultural resources, which would be mitigated by following recommendations of the historic preservation plan and the Standard Treatment Measures in the Camp Pinchot Historic Preservation Plan.



1 Figure 1. Immediate Plan: 0 to 12 Months

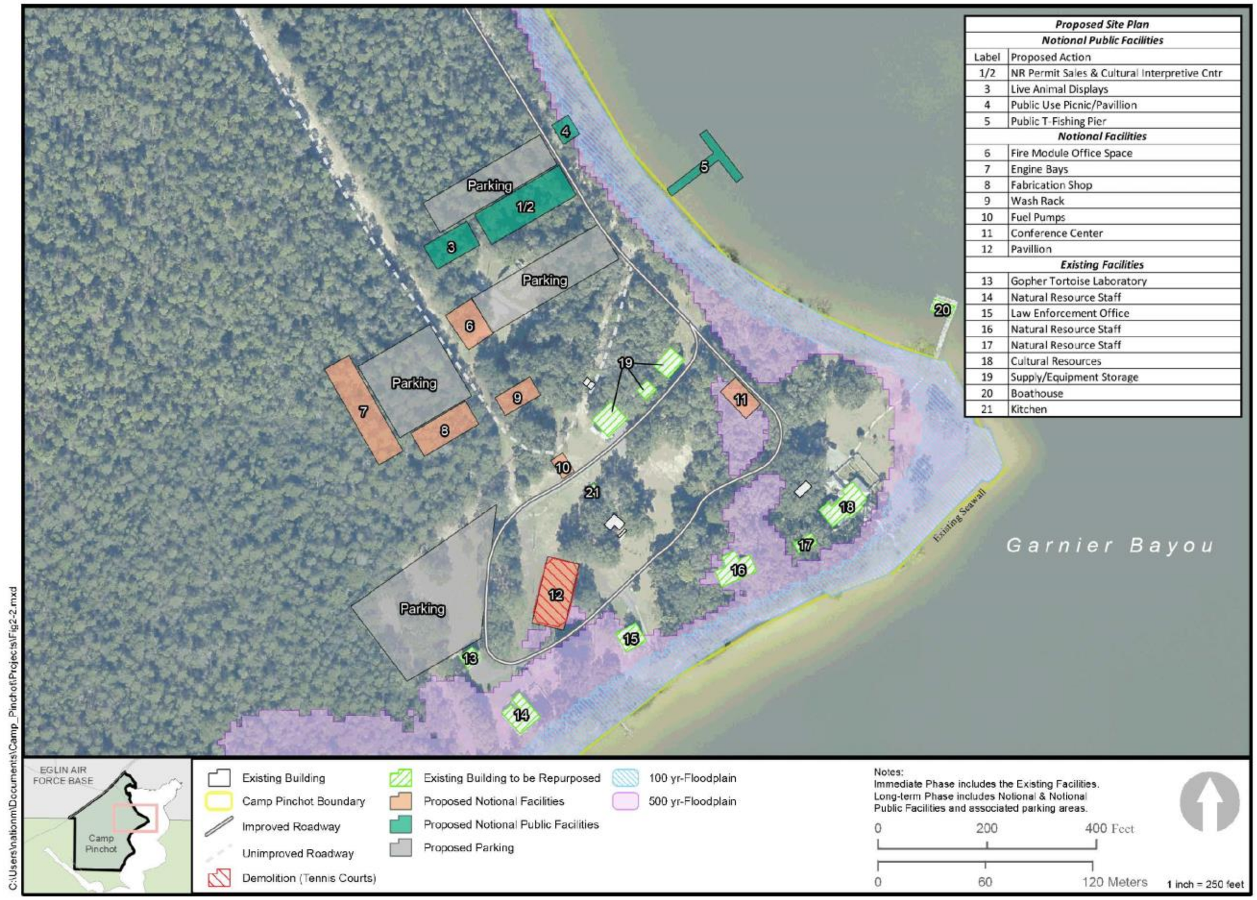


Figure 2. Long-Term Plan: 3 to 6 Years

Under Alternative 4 (the Preferred Alternative), the forested part of the Camp Pinchot land parcel would be converted to an Eglin Specialized Range use, which would require a change in land use designation from Cantonment to Interstitial. The land classification change would be necessary before missions could occur. The Camp Pinchot parcel would be added to the one existing water-to-land contrast training areas on Eglin AFB property where personnel can come ashore in estuarine environments and move onto Eglin land. Military units would be the primary users and would consist of military personnel conducting small boat operations and ground training in support of their overall mission. Typical training would involve small teams of 10 to 50 personnel. This training would support their ability to plan for and lead independent and coordinated small boat and dismounted operations in a low-intensity combat environment. Most training would occur in the undeveloped part of the parcel but buildings in the historic district could be used as objectives; however, there would be no damage to the structures. Other objectives may consist of something as small as a lean-to within a forested area, or may be as large as a few cleared acres containing berms, CONEX containers/boxes, and fighting positions. Although these objectives could occur in previously disturbed areas, they would need to be evaluated on a case-by-case basis by the Environmental Impact Analysis Process (EIAP) for modifications (i.e., new fighting positions/ground-disturbing activities, movement of structures, and all new objective site construction).

Training in land areas would occur up to two times per month, for up to three days and nights per training event. Most activities would involve quiet, stealthy operations that would not produce noise above ambient levels outside the boundary of this Specialized Range. There would be no live fire or use of blank ammunition or pyrotechnics. Training could