Draft
Environmental Assessment for Enhanced Use Lease Development at GrandSKY Business Park Grand Forks Air Force Base, North Dakota

April 2024

Prepared for:
Grand Forks County, North Dakota
Grand Forks Air Force Base

PRIVACY ADVISORY

This Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500–1508), and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*.

The EIAP provides an opportunity for public input on Department of the Air Force (DAF) decision-making, allows the public to offer inputs on alternative ways for the DAF to accomplish what it is proposing, and solicits comments on the DAF's analysis of environmental effects.

Public commenting allows the DAF to make better, informed decisions. Letters or other written or oral comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

COMPLIANCE

This document has been certified that it does not exceed 75 pages, not including appendices, as defined in 40 CFR § 1501.5(f). In accordance with 40 CFR § 1508.1(v), a "page" means 500 words and does not include maps, diagrams, graphs, tables, and other means of graphically displaying quantitative or geospatial information.

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COVER SHEET
Draft Environmental Assessment for
Enhanced Use Lease Development at Grand Forks Air Force Base, North Dakota

a. *Responsible Agency: Grand Forks County and the United States Department of the Air Force*

b. *Location: GrandSKY Business Park, North Dakota*

c. *Designation: Draft Environmental Assessment*

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Abstract:

The United States Department of the Air Force (DAF) at Grand Forks Air Force Base (GFAFB) has prepared this Environmental Assessment (EA) in accordance with the *National Environmental Policy Act* (Title 42 of the *United States Code*, Section 4321 et seq.), implemented by Council on Environmental Quality Regulations, Title 40 of the *Code of Federal Regulations* (CFR) Parts 1500–1508, and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)* to evaluate the potential impacts of its Proposed Action of enhanced use lease development at the GrandSKY Business Park to accommodate current and future demand.

The GrandSKY Business Park was developed as a result of the DAF's 2014 *Environmental Assessment of Proposed Mixed-Use Business Park on an Enhanced Use Lease at Grand Forks Air Force Base, North Dakota*. The purpose of the Proposed Action of this EA is to support mission objectives and accommodate the growing tenant desire to reside within the business park. Since the 2014 EA was signed, commercial interest has exceeded expectations and additional development within the boundaries of the enhanced use lease is proposed. Grand Forks County would work with private developers to further develop GrandSKY Business Park, offering advantages of proximity to GFAFB with the flexibility and responsiveness of a private development. The Proposed Action is needed to support the DAF's strategic goal of optimizing the value of its existing real property assets. The development activities would promote the efficient and economical use of real property assets at GFAFB pursuant to the directives of Executive Order 13327, *Federal Real Property Asset Management*. In seeking development of this property, GFAFB is also pursuing objectives outlined in the 14 February 2007, DAF memorandum, *Pursuing "Value-Based" Transactions Involving Air Force Real Property Assets* while promoting continued economic development within Grand Forks County.

Potentially affected environmental resources under the Proposed Action were identified in coordination with local, state, and federal agencies. Specific environmental resources with the potential for environmental consequences include land use; safety; air quality; biological resources; water resources; geology and soils; cultural resources; hazardous materials and waste, toxic substances, and contaminated sites; infrastructure, including transportation and utilities; noise, and socioeconomics.

The analysis of the affected environment and environmental consequences of implementing the Proposed Action concluded that by implementing standing environmental protection measures, best management practices, and the use of wetland mitigation in accordance with 32 CFR §§ 989.22(c) and (d) and 32 CFR § 989.14(j)(4), significant, adverse impacts from the Proposed Action on the resource areas analyzed would be reduced to below significant levels. Further, significant cumulative impacts would not be anticipated from activities associated with the Proposed Action when considered with past, present, and reasonably foreseeable actions at GFAFB.

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
ACAM	Air Conformity Applicability Model
AFB	Air Force Base
AFFF	aqueous film forming foam
AFMAN	Air Force Manual
AFPD	Air Force Policy Directive
APE	Area of Potential Effects
APZ	accident potential zone
AQCR	Air Quality Control Regions
AST	aboveground storage tank
BASH	Bird/Wildlife Aircraft Strike Hazard
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO_2e	carbon dioxide-equivalent
CWA	Clean Water Act
CZ	clear zone
DAF	Department of the Air Force
DAFI	Department of the Air Force Instruction
DAFMAN	Department of the Air Force Manual
dB	decibel
dBA	A-weighted decibel
DNL	Day-Night Average Sound Level
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
ESA	Endangered Species Act
ESQD	explosives safety quantity-distance
EUL	Enhanced Use Lease
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft^2	square foot/feet
GFAFB	Grand Forks Air Force Base
GHG	greenhouse gas
HAZMAT	hazardous material
HWMP	hazardous waste management plan
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MSA	metropolitan statistical area
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NDGFD	North Dakota Game and Fish Department

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
OSHA	Occupational Safety and Health Administration
pCi/L	picocuries per liter
PCB	polychlorinated biphenyls
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PM	particulate matter
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RPA	remotely piloted aircraft
SAP	satellite accumulation point
SCP	species of conservation priority
SHPO	State Historic Preservation Officer
SPCC	spill prevention, control, and countermeasures
TCP	Traditional Cultural Property
TSCA	Toxic Substances Control Act
UAS	uncrewed aircraft system
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VSQG	very-small-quantity generator
WOTUS	Waters of the US

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

GrandSKY Business Park (GrandSKY) is a mixed-use business park developed on an enhanced use lease (EUL) at Grand Forks Air Force Base (GFAFB), North Dakota. GrandSKY was developed as a result of the United States (US) Department of the Air Force (DAF) 2014 *Environmental Assessment of Proposed Mixed-Use Business Park on an Enhanced Use Lease at Grand Forks Air Force Base, North Dakota*.

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with additional development at GrandSKY. This EA will be evaluated in accordance with the DAF EUL Program under authority of Title 10 *United States Code* (USC) § 2667. This document was prepared in accordance with the National Environmental Policy Act of 1969, as amended (42 USC § 4321 et seq.) (NEPA); the Council on Environmental Quality (CEQ) NEPA regulations (Title 40 *Code of Federal Regulations* [CFR] Parts 1500–1508); and the DAF NEPA regulations at 32 CFR Part 989, Environmental Impact Analysis Process (EIAP). EIAP informs decision-makers, regulatory agencies, and the public about a DAF proposed action before any decision is made on whether to implement the action.

The CEQ NEPA regulations at 40 CFR Parts 1500–1508 provide purpose and direction for streamlining the NEPA process.[1] This EA satisfies the requirements of NEPA in accordance with the CEQ regulations and promotes NEPA streamlining through the implementation of the DAF EIAP. To render this document more concise, links are provided to online data sources to which the reader can refer for more information.

These federal regulations establish both the administrative process and substantive scope of the environmental impact evaluation designed to ensure that deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action. Development proposed at GrandSKY would only commence upon satisfactory completion of this EA and issuance of a Finding of No Significant Impacts (FONSI) and any required Finding of No Practicable Alternative for construction in either wetlands or floodplains.

1.2 LOCATION

1.2.1 Grand Forks Air Force Base

GFAFB is located in Grand Forks County, North Dakota, near the North Dakota-Minnesota state line. According to the United States Census Bureau (USCB), the county has a total area of 1,440 square miles and had a population of 73,169 persons in 2020 (USCB, 2022). The city of Grand Forks serves as the county seat and incorporates an area of 19.91 square miles. GFAFB is 15 miles west of the city of Grand Forks, encompassing 5,151 acres in an otherwise rural area. US Highway 2 (US-2), forms the southern edge of GFAFB, separating the Base from the city of Emerado, a small community of 443 people, just south of the eastern boundary of the Base **(Figure 1-1)**.

1.2.2 GrandSKY Business Park

Upon completion of the 2014 EA, GrandSKY, a 217-acre business park, was established on an EUL in the southwest corner of GFAFB along US-2 **(Figure 1-2)**. GrandSKY serves as a commercial uncrewed aircraft system (UAS) business and aviation park—the first of its kind in the US—and offers a focal point for partnerships between the DAF and other communities, academic institutions, and public and private organizations where uncrewed vehicles, sensor development, and data management are underway. Tenants within GrandSKY include General Atomics Aeronautical Systems, Inc., Northern Plains UAS Test Site, Grand Sky Airfield Operations, LLC, Northrop Grumman, and Innovets Aerospace (GrandSKY, 2023).

[1] CEQ revised their regulations in July 2020 (85 Federal Register 43304-43376). CEQ made subsequent revisions in April 2022 (Phase 1 Final Rule), generally restoring provisions that were in effect before being modified in 2020 (87 Federal Register 23453-23470). Since that time, Congress passed the Fiscal Responsibility Act of 2023, which amended NEPA. CEQ is currently proposing to revise its regulations as part of Phase 2 rulemaking, including to implement the Fiscal Responsibility Act's amendments to NEPA (88 Federal Register 49924-49988).

Current development at GrandSKY includes businesses and manufacturers that focus on UAS development and advancement such as the Global Hawk, a UAS designed for flight at high altitudes and for long missions gathering data and supporting military operations for the DAF (Northrop Grumman, 2023; Grand Forks County, 2023; GFAFB, 2014).

Grand Forks County has leased the 217-acre parcel for GrandSKY to support research and development, testing and evaluation, and operations of UAS, as well as activities centered on the development of sensor technology and data management. As a result of tenant needs at the time of the 2014 EA, actual development at GrandSKY only accounted for approximately 23 percent of what was proposed and evaluated in the EA. Grand Forks County now proposes additional development within the boundaries of the 217-acre parcel due to increased commercial interest in GrandSKY Business Park and a need to expand development beyond what was analyzed 10 years ago.

1.3 PURPOSE AND NEED

The purpose of the Proposed Action in this EA is to support mission objectives and accommodate the growing tenant desire to reside within the business park for UAS-related actions. Since the 2014 EA was signed, commercial interest has exceeded expectations and additional development within the boundaries of the EUL is proposed. Grand Forks County would work with private developers to further develop GrandSKY, offering advantages of proximity to an Air Force Base with the flexibility and responsiveness of a private development.

The need for the Proposed Action is to support the DAF's strategic goal of optimizing the value of its existing real property assets. The development activities would promote the efficient and economical use of real property assets at GFAFB pursuant to the directives of Executive Order (EO) 13327, *Federal Real Property Asset Management*. In seeking development of this property, GFAFB is also pursuing objectives outlined in the 14 February 2007, DAF memorandum, *Pursuing "Value-Based" Transactions Involving Air Force Real Property Assets.* This memorandum directs the DAF to optimize the value of real property assets using authorized tools such as the EUL program.

The Proposed Action is also needed to support GFAFB's mission objectives and promote continued economic development within Grand Forks County by providing up to 9,452,600 square feet (ft^2) (217 acres) of developable area for increased commercial interest in UAS manufacturing, training, and development within proximity to an airfield. Further developing GrandSKY may promote partnerships that would help reduce costs, improve readiness, and help fill the growing need for UAS pilots, maintenance technicians, sensor operators and developers, and data analysts and managers. Development within GrandSKY Business Park will result in filling of wetlands within the GrandSKY property, which may reduce the amount of attractive habitat for wildlife in the vicinity of the airfield and support safety compliance with Department of the Air Force Instruction (DAFI) 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*.

1.4 INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION

The EIAP, in compliance with NEPA guidance, includes public and agency review of information pertinent to a proposed action and alternatives. The DAF's compliance with the requirement for intergovernmental coordination and agency participation begins with the scoping[2] process. (40 CFR § 1501.9). Accordingly, the DAF notified federal, state, and local agencies and tribal governments with jurisdiction that could potentially be affected by the Proposed Action and Alternatives via written correspondence during the development of this EA. A mailing list of the recipients of this correspondence as well as a sample of the outgoing letters and all responses are included in **Appendix A**.

[2] Scoping is a process for determining the extent of issues to be addressed and analyzed in a NEPA document.

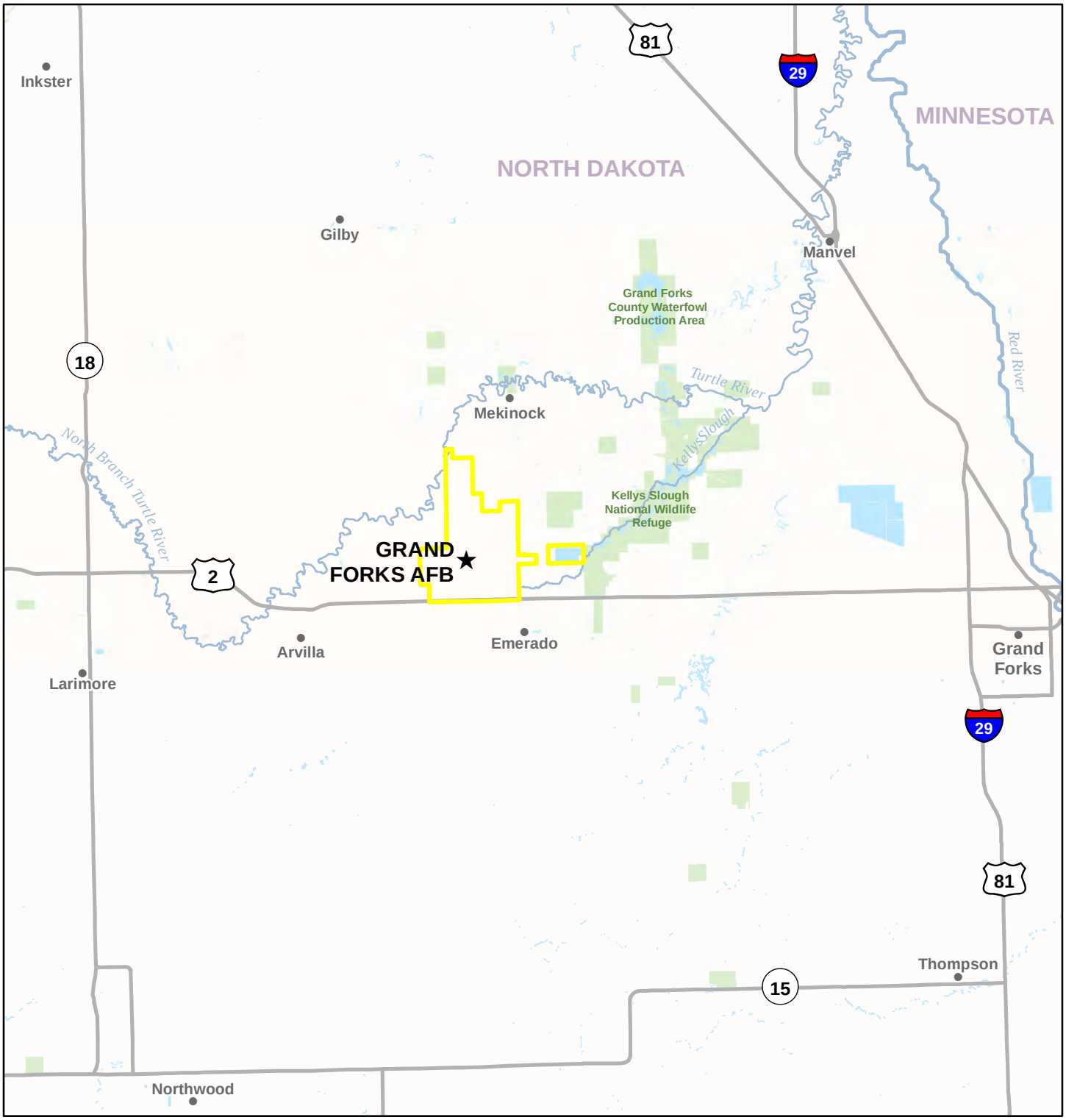


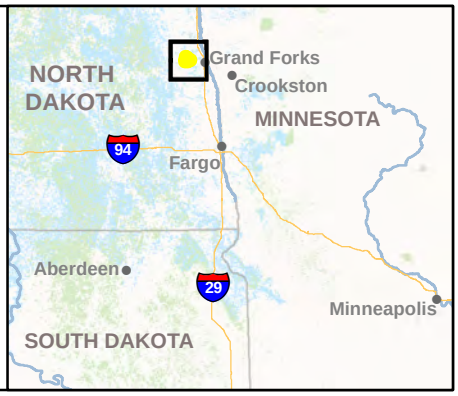
FIGURE 1-1
Regional Location

Installation Boundary

N

0 5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



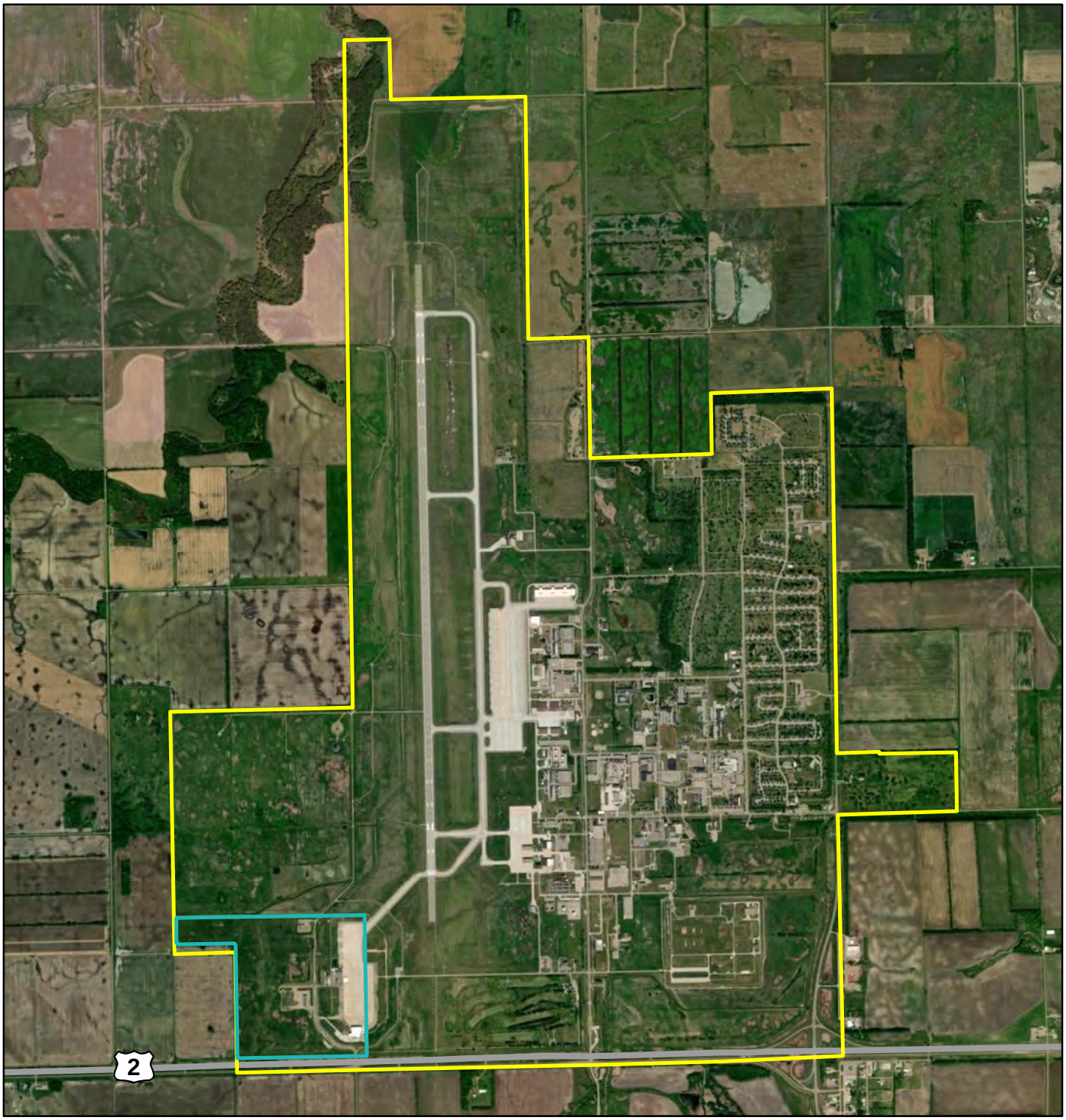


FIGURE 1-2
Grand Forks Air Force Base

GrandSKY Business Park Boundary

Installation Boundary

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

1.4.1 Government-to-Government Consultation

The *National Historic Preservation Act* (54 USC § 300101 et seq.) (NHPA) and implementing regulations at 36 CFR Part 800 direct federal agencies to consult with federally recognized Native American tribes when a proposed action or alternatives may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Consistent with the NHPA, the *Native American Graves Protection and Repatriation Act* (25 USC § 3001 et seq.) (NAGPRA), US Department of Defense (DoD) Instruction (DoDI) 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAFI 90-2002, *Interactions with Federally Recognized Tribes*, the DAF invited federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action and Alternatives to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation and requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of NEPA consultation. The GFAFB point of contact for Native American tribes is the Base Commander. The point of contact for consultation with the Tribal Historic Preservation Officer and the State Historic Preservation Officer (SHPO) is the GFAFB Cultural Resources Manager. A mailing list of the tribal government recipients of this invitation as well as a sample of the outgoing correspondence and all responses are included in **Appendix A**.

NHPA Section 106, Air Force Manual (AFMAN) 32-7003, *Environmental Conservation*, and DAFI 90-2002 require that GFAFB engage in government-to-government consultations between the DAF and federally listed or affiliated tribes if requested and agreed to by the pertinent tribe(s) and that the consultation process be completed prior to fully finalizing the EA.

As part of the 2014 EA process, GFAFB and four Native American tribes (Cheyenne River Sioux Tribe, Standing Rock Sioux Tribe, Sisseton-Wahpeton Oyate, and Spirit Lake Tribe) reached a Memorandum of Understanding (MOU) regarding tribal resources of cultural and religious significance within the project area (**Appendix B**). The MOU remains in effect from the date executed by all parties until the end of the 10-year construction period, or any authorized extension of the construction period. On 29 November 2023, GFAFB mailed letters to notify tribal leaders that the stipulations of the MOU have been met and that GFAFB does not anticipate amending or extending the MOU past the expiration date.

1.4.2 Agency Consultations and Coordination

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the *Endangered Species Act of 1973*, as amended (16 USC § 1531 et seq.) (ESA), and implementing regulations (50 CFR Part 402), requires communication with the US Fish and Wildlife Service (USFWS) and/or National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service. On 27 November 2023, the DAF initiated Section 7 consultation under the ESA for the Proposed Action using the USFWS's Information for Planning and Consultation (IPaC) tool. Basic information concerning the location and nature of the projects included in the Proposed Action was input into IPaC to obtain an official species list from the USFWS. The list identifies threatened and endangered species and other protected species (e.g., migratory birds) with potential to be affected by the Proposed Action. No threatened or endangered species, other protected species, or critical habitat have been identified within the proposed project area; therefore, the Proposed Action is determined to have "no effect." No consultation with USFWS is required for determinations of "no effect." This information is included in **Appendix A** and incorporated into this EA where applicable.

The DAF also coordinated with state agencies regarding potential effects from the Proposed Action and Alternatives. Compliance with Section 106 of the NHPA and implementing regulations (36 CFR Part 800) requires that the SHPO be given the opportunity to concur on determinations of eligibility and effects. The GFAFB Cultural Resources Program is responsible for consultation with the SHPO on the Proposed Action. A sample of agency correspondence and all responses are included in **Appendix A**.