include use of signal or marking smoke (i.e., “smokes”), which is expelled from canisters. Training could occur during the day or night (to 11:00 p.m.). Security fencing could potentially be constructed along part of the Specialized Range boundary. With selection of Alternative 4, Eglin would develop a training ground profile that would describe and delineate the types of training that would be allowed in various parts of the parcel. If applicable, a description of the range and ground profile would be added to Eglin Air Force Base Instruction 13-212. Proposed training activities are described in Table 3.

Table 3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
Littoral operations and small boat team activities	Includes water-to-land transition boat operations training. Water-to-land transitions by boat often occur at designated boat landing sites (BLSs). Unimproved BLSs refer to locations where small, low-draft watercraft typically come ashore. Improved/semi-improved BLS locations (e.g., boat ramps) are where larger watercraft can be launched or brought ashore.	10 to 50	• The number of boats used in a training event can range from 1 to 4 • Small, low-draft watercraft (e.g., rubber-hulled boats, inflatable boats, and Jet Skis • Rigid craft with outboard engines of 35 to 200 horsepower • 26-foot aluminum boats with diesel inboard engines • Chemical light sticks attached to boats • Eye-safe lasers • Smokes		X	• Varies, but could be several days per week • Up to 50 boat landings per year	• All boat engines used meet USEPA emission standards. • Use of rigid craft is not restricted to BLSs and can be brought ashore in other areas.
High-Value Target and High-Value Individual Training Intelligence, Surveillance, and Reconnaissance activities Human Intelligence activities	During these activities, units conduct training focused on specialized skills and tactics that prepare personnel for national security/defense missions in potentially hostile environments. Training may consist of information gathering through visual observation, electronic observation, or human sources; target identification; and extraction techniques. Activities often	10 to 50	Not identified	X	X	Not identified	• Training activities within the historic district must be pre-approved by Eglin AFB's CRO.

Table 3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
	require concealment and stealth.						
Infiltration/ Exfiltration activities	Infiltration is the stealthy movement of personnel or equipment into an enemy-controlled area to carry out a mission, while exfiltration is the covert removal of those personnel or equipment from that area after the mission is complete. The training prioritizes safety and evasion of enemy forces and can involve various methods, such as walking to and from boats or vehicles.	10 to 50	Not identified	X	X	Not identified	• Dismounted maneuver is permitted within most of the Camp Pinchot area, but vehicles must remain on roads within the historic district. • Training activities within the historic district must be pre-approved by Eglin AFB's CRO.
Bivouac activities	Bivouacking/Assembly Areas involve the use of a primitive area, mainly tented, where troops eat and rest overnight in support of training activities. Water purification exercises that involve discharge of filtered water back into natural water bodies could occur. There may be slight ground disturbance (within 6 inches of surface) from	10 to 50	• Tents and other supplies • Stakes and pickets		X	• Up to 5 times per year, for up to 3 days and 3 nights per training event.	• All expendables and equipment will be recovered prior to leaving the site.

Table 3. Alternative 4: Proposed Training Activities at Camp Pinchot

Activities	Description	Number of Personnel	Expendables/ Equipment	Historic District	Undeveloped Parcel	Duration/ Frequency	Restrictions
	placement of tent stakes and pickets.						
96th Operations Support Squadron Life Support Training Land Navigation Training Survival, Evasion, Resistance, and Escape Training	These training activities equip personnel with the skills to survive in the environment. Training events include a combination of essential techniques such as basic first aid, starting a campfire, finding and purifying water, navigation (potentially without electronic equipment such as GPS devices), and outdoor survival skills.	10 to 50	• Basic outdoor equipment such as compasses and maps	X	X	• Up to quarterly, for 1 to 3 days and 1 to 3 nights per training event.	• Training activities within the historic district must be pre-approved by Eglin AFB's CRO. • Parking is restricted to designated areas only within the historic district.
Distance Swim Training and Diving	Training activities include scuba training, open-water swims, and combat diving training in Garnier Bayou.	10 to 50	Not identified		X	• Quarterly, for 1 day per training event.	• Parking is restricted to designated areas only within the historic district.

AFB = Air Force Base; BLS = boat landing site; CRO = Cultural Resources Office; GPS = Global Positioning System; USEPA = United States Environmental Protection Agency

In addition to the restrictions identified for specific training activities in Table 3, the following restrictions and conditions will be implemented for all applicable activities:

- Changes to the configuration or use of the Camp Pinchot parcel for training activities must be approved by the Range Operating Authority, which is the 96 TW Commander.
- No off-road mounted maneuvers, fighting positions, concentrated bivouac, or other ground-disturbing activities will occur outside of designated areas.
- Live fire will be prohibited within the entire Camp Pinchot parcel.
- Blank ammunition fire and/or use of pyrotechnics (e.g., hand grenade simulators and ground burst simulators) will be prohibited within the entire Camp Pinchot parcel.
- Only eye-safe lasers will be used.
- Ground testing will not occur.
- Training activities within the historic district must be pre-approved by Eglin AFB's CRO.
- No damage to eligible or listed historic buildings will occur (i.e., no door-breaching charges or other activities that would cause physical damage).
- No ground disturbance will occur within archaeological sites.
- All historic buildings will be maintained to the Secretary of the Interior standards.
- The historic district will remain gated for the foreseeable future.
- Small boat targeting with simulated weapons will not occur.
- Air-to-water transitions (e.g., troops dropping or parachuting into the water) will not occur.
- No large amphibious vessels such as Landing Craft Air Cushion or Ship to Shore Connector will be operated at the Camp Pinchot parcel.
- US Marine Corps Vehicle Testing will not occur.
- No tracked vehicles will be operated within the Camp Pinchot parcel.
- All boat engines will meet US Environmental Protection Agency (USEPA) emissions standards.

Federal Review

After review of the Florida Coastal Management Program (CMP) and its enforceable policies, the DAF has determined that the Proposed Action would affect a Florida coastal use or resource. The following provides an analysis of the Proposed Action's consistency with the enforceable policies of the Florida CMP.

The Florida CMP is comprised of 24 Florida Statutes. Statutes addressed as part of the Florida CMP consistency review are considered in the analysis of the Proposed Action and discussed in Table 4.