1.4.3 Floodplain Management and Protection of Wetlands

EO 11988, *Floodplain Management*, directs federal agencies to determine whether a Proposed Action would occur within a floodplain and to avoid or minimize adverse impacts on floodplains. If an agency

considers avoiding adverse impacts on a floodplain and determines that no practicable alternative to undertaking the action is feasible, EO 11988 requires minimizing impacts by design or modification. In such cases, agencies must also prepare and circulate a notice to explain how avoidance was not practicable and describe minimization measures. The planning and evaluation steps required by EO 11988 also apply to EO 11990, *Protection of Wetlands*, a similar directive requiring federal agencies to avoid or minimize adverse impacts on wetlands.

To comply with these EOs, the DAF published an early public notice in the *Grand Forks Herald* on 25 and 29 November 2023 regarding the Proposed Action and its potential to affect wetland resources and/or Waters of the US (WOTUS) on GFAFB (**Appendix C**). No public comments in response to this early notice were received.

1.5 PUBLIC AND AGENCY REVIEW

The DAF invites the public and other interested stakeholders to review and comment on this Draft EA and the Draft FONSI. Accordingly, a notice of availability of the Draft EA and Draft FONSI was published in the *Grand Forks Herald* on 10 and 13 April 2024 to commence a 30-day public comment period.

The public comment period of the Draft EA and FONSI concludes on 13 May 2024. During the public comment period, the Draft EA and Draft FONSI are available online for view or download at http://www.grandforks.af.mil/. Additionally, printed copies of the Draft EA and Draft FONSI are available by request (see **Cover Sheet**) and were placed at the following area libraries for review:

- Grand Forks Public Library, 2110 Library Circle, Grand Forks
- University of North Dakota Legal Library (Thormodsgard Law Library), 2968 2nd Ave N Stop 9004, Grand Forks
- North Dakota State University Library, 1201 Albrecht Boulevard, Fargo

1.6 DECISION TO BE MADE

This EA analyzes the potential environmental consequences of the Proposed Action and Alternatives. The Proposed Action involves new facility construction; new pavements construction; and wetland delineation, mitigation, and fill, where applicable. Should the DAF choose to implement the Proposed Action, this EA will assist in determining an appropriate scope of action to minimize potential adverse environmental impacts and allow for additional environmental review in compliance with NEPA.

Based on the analysis in this EA, the DAF will make one of three decisions regarding the Proposed Action:

1. Choose to implement one of the alternatives and sign a FONSI, allowing implementation of the Proposed Action;
2. Initiate preparation of an Environmental Impact Statement (EIS) if it is determined that implementation of the Proposed Action and Alternatives would cause significant impacts to the human environment, including the natural environment; or
3. Select the No Action Alternative, whereby the Proposed Action would not be implemented.

As required by NEPA and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project and be available to inform decision-makers of the potential environmental impacts.

Should the DAF decide to implement the Proposed Action as noted above, this EA will identify any actions the DAF will commit to undertake to minimize environmental effects and comply with NEPA.

1.7 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

In accordance with 40 CFR § 1501.3, the DAF determined the appropriate level for this analysis is an EA. An EA is a concise public document that briefly discusses the purpose and need, alternatives, and potential

environmental impacts of a proposed federal action and alternatives and includes a listing of agencies and persons with which the DAF consulted. It aids in agency planning and decision-making, or facilitates the preparation of an EIS, as necessary (40 CFR § 1501.5).

This EA evaluates the potential environmental consequences of implementing the Proposed Action and Alternatives for development at GrandSKY Business Park located at GFAFB. This EA has been prepared in accordance with NEPA, CEQ regulations (40 CFR Parts 1500–1508), and the EIAP (32 CFR Part 989). NEPA is the basic national requirement for identifying environmental consequences of federal decisions. NEPA ensures that environmental information, including the anticipated environmental consequences of a proposed action, is available to the public, federal and state agencies, and the decision-maker before decisions are made and before actions are taken.

NEPA, which is implemented through the CEQ regulations, requires federal agencies to consider alternatives to the Proposed Action and to analyze potential impacts of alternative actions. Potential impacts of the Proposed Action and Alternatives described in this EA will be assessed in accordance with the CEQ regulations, which require that federal agencies analyze the potentially affected environment and degree of the effects of the action.

1.8 APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS

Other laws and regulations applicable to the Proposed Action include, but are not limited to:

- *Clean Water Act* (33 USC § 1251 et seq.) (CWA)
- *Resource Conservation and Recovery Act* (42 USC § 6901 et seq.) (RCRA)
- *Comprehensive Environmental Response, Compensation, and Liability Act* (42 USC § 9601 et seq.) (CERCLA)
- *Clean Air Act* (42 USC § 7401 et seq.) (CAA)
- *Energy Independence and Security Act* (42 USC §§ 17001–17392) (EISA)
- *Migratory Bird Treaty Act* (16 USC § 703 – 712) (MBTA)
- *Toxic Substances Control Act* (15 USC § 2601 et seq.) (TSCA)
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994)
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks (1997), as amended by EO 13296* (2003)
- EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* (2021)
- EO 14008, *Tackling the Climate Crisis at Home and Abroad* (2021)
- EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All* (2023)

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CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section provides a description of the standards used in selecting the Proposed Action and Alternatives; a detailed description of the Proposed Action and Alternatives, including the No Action Alternative; identification of alternatives considered but eliminated from further analysis; comparison of environmental consequences of the alternatives; and mitigation measures.

2.2 PROPOSED ACTION

The Proposed Action would develop up to approximately 7,130,000 ft^2 of impervious surfaces across eight functional land use categories over approximately 10 years; this increase would contribute to a total development of approximately 8,600,000 ft^2 across GrandSKY Business Park. Functional land use categories proposed within GrandSKY and their associated impervious surfaces estimates are summarized in **Tables 2-1** and **2-2** and outlined in **Section 2.4.1**. As described in **Section 1.3**, GrandSKY has experienced an increase in commercial interest for UAS-related tenants with need of proximity to the GFAFB airfield. The GFAFB airfield is required as increased tenant density seeks access to an expanded runway for UAS flights, aircraft hangar space, and airfield operations. GrandSKY offers developable space and an ideal location for tenants with UAS needs. Construction associated with the Proposed Action would be anticipated to occur over a 10-year period from approximately 2024 to 2033, while flight operations associated with increased UAS manufacturing and maintenance at GrandSKY Business Park would be expected to increase up to the levels evaluated under the 2014 EA. The 2014 EA evaluated up to 100 sorties per month for UAS operations; currently, approximately 40 UAS sorties per month occur. The exact timing of the increase in steady-state operations would be dependent on tenant need and is not currently known. Approximately 1,700 personnel in various roles would be expected to support GrandSKY Business Park over the 10-year development period (Gerken, 2023a). This EA proposes to evaluate, where applicable, the development, construction, and operation of the GrandSKY Business Park at GFAFB (GFAFB, 2014).

Table 2-1.
Functional Land Use Approach

Functional Land Use Category	Percent Impervious Surface Coverage	Typical Mission Functions
Aviation Mixed-Use/Light Industrial (Partially Developed)	95	Airfield and areas surrounding the airfield, communication/control towers and air operation facilities, launch support facilities, hangars, aircraft and ground equipment maintenance, filling stations, paint facilities, simulator facilities, engineering shops, repair and maintenance facilities, warehouses and storage facilities, and fire stations
Aviation Mixed-Use/Light Industrial		
Office Mixed-Use (Partially Developed)	85	Administrative and legal offices, satellite air operation facilities, training facilities, communication facilities, security operations, retail, lodging, dining, and lifestyle support facilities
Office Mixed-Use		
Commercial Mixed-Use	85	Administrative and legal offices, satellite air operation facilities, training facilities, communication facilities, security operations, retail, utility support facilities
Roadway Corridors	80	Paved roadways, drainage, and utility corridors
Existing Roadways		
Existing Airfield Pavements	100	Existing paved apron and taxiway areas

Table 2-2.
Estimated Total Development at GrandSKY Business Park

Functional Land Use Category	Estimated Acres Available (square feet)	Percent Impervious	Estimated Total Development after Impervious Surface Coverage Considerations (square feet)
Aviation Mixed-Use/Light Industrial (Partially Developed)	24 (1,045,000)	95	992,750
Aviation Mixed-Use/Light Industrial	98 (4,269,000)	95	4,055,550
Office Mixed-Use (Partially Developed)	3 (130,680)	85	111,078
Office Mixed-Use	35 (1,525,000)	85	1,296,250
Commercial Mixed-Use	6 (261,360)	85	222,156
Roadway Corridors	13 (566,280)	80	453,024
Estimated Total Construction (Proposed Action)	**179 (7,797,320)**	N/A	**7,130,808**
Existing Roadways	16 (696,960)	80	557,568
Existing Airfield Pavements	22 (958,320)	100	958,320
Estimated Total Development of GrandSKY Business Park	**217 (9,452,600)**	N/A	**8,646,696**

N/A = not applicable

2.3 SELECTIONS STANDARDS FOR ALTERNATIVE SCREENING

Consistent with 32 CFR § 989.8, selection standards were developed to establish a means for determining the reasonableness of an alternative to the Proposed Action and whether an alternative should be carried forward for further analysis in the EA. Potential alternatives to the Proposed Action were evaluated based on universal selection standards, which were applied to all alternatives. In accordance with 32 CFR § 989.8(c), the following selection standards meet the purpose of and need for the Proposed Action and were used to identify reasonable alternatives for analysis in the EA. The alternative must:

- provide development opportunity in proximity to the GFAFB Airfield;
- allow for continued use of UAS technologies at GFAFB;
- provide up to 9,452,600 ft^2 of developable area (see **Table 2-2**); and
- increase airfield safety by reducing vegetation attractive to wildlife in compliance with DAFI 91-202, *The US Air Force Mishap Prevention Program* (2023), and DAFI 91-212.

Based on the selection standards, two alternatives to the components of the Proposed Action were considered on a preliminary basis (**Section 2.4**). A discussion of alternatives eliminated for further analysis is provided in **Section 2.5.**

2.4 DESCRIPTION OF ALTERNATIVES

The NEPA, CEQ, and DAF regulations mandate the consideration of reasonable alternatives to the Proposed Action. “Reasonable alternatives” are those that meet the underlying purpose of and need for the Proposed Action and that would cause a reasonable person to inquire further before choosing a particular course of action. The DAF uses several guidelines and instructions in determining the best approach for construction, renovation, and demolition. AFI 32-1023, *Designing and Constructing Military Construction Projects*, implements Air Force Policy Directive 32-10, *Installations and Facilities*, and Military Standard

3007F, *Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications*. AFI 32-1023 provides general design criteria and standards and information on design and construction management. This document provides guidance governing DAF military construction projects. DAF Manual 32-1084, *Standard Facility Requirements* provides guidance for determining space allocations for DAF facilities and may be used to program new facilities or evaluate existing spaces.

The NEPA process is intended to support flexible, informed decision-making; the analysis provided by this EA and feedback from stakeholders will inform decisions made about whether, when, and how to execute the Proposed Action. Among the alternatives evaluated for each project is a No Action Alternative, which evaluates the potential consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for analysis.

2.4.1 Determination of Functional Land Use Categories

Grand Forks County, in conjunction with GrandSKY, examined patterns of existing land use on the Base in order to develop the functional land use categories included as part of the Proposed Action (**Figure 2-1**). The location of facilities on GrandSKY is tied to required proximity to specific resources, such as the airfield. For example, aircraft maintenance, hangars, and launch support facilities must be located adjacent to the airfield and are therefore grouped together. Commercial facilities are typically located close to US-2, providing ready access to potential customers and supply chains. Offices and administrative space are concentrated in areas where access to the airfield or the highway is less important. For the Proposed Action, GrandSKY considered existing land use patterns to develop eight functional land use categories (**Table 2-1**). Impervious surface coverage was then determined for each category using the methodology described in **Section 2.4.2**.

2.4.2 Determination of Impervious Surface Cover Percentages

Grand Forks County, in conjunction with GrandSKY, used several sources to determine representative impervious surface cover percentages that would allow for conservative estimates of total impervious surface area for each functional land use category. Functional land use categories were identified from the American Planning Association and the State of California, both of which have published literature categorizing impervious surface cover by land use type (Arnold and Gibbons, 1996; State of California, 2008). Following identification of comparable impervious surface coverage estimates from the American Planning Association and the State of California, Grand Forks County considered local regulations, DAF standards, and existing impervious surface coverage of similar uses to determine the best estimate for the percentage of impervious surface coverage under each functional land use category (see **Table 2-1**).

2.4.3 Alternative 1 – Proposed Action

Alternative 1 at GrandSKY is the Proposed Action; except as described in **Section 2.4.4** for the No Action Alternative, no other alternatives were carried forward for further consideration (see **Section 2.5**). Under Alternative 1, Grand Forks County proposes a full build-out and development of the GrandSKY Business Park to accommodate existing and future demand for aviation mixed-use, light industrial, administrative, and commercial facilities **(Figure 2-2)**. A full build-out of this property would include increased pavements, in addition to the existing paved taxiway, apron, and existing buildings, depending on prospective tenant needs. As the exact tenant requirements are unknown, Alternative 1 proposes to utilize a functional land use category approach to determine the estimated amount of impervious surface coverage that would occur under each category as defined in **Sections 2.4.1** and **2.4.2** (see **Table 2-2)**. A functional land use category approach allows this EA to analyze potential impacts of development to resource areas with the assumption that maximum impervious (developed) area is not exceeded for that category.

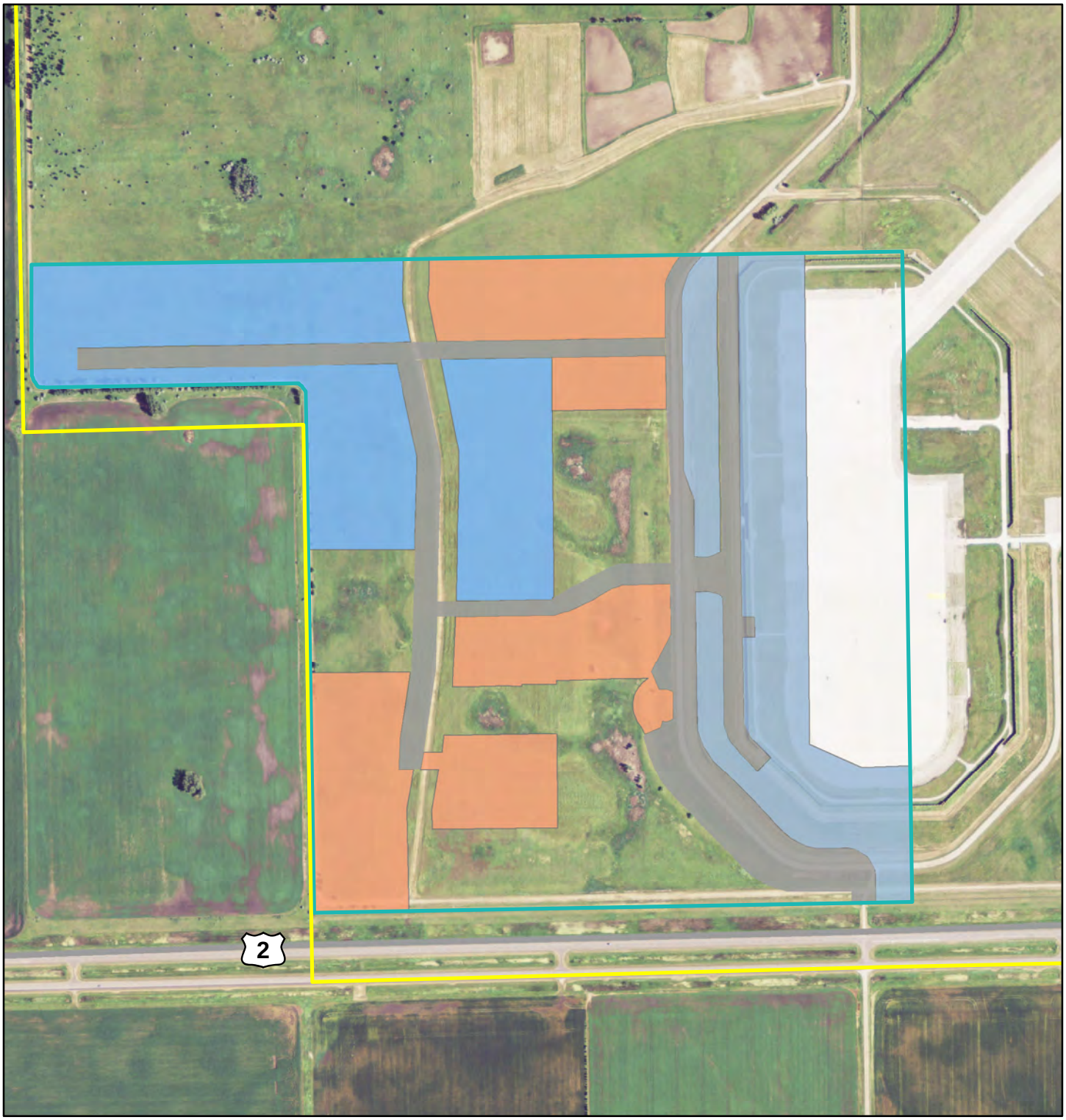


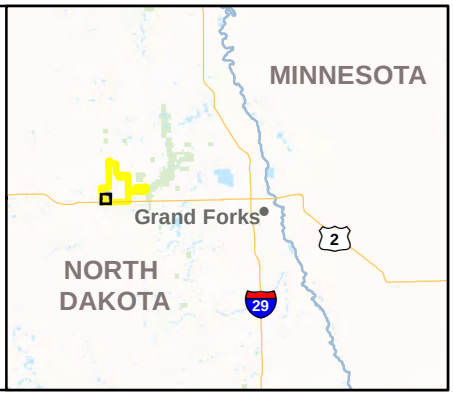
FIGURE 2-1
Existing Functional Land Use Categories

- GrandSKY Business Park Boundary
- Installation Boundary[1]
- Aviation Mixed Use / Light Industrial
- Light Industrial
- Office Mixed Use
- Roadway Corridors

N

0 0.2 Miles

Imagery: USDA, 2012
Coordinate System: WGS 1984 UTM Zone 14N



[1] A North Dakota Department of Transportation easement permits the passage of Highway 2 through Grand Forks AFB.

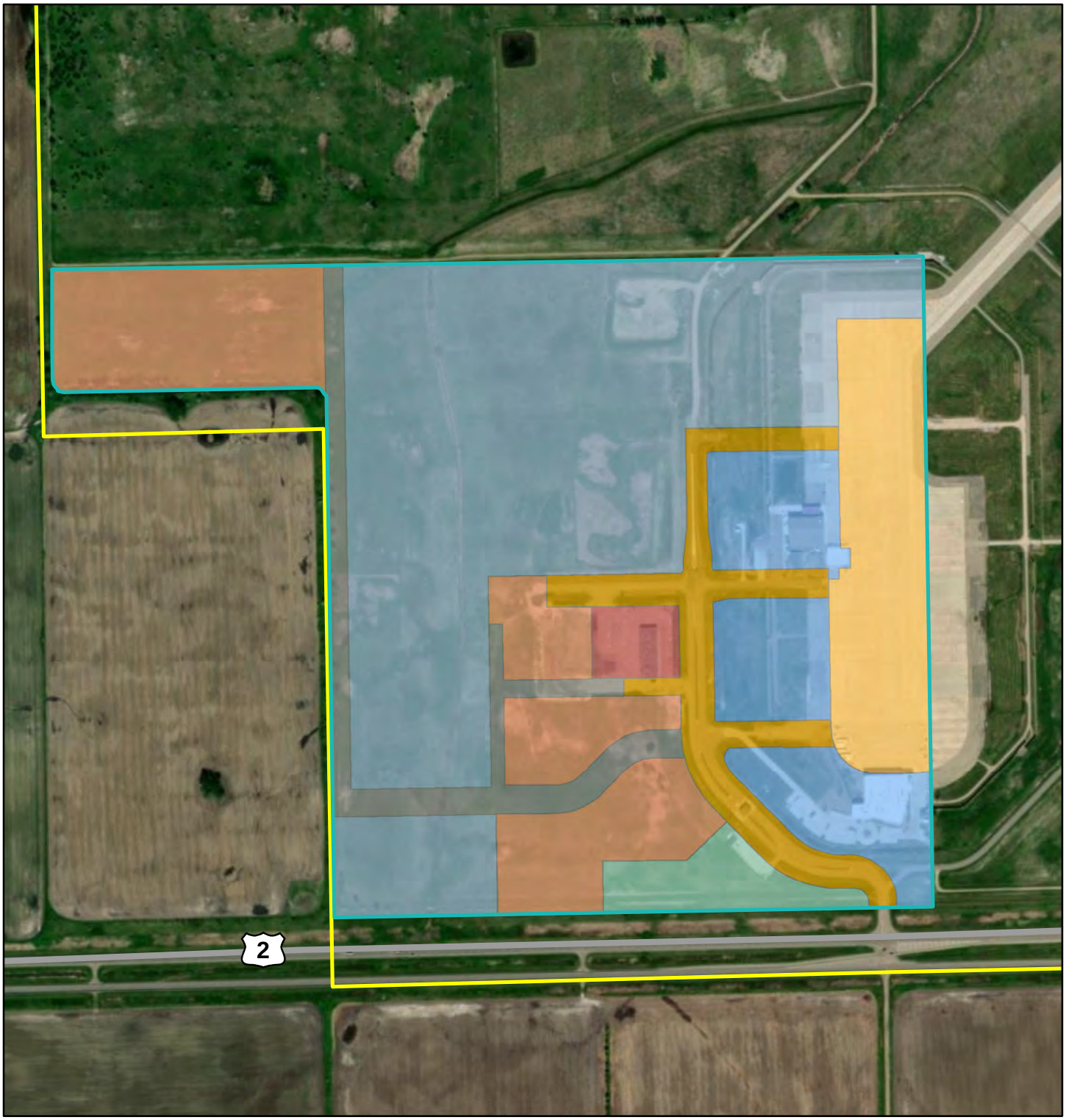


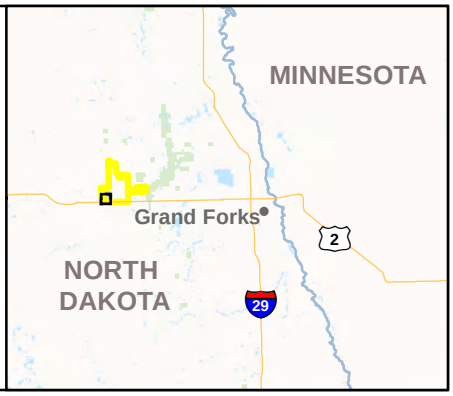
FIGURE 2-2
Full Build-Out Project Area with Functional Categories

- GrandSKY Business Park Boundary
- Installation Boundary[1]
- Aviation Mixed Use / Light Industrial
- Aviation Mixed Use / Light Industrial (Partially Developed)
- Commercial Mixed Use
- Existing Airfield Pavements
- Existing Roadways
- Office Mixed Use
- Office Mixed Use (Partially Developed)
- Roadway Corridors

N

0 0.2 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



[1] A North Dakota Department of Transportation easement permits the passage of Highway 2 through Grand Forks AFB.

2.4.4 No Action Alternative

Under the No Action Alternative, development at GrandSKY Business Park would remain unchanged from the action evaluated in the US DAF 2014 *Environmental Assessment of Proposed Mixed-Use Business Park on an Enhanced Use Lease at Grand Forks Air Force Base, North Dakota.* These development thresholds established GrandSKY Business Park. Mission objectives would not be met through GrandSKY Business Park and the growing tenant desire to reside within the business park for UAS-related actions would not be accommodated. Continued economic development within Grand Forks County through increased commercial interest in UAS manufacturing, training, and development within proximity to an airfield would not occur.