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
Chapter 161 *Beach and Shore Preservation*	This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.	The Proposed Action in combination with Alternative 4 would not result in significant adverse impacts to the beaches and shores of the state. There would be no significant impacts to physical resources including soil resources (Sections 3.9.2.1 and 3.9.2.5 of the EA) and water resources (Sections 3.12.2.1 and 3.12.2.5 of the EA). Management practices identified in Section 3.12.2.8 of the EA would be implemented to minimize any potential impacts to state lands. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with the state's policy regarding beach and shore preservation.
Chapter 163, Part II Intergovernmental Programs: *Growth Policy; County and Municipal Planning; Land Development Regulation*	Provides for the implementation of comprehensive planning programs to guide and control future development of the state.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect local government comprehensive plans.
Chapter 186 *State and Regional Planning*	Provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals in regard to the state comprehensive plan.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect state and regional planning.
Chapter 252 *Emergency Management*	Directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to, and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect the state's vulnerability of its people and property to natural and manmade disasters or emergency response and evacuation procedures.
Chapter 253 *State Lands*	Addresses the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all state lands.	The Proposed Action in combination with Alternative 4 would not result in significant adverse impacts to the conservation, protection, or disposition of state lands. There would be no significant impacts to physical resources including soil resources (Sections 3.9.2.1 and 3.9.2.5 of the EA)

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
		and water resources (Sections 3.12.2.1 and 3.12.2.5 of the EA). Management practices identified in Section 3.12.2.8 of the EA would be implemented to minimize any potential impacts to state lands. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with Florida's statutes and regulations regarding the acquisition, administration, management, control, supervision, conservation, protection, and disposition of state lands.
Chapter 258 *State Parks and Preserves*	Addresses the state's administration of state parks, aquatic preserves, and recreation areas.	The Proposed Action in combination with Alternative 4 would not result in significant adverse impacts to state parks, aquatic preserves, and recreation areas. Restrictions and conditions for training activities at Camp Pinchot, identified in Section 2.6 of the EA, would minimize potential impacts to recreational areas in the estuarine environments adjacent to Camp Pinchot. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with the state's administration of state parks, aquatic preserves, and recreation areas.
Chapter 259 *Land Acquisitions for Conservation or Recreation*	Addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands; and providing lands for natural resource-based recreation.	The Proposed Action would occur on federally owned lands. Training activities proposed under Alternative 4 would occur in the estuarine environments adjacent to Camp Pinchot but would not affect regulations regarding the management and conservation of and recreation on state lands. Therefore, the Proposed Action would be consistent with policies regarding land acquisitions for conservation or recreation.
Chapter 260 *Florida Greenways and Trails Act*	Establishes statewide system of greenways and trails established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes.	The enforceable policy is not applicable to the Proposed Action in combination with Alternative 4. Therefore, the Proposed Action in combination with Alternative 4 would

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
		not affect the Florida Greenways and Trails Program.
Chapter 267 *Historical Resources*	Addresses the management and preservation of the state's archaeological and historical resources.	Potential impacts to cultural resources from the Proposed Action and Alternative 4 are analyzed in Sections 3.4.2.1 and 3.4.2.5 of the EA. Management practices identified in Section 2.6 and Section 3.4.2.8 of the EA would be implemented to minimize potential impacts to cultural resources. Therefore, the Proposed Action would be consistent with policies concerning cultural resources of the state.
Chapter 288 *Commercial Development and Capital Improvements*	Promotes and develops general business, trade, and tourism components of the state economy.	This enforceable policy is not applicable to the Proposed Action. The Proposed Action would not affect future business opportunities on state lands or the promotion of tourism in the region.
Chapter 334 *Transportation Administration*	Addresses the state's policy concerning transportation administration.	Except for construction that could occur at the intersection of State Route (SR) 189 (a notional activity), activities would not affect off-site traffic. Improvement of the Camp Pinchot Road/SR 189 intersection is not anticipated at this time. The movement of training personnel across Lewis Turner Boulevard would occur in vehicles that would be operated in accordance with existing traffic laws and conditions. The Proposed Action and Preferred Alternative 4 would not result in significant adverse impacts on transportation. The Proposed Action would be consistent with the state's policy concerning transportation administration.
Chapter 339 *Transportation Finance and Planning*	Addresses the finance and planning needs of the state's transportation system.	This enforceable policy is not applicable to the Proposed Action. The Proposed Action would not affect the finance and planning needs of the state's transportation system.
Chapter 373 *Water Resources*	Addresses sustainable water management; the conservation of surface and ground waters for full	Potential impacts to water resources from the Proposed Action in combination with Alternative 4 are