While the No Action Alternative would not satisfy the purpose of and need for the Proposed Action, this alternative is retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under CEQ regulations (40 CFR § 1502.14(c)) and DAF regulations (32 CFR § 989.8(a)).

2.5 Alternatives Considered but Eliminated from Further Analysis

Grand Forks County and GFAFB considered development to be located outside of GFAFB's EUL but ultimately determined that there was no other suitable location for development due to the needs of current and prospective tenants. Additionally, GrandSKY utilizes UAS tracking technologies that allow UAS to be flown, and line-of-sight maintained, remotely. The Proposed Action is required to be located in proximity to the GFAFB airfield to allow GrandSKY to launch large UAS requiring the large runway GFAFB provides. Development in another location would not satisfy the selection standards outlined in **Section 2.3**.

Alternatives considered that would require less development were dismissed from analysis because the 2014 EA previously evaluated development thresholds that are still applicable. Development beyond these thresholds is required to meet future tenant demand and support the DAF's strategic goal of optimizing the value of its existing real property assets through the efficient and economical use of real property assets at GFAFB pursuant to the directives of EO 13327.

2.6 Summary of Environmental Consequences

Table 2-3 summarizes the potential impacts under the Proposed Action and the No Action Alternative. The summary is based on information discussed in detail in **Chapter 3** of this EA and includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative.

Table 2-3.
Summary of Environmental Consequences

Resource Area	Proposed Action	No Action Alternative
Land Use	Long-term, beneficial impacts to land use would be expected to occur under the Proposed Action because the assignment of functional land use categories and maximization of developable area supports the DAF's strategic goal of optimizing the value of its existing real property assets. The development activities would promote the efficient and economical use of real property assets at GFAFB pursuant to the directives of EO 13327, *Federal Real Property Asset Management*.	There would be no changes to the existing functional land use beyond baseline conditions. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA while limiting the DAF's strategic goal of optimizing the value of its existing real property assets, limiting future growth and development of the business park, and limiting economic development potential of Grand Forks County.

Resource Area	Proposed Action	No Action Alternative
Safety	No impacts to explosives safety, negligible-to-minor adverse impacts to flight safety and ground safety, and long-term, beneficial impacts to BASH safety would occur under implementation of the Proposed Action. Under the Proposed Action, BASH safety would support compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation. The number of uncrewed aircraft systems (UAS) sorties would not increase from the current allowable numbers.	Under the No Action Alternative, the safety environment at GrandSKY Business Park would evolve within the thresholds evaluated in the 2014 EA. However, the filling of wetlands associated with the Proposed Action would not occur, resulting in long-term, moderate impacts to BASH safety.
Air Quality	Construction activities that would occur under the Proposed Action would be anticipated to be distributed over a 7–10-year period. As a result, long-term, negligible, direct, adverse impacts to air quality would occur under the Proposed Action.	Development within GrandSKY Business Park would have the potential to occur within thresholds evaluated by the 2014 EA. As a result, short-term construction-related emissions would be anticipated to occur.
Biological Resources	Long-term, moderate adverse impacts would have the potential to occur to biological resources and the white lady's slipper, a species of conservation priority, as a result of the removal of existing natural vegetation and up to 25 acres of wetlands within the project area. However, with the implementation of best management practices, indirect impacts to water resources, soils, and surrounding habitat would be reduced. Under the Proposed Action, the potential removal of wetlands to support construction under the Proposed Action may reduce the amount of attractive habitat for wildlife in the vicinity of the airfield, supporting safety compliance with DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*.	Development within GrandSKY Business Park would occur within thresholds evaluated in the 2014 EA. Under the 2014 EA, construction within wetlands would be avoided. Long-term, beneficial impacts to biological resources under the No Action Alternative would be anticipated.
Water Resources	Under the Proposed Action, the filling of up to 25 acres of wetlands and up to approximately 7,130,000 ft^2 of impervious surfaces would result in no change to surface waters; permanent, adverse impacts to wetlands; long-term, minor, adverse impacts to stormwater; long-term, minor, adverse impacts to groundwater; and long-term, minor adverse impacts to floodplains. However, long-term, beneficial impacts to BASH would occur by removing wetlands.	GrandSKY Business Park would remain partially undeveloped within the thresholds evaluated by the 2014 EA. Further development, up to 2014 design thresholds, could occur, resulting in potential impacts on water resources. However, under the 2014 EA, development would avoid wetlands to the maximum extent possible. Long-term, beneficial impacts would result from the No Action Alternative. While the filling of wetlands would not occur, potential BASH concerns within the vicinity of the GFAFB airfield would remain.

Resource Area	Proposed Action	No Action Alternative
Geology and Soils	Under the Proposed Action, up to approximately 7,130,000 ft^2 of soils would be disturbed through new construction. There would be no change to the underlying geology of GrandSKY Business Park, however, negligible, short-term, adverse impacts to the topography of GrandSKY would occur to establish new construction. Long-term, minor impacts to soils would be anticipated to occur due to increased impervious surfaces and runoff potential and would be managed with the use of planning and design practices.	Development under the No Action Alternative would have the potential to occur within the thresholds evaluated in the 2014 EA. Long-term, minor impacts to geological resources would be anticipated to occur as a result of soil disturbance and increased impervious surfaces.
Cultural Resources	No effects to cultural resources would be anticipated to occur.	No effects to cultural resources would be anticipated to occur.
Hazardous Materials and Wastes, Toxic Substances, and Contaminated Sites	Under the Proposed Action, new construction and subsequent UAS airframe maintenance would have the potential to generate hazardous materials and wastes. The exact increase of tenants, the amount of required construction, and UAS-related maintenance are not known at this time. However, there would be short-term, minor impacts to hazardous materials and waste, Installation Restoration Program sites, and per- and polyfluoroalkyl substances/aqueous film forming foam release sites during construction activities. There would be long-term, minor impacts to hazardous materials and waste during ongoing UAS-related maintenance. There would be no impacts to fuel storage. Radon and pesticides would result in short-term, negligible impacts managed through best management practices.	Under the No Action Alternative, short-term, minor impacts would be anticipated due to potential construction associated with projects evaluated in the 2014 EA.
Infrastructure, including Transportation and Utilities	Under the Proposed Action, long-term, beneficial impacts to transportation systems would occur by increasing connectivity within GFAFB and GrandSKY Business Park. Negligible, adverse impacts to communications, electricity and natural gas, potable water, sewage, and solid waste management would be anticipated to occur under the Proposed Action; these systems have the capacity to accommodate increased development.	Potential development would occur within thresholds evaluated in the 2014 EA. Prospective tenants would have limited space and infrastructure capacity to develop at GrandSKY Business Park, limiting the growth and opportunity to support the DAF's strategic goal of optimizing the value of its existing real property assets.

Resource Area	Proposed Action	No Action Alternative
Noise	Impacts from noise would be anticipated to be long term and minor. Noise associated with construction would occur over a 10-year period. Operations at GrandSKY Business Park would increase over that time and eventually stabilize to steady state. Noise would not exceed noise thresholds in the vicinity.	There would be no changes to the existing noise levels beyond baseline conditions. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA.
Socioeconomics	Long-term, beneficial impacts to socioeconomics would be anticipated to occur through the creation of jobs and the increase of personnel and their families to GrandSKY Business Park and surrounding areas. Long-term, beneficial impacts to employment, income, and tax revenues within the Region of Influence would be anticipated to occur under the Proposed Action.	The socioeconomic environment of the area would remain limited to the current tenants of GrandSKY with a finite ability to meet future tenant demands. Mission objectives would not be met through GrandSKY Business Park and the growing tenant desire to reside within the business park for UAS-related actions would not be accommodated. Continued economic development within Grand Forks County through increased commercial interest in UAS manufacturing, training, and development within proximity to an airfield would not occur.

BASH = Bird/Wildlife Aircraft Strike Hazard; DAFI = Department of Air Force Instruction; EA = Environmental Assessment; EO = Executive Order; GFAFB = Grand Forks Air Force Base; UAS = uncrewed aircraft system

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CHAPTER 3 EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

3.1 FRAMEWORK FOR ANALYSIS

To provide a framework for the analyses in this EA, the DAF defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- **Beneficial –** positive effects that improve or enhance resource conditions
- **Adverse –** negative or harmful results
- **Negligible –** effects likely to occur but at levels not readily observable by evaluation
- **Minor –** observable, measurable, tangible effects qualified as below one or more significance threshold(s)
- **Moderate –** tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- **Significant –** obvious, observable, verifiable effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; short- or long-term; and temporary, intermittent, or permanent.

Based upon the nature of the Proposed Action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects. Further, each resource analysis section (i.e., **Sections 3.4–3.12**) concludes with a cumulative effects analysis considering the effects on the environment that result from the incremental effects of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions at GFAFB.

Table 3-1 briefly describes the proposed or planned projects identified for consideration of potential cumulative impacts when combined with the effects of the Proposed Action at GFAFB and on a regional scale. All projects associated with the Proposed Action would be located within the boundaries of GFAFB. The area immediately surrounding GFAFB is rural and agricultural in nature and development is minimal. Projects approved by the City of Grand Forks occur primarily within the city boundaries, located approximately 12 miles east of GFAFB. It is therefore unlikely that potential impacts associated with such projects would cause cumulative effects when combined with the effects of the Proposed Action.

3.2 RESOURCES ELIMINATED FROM DETAILED ANALYSIS

CEQ regulations state that federal agencies should “identify and eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review(s)” (40 CFR § 1501.9(f)(1)). Accordingly, the DAF considered but eliminated from further analysis the following resource areas: visual resources and environmental justice and protection of children. The Proposed Action would occur entirely within GrandSKY Business Park and would be consistent with existing visual landscapes. The closest residence is located more than 2,000 ft southeast of GrandSKY Business Park, in the direction of GFAFB. GrandSKY Business Park is currently partially developed in areas closest to the residence and is part of the larger existing GFAFB. Areas west and north of GrandSKY Business Park are currently reserved for agricultural purposes resulting in no changes to the visual landscape. No local populations or communities with environmental justice concerns would be impacted by the Proposed Action or No Action Alternative.

Table 3-1.
Past, Present, and Reasonably Foreseeable Environmental Actions

Name	Description	Timeframe	Approximate Distance from Base
Federal Projects			
Multiple projects at GFAFB as part of the Installation Development Plan	Demolition of existing facilities, renovation projects, and construction projects	NEPA complete, ongoing construction	On Base
GFAFB BASH EA	Ground maintenance accessibility and operations improvements that will bring GFAFB's airfield into compliance under DAFI 91-202, and DAFI 91-212. This EA evaluates reconstruction of the ground topography and the natural and man-made water features within the project area totaling 1,291 acres, including the proposed clearing, filling, and grading of approximately 93 acres of existing wetlands on GFAFB	Ongoing	On Base
Nodak Electric Cooperative Facility on GFAFB	Construction of a 5,000 ft^2 building	NEPA complete, ongoing construction	On Base
Kellys Slough National Wildlife Refuge	Ongoing wetlands management of refuge that includes 1,207 acres of land and water	Ongoing activity	Approximately 2 miles
Non-Federal Projects			
Mixed-Use Business Park on Enhanced Use Lease at Grand Forks Business Park (2014 EA)	Development of a business park to support research, testing and evaluation, and operations of unmanned aerial systems, as well as activities centered on the development of sensor technology and data management	NEPA completed; ongoing construction	Leased GFAFB property
Grand Forks Airport Runway Construction	Improvements to the airport including reconstruction of the intersection of the two main runways and the lengthening of a secondary runway	Ongoing	Approximately 8 miles
Various City of Grand Forks Housing Developments	Six multi-family housing developments are scheduled to occur within the city of Grand Forks. These projects have been approved between 2018 and 2023.	Ongoing	Approximately 10 miles

GFAFB = Grand Forks Air Force Base; DAFI = Department of the Air Force Instruction; NEPA = National Environmental Policy Act; ft^2 = square foot

3.3 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

The DAF considered GrandSKY Business Park and its environs as the ROI for each environmental resource. None of the projects under the Proposed Action or No Action Alternative would occur outside the boundaries of GrandSKY Business Park and GFAFB. Based on the results of internal and external scoping (see **Section 1.4**), the following resources were carried forward for analysis: land use; safety; air quality; biological resources; water resources; geology and soils; cultural resources; hazardous materials and waste, toxic substances, and contaminated sites; infrastructure, including transportation and utilities; and socioeconomics.

3.4 LAND USE

3.4.1 Definition of the Resource

The term "land use" refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws; however, no nationally recognized convention or uniform terminology has been adopted for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Land use on GrandSKY is broadly classified through the identification of functional land use categories; that is, areas that contain common functions and types of operational activities.

The ROI for land use is GrandSKY Business Park.

3.4.2 Existing Conditions

GrandSKY Business Park is a 217-acre EUL parcel located in the southwest corner of GFAFB. The 2014 EA (GFAFB, 2014) evaluated the proposed siting of GrandSKY Business Park in its current location; subsequent development resulted in the establishment of several tenant properties within GrandSKY Business Park. These properties were developed within light industrial, office mixed-use, or aviation mixed-use land use categories (see **Figure 2-1**). Functional land use categories under the Proposed Action were derived from the existing land use at GrandSKY Business Park with considerations of future tenant needs. Under the Proposed Action, GFAFB would expand land use categories to the entirety of GrandSKY Business Park through the functional land use categories as described in **Section 2.4.3**.

3.4.3 Environmental Consequences

3.4.3.1 Evaluation Criteria

Potential impacts on land use are based on the level of land use sensitivity in areas potentially affected by a proposed action as well as compatibility of the action with existing conditions. In general, a land use impact would be adverse if it meets one of the following criteria:

- inconsistent or noncompliant with existing land use plans or policies,
- precludes the viability of existing land use,
- precludes continued use or occupation of an area,
- incompatible with adjacent land use to the extent that public health or safety is threatened, or
- conflicts with planning criteria established to ensure the safety and protection of human life and property.

3.4.3.2 Alternative 1 – Proposed Action

Under the Proposed Action, GrandSKY Business Park could be developed within the limits of the functional land use categories (see **Section 2.2**) based on tenant demand. The Proposed Action would define future land use within the business park and would maximize the area in which development can occur. Long-term, beneficial impacts to land use would be expected to occur under the Proposed Action because the assignment of functional land use categories and maximization of developable area supports the DAF's strategic goal of optimizing the value of its existing real property assets. The development activities would promote the efficient and economical use of real property assets at GFAFB pursuant to the directives of EO 13327, *Federal Real Property Asset Management*.

3.4.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in long-term, beneficial impacts to land use within the ROI. Other actions defined in **Table 3-1** would not occur within GrandSKY Business Park and, with the exception of the housing developments, would not have the potential to cause impacts to land use.

Cumulative impacts to land use would have the potential to occur if land used for housing developments is converted from agricultural use to residential use. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions, no significant cumulative impacts to land use would be anticipated to occur with implementation of the Proposed Action.

3.4.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA and there would be no changes to the existing functional land use. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County.

3.5 SAFETY

3.5.1 Definition of the Resource

This section discusses safety concerns associated with ground, explosives, and flight activities. Ground safety considers issues associated with ground operations and maintenance activities that support unit operations including arresting gear capability, jet blast/maintenance testing, and safety danger. Aircraft maintenance testing occurs in designated safety zones. Ground safety also considers the safety of personnel and facilities on the ground that may be placed at risk from flight operations in the vicinity of the airfield. Clear zones (CZs) and accident potential zones (APZs) around the airfield restrict the public's exposure to areas where there is a higher accident potential. Although ground and flight safety are addressed separately, in the immediate vicinity of the runway, risks associated with safety-of-flight issues are interrelated with ground safety concerns.

Explosives safety relates to the management and safe use of ordnance and munitions. Flight safety considers aircraft flight risks such as midair collision, BASH, and in-flight emergency. As a condition of the EUL, the Grand Forks County would adhere to DAF safety procedures and aircraft-specific emergency procedures produced by the original equipment manufacturer. Basic airmanship procedures also exist for handling any deviations to air traffic control procedures due to an in-flight emergency; these procedures are defined in Volume 3 of AFMAN 11-202, *Flight Operations*, and established aircraft flight manuals. The Flight Crew Information File is a safety resource for Aircrew day-to-day operations and contains air and ground operation rules and procedures.

The primary federal statute addressing occupational hazards is the *Occupational Safety and Health Act* (29 USC §§ 651–678) which created the Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health. Grand Forks County would be required to ensure the occupational health and safety of all personnel per the terms of the EUL and in compliance with applicable federal, state, and local regulations.

The ROI for safety is the GrandSKY Business Park within GFAFB.

3.5.2 Existing Conditions

3.5.2.1 Ground and Construction Safety

Under 32 CFR § 989.27, the EIAP for an action must assess direct and indirect impacts of a proposed action and alternatives on the safety and health of DAF employees and others (such as GrandSKY Business Park employees) at a work site.

No DAF employees work at GrandSKY Business Park apart from periodic security patrols or the occasional use for training exercises and the GFAFB Natural Resource Manager who must enter the open space area to monitor and track the health of the ecosystems on the Base.

All construction contractors at GFAFB must follow safety regulations and worker's compensation programs to avoid posing any risks to workers or personnel on or off Base. Construction contractors are responsible for reviewing potentially hazardous workplace operations, monitoring exposure to workplace chemicals (e.g., asbestos, lead, hazardous materials), physical hazards (e.g., noise propagation, slips, trips, falls), and biological agents (e.g., infectious waste, wildlife, poisonous plants). Construction contractors are required to recommend and evaluate controls (e.g., preventative, administrative, engineering) to ensure that personnel are properly protected and to implement a medical surveillance program to perform occupational health physicals for those workers subject to any accidental chemical exposures.

3.5.2.2 Flight Safety

The primary safety concern for military aircraft activity is the potential for aircraft accidents. Research in accident potential conducted by the Air Force found that most aircraft accidents occurred during takeoff or landing and were clustered along the runway and its extended centerline. This resulted in the designation of safety zones around airfields and restriction of incompatible land uses to reduce the public's exposure to safety hazards. CZs and APZs are designated rectangular safety zones extending outward from the ends of active military airfields that delineate areas recognized as having the greatest risk of aircraft accidents. APZs are further defined as APZ I, APZ II, and APZ III depending on their level of accident potential with APZ III being the least restrictive.

GrandSKY Business Park is bordered to the east by part of the GFAFB airfield CZ and APZ I but does not intersect with any current CZs or APZs on GFAFB.

3.5.2.3 Explosives Safety

Defense Explosives Safety Regulation 6055.09_AFMAN 91-201, *Explosives Safety Standards,* establishes the size of the clearance zone around facilities used to store, handle, and maintain munitions based on the quantity-distance criteria. Defined distances are maintained between munitions storage areas and a variety of other types of facilities. These distances, called explosives safety quantity-distance (ESQD) arcs, are associated with munitions storage and hot cargo pads, the CZs associated with the runway, and the noise zones associated with airfield operations (DAF, 2017). Within these ESQD arcs, development is either restricted or prohibited.

GrandSKY Business Park does not intersect with any current CZs on GFAFB, and there are no ESQD arcs within the project area. The most recent aircraft fire incident, a UAS crash north of GFAFB, occurred in 2021 (GFAFB, 2021).

3.5.2.4 Bird/Wildlife Aircraft Strike Hazards

Due to GrandSKY Business Park's proximity to GFAFB's airfield and current abundance of wetlands, BASH constitute a safety concern because of the potential for damage to aircraft or injury to Aircrews, or disruption to local populations should an aircraft crash occur in a populated area. From January 2010 through August 2023, GFAFB reported 28 bird or wildlife strikes. These strikes tend to peak at certain times of year, particularly in the spring and summer months (DAF, 2020). This can be attributed to bird migration and peaks in overall populations due to natural reproduction. Gull species account for more than 20 percent of strikes at both Grand Forks International Airport and all North Dakota airports. The wildlife struck at GFAFB from 2010 to 2023 involved the following species: passerines (15 strikes), shorebird (4 strikes), raptor (1 strike), upland (2 strikes), gulls (1 strike), icterid (2 strikes), Apodiformes (1 strike), mammal (1 strike), and unknown (1 strike) (Grand Forks, 2023).

Dispersal of wildlife from the airfield at GFAFB is currently accomplished with various harassment techniques including pyrotechnics, firearms, and vehicles. In 2019, the BASH program added permitted trapping of raptors to the BASH prevention toolkit and was able to trap and relocate 17 raptors in a 3-month period during the first year (Grand Forks AFB, 2020).

White-tailed deer are also a potential hazard to aircraft operations, as they can wander onto the airfield and present a threat to operations. The two most recent instances of deer entering the airfield were in 2010 and 2019; since 2010, automatic airfield gates have been installed along the flightline fencing to help keep deer

outside the secure airfield area. However, not all airfield gates are automatic, and sometimes gates are left unlocked or partially open. Additionally, damage to fences and gates from weather and flooding can create other openings for deer to cross the airfield fence. Due to community interest and the need to manage the deer population for BASH safety purposes, a bow-hunting program was developed at GFAFB in 2003 (Grand Forks AFB, 2020).

3.5.3 Environmental Consequences

3.5.3.1 Evaluation Criteria

Impacts from the Proposed Action are assessed according to the potential to increase or decrease safety risks to personnel, the public, property, or the environment. For the purposes of this EA, an impact is considered significant if applicable OSHA regulations are not followed or if established or proposed safety measures are not being properly implemented, resulting in unacceptable safety risk to personnel.

3.5.3.2 Alternative 1 – Proposed Action

Ground and Construction Safety

Under the Proposed Action, up to approximately 7,130,000 ft^2 of construction would occur across GrandSKY Business Park. Construction activities could potentially expose personnel to health and safety hazards from heavy-equipment operation, construction activities, hazardous materials and chemicals use, and noisy work environments. Therefore, short-term, negligible-to-minor, adverse impacts on construction contractor health and safety would be anticipated as a result of proposed construction activities under the Proposed Action. To minimize health and safety risks, contractors would be required to use appropriate personal protective equipment and establish and maintain site-specific health and safety programs that follow all applicable OSHA regulations for their employees. Grand Forks County would be required to ensure the occupational health and safety of all personnel per the terms of the EUL and in compliance with applicable federal, state, and local regulations. Additionally, all construction contractors at GFAFB would be required to follow industry-accepted safety practices, ground safety regulations, and worker's compensation programs to avoid posing any risks to workers or personnel on or off Base. Upon development completion, employees of tenant organizations also would be required to follow industry-accepted safety practices.

Access to GrandSKY Business Park would be restricted from the rest of the Base, and Base traffic and/or personnel would not be expected to interact with construction and demolition contractors; therefore, there would be no expected increase in risk to Base personnel during construction.

With the appropriate safety measures in place and adherence to applicable safety rules and regulations, adverse impacts to ground and construction safety under the Proposed Action would be anticipated to be short term and negligible to minor.

Flight Safety

Implementation of the Proposed Action would include additional development and associated construction at GrandSKY Business Park. GrandSKY Business Park supports UAS missions and, as such, UAS flight operations associated with the development pose potential risks to military, civilian, and other tenant personnel at GFAFB. Flight operations originating from tenants at GrandSKY Business Park would not result in a change to existing CZs or APZs and would only be conducted under the approval of both the DAF and Federal Aviation Administration (FAA). The DAF would need to approve use of its runway and airspace at GFAFB for takeoff and landing of remotely piloted aircraft (RPAs). Under the Proposed Action, the number of UAS sorties would not increase from the current allowable numbers, the effects of which were analyzed under the 2014 EA. Grand Forks County would adhere to DAF manuals and instructions for the safe use of its airfields and would be responsible for maintaining safe operations.

The FAA promulgates rules and regulations to be followed by UAS operators to ensure that the use of airspace for UAS testing does not impose a risk on the operators or the public. Apart from a few exceptions, the FAA requires that anyone wishing to fly an RPA apply for and receive a Special Airworthiness

Certificate, Experimental Category, to fly in the national airspace system. To obtain a certificate, applicants must demonstrate that their UAS and RPA can operate safely during ground and flight tests within an assigned flight test area and cause no harm to the public. The act of issuing the certificate requires the FAA to ensure that the operation of the UAS would not increase the risk to DAF or other personnel on the ground or the public (DAF, 2014; FAA, 2022).

Due to the extensive DAF and FAA approval processes and their respective management of the runway and airspace at GFAFB, and with Grand Forks County's adherence to all applicable rules and regulations governing these types of flight activities, RPA flight operations originating from GrandSKY Business Park would be anticipated to have a negligible, adverse impact on flight safety.

Explosives Safety

The Proposed Action would not result in a change to existing CZs or ESQDs. Therefore, no impacts to explosives safety would be anticipated with implementation of the Proposed Action.

Bird/Wildlife Aircraft Strike Hazards

Under the Proposed Action, wetland and vegetated areas of GrandSKY Business Park would be filled and developed through construction and tenant needs. The filling and grading of wetlands within the ROI would reduce habitat considered attractive to birds and wildlife and could potentially help minimize the risk of strikes, crashes, and other incidents related to the interaction of birds, wildlife, and aircraft. GrandSKY Business Park primarily operates UAS/drones that cost millions of dollars to manufacture. Reducing the potential risk for bird and wildlife strikes would similarly reduce the costs of replacing UAS damaged from bird/wildlife strikes.

The Proposed Action would be expected to support long-term, beneficial impacts to GFAFB's BASH program by detracting birds and wildlife from areas adjacent to the airfield.

3.5.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in no impacts to explosives safety, negligible-to-minor adverse impacts to flight safety and ground and construction safety, and long-term beneficial impacts to BASH safety. Future planned actions at GFAFB include a project involving 1,291 acres of airfield reconstruction and 93 acres of wetland management to address BASH concerns, which would beneficially impact safety on the Base. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant adverse cumulative impacts to safety would be anticipated to occur with implementation of the Proposed Action. Long-term, beneficial cumulative impacts to BASH safety would be anticipated to occur as a result of the Proposed Action when combined with the effects of other past, present, and reasonably foreseeable actions at GFAFB.

3.5.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA and the safety environment would remain unchanged. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Any further development that occurs under the thresholds of the 2014 EA would not reduce BASH risk, resulting in long-term, moderate impacts to BASH safety at GrandSKY Business Park.

3.6 AIR QUALITY

3.6.1 Definition of the Resource

Air pollution is a threat to human health and damages trees, crops, other plants, waterbodies, and animals. It creates haze or smog that reduces visibility in national parks and cities and interferes with aviation. To improve air quality and reduce air pollution, Congress passed the CAA and its amendments in 1970 and

1990, which set regulatory limits on air pollutants and help to ensure basic health and environmental protection from air pollution.

3.6.1.1 Criteria Pollutants

The CAA directs the US Environmental Protection Agency (USEPA) to develop, implement, and enforce environmental regulations to ensure clean and healthy ambient air quality. In response, the USEPA developed numerical concentration-based standards known as the National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for pollutants that have been determined to impact human health and the environment.

NAAQS are currently established for six criteria air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and respirable particulate matter (i.e., particulates equal to or less than 10 microns in diameter [PM_{10}] and particulates equal to or less than 2.5 microns in diameter [$PM_{2.5}$]). The USEPA has established standards for both primary and secondary NAAQS. The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources in addition to maintaining visibility standards. The USEPA and the North Dakota Department of Environmental Quality regulate air quality in North Dakota. States can adopt standards stricter than those established by the USEPA. **Table 3-2** presents the USEPA NAAQS for the USEPA criteria pollutants that the state follows, as well as the additional state-only standards as provided in North Dakota Administrative Code Chapter 33.1-15.02-07.

Ozone is not usually emitted directly into the air, but rather is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants or "ozone precursors." Such ozone precursors consist primarily of nitrogen oxides and volatile organic compounds that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling volatile organic compound pollutants (also identified as reactive organic gases) and nitrogen oxides.

The USEPA has recognized that particulate matter emissions can have different health effects depending on particle size and, therefore, developed separate NAAQS for coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$). The pollutant $PM_{2.5}$ can be emitted from emission sources directly as very fine dust and/or liquid mist or formed secondarily in the atmosphere as condensable particulate matter typically forming nitrate and sulfate compounds. Secondary (indirect) emissions vary by region depending upon the predominant emission sources located there and thus which precursors are considered significant for $PM_{2.5}$ formation and identified for ultimate control.

3.6.1.2 Air Quality Control Regions

The USEPA has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with NAAQS. When a region exceeds the NAAQS for a pollutant, it is classified as nonattainment for that pollutant. Where the air quality within the area is better than the NAAQS, or if there is not enough information to appropriately classify the area, the area is designated as in attainment. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to follow requirements in the state's maintenance plans to ensure continued compliance with NAAQS. GFAFB is located in Grand Forks County within the North Dakota AQCR. This region is designated by USEPA as in attainment/unclassifiable for all criteria pollutants (40 CFR § 81.335).

The ROI for air quality includes GrandSKY Business Park and its surrounding areas within the North Dakota AQCR.

Table 3-2.
National and North Dakota Ambient Air Quality Standards

Pollutant	NAAQS		North Dakota AAQS
	Primary	Secondary	
Carbon Monoxide			
8-hour average	9 ppm	-	9 ppm
1-hour average	35 ppm	-	35 ppm
Nitrogen Dioxide			
Annual arithmetic mean	0.053 ppm	0.053 ppm	0.053 ppm
1-hour average[a]	0.100 ppm	-	0.100 ppm
Ozone			
8-hour average[b]	0.070 ppm	0.070 ppm	0.070 ppm
Lead			
3-month average[c]	0.15 µg/m^3	0.15 µg/m^3	0.15 µg/m^3
Particulate <10 Micrometers			
24-hour average[d]	150 µg/m^3	150 µg/m^3	150 µg/m^3
Particulate <2.5 Micrometers			
Annual arithmetic mean[d]	12 µg/m^3	15 µg/m^3	12 µg/m^3
24-hour average[d]	35 µg/m^3	35 µg/m^3	35 µg/m^3
Sulfur Dioxide			
1-hour average[e]	0.075 ppm	-	0.075 ppm
3-hour average[e]	-	0.5 ppm	0.5 ppm
Hydrogen Sulfide			
Instantaneous	-	-	10 ppm
1-hour average	-	-	0.2 ppm
24-hour average	-	-	0.1 ppm
Quarter (over 3-consecutive months)	-	-	0.02 ppm

Source: USEPA NAAQS table; NDDEQ AAQS table

AAQS = ambient air quality standards; NAAQS = National Ambient Air Quality Standards; $PM_{2.5}$ = particulate matter with a diameter equal to or less than 2.5 micrometers; PM_{10} = particulate matter with a diameter equal or less than 10 micrometers; µg/m^3 = microgram(s) per cubic meter; mg/m^3 = milligram(s) per cubic meter; ppb = part(s) per billion; ppm = part(s) per million; USEPA = United States Environmental Protection Agency

Notes:

a In February 2010, the USEPA established a new 1-hour standard for nitrogen dioxide at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the then-existing annual standard.

b In October 2015, the USEPA revised the level of the 8-hour standard to 0.070 ppm, based on the annual 4th highest daily maximum concentration, averaged over 3 years; the regulation became effective on 28 December 2015. The previous (2008) standard of 0.075 ppm remains in effect for some areas. A 1-hour standard no longer exists effective June 15, 2005, for all areas in North Dakota.

c In November 2008, USEPA revised the primary lead standard to 0.15 µg/m^3. USEPA revised the averaging time to a rolling 3-month average.

d In October 2006, USEPA revised the level of the 24-hour $PM_{2.5}$ standard to 35 µg/m^3 and retained the level of the annual $PM_{2.5}$ standard at 15 µg/m^3. In 2012, USEPA split standards for primary & secondary annual $PM_{2.5}$. All are averaged over 3 years, with the 24-hour average determined at the 98th percentile for the 24-hour standard. USEPA retained the 24-hour primary standard and revoked the annual primary standard for PM_{10}.

e In 2012, the USEPA retained a secondary 3-hour standard, which is not to be exceeded more than once per year. In June 2010, USEPA established a new 1-hour sulfur dioxide standard at a level of 75 ppb, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.

3.6.1.3 General Conformity

Under the CAA, the USEPA established the General Conformity Rule (40 CFR Part 93), which applies to federal actions occurring in nonattainment or maintenance areas. The rule is designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS.

Federal actions are evaluated to determine if the total indirect and direct net emissions from the project are below *de minimis* levels for each of the pollutants as specified in 40 CFR § 93.153. If *de minimis* levels are not exceeded for any of the pollutants, no further evaluation is required. However, if net emissions from the project exceed the *de minimis* thresholds for one or more of the specified pollutants, a demonstration of conformity, as prescribed in the General Conformity Rule, is required.

3.6.1.4 Greenhouse Gas Emissions and Climate Change

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature and contributes to global climate change. GHGs include water vapor, carbon dioxide, methane, nitrous oxide, ozone, and several hydrocarbons and chlorofluorocarbons. Each GHG has an estimated global warming potential, which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth's surface. The global warming potential of a particular gas provides a relative basis for calculating its carbon dioxide-equivalent (CO_2e) or the amount of CO_2e to the emissions of that gas. For the purposes of this EA, CO_2e for analysis includes only methane, cardon dioxide, and nitrous oxide. Carbon dioxide has a global warming potential of 1 and is therefore the standard by which all other GHGs are measured. The GHGs are multiplied by their global warming potential, and the resulting values are added together to estimate the total CO_2e.

3.6.2 Existing Conditions

3.6.2.1 Regional Climate

GrandSKY Business Park is in the southwest corner of GFAFB, which is in the northeastern part of North Dakota; its climate is representative of that of the Northern Great Plains. Its regional climate is characterized by cold winters and warm-to-hot summers and experiences wide extremes in temperatures. Based on the US Forest Service's use of Bailey's Ecoregions, the ROI for the Proposed Action is located within the Humid Temperate Domain (DAF, 2020). The Humid Temperate Domain is influenced by both tropical and polar air masses. Within the Humid Temperate Domain, there are six divisions; GFAFB is located within the Prairie Division. Climates in the Prairie Division are sub-humid and typically receive between 20 and 40 inches of rain per year. The warmest month in the region is July, with average high and low temperatures of 81 degrees Fahrenheit (°F) and 56°F, respectively. January is the coldest month, with an average high temperature of 17°F and average low temperature of -3°F. The wettest month by average precipitation is July, with an average of 3.48 inches of rain. The driest month is February, with an average of 0.52 inch of precipitation. December and January are the months with the highest average snowfall of 11 inches (US Climate Data, 2019).

3.6.2.2 Air Quality Status and Existing Emissions

The North Dakota AQCR is in attainment for all NAAQS parameters.

GrandSKY Business Park is located within an EUL parcel within GFAFB; however, GrandSKY Business Park does not contribute to GFAFB's status as a "minor source" air emission generator emitter under Operating Permit AOP-28514 V1.0, which expires 14 October 2027. The business park is a stand-alone entity and currently supports the manufacturing and processes associated with UAS; stationary air emission sources include four backup generators. Liquid fuel at GrandSKY Business Park is brought in by trucks as needed (Gerken, 2023b).

3.6.2.3 Climate Change Considerations

Ongoing global climate change has the potential to increase average temperatures and cause more frequent rainstorms in the Great Plains region of the US, including North Dakota (USEPA, 2016). Variations in regional climate patterns could result in changes to flooding frequency, vegetation types, and vegetation growth rates.

3.6.3 Environmental Consequences

3.6.3.1 Evaluation Criteria

General Conformity applies to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual *de minimis* thresholds identified in the General Conformity Rule, a formal conformity determination of that action is required. When the ROI is in attainment for all NAAQS, the Prevention of Significant Deterioration (PSD) value is used as a threshold for all criteria pollutants other than lead.

3.6.3.2 Methodology

The environmental impact methodology for air quality impacts presented in this EA is derived from AFMAN 32-7002, *Environmental Compliance and Pollution Prevention* (February 2020). The Proposed Action is broken down into basic units. For example, a basic development project that consists of replacing a building with a new building could be broken down into demolition (ft^2), grading (ft^2), building construction (ft^2 and height), architectural coatings (ft^2), and paving (ft^2). These data are then input into the DAF's Air Conformity Applicability Model (ACAM), which models emissions based on the inputs and estimates air emissions for each specific criteria and precursor pollutant, as defined in the NAAQS. The calculated emissions are then compared against the applicable threshold based on the attainment status of the ROI. If the annual net increase in emissions from the project are below the applicable thresholds, then the Proposed Action and Alternatives are considered too insignificant to warrant any further consideration and would not be subject to any further conformity determination. Assumptions of the model, methods, and detailed summary results are provided in **Appendix D** of this EA.

The AQCR for the ROI is designated as in attainment for all criteria air pollutants (40 CFR § 81.335). However, due to the toxicity of lead, the use of the lead PSD threshold as an indicator of potential air quality impact insignificance is not protective of human health or the environment. Therefore, the *de minimis* value is used instead. A PSD value is not used for CO_2e; however, it is still listed within the ACAM model to show that it is below the GHG Tailoring Rule of 25,000 metric tons per year. The following thresholds are applicable within the AQCR:

- 25 tpy *de minimis* value for lead

3.6.3.3 Alternative 1 – Proposed Action

Under the Proposed Action, the full build-out of GrandSKY would occur over the course of 7–10 years. The exact rate of development as well as the exact number of developed parcels is unknown at this time. However, estimates regarding the likely maximum square footage of building construction, paving, imported fill, trenching, and grading have been developed using existing tenant specifications and anticipated tenant needs. Based on current tenant personnel numbers, it is anticipated that future development would generate approximately 1,700 new personnel over a 10-year period (Gerken, 2023a). These estimates represent a conservative estimate of the size of the development. For the purpose of developing model inputs, it is presumed that development would occur at a uniform pace over the course of 10 years. As such, the total estimated square footage of building construction, paving, grading, etc., have been divided into 10 equal segments and input into ACAM as 10 equal-sized projects with a duration of 1 year each. **Table 3-3** summarizes the project assumptions and ACAM inputs.

Table 3-3.
ACAM Model Assumptions

Category	Estimated Net Increase for Proposed Action	Estimated Net Increase for Proposed Action Divided into 10 Equal Projects
Grading (acres)	150	15
Buildings (footprint ft^2)	2,282,147	228,215
Parking (ft^2)	2,761,441	276,144
Roadways (ft^2)	560,029	56,003
Airfield pavements (ft^2)	1,185,102	118,510
Utility trenching (ft^2; average depth, 9 ft)	1,422,000	142,200
Imported fill (yd^3)	521,077	52,108
Increase in personnel	1,700	170

ACAM = Air Conformity Applicability Model; ft^2 = square feet; yd^3 = cubic yards

Table 3-4 summarizes the results of the ACAM analysis for the duration of the Proposed Action. The model assumes that construction would begin in calendar year 2024 and would be complete at the end of calendar year 2033. Emissions for the year 2034 represent "steady-state" emissions. These are ongoing emissions that would be anticipated to extend indefinitely into the future and are associated with heating. **Table 3-5** represents the highest calculated annual air emissions and compares it against the applicable threshold.

Table 3-4.
Annual Air Emissions (tons per year) – Proposed Action

Pollutant	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034 (steady state)
Volatile organic compound	4.437	4.754	5.068	5.373	5.675	5.978	6.282	6.587	6.890	7.196	3.179
Nitrogen oxides	3.840	5.535	7.326	9.147	10.992	12.837	14.716	16.590	18.460	20.349	19.577
Carbon monoxide	5.185	10.449	15.568	20.519	25.393	30.260	35.138	40.005	44.847	49.704	49.912
Sulfur oxides	0.010	0.023	0.036	0.049	0.062	0.075	0.088	0.101	0.114	0.127	0.130
PM_{10}	31.835	31.962	32.095	32.231	32.368	32.507	32.648	32.790	32.929	33.069	1.447
$PM_{2.5}$	0.166	0.294	0.427	0.563	0.700	0.838	0.979	1.120	1.259	1.398	1.439
Lead	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ammonia	0.015	0.040	0.064	0.088	0.111	0.135	0.159	0.183	0.206	0.230	0.240
Carbon dioxide-equivalent[a]	1,446	3,726	5,998	8,265	10,532	12,798	15,065	17,332	19,599	21,866	22,706

$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter
Note:
a Carbon dioxide-equivalent listed in this table is compared to the GHG Tailoring Rule of 25,000 metric tons per year.

Table 3-5.
Highest Annual Air Emissions and PSD Thresholds – Proposed Action

Pollutant	Highest Annual Emissions (ton/year)	GENERAL CONFORMITY	
		Threshold (ton/year)	Exceedance (yes or no)
Volatile organic compound	7.196	250	No
Nitrogen oxides	20.349	250	No
Carbon monoxide	49.704	250	No
Sulfur oxides	0.127	250	No
PM_{10}	33.069	250	No
$PM_{2.5}$	1.398	250	No
Lead	0.000	25	No
Ammonia	0.230	250	No
Carbon dioxide-equivalent	21,866	N/A	N/A

N/A = not applicable; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter

The Proposed Action would result in short-term, negligible, direct, adverse impacts to air quality primarily due to construction equipment and ground-disturbing activities. Under the Proposed Action, potential air quality impacts from construction activities would occur from: 1) combustion emissions due to the use of fossil-fuel-powered equipment and vehicles and 2) particulate emissions during earth-moving activities.

Particulates are the main air pollutant of concern from construction projects. Construction activities would generate both coarse and fine particulate emissions, which would temporarily affect local air quality. The number of particulate emissions can be estimated from the amount of ground surface exposed, the type and intensity of activity, soil type and conditions, wind speed, and dust-control measures used. To limit these emissions, construction best management practices (BMPs), generally including water- or chemical-based dust suppression, would be implemented to reduce fugitive dust generation and further prevent it from becoming airborne.

Emissions would be generated from diesel-fueled off-road construction vehicles (e.g., backhoes, loaders, graders), on-road heavy-duty vehicles (multi-axle delivery vehicles), light-duty vehicles, and construction workers' personally owned vehicles. Emissions would be moderated through implementation of BMPs, such as restricting excessive idling, adhering to equipment maintenance programs, using particulate filters, and using ultra-low-sulfur diesel fuel as applicable.

Operation of the Proposed Action would result in long-term, negligible, direct, adverse impacts to air quality. Emissions would be generated from heating and cooling the buildings constructed under the proposed action and from vehicles driven by staff and families traveling to and from the development.

Other miscellaneous stationary air emissions sources, such as satellite accumulation points (SAP) or other generators, would be tenant specific as the business park continues to develop and would be managed internally through GrandSKY Business Park.

3.6.3.4 Cumulative Impacts

Implementation of the Proposed Action would result in a short-term, temporary increase in construction-related emissions. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be temporary, cumulative impacts to air quality as a result of increased particulate matter and dust in the air. However, BMPs would be implemented during construction to reduce fugitive dust and combustion emissions to below regulatory levels. Annual construction emissions associated with the Proposed Action would not be expected to exceed *de minimis* thresholds during any year of cumulative project implementation and would not contribute significantly to any potential cumulative impacts to air quality. Continued development and subsequent operation of

GrandSKY Business Park combined with those actions identified in **Table 3-1** would result in long-term, minor, adverse cumulative effects to air quality within the ROI due to emissions generated by heating, cooling, and maintaining the newly constructed buildings, as well as general UAS manufacturing and maintenance activities. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant cumulative effects to air quality would be anticipated with implementation of the Proposed Action.

3.6.3.5 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Short-term construction-related emissions would be expected with any development associated with the 2014 EA, and steady-state emissions would have the potential to change from current levels.

3.7 BIOLOGICAL RESOURCES

3.7.1 Definition of the Resource

Biological resources include vegetation; wildlife; threatened, endangered, and other protected species; and invasive or noxious weed species. These are further defined by native or invasive plants and animals; sensitive and protected floral and faunal species; and the associated habitats, such as wetlands, forests, grasslands, cliffs, and caves in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. The following is a description of the primary federal statutes that form the regulatory framework for the evaluation of biological resources.

The ROI for biological resources is the GrandSKY Business Park within GFAFB.

3.7.1.1 Endangered Species Act

The ESA established protection for threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by the USFWS. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. Under the ESA, an "endangered species" is defined as any species in danger of extinction throughout all, or a significant portion, of its range. A "threatened species" is defined as any species likely to become an endangered species in the foreseeable future throughout all, or a significant portion, of its range. USFWS maintains a list of candidate species under evaluation for possible listing as threatened or endangered under the ESA. Although candidate species receive no statutory protection under the ESA, USFWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the ESA.

3.7.1.2 Migratory Bird Treaty Act

The MBTA implementing regulations make it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR § 10.12). Birds protected under the MBTA include nearly all species in the US except for non-native/human-introduced species and some game birds.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement the MBTA. EO 13186 directs federal agencies to develop an MOU with USFWS that promotes the conservation of migratory birds. The DoD has signed an MOU with the USFWS to promote the conservation of migratory birds while sustaining the use of military-managed lands and airspace for

testing, training, and operations (DoD, 2014). Under the terms of the MOU, operational safety takes precedence over conservation.

The *National Defense Authorization Act for Fiscal Year 2003* (Public Law 107-314, 116 Stat. 2458) directed the Secretary of the Interior to exercise authority of that Secretary under the MBTA to prescribe regulations to exempt the Armed Forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the US Armed Forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use. MBTA implementing regulations authorize the Armed Forces to take migratory birds incidental to military readiness activities provided that, for those ongoing or proposed activities that the Armed Forces determine may result in a significant adverse effect on a population of a migratory bird species, the Armed Forces must confer and cooperate with the USFWS to develop and implement appropriate conservation measures to minimize or mitigate such significant adverse effects (50 CFR § 21.42(a)(1)).

In December 2017, the Solicitor of the US Department of the Interior issued legal opinion M-37050, *The Migratory Bird Treaty Act Does Not Prohibit Incidental Take*, which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the purpose of that activity is not the take of migratory birds, eggs, or nests. On 8 March 2021, the Principal Deputy of the Solicitor for the US Department of the Interior issued a memorandum that permanently revoked and withdrew M-37050. On 5 October 2021, the USFWS issued Director's Order No. 225, *Incidental Take of Migratory Birds*, confirming that the USFWS reestablished its longstanding policy and practice of enforcing the MBTA pursuant to its interpretation that the MBTA prohibits the incidental take of migratory birds and describing its priority for enforcement of the prohibition of incidental take of migratory birds. However, as described above, MBTA implementing regulations authorize the Armed Forces to take migratory birds incidental to military readiness activities.

3.7.1.3 Bald and Golden Eagle Protection Act

The *Bald and Golden Eagle Protection Act of 1940,* as amended (16 USC §§ 668–668d) (BGEPA) prohibits actions to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof" without being permitted as described in the MBTA. The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Further, the BGEPA implementing regulations (50 CFR § 22.6) define "disturb" as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle's normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle's normal breeding, feeding, or sheltering behavior." The BGEPA also prohibits activities around an active or inactive nest site that could result in disturbance to returning eagles.