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
	beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians.	analyzed in Sections 3.12.2.1 and 3.12.2.5 of the EA. The Proposed Action in combination with Alternative 4 would not be expected to violate applicable state or federal water quality standards or result in any other significant impacts to water resources. Implementation of standard construction and water quality management practices outlined in Section 3.12.2.8 of the EA and a list of permits, licenses and other authorizations (Section 2.7 of the EA) that would be implemented would further reduce or eliminate impacts to estuarine waters. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with policies regarding water resources of the state.
Chapter 375 *Outdoor Recreation and Conservation Lands*	Addresses the development of a comprehensive multipurpose outdoor recreation plan, with the purpose to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.	The enforceable policy is not applicable to the Proposed Action in combination with Alternative 4. The Proposed Action in combination with Alternative 4 would not affect opportunities for recreation on state lands.
Chapter 376 *Pollutant Discharge Prevention and Removal*	Regulates transfer, storage, and transportation of pollutants and cleanup of pollutant discharges.	The Proposed Action and Alternative 4 would include construction activities that may result in pollutant discharge. However, there would be no significant impacts to water or soil resources. Impacts to soil resources are discussed in Sections 3.9.2.1 and 3.9.2.5 of this EA. Potential impacts to water resources from the Proposed Action in combination with Alternative 4 are analyzed in Sections 3.12.2.1 and 3.12.2.5 of the EA. Implementation of standard construction and water quality management practices outlined in Section 3.12.2.8 of the EA and a list of permits, licenses and other authorizations (Section 2.7 of the EA) that would be implemented would further reduce or eliminate impacts to estuarine waters.

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
		Therefore, the Proposed Action in combination with Alternative 4 would be consistent with the state's policy on pollutant discharge, prevention, and removal.
Chapter 377 *Energy Resources*	Addresses regulation, planning, and development of the energy resources of the state; provides policy to conserve and control the oil and gas resources in the state.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect energy resource production, including oil and gas, and/or the transportation of oil and gas.
Chapter 379 *Fish and Wildlife Conservation*	Establishes the framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources.	Potential impacts to biological resources from the Proposed Action and Alternative 4 are analyzed in Sections 3.3.2.1 and 3.3.2.5 of the EA. Biological resources could potentially be affected by direct physical impacts, habitat alteration, noise and other disturbance, and the introduction or spread of invasive species. With implementation of management practices, significant impacts to biological resources would not be expected. A Biological Assessment was prepared to support consultation with the United States Fish and Wildlife Service under Section 7 of the Endangered Species Act. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with Florida's statutes and regulations regarding the protection of fish and wildlife resources of the state.
Chapter 380 *Land and Water Management*	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.	Under the Proposed Action and Alternative 4, development of state lands with regional (i.e., more than one county) impacts would not occur. There would be no use of state funds for infrastructure planning, designing or construction under the Proposed Action. Therefore, the Proposed Action would not affect the state's policies regarding land and water management.