3.7.1.4 Invasive and Noxious Weed Species

Invasive species are non-native species in an ecosystem whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent introductions of invasive species; detect, respond, and control such species; monitor invasive species populations; and provide for restoration of native species. Invasive species damage native habitat and impede management by outcompeting native species.

Noxious weeds in North Dakota are any plant propagated by either seed or vegetative parts and determined to be injurious to public health, crops, livestock, land, or other property by the state, county, or municipal authority (North Dakota Century Code § 4.1-47-01, *Control of Noxious Weeds*).

3.7.2 Existing Conditions

3.7.2.1 Ecoregion Description

Ecoregions are used to describe areas of similar type, quality, and quantity of environmental resources (USEPA, 2020) and are assigned hierarchical levels to delineate regions spatially based on different levels of planning and reporting needs. Level III ecoregion descriptions provide a regional perspective and are specifically oriented for environmental monitoring, assessment and reporting, and decision-making (USEPA, 2020).

GFAFB is located within the Lake Agassiz Plain Level III Ecoregion. The vegetation and wildlife common within the ecoregion on GFAFB are described below.

Regional Environment

Several natural areas maintained by the state or Federal Government are located within 5 to 10 miles of GrandSKY Business Park, totaling approximately 10,000 acres of grasslands with interspersed wetland and wetland complexes to preserve and protect native and restored prairies. The largest natural area is the Kellys Slough National Wildlife Refuge (NWR) Greater Complex, comprising more than 6,800 acres and approximately 2 miles east of GFAFB. This area serves as a major stopover point for migratory waterfowl and shorebirds, providing breeding habitat for several bird species. Adjacent to GrandSKY Business Park are areas of undeveloped grasslands, including Turtle River State Park, located approximately 6 miles west of GrandSKY Business Park.

3.7.2.2 Vegetation

GrandSKY Business Park comprises 217 of GFAFB's 5,151 acres of land. Much of the Base was historically agricultural land before construction of GFAFB in the mid-1950s. During the mid-1950s, much of the Base was planted in a standard grass mix of smooth bromegrass (*Bromus inermis*), red fescue (*Festuca rubra*), and Kentucky bluegrass (*Poa pratensis*). Since then, some areas have been improved with native prairie species such as western wheat grass (*Pascopyrum smithii*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), sideoats gramma (*Bouteloua curtipendula*), and Indian grass (*Sorghastrum nutans*). However, there are no known natural prairie remnants on Base property.

Native vegetation is uniquely adapted to growing conditions in this ecotype; introduced and turf-type grasses would not thrive in the combination of hydric soils, salinity, and temperature extremes experienced at GFAFB. Ponding and open-water areas reduce root depth and vegetation often drowns, causing open, bare areas. These bare soil areas can be seen across GFAFB with visible white crusts indicating their saline nature. The majority of the project area is cool-season grassland typically dominated by bromegrass. Within the project area, unimproved vegetation receives various grounds maintenance management. Actions such as occasional mowing and woody vegetation removal take place for operational maintenance (Grand Forks, 2020).

A wetland delineation survey conducted in 2023 for the Proposed Action area identified 38 separate wetlands, covering approximately 25 acres of the ROI (see **Section 3.8.2.2** and **Appendix E**), and identified 45 different plant species. Reed canary grass (*Phalaris arundinacea)*, Northwest Territory sedge (*Carex utriculate)*, and cattail (*Typha* sp.) dominated some of the largest wetlands identified within the ROI.

3.7.2.3 Wildlife

A diversity of wildlife species found on GFAFB is nestled in a landscape of mixed-prairie, wetlands, and agricultural fields. Wildlife species observed range from small mammals, such as mice, to larger ungulates, such as white-tailed deer. Migratory birds are common, including waterfowl, neo-tropical migrants, and grassland birds. Mammals observed on Base are primarily small mammals common to grassland habitats, including the plains pocket gopher (*Geomys bursarius*), the Richardson's ground squirrel (*Spermophilus richardsonii*), the thirteen-lined ground squirrel (*Spermophilus tridecemlineatus),* the white-tailed jackrabbit (*Lepus townsendii*), eastern cottontail rabbit (*Sylvilagus floridanus*), and the striped skunk (*Mephitis*

mephitis). The wetland areas also provide habitat for shrews, voles, muskrats, weasels, and foxes. All of these species are common to eastern North Dakota (DAF, 2020).

Four amphibian species and four reptile species have been identified on Base using available wetland habitats. The identified amphibians include the American toad (*Bufo americanus*), Canadian toad (*Bufo hemiphrys*), northern leopard frog (*Rana pipiens*), and wood frog (*Rana sylvatica*). The reptiles found were the common garter snake (*Thamnophis sirtalis*), plains garter snake (*Thamnophis radix*), painted turtle (*Chrysemys picta*), and the common snapping turtle (*Chelydra serpentina*). There are 238 bird species known to occur on GFAFB with probability of occurring within GrandSKY Business Park. The Turtle River State Park provides habitat for a variety of woodland bird species (DAF, 2020).

The following species were observed within the ROI during the 2023 wetland survey: white-tailed jackrabbit, sharp-tailed grouse (*Tympanuchus phasianellus*), marsh wren (*Cistothorus palustris*), Wilson's snipe (*Gallinago delicata*), American goldfinch (*Spinus tristis*), western meadowlark (*Sturnella neglecta*), Savannah sparrow (*Passerculus sandwichensis*), plains garter snake (Thamnophis radix), boreal chorus frog (*Pseudacris maculata*), and the leafy spurge hawk-moth caterpillar (*Hyles euphorbiae*).

3.7.2.4 Threatened, Endangered, and Other Protected Species

Threatened and Endangered Species

There are nine federal endangered, threatened, and candidate species known to occur in Grand Forks County: the gray wolf (*Canis lupus*), whooping crane (*Grus americana*), northern long-eared bat (*Myotis septentrionalis*), red knot (*Calidris canutus rufa*), Dakota skipper (*Hesperia dacotae*), Poweshiek skipperling (*Oarisma poweshiek*), rusty patched bumble bee (*Bombus affinis*), Sprague's pipit (*Anthus spragueii*), and the Monarch butterfly (*Danaus plexippus*) (DAF, 2020).

The Monarch butterfly is a candidate species being considered for protection under the ESA and occurs on GFAFB. Monarch butterflies feed on nectar from many flower species but breed only where there are milkweeds (*Asclepias* spp.). Monarchs are annual immigrants to North Dakota, arriving as early as mid-May. On GFAFB, Monarch butterflies have been recorded nectaring at sources with wild bergamot (*Monarda fistulosa*), hoary vervain (*Verbena stricta*), common milkweed (*Asclepias syriaca*), narrow-leaved coneflower (*Echinacea angustifolia*), and thistles (*Cirsium*) (DAF, 2014). The 2023 wetland delineation survey (provided in **Appendix E** of this EA) noted the thistle species within GrandSKY Business Park.

Surveys for endangered, threatened, candidate, and other protected species and their habitats have been performed within the Base boundaries. No federally listed threatened or endangered species have been observed on GFAFB, and there is no critical habitat within GFAFB (DAF, 2020). GFAFB manages threatened and endangered species proactively to avoid species that are legally protected or of concern at the state and/or federal level.

Migratory Birds

Avian surveys have documented more than 238 species of birds on GFAFB with 105 breeding species recorded, many of which are protected under the MBTA. Migratory bird species frequent the Base due to the available wetland and grassland habitat and are most likely to occur in the undeveloped areas of the Base. Migratory birds are common, including waterfowl, neo-tropical migrants, and grassland birds. Prairie pothole marshes, like those found on GFAFB and throughout the region, serve as breeding habitat for many waterfowl species and stopover sites for resting and feeding for all types of birds.

Sixty-two migratory birds classified as species of conservation priority (SCP) by the North Dakota Game and Fish Department (NDGFD) occur on GFAFB in areas of open grasslands, wetlands, and woodlands (DAF, 2020). These include the bobolink (*Dolichonyx oryzivorus*), black-billed cuckoo (*Coccyzus erythropthalmus*), Le Conte's sparrow (*Ammodramus leconteii*), lark bunting (*Calamospiza melanocorys*), American bittern (*Botaurus lentiginosus)*, dickcissel (*Spiza americana*), black tern (*Chlidonias niger*), red-headed woodpecker (*Melanerpes erythrocephalus*), chestnut-collared longspur (*Calcarius ornatus*), grasshopper sparrow (*Ammodramus savannarum*), and Nelson's sparrow (*Ammodramus nelsoni*).

Kellys Slough NWR, located approximately 2 miles from GrandSKY Business Park, serves as a migration stopover and staging area for shorebirds and waterfowl (e.g., ducks, geese, and swans) in the area. The closest bald eagle nest to GFAFB is on the west side of Kellys Slough NWR. A bald eagle was observed within GFAFB in 2009 during a winter bird survey in the vicinity of the Turtle River riparian area, and golden eagles have been observed migrating through GFAFB during the spring. The Base currently holds a permit to harass bald eagles for aviation safety concerns (DAF, 2020).

Grand Forks Species of High Priority for Base Conservation

Numerous state SCP have been documented on the Base. The list of SCPs prioritized by the Base for conservation includes species protected by the ESA, MBTA, and/or the BGEPA, and species that may have no or limited regulatory protection (DAF, 2020) (**Table 3-6**). SCPs not protected under regulations but those prioritized by the Base include the Canadian toad (*Bufo hemiophrys*), mapleleaf mussel (*Quadrula quadrula*), creek heelsplitter (*Lasmigona compressa*), regal fritillary (*Speyeria idalia*), Dutchman's breeches (*Dicentra cucullaria*), lesser yellow lady's slipper (*Cypripedium parviflorum var. parviflorum*), and white lady's slipper (*Cypripedium candidum*) (DAF, 2020). A description of these species can be found in the GFAFB *Integrated Natural Resource Management Plan* (DAF, 2020).

Table 3-6.
Species of High Priority for Base Conservation

Common Name	Scientific Name	Federal Status	State Status (NDGFD SCP Level)a	Occurrence In ROI	Habitat
Amphibians					
Canadian toad	*Bufo hymiophyrs*	-	1	Potential	Shallow wetlands, streams and roadside ditches. Winters in burrows below frost line
Invertebrates					
Monarch butterfly	*Danaus plexippus*	-	1	Potential	Fields, roadside areas, open areas, wet areas, or urban gardens; milkweed and flowering plants are needed for Monarch butterfly habitat
Regal fritillary	*Speyeria idalia*	-	1	Potential	Wet meadows and tallgrass prairie
Dakota skipper	*Hesperia dacotae*	T		Potential	Mixed and tallgrass prairie
Poweshiek skipperling	*Oarisma poweshiek*	E		Potential	Remnants of native prairie
Rusty patch bumble bee	*Bombus affinis*	T		Potential	Grasslands and tallgrass prairies
Mussels					
Mapleleaf	*Quadrula quadrula*	-	3	No Potential	Large permanent streams. Located in the Turtle River (CE Park)
Creek heelsplitter	*Lasmigona compressa*	-	1	No Potential	Large permanent streams. Located in the Turtle River (CE Park)
Plants					
Dutchman's breeches	*Dicentra cucullaria*	-	S1	Potential	Early spring bloomer, part shade, woodlands
Lesser yellow lady's slipper	*Cypripedium parviflorum*	-	S2/S3	Potential	Fields and open Areas, wet areas
White lady's slipper	*Cypripedium candidum*	-	S2/S3	Recorded	Fields and open Areas, wet areas

Common Name	Scientific Name	Federal Status	State Status (NDGFD SCP Level)a	Occurrence In ROI	Habitat
Birds					
Bobolink	*Dolichonyx oryzivorus*	MBTA, BCC	2	Potential	Variety of grasslands including tall grass prairie, hay-land, and retired cropland
Black-billed cuckoo	*Coccyzus erythropthalmus*	MBTA, BCC	1	Potential	Groves of trees, forest edges, and thickets, frequently associated with water
Le Conte's sparrow	*Ammodramus leconteii*	MBTA, BCC	2	Potential	Fens, lowland tracts of tall grass prairie and wet meadows
Lark bunting	*Calamospiza melanocorys*	MBTA, BCC	1	Potential	Plains, prairies, meadows and sagebrush
American bittern	*Botaurus lentiginosus*	MBTA, BCC	1	Potential	Bogs, marshes, and wet meadows
Dickcissel	*Spiza americana*	MBTA, BCC	2	Potential	Alfalfa, sweet clover, and other brushy grasslands, irruptive species – 2007 on Base
Black tern	*Chlidonias niger*	MBTA, BCC	1	Potential	Shallow freshwater marshes with emergent vegetation, including prairie slough, lake margins and occasionally river or island edges
Red-headed woodpecker	*Melanerpes erythrocephalus*	MBTA, BCC	1	Potential	Open forests with clear understories, tree-rows in agricultural areas
Chestnut-collared longspur	*Calcarius ornatus*	MBTA, BCC	1	Potential	Mixed-grass and short grass uplands. Open prairie and cropland
Grasshopper sparrow	*Ammodramus savannarum*	MBTA, BCC	1	Potential	Open grasslands and prairies with patches of bare ground
Nelson's sparrow	*Ammodramus nelsoni*	MBTA, BCC	1	Potential	Freshwater prairie marshes and meadows

Source: DAF, 2020; NDGFD, 2023

BCC = Birds of Conservation Concern; MBTA = Migratory Bird Treaty Act. NDGFD = North Dakota Game and Fish Department; SCP = Species of Conservation Priority; T&E = threatened and endangered

Notes:

a Plant rankings are obtained from the North Dakota Natural Heritage Program and are as follows: S1 = State-listed critically imperiled; S2 = State-listed imperiled; S3 = State-listed rare or uncommon;

Of these species, the lesser yellow lady's slipper and the white lady's slipper orchids have been found growing in intermixing patches across GFAFB, a population of white lady's slipper has been identified in the northwestern corner of GrandSKY Business Park (**Figure 3-1**), and monarch butterflies and bobolinks are prolific in the western areas of GFAFB that include the GrandSKY Business Park EUL. The NDGFD lists both plants as imperiled/rare or uncommon. The Canadian toad also has the potential to occur in wetlands within the ROI.

3.7.2.5 Invasive and Noxious Weed Species

Surveys for invasive species and noxious weeds were conducted in 2003, 2008/2009, and 2013. Three invasive plant species are known to occur on GFAFB: field bindweed (*Convolvulus arvenis*), bull thistle (*Cirsium vulgare*), and perennial sowthistle (*Sonchus arvenis*) (DAF, 2013). Six state-listed noxious weeds have been found on Base with potential to be located within the ROI: absinth wormwood (*Artemisia absinthium*), Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*), musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea maculosa*), and kochia (*Kochia scoparia*). Generally, Canada thistle and leafy spurge, along with the invasive species perennial sowthistle, are frequently found throughout the Base. Noxious and invasive weeds are prevalent throughout the Base and the GrandSKY EUL. GrandSKY Business Park also is responsible for noxious and invasive weed removal within the EUL. Weed removal

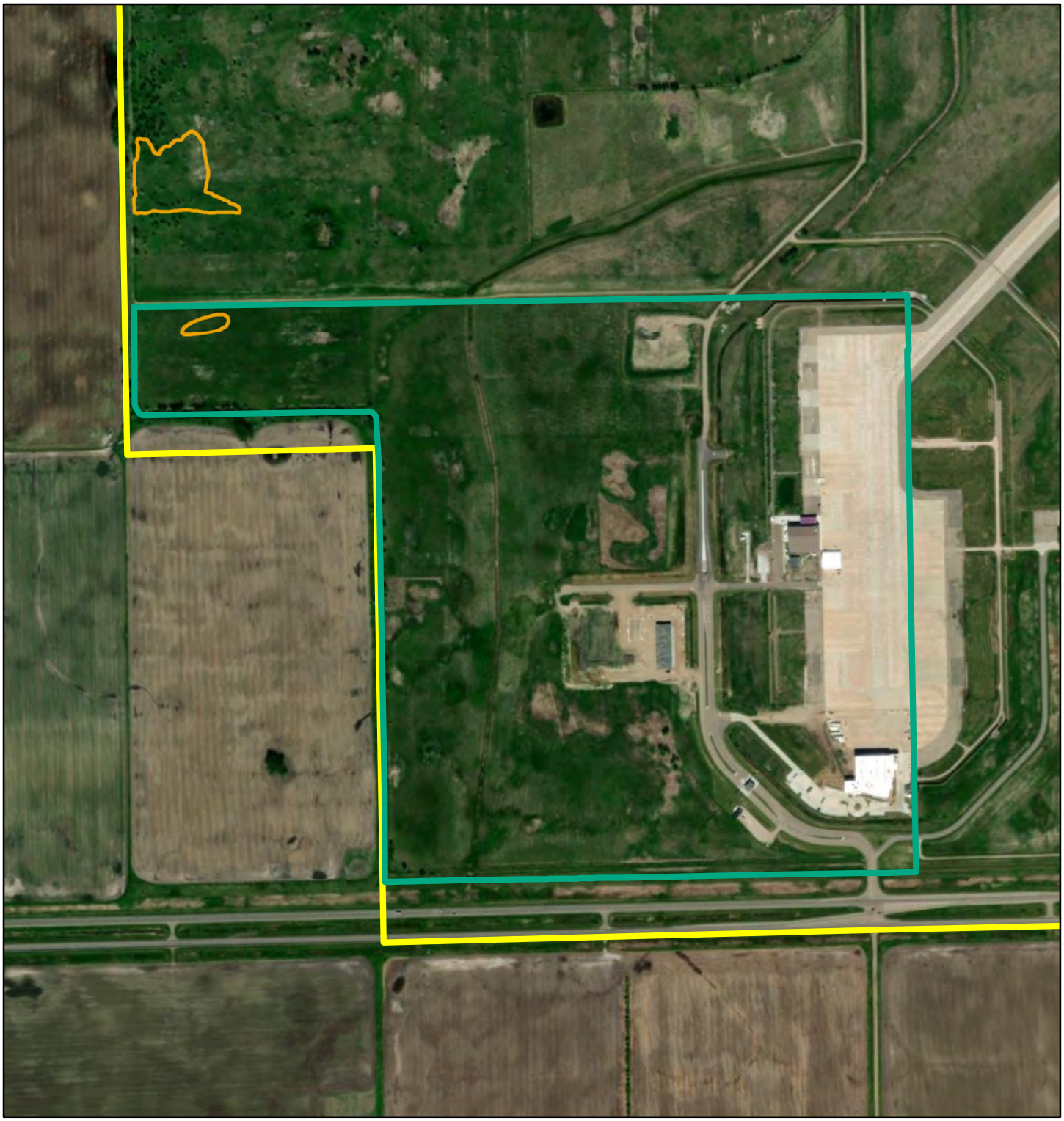


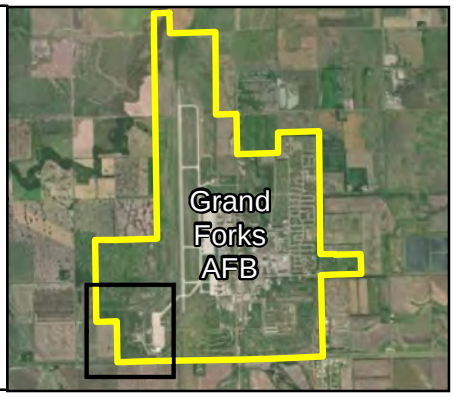
FIGURE 3-1
Special-Status Species

GrandSKY Business Park
Small White Lady's Slipper
Installation Boundary

N

0 0.25 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



within the Base is required under DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards* (2022), In addition, North Dakota Weed Law requires landowners to control and prevent the spread of noxious weeds from their properties. The Grand Forks County Weed Control Board is responsible for administering the Noxious Weed Control Program in Grand Forks County (DAF, 2020; North Dakota Department of Agriculture, 2013).

3.7.3 Environmental Consequences

3.7.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on biological resources are based on the following:

- importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- proportion of the resource that would be affected relative to its occurrence in the region;
- sensitivity of the resource to the proposed activities; and
- duration of potential ecological impact.

Adverse impacts on biological resources would occur if the Proposed Action negatively affects species or habitats of high concern over relatively large areas or if estimated disturbances cause reductions in population size or distribution of a species of high concern.

Under the ESA, federal agencies must, in consultation with the USFWS and/or the National Marine Fisheries Service, as applicable, ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species (16 USC § 1536(a)(2)). In addition, the ESA and implementing regulations prohibit the unauthorized taking of endangered or threatened species (16 USC §§ 1538(a)(1), 1533(d); 50 CFR Part 17).

3.7.3.2 Alternative 1 – Proposed Action

Vegetation

Under the Proposed Action, approximately 179 acres of undeveloped land and vegetation would have the potential to be removed as a result of construction clearing activities in the development of GrandSKY Business Park. These vegetated areas would be converted to mixed-use developments as shown in **Figure 2-2**. Implementation of the Proposed Action would allow the development (existing and new construction) of up to approximately 8.6 million ft^2 of impervious surfaces within the ROI, or approximately 91 percent of the total 217-acre EUL. Actual impervious surface coverage would be determined as GrandSKY is further developed for tenant needs within the next approximately 7–10 years. Appropriate mitigation measures for impacts to wetlands containing native vegetation would be implemented as identified in **Section 3.8.3.2**.

Wildlife

The removal of vegetation associated with construction activities would reduce the diversity of wildlife species that currently exist within the immediate project area. Existing development within GrandSKY Business Park accounts for approximately 43 of the 217 acres that comprise GrandSKY Business Park. The Proposed Action would eliminate approximately 174 acres of existing grassland habitat and would regrade and replace existing grasslands and wetlands with commercial development unattractive to wildlife. Wildlife would be adversely affected by reducing the quality of available habitat and could relocate to find more attractive habitat on Base or in areas adjacent to GrandSKY Business Park and GFAFB. The grassland area that would be cleared is adjacent to larger grassland areas within GFAFB that may provide suitable habitat for displaced species. The number of common mammals and bird species inhabiting the existing grasslands could be reduced. Many bird species and larger mobile mammal species would likely relocate to other areas of similar habitat in the vicinity of GFAFB, such as The University of North Dakota Oakville Prairie Field Station, which contains 900 acres of upland and lowland prairie and is located approximately 4 miles to the southeast. Within 10 miles of GrandSKY Business Park, the Turtle River, Amundson, Jeglum, Kellys Slough, Clemetson, Pender, and Mekinock waterfowl production areas,

combined with other rural areas within Grand Forks County, would be capable of accommodating the displacement of wildlife. Birds that are obligate wetland species would be displaced from the project area to other similar habitats in the region, such as the seven waterfowl production areas and the Kellys Slough NWR. While the potential removal of wetlands to support construction under the Proposed Action may reduce the amount of attractive habitat for wildlife in the vicinity of the airfield, it would support safety compliance with DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program.*

Threatened, Endangered, and Other Protected Species

No federally listed threatened or endangered species have been observed within the Proposed Action area or on GFAFB, nor does critical habitat exist within these areas. The DAF has determined the Proposed Action would have "no effect" on federally threatened or endangered species or critical habitat.