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
Chapter 381 *Public Health; General Provisions*	Establishes public policy concerning the state's public health system.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect the state's policy concerning the public health system.
Chapter 388 *Mosquito Control*	Addresses mosquito control efforts in the state.	This enforceable policy is not applicable to the Proposed Action and Alternative 4. The Proposed Action in combination with Alternative 4 would not affect the state's mosquito control efforts.
Chapter 403 *Environmental Control*	Establishes public policy concerning environmental control in the state.	Air quality impacts due to construction activities from the Proposed Action and military operations under Alternative 4 are analyzed in Sections 3.2.2.1 and 3.2.2.5 of the EA. No significant impacts to air quality were identified. Minimal emissions in the context of regional annual air emissions from construction, operation, maintenance, and training related activities were identified. Potential impacts to water resources from the Proposed Action and Alternative 4 are analyzed in Sections 3.12.2.1 and 3.12.2.5 of the EA. No significant impacts to water quality were identified. Management requirements identified in Section 3.12.2.8 of the EA would be implemented to minimize potential impacts to water resources. Therefore, the Proposed Action would be consistent with the State's policy concerning water quality, air quality, pollution control, and other environmental control efforts.
Chapter 553 *Building Construction Standards*	Addresses building construction standards and provides for a unified Florida Building Code.	Planned actions that would potentially occur within the Camp Pinchot Region of Influence over the next 6 years include construction, demolition, renovation, and facility modifications. All minor actions would be located within the existing parcel boundary. Management actions (Section 3.12.2.8 of the EA) would be followed and all applicable permits, licenses, and other

Table 4. Florida Coastal Management Program Consistency Review

Statute	Scope	Consistency
		authorizations (Section 2.7 of the EA) would be followed. No new major construction projects would be planned. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with Florida's statutes and regulations regarding building and construction standards.
Chapter 582 *Soil and Water Conservation*	Provides for the control and prevention of soil erosion.	Potential impacts to soils from the Proposed Action and Alternative 4 are analyzed in Sections 3.9.2.1 and 3.9.2.5 of the EA. There would be no significant impacts to soil resources associated with the Proposed Action and Alternative 4. All applicable best management practices, such as erosion and sediment controls and storm water management measures, would be implemented during construction, storm cleanup, and maintenance activities to minimize potential impacts to surrounding soils. Therefore, the Proposed Action in combination with Alternative 4 would be consistent with the state's policies regarding the control and prevention of soil erosion.
Chapter 597 *Aquaculture*	Establishes public policy concerning the cultivation of aquatic organisms of the state. Addresses state aquaculture plan which provides for the coordination and prioritization of state aquaculture efforts, the conservation and enhancement of aquatic resources and provides mechanisms for increasing aquaculture production.	There would be no significant impacts to water resources from the Proposed Action and Alternative 4. Potential impacts to water resources from the Proposed Action in combination with Alternative 4 are analyzed in Sections 3.12.2.1 and 3.12.2.5 of the EA. Implementation of standard construction and water quality management practices outlined in Section 3.12.2.8 of the EA and a list of permits, licenses and other authorizations (Section 2.7 of the EA) that would be implemented would further reduce or eliminate impacts to estuarine waters. Therefore, the Proposed Action would not affect state aquaculture efforts or the conservation of aquatic resources.

Keywords: EA = Environmental Assessment

Conclusion

The DAF has determined that the Proposed Action in combination with Alternative 4 (the Preferred Alternative) would affect a use or resource of the Florida coastal zone; however, the Proposed Action is consistent to the maximum extent practicable with the enforceable policies of the Florida CMP.

The DAF respectfully requests your concurrence. Pursuant to 15 CFR 930.41, the Florida State Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination or to request an extension, in writing, under 15 CFR 930.41(b). Florida's concurrence will be presumed if Eglin Air Force Base does not receive its response on the 60th day from receipt of this determination.

References

96 CEG. (2022b). 96th Civil Engineer Group Camp Pinchot Future Plans Briefing. June 15.

APPENDIX C
LIST OF PREPARERS

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