The quality of habitat available to migratory birds, including the state SCP, would be reduced by removal of wetland habitat and the replacement of existing grassland with developed industrial and commercial space that is unattractive to birds. The number of migratory birds, including the bobolink, black-billed cuckoo, Le Conte's sparrow, lark bunting, American bittern, dickcissel, black tern, red-headed woodpecker, chestnut-collared longspur, grasshopper sparrow, and Nelson's sparrow, would be reduced within the project area. To the extent available, migratory birds may use similar habitats in the surrounding region. The potential removal of wetlands to support construction under the Proposed Action may reduce the amount of attractive habitat for wildlife in the vicinity of the airfield and support safety compliance with DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program.*

Reseeding in areas of ground disturbance from construction activities associated with the Proposed Action would be done in accordance with the GFAFB *Integrated Natural Resources Management Plan*, which requires planting milkweed to provide additional support to the Monarch butterfly and other pollinators (DAF, 2020).

Approximately 0.40 acre of habitat in the northwest corner of the Proposed Action area has been identified as containing white lady's slipper, which is a state SCP. Under the Proposed Action, this area would be occupied by the proposed mixed-use development and this plant population would potentially be uprooted and removed as a result of ground disturbance associated with the Proposed Action; however, the remaining population of the species across GFAFB, as well as a 3.49-acre just north of the GrandSKY Business Park, would be undisturbed.

Habitat within the project area would be removed and replaced with mixed-use development unattractive to plants and wildlife under the Proposed Action. BMPs would be implemented during construction to minimize sedimentation and erosion with the potential to impact water quality. Common, indirect impacts of wetland removal would include an influx of surface water and sediments or changes in local drainage patterns. Increases in soil erosion and sedimentation could impact nearby aquatic habitats and the species found there.

Invasive and Noxious Weed Species

Under the Proposed Action, soil disturbance during project activities would create potential sites for establishment of invasive and noxious weed species. However, the Proposed Action would create a built environment unattractive to the establishment of invasive species and noxious weeds through the construction of industrial, commercial, and mixed-use space. BMPs, such as checking construction sites for presence of invasive plants and noxious weeds, would also be employed. The use of off-Base fill material could increase the risk of invasive plants and noxious weeds. If invasive plants and noxious weeds are present, steps could be taken to lessen the probability of spreading seeds throughout the Base, such as mechanical or chemical treatment of the plants, avoiding areas of invasive plants and noxious weeds, and thorough cleaning and inspection of equipment and work clothing before starting construction. With implementation of the BMPs such as those in the GFAFB *Noxious and Invasive Weed Survey and Control Plan* (DAF, 2013), impacts from invasive plants and noxious weeds would not be expected.

The Proposed Action would potentially cause long-term, moderate, adverse impacts to biological resources as a result of the removal of existing natural vegetation and wetlands within the project area. However, with

the implementation of BMPs, indirect impacts to water resources, soils, and surrounding habitat would be reduced. Under the Proposed Action, the potential removal of wetlands to support construction may reduce the amount of attractive habitat for wildlife in the vicinity of the airfield, supporting safety compliance with DAFI 91-212.

3.7.3.3 Cumulative Effects

Implementation of the Proposed Action would result in long-term, moderate, adverse impacts to biological resources. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be temporary, cumulative impacts to biological resources. Much of the surrounding land that was historically grasslands and wetlands has been converted to agricultural land, contributing to the displacement of wildlife species. The proposed BASH project would further reduce wetland and grassland habitat and could cause birds that are obligate wetland species to be displaced from the project area to other similar habitats in the region, like those found at Kellys Slough NWR. Within 10 miles of GrandSKY Business Park, the Turtle River, Amundson, Jeglum, Kellys Slough, Clemetson, Pender, and Mekinock waterfowl production areas, combined with other rural areas within Grand Forks County, would experience an increase in wildlife and would be capable of accommodating the displacement of wildlife that would occur from the combined effects of the Proposed Action and those projects defined in **Table 3-1**. Additionally, should the housing developments identified in **Table 3-1** occur in non-agricultural, vegetated areas such as wooded areas or grasslands, cumulative impacts to biological resources as a result of loss of habitat for wildlife would be anticipated to occur. When considered in conjunction with past loss of wetland and grassland habitat and the effects of other reasonably foreseeable actions at GFAFB, moderate, adverse cumulative effects to biological resources would be anticipated with implementation of the Proposed Action.

3.7.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Long-term, beneficial impacts to biological resources would result from implementation of the No Action Alternative. However, potential BASH concerns within the vicinity of the GFAFB airfield would remain.

3.8 WATER RESOURCES

3.8.1 Definition of the Resource

Water resources include surface water, wetlands, stormwater, groundwater, and floodplains. The *Federal Water Pollution Control Act of 1948*, as amended by CWA, was enacted to protect water resources vulnerable to contamination and quality degradation. The CWA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. The USEPA oversees the state's issuance of NPDES permits at federal facilities as well as water quality regulations (CWA, Section 401) for both surface- and groundwater.

The ROI for water resources is GrandSKY Business Park and areas downstream that are entirely within the Lower Red Drainage Basin and the Turtle Watershed.

3.8.1.1 Surface Water

Generally, the US Army Corps of Engineers (USACE) and USEPA define WOTUS to include only surface waters, which are primarily lakes, rivers, estuaries, coastal waters, and wetlands (33 CFR § 328.3; 40 CFR §§ 120.2, 230.3(o)). WOTUS are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, generally are not considered jurisdictional waters.

3.8.1.2 Stormwater

Stormwater is surface runoff generated from precipitation and has the potential to introduce sediments and other pollutants into surface waters. Stormwater is regulated under the CWA Section 402 NPDES program. Impervious surfaces such as buildings, roads, parking lots, and even some natural soils increase surface runoff. Stormwater management systems are designed to contain runoff on site during construction and to maintain predevelopment stormwater flow characteristics following development through either the application of infiltration or retention practices. The EISA establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 ft^2 must maintain or restore, to the maximum extent feasible, the predevelopment hydrologic conditions of the property with respect to the water temperature, rate, volume, and duration of flow.

3.8.1.3 Groundwater

Groundwater is water that exists in the saturated zone beneath the earth's surface in pore spaces and fractures and includes aquifers. Groundwater is recharged through percolation of water on the ground's surface (e.g., precipitation and surface water bodies) and upward movement of water in lower aquifers through porous soil and rock. Groundwater is an essential resource that can be used for drinking, irrigation, and/or industrial processes, and can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several different programs, including the *Safe Drinking Water Act* (Public Law 93-523; 42 USC 300f–300j), which helps protect aquifers that are critical to water supply.

3.8.1.4 Wetlands

The USACE (33 CFR § 328.3) and the USEPA (40 CFR §§ 120.2, 230.3(o)) define wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands are a subset of WOTUS, and those deemed "jurisdictional" are regulated under Section 404 of the CWA. When a federal agency's proposed action requires a Section 404 wetlands permit, states are provided authority to enforce surface-water-quality standards under Section 401 of the CWA by review of the proposed action and permit application. Consistent with EO 11990 and in accordance with NEPA, agencies, to the extent permitted by law, shall avoid construction within wetlands except wherein the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. The natural-function benefits of wetlands include flood control, groundwater recharge, maintenance of biodiversity, wildlife habitat, recreational opportunities, and maintenance of water quality.

Further, in accordance with DoDI 4715.03, "Natural Resources Conservation Program," Enclosure 3, "Procedures":

4(b)(1) DoD Components shall ensure no net loss of size, function, and value of wetlands, and will preserve the natural and beneficial values of wetlands in carrying out activities in accordance with EO 11990 and White House Office of Environmental Policy.

4(b)(2) When avoidance of wetlands and other waters of the US is not practicable, and impacts have been minimized, participation in an approved off-site mitigation bank or in-lieu fee instrument is encouraged as sound conservation planning and is authorized by 10 USC § 2694b. Off-site mitigation may provide a preferred alternative to meet watershed protection and ecosystem goals and meet future mission requirements. The enhancement, creation, or restoration of wetlands or streams on DoD property may also be an acceptable means for mitigating mission impacts on wetlands to meet permit conditions as required by 33 USC § 1344.

3.8.1.5 Floodplains

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to fill with, and temporarily store, floodwater. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. The risk of flooding is influenced by local

topography, the frequency of precipitation events, and the size and characteristics of the watershed that contains the floodplain.

The Federal Emergency Management Agency (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a one-percent annual chance of inundation by floodwater. FEMA uses letter designations for flood zone classification. Zone A designates 100-year floodplains where flood depths (base flood elevations) have not been calculated and further studies are needed. Zone AE floodplains include calculated base flood elevations, which are the minimum elevation standards for buildings in a floodplain. Zone X indicates areas outside of the FEMA 100-year regulatory floodplain that have a low risk of flooding hazards. Zone X (shaded) defines the 500-year floodplain; the limits between the 100-year floodplain and Zone X have a 0.2-percent annual chance of inundation by floodwater and are not part of the regulatory floodplain (FEMA, 2020). Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to property and human health and safety.

EO 11988, *Floodplain Management*, provides guidelines that agencies should follow as part of their decision-making process on projects that have potential impacts to or within the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative. As its title implies, EO 13690, *Establishing a Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input*, provided a means for stakeholder involvement; however, this EO was later revoked by Section 6 of EO 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. EO 13807 did not revoke or otherwise alter EO 11988.

3.8.2 Existing Conditions

3.8.2.1 Surface Water

GFAFB is located within the approximately 40,200-square-mile Red River Basin. The Red River originates in northeastern South Dakota and flows northward forming the border between North Dakota and Minnesota. Within the Red River Basin, GFAFB is located in the Turtle Watershed, which is approximately 683 square miles[3] in size (North Dakota Department of Health [NDDH] 2018a, 2018b). The Turtle River, a tributary of the Red River, is located approximately 1.5 miles northwest of the GrandSKY Business Park. A stormwater drainage channel (the West Ditch) runs north-to-south (**Figure 3-2**) through the eastern portion of the GrandSKY Business Park; there is no permanent surface water within the project area (GFAFB, 2014). Existing wetland conditions are discussed separately in **Section 3.8.2.4** of this EA.

3.8.2.2 Stormwater

Stormwater runoff at GFAFB flows west, northwest, north, and south into grassy drainage ditches on the sides of the installation. From these ditches, runoff drains north and west into Turtle River. The project area drains into the West Ditch which discharges into Turtle River northwest of GrandSKY Business Park. The West Ditch only carries water during storm events, acting as a drainage mechanism (GFAFB 2014).

The West Ditch has the potential to contain the following significant materials (based on the definition of General Storm Water Permit, Part VI): propylene glycol (deicer), fuels (jet fuel, diesel, motor vehicle gasoline), oils and lubricants, used oils, and hazardous chemicals under CERCLA Section 101(14) (40 CFR Part 302) (DAF, 2020).

3.8.2.3 Groundwater

Grand Forks County's groundwater is primarily contained in unconsolidated glacial drift aquifers. The two primary aquifers underlying GFAFB, and subsequently GrandSKY, are the Emerado Aquifer and the Dakota Aquifer. The Emerado Aquifer is a major glacial drift aquifer located approximately 50–75 feet below ground surface. The water quality of the Emerado Aquifer is poor due to high levels of salt and dissolved solids

[3] See the North Dakota Hydrologic Units Interactive map, https://www.arcgis.com/

(DAF, 2018). GFAFB primarily gets its drinking water from the Red River and Red Lake River through the City of Grand Forks; therefore, potable water for GFAFB is obtained through the City of Grand Forks from surface water resources as opposed to groundwater resources (DAF, 2018).

3.8.2.4 Wetlands

A wetland delineation survey in June and July 2013 in support of the 2014 EA determined that 32 wetlands totaling approximately 24 acres were present within the 217-acre parcel. Versar, Inc., conducted a wetland delineation in September 2023 in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* and the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (Version 2.0) within the GrandSKY Business Park (Environmental Laboratory, 1987; USACE, 2010) to ensure that this EA evaluates the Proposed Action with the most current and best available data. The 2023 wetland delineation survey used updated geographic information system software, aerial imagery, and fieldwork across the 217-acre parcel and identified 38 wetlands totaling approximately 25 acres, to be confirmed by a final USACE jurisdictional determination[4] (**Figure 3-2)**.

All wetlands within the 217-acre project area were identified as palustrine emergent and are characterized by vegetation as described in **Section 3.7.2.2**. The 2023 wetland survey resulted in the adjustment of the boundaries or recorded wetlands and excluded nine previously delineated wetlands due to not meeting all required wetland criteria. The wetland delineation is included in **Appendix E** of this EA.

3.8.2.5 Floodplains

There are no identified 100-year or 500-year floodplains in the project area. The nearest floodplain, Zone A, is a 100-year floodplain located northwest of the project area and is associated with the Turtle River.

3.8.3 Environmental Consequences

3.8.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Potential adverse impacts to water resources would occur if the Proposed Action or Alternatives:

- reduce water availability or supply to existing users,
- overdraft groundwater basins,
- exceed safe annual yield of water supply sources,
- adversely affect water quality,
- endanger public health by creating or worsening health hazard conditions, or
- violate established laws or regulations adopted to protect sensitive water resources.

3.8.3.2 Alternative 1 – Proposed Action

Impacts to water resources under the Proposed Action would be managed, to the extent possible, through the use of BMPs that could include the following:

- Minimize the total disturbed area during construction and development.
- Cluster construction within the functional land use category thresholds defined in **Section 2.4.2** to avoid impacts to wetlands to the extent feasible.
- Minimize soil compaction.

[4] Final USACE jurisdictional wetland determinations will be completed according to USACE's schedule. The determination is not expected to exceed the 25 acres of wetlands delineated in support of this EA. If the final determination does not align with this analysis, then a supplemental analysis would be conducted, as required.

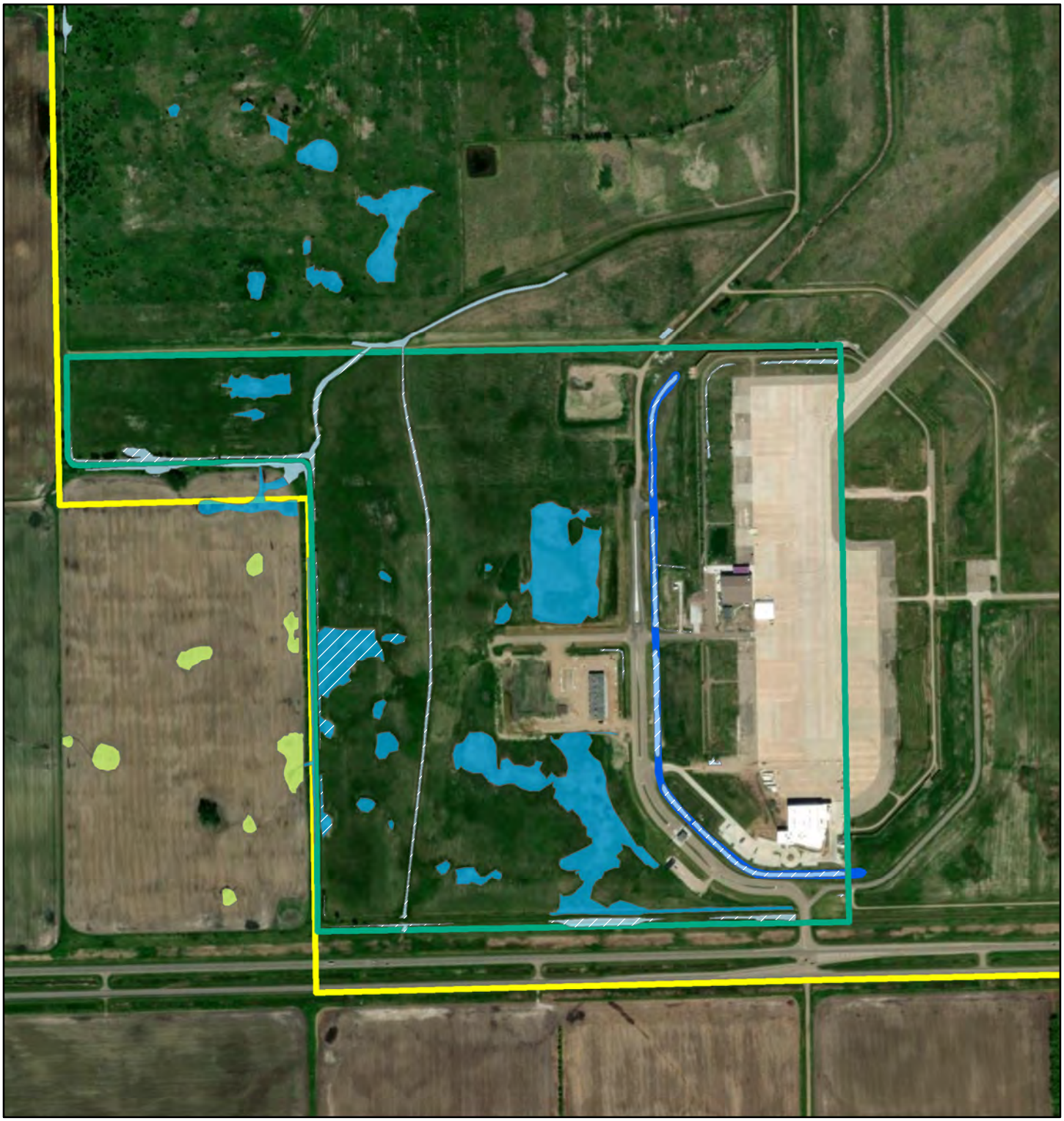


FIGURE 3-2
Water Resources

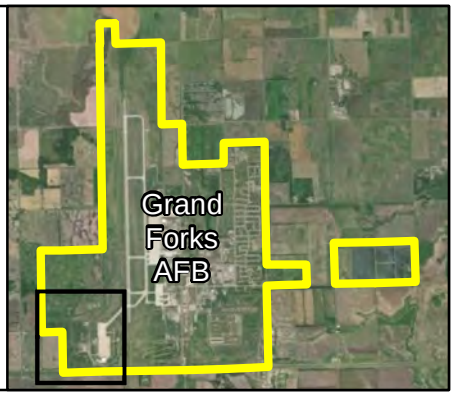
West Ditch
Installation Boundary
Freshwater Emergent, Ditch
GrandSKY Business Park
Freshwater Emergent
Palustrine, Farmed

Note: Wetlands with white hash indicate potential connectivity to Waters of the US

N

0 0.25 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



Surface Waters

There are no permanent surface waters within the project area. The West Ditch would intermittently carry water from stormwater events. There would be no change to the status of surface waters and therefore no impacts to surface waters under the Proposed Action. Potential impacts to wetlands are discussed below.

Stormwater

Under the Proposed Action, up to roughly 7,130,000 ft^2 of new buildings, parking, paved areas, and other impervious surfaces development would be constructed to support the manufacturing, management, testing, and flight of UASs at GrandSKY Business Park. An increase in these types of tenants would result in potential increases in stormwater contamination from propylene glycol (deicer), fuels (jet fuel, diesel, motor vehicle gasoline), oils and lubricants, used oils, and hazardous chemicals (defined in **Section 3.11**). Under the Proposed Action, up to 199 of the 217 available acres would experience some sort of impervious development over the course of 10 years (i.e., 2024–2033). The West Ditch, a collector of stormwater runoff from impervious surfaces, discharges into the Turtle River. An increase in impervious surfaces would have the potential to route more runoff through the West Ditch over the course of construction and development of GrandSKY Business Park; however, development designs would be engineered so that the storage and flow of stormwater runoff would be maintained as the current status quo resulting in no change to the existing conditions (Gerken, 2023b). With the use of design standards to manage increases in stormwater runoff, long-term, minor impacts to stormwater would have the potential to occur under the Proposed Action. Stormwater contamination would be minimized through the use of BMPs during construction.

Groundwater

Under the Proposed Action, ground disturbance would occur with the filling of wetlands, addition of pavements, and construction of commercial structures. During construction, heavy machinery and chemicals may be used to support development. Due to the types of development expected at GrandSKY Business Park, heavy machinery and chemicals may be used to support UAS manufacturing and services. Contaminated stormwater runoff would have the potential to adversely impact groundwater resources at GFAFB. The use of BMPs and compliance with applicable federal, state, and local stormwater runoff laws and regulations as required by the existing EUL would help to reduce impacts to groundwater resources at GrandSKY Business Park. Long-term, minor, adverse impacts to groundwater would occur under the Proposed Action.

Wetlands

Under the Proposed Action, wetlands within the project area would have the potential to be filled according to the percent impervious for the functional land use within which the wetland is located. For example, the Commercial Mixed-Use functional land use category has an impervious percent threshold of 85-percent; development can occur within this category in up to 85 percent of the available space, which could include up to 100 percent of wetlands within the category being filled. Exact estimates are not known at this time; however, development within wetlands would be avoided as feasible during project designs. Based on the functional land use approach of this project, and pending USACE's final jurisdictional wetland determination, it would be anticipated that up to 25 acres of jurisdictional wetlands would be filled under the Proposed Action, resulting in permanent adverse impacts to wetlands. Appropriate mitigation measures for the impacted wetlands would be implemented as described below.

The terms of a CWA Section 404 permit require compensatory mitigation for any unavoidable permanent adverse impacts to wetlands, including those that would occur under the Proposed Action. Compensatory mitigation refers to restoration, creation, enhancement, and preservation of wetlands to compensate for permitted wetland losses. A Wetland Mitigation Plan (**Appendix E**) has been prepared for the Proposed Action and identifies mitigation in the form of a purchase of credits from an off-site mitigation bank at a 1-to-1 ratio. Unavoidable impacts to wetlands compensated through a 1-to-1 ratio can include permittee-responsible mitigation, mitigation bank credits, or in-lieu Fee Program credits. As of the date of this EA, USACE's Regulatory In-Lieu Fee and Bank Information Tracking System identified several options that have mitigation bank credits available. The compensatory mitigation would be coordinated with and approved by the USACE and could include mitigation banks outside of Grand Forks County due to GFAFB's

desire to reduce BASH risk. Grand Forks County would submit a more detailed compensatory mitigation plan following the completion of project design along with the Section 404 permit application as required prior to ground-disturbing activities (see **Appendix E**). Grand Forks County would take all necessary actions to remain in compliance with the CWA, and USACE and State of North Dakota wetland regulations. Because Grand Forks County would purchase adequate wetland mitigation credits to offset the unavoidable wetland impacts and strictly adhere to all applicable permit conditions and BMPs, the overall impacts of the Proposed Action on wetlands would be insignificant.

During project activities, Grand Forks County would require contractors to adhere to all applicable permits and management plans, including Section 404 permits under the CWA. Appropriate BMPs would also be adhered to, including source control measures to prevent pollutants from leaving certain areas, reduce/eliminate the introduction of pollutants, protect sensitive areas, and prevent precipitation and pollutants from interacting. BMPs are required to be implemented for all ground-disturbing activities greater than one acre to prevent soil erosion and protect surface waters. All Section 404 permits also have associated BMPs that would be followed to minimize the risk of soil erosion or sediment discharges (GFAFB, 2020). The Wetlands Mitigation Plan outlines minimization measures, including construction controls and natural resources controls (**Appendix E**). These measures, including development of a project-specific stormwater pollution prevention plan, would help to minimize effects to surrounding waters and wetlands, such as the Turtle River. Further analysis of avoidance and minimization efforts would be conducted prior to submitting the necessary permit applications for direct wetland impacts.

Floodplains

There are no floodplains located within the project area. However, floodplains associated with the Turtle River, northwest of the project area, potentially could be impacted, as the Proposed Action would increase impervious surfaces at GrandSKY Business Park by up to 199 acres at complete build-out. The process of fully developing GrandSKY Business Park would occur over approximately 10 years, allowing for a slow acclimation to increases of runoff that flow through the West Ditch and discharge into the Turtle River. Under the Proposed Action, long-term, minor, adverse impacts to floodplains would occur.

3.8.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in moderate, adverse impacts to water resources. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be temporary, cumulative impacts to water resources. The Proposed Action under the GFAFB BASH EA would result in stormwater drainage improvements in the West Ditch and filling of approximately 93 acres of wetlands around the airfield to bring the airfield into compliance with DAFI 91-202 and DAFI 91-212. Improvements to stormwater drainage in the West Ditch would result in long-term, beneficial cumulative impacts to water resources. Improvements would allow increased stormwater runoff from additional impervious surfaces and reduced wetlands to discharge in a controlled and safe manner while reducing the potential for contamination from UAS-related activities.

Under the Proposed Action, up to 25 acres of wetlands would be filled over the course of complete build-out of GrandSKY Business Park. When combined with proposed BASH mitigation (see **Table 3-1**), a total of 118 acres of wetlands would be filled within GFAFB boundaries, resulting in reduced habitat and displacement of obligate wetland species from the project area to other similar habitats in the region such as the five waterfowl protection areas and the Kellys Slough NWR. Additional impacts to wetlands could occur if housing developments proposed in Grand Forks County were constructed within wetland areas.

Grand Forks County would adhere to all DAF terms required under any CWA Section 404 permit for the Proposed Action and would mitigate unavoidable impacts to wetlands where required under the CWA. GFAFB would implement BMPs and mitigation measures when applicable. When considered in conjunction with the effects of past loss of wetland and grassland habitat and reasonably foreseeable actions at GFAFB, moderate cumulative effects to water resources would be anticipated with implementation of the Proposed Action.

3.8.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined under the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Development activities would avoid wetlands to the maximum extent possible. Long-term, beneficial impacts would result from the No Action Alternative. While the filling of wetlands would not occur, potential BASH concerns within the vicinity of the GFAFB airfield would remain.

3.9 GEOLOGY AND SOILS

3.9.1 Definition of the Resource

Geological resources include geology, topography, and soils. Geology refers to the structure and configuration of surface and subsurface features. Characteristics of geology include geomorphology, subsurface rock types, and structural elements. Topography refers to the shape, height, and position of the land surface. Soil refers to the unconsolidated materials overlying bedrock or other parent material. Soils are defined by their composition, slope, and physical characteristics. Attributes of soil, such as elasticity, load-bearing capacity, shrink-swell potential, and erodibility, determine its suitability to support a particular land use.

Prime farmland, as defined by the US Department of Agriculture (USDA) in the *Farmland Protection Policy Act* (7 USC §§ 4201–4209) (FPPA), is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

The ROI for geological resources is GrandSKY Business Park.

3.9.2 Existing Conditions

3.9.2.1 Geology

Grand Forks County is in the Red River region of the Central Lowland Physiographic Province. The Red River currently flows through the middle of the Province, running just east of GFAFB along the North Dakota-Minnesota border (DAF, 2014). GrandSKY Business Park is located in the southwest corner of GFAFB.

In northeastern North Dakota, the Central Lowland Province is characterized by the glacial Lake Agassiz Plain, a flat expanse of land that was the bed of glacial Lake Agassiz during the melting of the last glacier approximately 12,000 years ago. Glacial deposits beneath the plain are composed of silts, clays, sand, and gravel approximately 225 ft thick. The gravel is made up of approximately 95 ft of clay- and silt-rich deposits from glacial Lake Agassiz that cover approximately 130 ft of glacial till that contains isolated deposits of sand and gravel. Bedrock strata slope gently toward the center of the Williston Structural Basin to the west (DAF 2014, 2020).

3.9.2.2 Topography

The topography of Grand Forks County was formed largely by glacial Lake Agassiz. The Agassiz Lake Plain is characterized by somewhat poorly drained flats and swells separated by shallow, poorly drained portions of land and areas with deep mud. The plain extends westward to the Pembina escarpment in the western portion of the county, which separates the Agassiz Lake Plain District from the Drift Plain District farther west. The elevation of the Agassiz Lake Plain District ranges from about 1,160 ft above mean sea level (MSL) along the Pembina escarpment to about 800 feet above MSL in the northeast corner of the county. The topography at GrandSKY Business Park is relatively flat, gently sloping to the northeast at less than 12 feet per mile with elevations ranging from 900 to 880 ft above MSL. Local variations in elevation are typically less than 1 ft (DAF, 2020).

3.9.2.3 Soils

There are four types of soil found within the ROI: Antler-Mustinka silt loam (I199A), Antler moderately saline-Mustinka silty clay loams (I157A), Gilby loam (I400A), and Grimstad fine sandy loam (I155A) (**Table 3-7** and **Figure 3-3**)**.** All four are characterized by deep, dark upper horizons resulting from the highly productive grasslands they support (DAF, 2014; USDA Natural Resources Conservation Service [NRCS], 2023a).

Table 3-7.
Soil Types Associated with the Proposed Action

Map Unit Symbol	Name[a]	Slope (%)	Drainage Rating	Soil Rating	Acres on GFAFB	Percent of ROI
I155A	Grimstad fine sandy loam	0–2	Somewhat poorly drained	Not limited	115.3	9.1
I157A	Antler, moderately saline-Mustinka silty clay loams	0–2	Somewhat poorly drained	Somewhat limited	2.5	0.9
I199A	Antler-Mustinka silt loams	0–2	Somewhat poorly drained	Somewhat limited	224.8	24.8
I400A	Gilby loam	0–2	Somewhat poorly drained	Not limited	1,220.0	65.2

Source: USDA Web Soil Survey
GFAFB = Grand Forks Air Force Base; ROI = Region of Influence

Gilby loam makes up most of the soils in the ROI, accounting for approximately 65.2 percent of the ROI. Antler-Mustinka silt accounts for approximately 24.8 percent of the ROI, and Grimstad fine sandy loam and Antler moderately saline-Mustinka silty clay loams together account for the remaining 10 percent. In the eastern half of the ROI, soil has been previously disturbed by construction of buildings and roads, whereas the western half is open grassland and has not been previously disturbed. All soils in the ROI are classified as "somewhat poorly drained." Inundation of these soil types would likely result in increased runoff, as their ability to efficiently drain water is limited.

All four soil types have a soil rating of "not limited" or "somewhat limited," which refers to the soil properties that affect their load-supporting capacities for small commercial buildings. "Not limited" refers to a soil with features that are very favorable for the specified use. These soils are expected to perform well and require very little maintenance. "Somewhat limited" refers to soil with features that are moderately favorable for the specified use. These limitations can be managed with special planning, design, or installation, resulting in reasonable performance with moderate maintenance needs (USDA NRCS, 2023b).

3.9.2.4 Prime Farmland

Antler-Mustinka silt loams are classified as prime farmland if drained; however, the land at GFAFB, and thus GrandSKY Business Park, is under military use and is not developable for agricultural purposes (USDA NRCS, 2023a; DAF, 2020). In accordance with Section 1540(c)(1) of the FPPA, "farmland" does not include land already in or committed to urban development, and these areas would not be subject to the FPPA. Therefore, prime farmland is not carried forward for analysis in this EA.

3.9.3 Environmental Consequences

3.9.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on geological resources are based on the following:

- substantial alteration of unique or valued geologic or topographic conditions;
- substantial soil erosion, sedimentation, and/or loss of natural function (e.g., compaction); and
- development on soils with characteristics that do not support the intended land use.

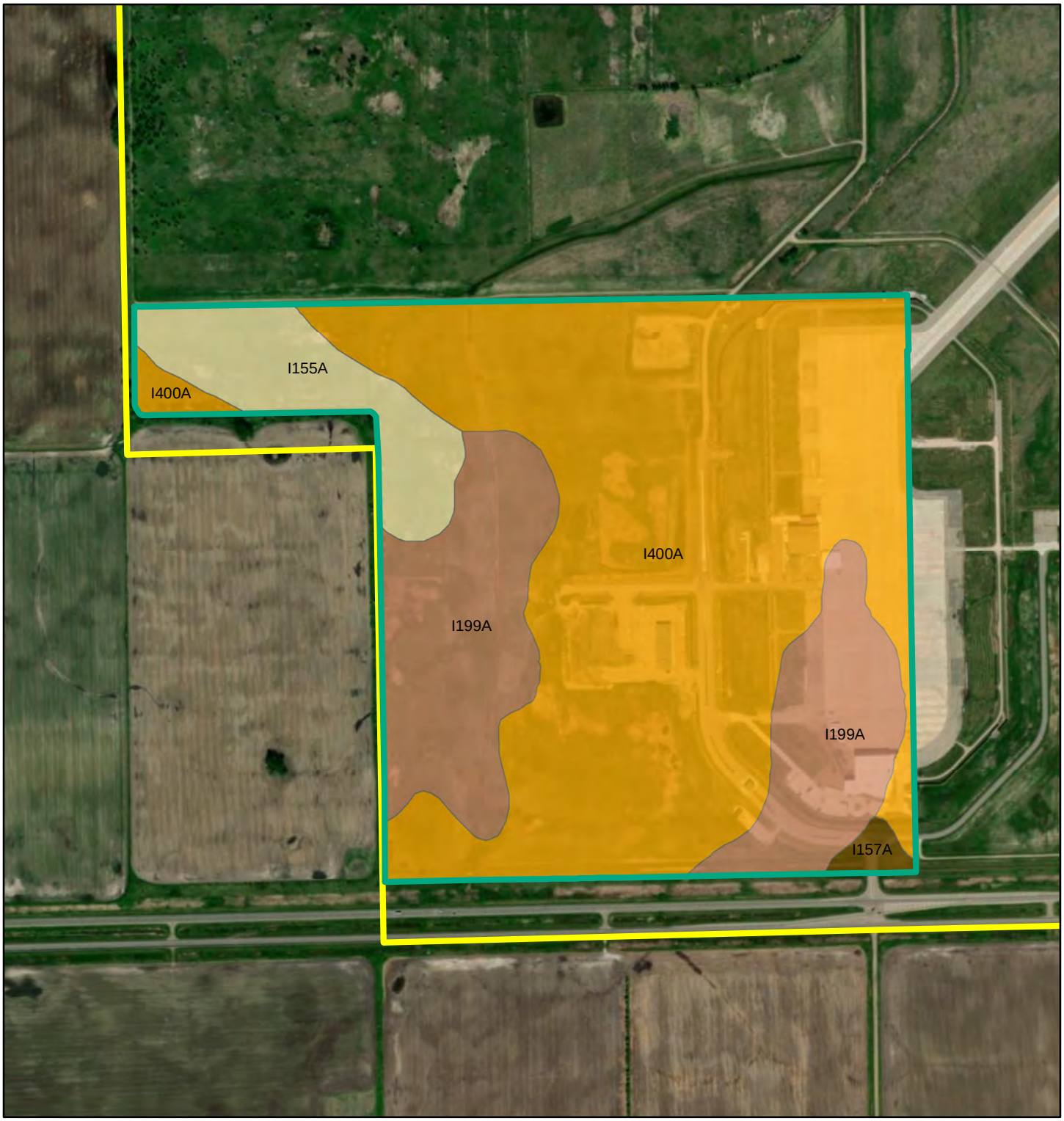


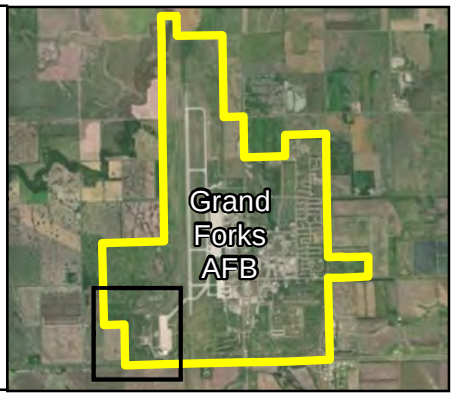
FIGURE 3-3
Soils

GrandSKY Business Park
Installation Boundary
I155A
I157A
I199A
I400A

N

0 0.25 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



3.9.3.2 Alternative 1 – Proposed Action

Geology

Construction under the Proposed Action would result in up to approximately 7,130,000 ft^2 of new infrastructure. New construction would occur at the surface level and would not be expected to disturb the underlying geology at GrandSKY Business Park. No impacts to geology would occur with implementation of the Proposed Action.

Topography

Implementation of the Proposed Action would not require large-scale alteration of topography to accommodate construction. The alteration of ground surfaces would be limited to basic earthwork including compacting and excavating to establish structural foundations, buried utilities, and taxiway for runway connection. After placing and compacting reuse or fill soils, superficial soils would be graded to match the local topography to maintain efficient drainage. The Proposed Action would have negligible, short-term, adverse impacts to topography.

Soils

Construction activities associated with the Proposed Action would have the potential to disturb up to approximately 7,130,000 ft^2 of soil and would result in impervious surfaces up to the percentages of available acreage for each functional land use category as defined in **Table 2-2** above. Increased impervious surfaces would result in increased potential for stormwater runoff; however, development designs would be engineered so that the storage and flow of stormwater runoff would be maintained as the current status quo resulting in no change to the existing conditions (Gerken, 2023b). The ROI contains soils that are all classified as "somewhat poorly drained." Increased impervious surfaces constructed under implementation of the Proposed Action would result in more stormwater runoff in areas where soils are exposed. With the soil's inability to efficiently drain water, runoff would be diverted to the West Ditch as described in **Section 3.8.3.2.**

Implementation of the Proposed Action would involve soil-disturbing activities, such as excavation, grading, backfilling, and compacting of soils or fill materials within the ROI. These activities would potentially expose soils and increase their susceptibility to water and wind erosion. Inclement weather (i.e., rain or wind) could increase the probability and severity of any potential impacts on soils. Permanent features to minimize off-site soil transport during precipitation would be designed for the development.

Potential adverse impacts to soils would be minimized to the greatest extent practicable by employing the following BMPs:

- Stockpile topsoil.
- Cover exposed soil with erosion-control blankets or temporary vegetative covers.
- Install erosion-control fencing to minimize off-site soil transport from precipitation.
- Water exposed soils to prevent wind erosion.
- Control compaction from heavy machinery.
- Seed or mulch disturbed area upon completion of construction.

As described in **Section 3.9.2.3**, approximately 25.7 percent of the ROI has a soil rating of "somewhat limited" for construction. However, "somewhat limited" does not prohibit construction within specified uses; instead, development would need to consider other factors that affect the load-supporting capacity, such as depth to water table, ponding, flooding, subsidence, shrink-swell potential, and compressibility. Since these limitations can be managed with special planning, design, or installation, adverse impacts to soils from the Proposed Action as a result of moderately favorable load-supporting soil properties would be expected to be long term and minor.

With the implementation of the techniques and BMPs listed above, adverse impacts to soils from implementation of the Proposed Action would be anticipated to be long term and minor.

3.9.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in no significant impacts to geology and soils. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be temporary, cumulative impacts to geology and soils.

Under the Proposed Action, increased stormwater runoff would be expected due to increased impervious surfaces and "somewhat poorly drained" soils. Increased runoff would drain through the West Ditch. The proposed BASH mitigation would improve the West Ditch drainage conditions within the ROI and help to prevent potential drainage concerns that could arise from the proposed increase in impervious surfaces. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant cumulative impacts to geology and soils would be anticipated to occur with implementation of the Proposed Action.

3.9.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Such development would potentially disturb soils and increase impervious surfaces, resulting in long-term, minor impacts to geology and soils.

3.10 CULTURAL RESOURCES

3.10.1 Definition of the Resource

Cultural resources are any prehistoric or historic district, site, building, structure, or object considered important to a culture or community for scientific, traditional, religious, or other purposes. These resources are protected and identified under several federal laws and EOs including the *Archaeological and Historic Preservation Act of 1960*, as amended (54 USC § 312501 et seq.), the *American Indian Religious Freedom Act of 1978* (42 USC § 1996), the *Archaeological Resources Protection Act of 1979*, as amended (16 USC §§ 470aa–470mm), NAGPRA, the NHPA, as amended through 2016, and associated regulations (36 CFR Part 800). The NHPA requires federal agencies to consider effects of federal undertakings on historic properties prior to deciding or taking an action and integrate historic preservation values into their decision-making process. Federal agencies fulfill this requirement by completing the NHPA Section 106 consultation process, as set forth in 36 CFR Part 800. NHPA Section 101(d)(6)(B) requires agencies to consult with any Native American tribe that attaches religious and cultural significance to historic properties that may be affected by an undertaking. NHPA Section 106 requires all federal agencies to seek to avoid, minimize, or mitigate adverse effects to historic properties (36 CFR § 800.1(a)).

Cultural resources include the following subcategories:

- Architectural (i.e., buildings, structures, groups of structures, or designed landscapes that are of historic or aesthetic significance);
- Archaeological (i.e., prehistoric or historic sites where human activity has left physical evidence of that activity but no structures remain standing); and
- Traditional Cultural Properties (TCPs) (resources of traditional, religious, or cultural significance to American Indian tribes).

Significant cultural resources are those listed on the National Register of Historic Places (NRHP) or determined to be eligible for listing. To be eligible for the NRHP, properties must be 50 years old and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture.

They must possess sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to convey their historical significance and meet at least one of four criteria for evaluation:

1. Associated with events that have made a significant contribution to the broad patterns of our history (Criterion A);
2. Associated with the lives of persons significant in our past (Criterion B);
3. Embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or
4. Have yielded or be likely to yield information important in prehistory or history (Criterion D).

Properties that are less than 50 years old can be considered eligible for the NRHP under criteria consideration G if they possess exceptional historical importance. Those properties must also retain historic integrity and meet at least one of the four NRHP criteria (Criteria A, B, C, or D). The term "historic property" refers to National Historic Landmarks, NRHP-listed, and NRHP-eligible cultural resources.

For cultural resources analyses, the ROI is defined by the Area of Potential Effects (APE). The APE is defined as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist," (36 CFR § 800.16(d)) and thereby diminish their historic integrity. The direct and indirect APE for this EA is 50 meters and 800 meters around each project location, respectively. For the purposes of this EA, project locations are defined as the buildings identified for activities under the Proposed Action.

The ROI for cultural resources is GrandSKY Business Park.

3.10.2 Existing Conditions

3.10.2.1 Architectural Properties

A cultural resources survey conducted within the APE in 2014 did not identify any historic properties eligible or potentially eligible for listing on the NRHP (Good Schliesman & Associates, 2014).

3.10.2.2 Archaeological Properties

The 2014 cultural resources survey found no archaeological properties within the APE (Good Schliesman & Associates, 2014).

3.10.2.3 Traditional Cultural Properties

GrandSKY Business Park has no known TCPs and there is no evidence of any Native American burial grounds or sacred areas on GFAFB that would be subject to the provisions of the *American Indian Religious Freedom Act*, NAGPRA, or NHPA (GFAFB, 2016). The 2014 cultural resources survey conducted within the APE did not identify any TCPs, and no TCPs have been identified by tribes associated with the APE.

The 2014 EA involved tribal consultations regarding the EUL in 2013. As a result of the 2013 EUL tribal consultation, GFAFB signed an MOU with the Cheyenne River Sioux Tribe, the Standing Rock Sioux Tribe, the Spirit Lake Tribe, and the Sisseton-Wahpeton Oyate. The MOU noted that no evidence of Native American remains or properties of religious or cultural significance are present per an inventory of the APE conducted in September 1996. Although the MOU remains in effect from the date executed by all parties until the end of the 10-year construction period covered in the 2014 EA (i.e., 15 April 2014–15 April 2024) or any authorized extension of the construction period, the stipulations have been met and GFAFB does not anticipate amending or extending past the expiration date.

In accordance with DoDI 4710.02 and DAFI 90-2002, the DAF initiated consultation with Tribal Historic Preservation Officers and tribal leaders of the 29 federally recognized Native American tribes with interest in the region as part of the EIAP (and the 2014 cultural resources survey) to identify TCPs that could be affected by the Proposed Action.

3.10.3 Environmental Consequences

3.10.3.1 Evaluation Criteria

Adverse impacts on cultural resources would occur if the Proposed Action or Alternatives results in the following:

- physically altering, damaging, or destroying all or part of a resource;
- altering characteristics of the surrounding environment that contribute to the resource's significance;
- introducing visual or audible elements that are out of character with the property or alter its setting;
- neglecting the resource to the extent that it deteriorates or is destroyed; or
- the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance.

For the purposes of this EA, an impact is considered significant if it alters the integrity of a NRHP-listed, eligible, or potentially eligible resource or potentially impacts TCPs.

3.10.3.2 Alternative 1 – Proposed Action

On 5 December 2023, the DAF received a "No Effect" determination from the North Dakota SHPO. Additionally, no tribal comments were received as part of the Government-to-Government consultation process.

Architectural Properties

The 2014 cultural resources survey identified no properties listed or eligible for listing on the NRHP are located within the APE. Under the Proposed Action, no effects to architectural properties would be anticipated to occur.

Archaeological Properties

The 2014 cultural resources survey found no archaeological properties within the APE; no effects to archaeological properties would be anticipated to occur under the Proposed Action. In the event of an unanticipated discovery of an archaeological resource during construction, ground-disturbing activities would be suspended and a cultural resources meeting would be called to determine the need for an unanticipated discovery plan.

Traditional Cultural Properties

As defined in **Section 3.10.2.3**, no TCPs, sacred sites, human remains, associated grave goods, unassociated grave goods, sacred objects, or objects of cultural patrimony have been identified or recovered on the GrandSKY Business Park. No impacts to TCPs would be anticipated to occur under the Proposed Action.

Should unexpected discovery of human remains, associated funerary objects, or archaeological materials occur during construction, GFAFB, Grand Forks County, and its sublessees would stop construction in the immediate area of the discovery and notify the SHPO, Advisory Council on Historic Preservation, and federally recognized tribes affiliated with GFAFB within 48 hours of discovery in compliance with 36 CFR § 800.13.

3.10.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in no significant impacts to cultural resources. None of the projects listed in **Table 3-1** would be located in the APE and therefore would not have the potential to result in cumulative impacts to cultural resources when combined with the Proposed Action. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at

GFAFB, no significant cumulative impacts to cultural resources would be anticipated to occur with implementation of the Proposed Action.

3.10.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County. Should unexpected discovery of human remains associated funerary objects or archaeological materials occur during development actions of the 2014 EA, GFAFB, Grand Forks County, and its subleases would stop construction in the immediate area of the discovery and notify the SHPO, Advisory Council on Historic Preservation, and federally recognized tribes affiliated with GFAFB within 48 hours of discovery in compliance with 36 CFR § 800.13.

3.11 HAZARDOUS MATERIALS AND WASTES, TOXIC SUBSTANCES, AND CONTAMINATED SITES

3.11.1 Definition of the Resource

Hazardous material (HAZMAT) is defined as all items that are covered under the *Emergency Planning and Community Right-to-Know Act* (42 USC § 11001–11050) or other applicable federal, state, or local tracking or reporting requirements; covered under 29 CFR §§ 1910.1200 or 1910.1450; and Class I or Class II ozone depleting substances as defined in 40 CFR Part 82. The OSHA is responsible for the enforcement and implementation of federal laws and regulations pertaining to worker health and safety under 29 CFR Part 1910. OSHA also includes the regulation of HAZMAT in the workplace and ensures appropriate training in their handling.

The *Solid Waste Disposal Act*, as amended under RCRA and further amended by the *Hazardous and Solid Waste Amendments of 1984*, defines hazardous wastes as any solid waste, or combination of solid wastes, that, because of their quantity, concentration, or physical, chemical, or infections characteristics, may:

- cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
- pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

In general, both HAZMAT and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, might present substantial danger to public health and welfare or the environment when released or otherwise improperly managed.

GrandSKY Business Park tenants must comply with all requirements for underground storage tanks (USTs) and aboveground storage tanks (ASTs), and associated piping, that store petroleum products and hazardous substances. Evaluation of HAZMAT and hazardous wastes focuses on USTs and ASTs as well as the storage, transport, and use of pesticides, fuels, oils, and lubricants. Evaluation might also extend to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a Proposed Action. In addition to being a threat to humans, the improper release of HAZMAT and hazardous wastes can threaten the health and wellbeing of wildlife species, botanical habitats, soil systems, and water resources. In the event of HAZMAT and hazardous wastes release, the extent of contamination would vary based on the type of soil, topography, weather conditions, and water resources that occur in the vicinity of the event.

As a condition of the EUL, GrandSKY Business Park is required to adhere to federal, state, and local laws and regulations, including CERCLA, and is not subject to the same regulations as the DAF (DAF, 2015). However, the DAF Installation Restoration Program (IRP), conducted in accordance with CERCLA, the National Contingency Plan, the regulations implementing CERCLA (40 CFR Part 300), and the Defense Environmental Restoration Program (DERP, codified in 10 USC § 2701 et seq.), was created by the

Superfund Amendments and Reauthorization Act of 1986 and EO 12580, *Superfund Implementation*, which delegated the President's authority under CERCLA to various federal agencies, including the DoD, and is considered due to the overlap with federal, state, and local regulations. DoDI 4715.07, *Defense Environmental Restoration Program (DERP)*, establishes policy, assigns responsibilities, and provides procedures for implementing the DERP. Under DoDI 4715.07, it is DoD policy to identify, evaluate, and, where appropriate, respond to a release or threat of a release into the environment from DoD activities or DoD facilities involving:

- hazardous substances;
- pollutants or contaminants (including unexploded ordnance on other-than-operational ranges);
- hazardous waste or hazardous waste constituents; and
- petroleum, oil, or lubricants, in certain circumstances.

AFI 32-7020, *Environmental Restoration Program*, describes DAF's IRP for the environmental cleanup of contamination whose release is attributable to DAF.

Description of IRP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in the identification of properties and their usefulness for given purposes (e.g., activities dependent on groundwater usage might be foreclosed where a groundwater contaminant plume remains to complete remediation).

TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyl (PCBs), asbestos, and lead-based paint. Asbestos is also considered a hazardous air pollutant and, as such, is regulated under the CAA National Emission Standards for Hazardous Air Pollutants. A proposed activity may affect and be affected by the presence of these substances or controls over them. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of such activity.

The ROI for HAZMAT and hazardous wastes is the GrandSKY Business Park. The Proposed Action would not involve building demolition or renovation activities, and exact location and types of construction or development as a result of the Proposed Action are not known at this time. The Proposed Action would be anticipated to occur over a 10-year period, during which time HAZMAT and hazardous waste materials and regulations may change. Adequate identification of future materials used and potential future regulations in place cannot be predicted. However, the USEPA banned new uses of asbestos in 1989, the use of lead-based paint in 1978, and PCB production in 1979; therefore, asbestos-containing materials, lead-based paint, and PCBs would not be used in new construction and are not discussed further in this EA (USEPA, 2023a, 2023b; NOAA, 2023).

3.11.2 Existing Conditions

3.11.2.1 Hazardous Materials and Wastes

The State of North Dakota implements RCRA and regulates hazardous waste under North Dakota Administrative Code Article 33.1-24, *Hazardous Waste Management*, which adopted federal hazardous waste regulations with few additions. Additionally, as a condition of the EUL, Grand Forks County and future tenants are responsible for maintaining compliance with applicable federal and state environmental rules and regulations. This includes management of HAZMAT and hazardous waste.

GrandSKY Business Park directly supports UAS activities, manufacturing, and maintenance. These activities require the use of HAZMAT and large volumes of solvents and generate dust and liquid waste. Other hazardous wastes include petroleum products and waste, hydraulic fluid, antifreeze, and mercury-containing light bulbs and ballasts.

General Atomics, a tenant within GrandSKY Business Park, is classified as a very-small-quantity generator (VSQG) per USEPA regulations. VSQGs generate 100 kilograms or less per month of hazardous waste or 1 kilogram or less per month of acutely hazardous waste (USEPA, 2023c). Accumulations of hazardous

waste consist of jet fuel, stored in a 55-galon drum protected with spill and overflow basins (Gerken, 2023c). While not indicative of all future tenants, General Atomics is an example of the type of tenant and the amount of hazardous waste that can be expected from future tenants residing at GrandSKY Business Park.

SAPs are areas where hazardous waste is initially accumulated at or near the point of generation. Hazardous wastes accumulated at an SAP are not subject to accumulation time limits; however, they are subject to volume limits (GFAFB, 2020a). As a condition of the lease, individual tenants are required to cover the costs associated with hazardous waste disposal and the need of SAPs, where applicable, for temporary storage and maintain separation of hazardous waste from GFAFB (DAF, 2015).

3.11.2.2 Fuel Storage

Liquid fuel at GrandSKY Business Park is delivered in small quantities by private contracting trucks, as needed (Gerken, 2023b). General Atomics, a tenant located within GrandSKY Business Park, stores jet fuel in a 55-gallon AST; as tenants continue to expand within the business park, other fuel storage tanks may be needed. There are no USTs within GrandSKY Business Park. At one time, three USTs were associated with the Alpha Ramp, located northeast of GrandSKY Business Park. In 2008, two of the three USTs associated with the Alpha Ramp were removed and petroleum-contaminated soils were encountered during the removal of one of the USTs. In 2009, the third UST was removed, and tests determined there was no further contamination (GFAFB, 2014).

The majority of the petroleum handled at GFAFB is jet fuel (JP-8) used for military aircraft. JP-8 is stored in field-erected bulk storage ASTs at two facilities: the contractor-operated Bulk Fuel Storage Area (Pumphouse 501) located on the south side of the Base between Eilson Street and Building 516 (currently vacant) and the Hydrant Fuels Area (Pumphouse 658) located approximately 115 ft north of UAS Squadron Operations (Building 542). These locations are approximately 1 mile from GrandSKY Business Park.

3.11.2.3 Installation Restoration Program

One IRP site, the location of a 1980 B-52 fire, is partially located within GrandSKY Business Park. The site, located on the Alpha Ramp (Alert Pad) of the GFAFB airfield, covers approximately 4 acres in the eastern portion of GrandSKY Business Park. Unknown quantities of aqueous film forming foam (AFFF) were released on the pad during firefighting efforts. The site is currently monitored as part of an IRP-funded investigation and is further described under **Section 3.11.2.4**.

3.11.2.4 Perfluoroalkyl Substances and Aqueous Film Forming Foam

PFAS is a group of synthetic fluorinated chemicals employed in a wide variety of residential, commercial, and industrial uses and can be found in everyday items such as nonstick cookware, stain-resistant fabric and carpet, certain types of food packaging, and firefighting foam (Air Force Civil Engineer Center [AFCEC], 2023). Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. In recent years, the USEPA has been taking steps to address PFAS and protect communities across the US. In 2016, the USEPA announced advisory levels for two types of PFAS in drinking water, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). In August 2022, the USEPA issued a proposal to designate two of the most widely used PFAS as hazardous substances under CERCLA (USEPA, 2023d). In March 2023, the USEPA proposed to establish legally enforceable levels for six PFAS known to occur in drinking water.

AFFF, which the DAF began to use in the 1970s to extinguish petroleum-based fires, contains both PFOS and PFOA. In August of 2016, the DAF began phasing out PFOS-based AFFF and other AFFF products and introduced newer, more environmentally friendly formulas. In August 2017, the DAF finished the phase-out and completed the new foam delivery. All DAF investigation and mitigation work relating to PFOS and PFOA is performed in accordance with CERCLA, applicable state laws, and the USEPA's lifetime drinking water health advisory of 70 parts per trillion (AFCEC, 2023). A 1980 B-52 fire, located on the Alpha Ramp (Alert Pad) of GFAFB's airfield and within the ROI, was extinguished with AFFF. This site is currently under investigation as an IRP site and is being monitored. A 1983 B-52 fire, located on the Charlie Ramp, east of the Alpha Ramp (Alert Pad) and across the runway, was extinguished with an unknown quantity of AFFF. Additionally, aircraft was fueled and maintained on the Alpha Ramp (Alert Pad). Runoff from both ramps

discharges into the West Ditch, which is located within the ROI, and has the potential to contain AFFF and/or fuel contaminations although no instances of contamination have been identified in recent years. Outfall associated with the West Ditch has the potential to discharge AFFF-contaminated stormwater into the Turtle River. GrandSKY Business Park would be expected to support the phasing out of AFFF and other AFFF products and would not be expected to use these in future development (Gerken, 2023b).

3.11.2.5 Radon

Radon is an odorless, colorless, radioactive gas that develops from the natural breakdown of uranium in soil and rock. Radon can migrate through permeable rocks and soils and seep into buildings or structures, thereby posing an atmospheric human health risk. The national standard of concern for indoor radon is 4 picocuries per liter (pCi/L) in the air. USEPA and the United States Surgeon General have evaluated the radon potential around the country to organize and assist building code officials in deciding whether radon-resistant features are applicable in new construction. Radon zones can range from 1 (high) to 3 (low). The USEPA radon zone for Grand Forks County, North Dakota, is Zone 1 (high potential, predicted indoor average level greater than 4 pCi/L); however, radon potential throughout the county can vary (USEPA, 2020, 2023e, 2023f). Each zone designation reflects the average short-term radon measurement that can be expected in a building without the implementation of radon control methods.

3.11.2.6 Pesticides

No pesticide use currently occurs within GrandSKY Business Park. Herbicides are used throughout the EUL by a private contractor to aid weed control. GFAFB, which is separate from GrandSKY Business Park, operates under a North Dakota Pesticide Discharge General Permit, which authorizes discharge to surface waters of the state from handling, use, or application of pesticides for activities conducted in accordance with state laws and regulations, the *Federal Insecticide, Fungicide, and Rodenticide Act*, and proper pesticide labeling procedures (GFAFB, 2018c). As such, GFAFB periodically sprays within the EUL for mosquito control (Gerken, 2023b).

3.11.3 Environmental Consequences

3.11.3.1 Evaluation Criteria

Impacts from HAZMAT or hazardous wastes would be significant if the Proposed Action:

- generates, uses, or stores HAZMAT or hazardous wastes in violation of federal or state regulations; or
- exposes construction workers to increased health risks from working in existing contamination without proper training and equipment.

3.11.3.2 Alternative 1 – Proposed Action

Hazardous Materials and Wastes

Under the Proposed Action, a limited amount of certain HAZMAT would be used during construction. Associated HAZMAT might include paints, welding gases, solvents, preservatives, sealants, and pesticides. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be used in construction equipment and vehicles. As such, the Proposed Action would create the potential for the accidental discharge or spill of HAZMAT that could contaminate the environment or result in exposure of construction contractors to such contaminants. Grand Forks County and/or some of the tenants of GrandSKY may need to transport and use HAZMAT for parts washing, painting, or stripping, and fuel for backup generators at the business park.

Future individual tenants for the business park are not known at this time; thus, exact types and quantities of HAZMAT likely to be used or hazardous wastes that would be generated for the Proposed Action are not known. However, Grand Forks County and each tenant would be responsible for following the applicable federal and state laws and regulations for transporting, handling, storing, treating, and disposing of

HAZMAT and/or hazardous waste. New tenants occupying GrandSKY Business Park likely would be classified as VSQGs and would be responsible for maintaining their own SAPs and meeting federal, state, and local laws and regulations with regard to storage, management, and disposal of HAZMAT and hazardous wastes. As noted in **Section 3.12.2.1**, General Atomics provides an example of the types and quantities of HAZMAT that can be anticipated from future tenants. No disposal of any hazardous waste would occur on either the leased parcel or GFAFB; disposal would continue to be supported by a licensed disposal agency.

Current GrandSKY tenants are private businesses, and future tenants would not be expected to be federal agencies. As such, and as noted in the 2014 EA, tenants would not be required to participate in the GFAFB Environmental Management Program. However, as a condition of the initial lease of the 217-acre property, Grand Forks County was required to prepare a hazardous waste management plan (HWMP) that stipulated the processes and procedures tenants would have to follow for transporting, handling, storing, treating, and disposing of HAZMAT and/or hazardous waste within the business park (GFAFB, 2014).

As noted in the 2014 EA, any release of hazardous wastes to the environment would be the responsibility of the tenant and Grand Forks County. Specified actions stipulated in the HWMP would direct Grand Forks County with respect to notifying the DAF of any hazardous waste release (GFAFB, 2014). As the overall lessee, Grand Forks County would be responsible for ensuring that GrandSKY Business Park and its current and future tenants abide by the laws and regulations; therefore, the impact of using HAZMAT or generating hazardous wastes would be expected to be minor and not significant with implementation of the Proposed Action.

Fuel Storage

There are no USTs currently located within the project area. Current tenants utilize ASTs for jet fuel storage. Under the Proposed Action, construction would occur throughout the EUL. However, as the exact needs of future tenants are unknown, there is the potential for an increased need for fuel, and thus the installation of new tanks to accommodate this increase. Any new tanks would be managed to comply with all state and GFAFB regulations to include the existing SPCC plan. Through compliance with the existing SPCC plan, the DAF anticipates that there would be no impacts related to fuel storage with implementation of the Proposed Action.

Installation Restoration Program

Impacts to the IRP-managed site located within the project area, the Alpha Ramp (Alert Pad), are described in the following paragraph.

Perfluoroalkyl Substances and Aqueous Film Forming Foam

Development under the Proposed Action would have the potential to occur west and east of the West Ditch. Increased impervious surfaces between the GFAFB airfield and the West Ditch would provide the potential connectivity for contaminated runoff to reach the West Ditch and discharge into the Turtle River. However, contamination associated with runoff from the ramps is not likely to occur in any quantifiable amounts beyond current conditions. Additionally, in 2017, the DAF removed the use of PFOS/PFOA AFFF, replacing it with safer materials, eliminating any new contamination concerns associated with construction under the Proposed Action. Approximately 4 acres of the Alpha Ramp AFFF release site falls within the boundary of the Proposed Action. The site is located entirely on paved surfaces, which are unlikely to be disturbed during the proposed construction activities. Surface runoff may have impacted surrounding surface soil, subsurface soil, groundwater, surface water, and sediments. Alteration of ground surfaces during development in this area would be limited to basic earthwork. In the event of construction occurring near the IRP site, contaminated soil and/or construction debris would be handled, stored, and disposed of in accordance with federal and state laws and regulations. All applicable permits for handling and disposal of contaminated soil and construction debris would be obtained prior to commencement of construction activities. The site would continue to be monitored throughout construction and development of GrandSKY Business Park. With adherence to applicable federal and state law and regulations, potential impacts would be short term and minor.

Radon

The USEPA radon zone for Grand Forks County is Zone 1 (high potential, predicted indoor average level greater than 4 pCi/L). It is possible that new facilities constructed within the approximately 7,130,000 ft^2 of additionally developable area under the Proposed Action could have indoor radon screening levels greater than 4 pCi/L. Radon would be managed in new construction by incorporating passive features into the design that limit the ability for radon to enter buildings and employing BMPs, such as conducting periodic radon testing in each new or renovated building. Post-construction radon management measures, such as installing ventilation systems to remove radon that has already entered the building, would be taken in buildings that test higher than 4 pCi/L.

Pesticides

Under the Proposed Action, there could be an increase in the number of pesticides, herbicides, fungicides, insecticides, and rodenticides used during construction activities. Herbicide and pesticide applications could adversely impact non-target species, result in downstream contamination from runoff from application sites, and cause unintentional releases to the environment by spills and application errors of chemicals. Use of pesticides, herbicides, fungicides, insecticides, and rodenticides after construction would be conducted on an as-needed basis consistent with federal, state, and local regulations and in compliance with the North Dakota Pesticide Use Permit. Therefore, potential impacts from increased pesticide usage would be short term and temporary with implementation of the Proposed Action.

3.11.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in no significant impacts from HAZMAT, hazardous wastes, toxic substances, and contaminated sites. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be temporary, cumulative impacts. Construction under the Proposed Action would occur over a 10-year period, reducing the number of simultaneous impacts from HAZMAT, hazardous wastes, and toxic substances generated during construction associated with the Proposed Action and projects identified in **Table 3-1**. Construction activities associated with activities evaluated under the GFAFB BASH EA would result in the use of herbicides to assist in the replacement of existing grasslands around the airfield. The establishment of new vegetation that is unattractive to wildlife would continue to be managed through the use of broadleaf herbicide applications but would not be expected to have cumulative effects when combined with the Proposed Action. Potential impacts would be short term and minor. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant cumulative impacts to HAZMAT, hazardous wastes, toxic substances, and contaminated sites would be anticipated to occur with implementation of the Proposed Action.

3.11.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA. Impacts associated with construction under the No Action Alternative would be managed through the use of BMPs and would be expected to be short term and minor.

3.12 INFRASTRUCTURE, INCLUDING TRANSPORTATION AND UTILITIES

3.12.1 Definition of the Resource

Infrastructure consists of the systems and structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. Infrastructure components include transportation, utility systems, solid waste management, and stormwater infrastructure. The availability of infrastructure and its capacity to support more users, including future development of an area, are generally regarded as essential to continued economic growth.

Transportation is defined as the system of roadways, highways, and transit services that provide ingress/egress from or to a particular location, as well as access to regional goods and services. Utilities include communications systems, electricity, natural gas, potable water, and sanitary sewage. Solid waste management primarily relates to landfill capacity for disposal of nonhazardous solid waste (e.g., construction waste) generated in an area or by a population. Stormwater infrastructure includes the man-made conveyance systems that function in tandem with natural drainages to collect and control the rate of surface runoff during and after a precipitation event. In urbanized areas, stormwater that is not discharged to a waterbody is conveyed to sanitary sewers, systems that collect, move, and treat liquid waste prior to its discharge back into the environment. **Section 3.8** of this EA discusses stormwater conditions and potential impacts from the Proposed Action.

The ROI for infrastructure is the GrandSKY Business Park and the external infrastructure components and services relied upon to operate the park.

3.12.2 Existing Conditions

3.12.2.1 Transportation

The transportation system at GrandSKY Business Park includes approximately 16 acres of paved and gravel roadway corridors and 22 acres of airfield taxiway pavements with no direct connections to GFAFB. GrandSKY Business Park is separated from GFAFB through locked gates and fences, with permitted access to the Base only for special and authorized uses (Gerken, 2023b). GrandSKY is accessed independently from GFAFB via US-2 through a designated south gate on GrandSKY Boulevard.

GrandSKY Boulevard bisects the business park north-to-south along the western edge of the EUL's airfield apron. GrandSKY Boulevard extends from US-2, where the commercial gate is located, north to the boundary of GrandSKY Business Park where it meets locked gate access to GFAFB. One access gate between GrandSKY Business Park and GFAFB is used to access the runway and is used primarily for UAS activities requiring access to the GFAFB airfield (Gerken, 2023b).

3.12.2.2 Communications

Communications services and infrastructure are available to support a range of requirements such as voice, data, video, wireless, land mobile radio, aircraft, and security systems. GrandSKY Business Park does not utilize GFAFB communications systems and instead relies on commercial fiber-optic providers to support the needs of the business park. The exception to this is the on-site radio system. Radio systems are supported through a joint-use agreement with GFAFB, which allows GrandSKY to communicate with the airfield tower for coordination of flights and UAS activities. Communications capacity is available for future GrandSKY Business Park expansion (Gerken, 2023b).

3.12.2.3 Electricity and Natural Gas

Electricity at GrandSKY Business Park is provided by Nodak Electric; electricity for Nodak Electric is supplied by Minnkota Power Cooperative, Inc. The majority of the electrical systems at the business park consist of underground lines and emergency backup generators that support tenant facilities (GFAFB, 2017). Tenants of GrandSKY Business Park receive electrical connections from Nodak Electric commercially off of US-2 (Gerken, 2023b) and existing facilities have their own emergency backup generators. Electricity to GrandSKY does not tie into the main GFAFB system and is provided via an additional feeder (GFAFB, 2017). Electricity capacity is available for future GrandSKY Business Park expansion.

Xcel Energy, a local distributing company, supplies natural gas to GrandSKY Business Park. Xcel Energy supplies natural gas to the EUL via GrandSKY Boulevard off of US-2. Heating facilities on GrandSKY largely use natural gas, and natural gas capacity is available for future GrandSKY Business Park expansion (GFAFB, 2017; Gerken, 2023b).

3.12.2.4 Potable Water Supply

GrandSKY Business Park receives potable water from the East Central Regional Water District. The 2022 Drinking Water Quality Report indicates that the potable water supply is safe and meets federal and state requirements for quality drinking water (East Central Regional Water District, 2022). GrandSKY Business Park utilizes GFAFB's water towers solely for fire suppression efforts; this water distribution system is maintained by Base Utilities Inc. GrandSKY Business Park pays Base Utilities Inc. for the use of fire suppression water. There is sufficient capacity to meet current and future system demands (GFAFB, 2017; Gerken, 2023b).

3.12.2.5 Sanitary Sewage

Sanitary sewage at GrandSKY Business Park travels from GrandSKY-owned sewage infrastructure into GFAFB's lagoon system; GrandSKY Business Park pays Base Utilities Inc. for the use of the sewage system at GFAFB. The system in its entirety is designed to feed sewage treatment lagoons via a system of gravity and force mains using two primary lift stations. The system is in great condition and being proactively maintained (GFAFB, 2017). The sewer system is operating at 50-percent capacity and has the ability to meet current and future mission needs (GFAFB, 2017; Gerken, 2023b).

3.12.2.6 Solid Waste Management

Solid waste generated at GrandSKY Business Park is supported through various private contractors. Located approximately 12 miles from GrandSKY Business Park, the Grand Forks Municipal Landfill receives solid waste that is collected and transported by the various contractors. The use of various contractors for solid waste management at GrandSKY Business Park is intended to allow for various tenant needs, such as construction waste, office and commercial waste, or other UAS-generated debris (Gerken, 2023b). Grand Forks Municipal Landfill has sufficient capacity to meet current and future demands of the solid waste contractors used by GrandSKY Business Park (USEPA, 2023g).

3.12.3 Environmental Consequences

3.12.3.1 Evaluation Criteria

The DAF defines a significant effect on or from infrastructure, transportation, and utilities within the ROI as one or more of the following:

- measurable change or service reduction within the regional transportation network;
- prolonged or repeated interruption of public transportation services regionally;
- prolonged or repeated service disruptions to utility end users; and
- substantial increase in utility demand relative to existing and planned regional uses.

3.12.3.2 Alternative 1 – Proposed Action

Transportation

Long-term, beneficial impacts to the transportation system would be expected from the projects under the Proposed Action by creating additional roadway connectivity within GrandSKY Business Park. This would be expected to increase economic opportunities by allowing tenants to more easily access areas throughout GrandSKY Business Park as it continues to be developed. Under the Proposed Action, up to 80 percent of the land designated for roadway corridors would be developed, accounting for approximately 450,000 ft^2 of impervious surfaces.

Communications

Under the Proposed Acton, negligible adverse impacts would be expected to the communications system. Demand on the communication system would increase under the Proposed Action due to increased development of GrandSKY Business Park. However, the construction would occur over approximately 10

years and the communication system has the capacity required to meet new demands. The communications systems at GrandSKY Business Park have the capacity to meet future demands.

Electricity and Natural Gas

Under the Proposed Acton, negligible adverse impacts would be expected to the electrical system. Demand on the electricity and natural gas systems would increase due to additional development at GrandSKY Business Park. However, the construction would occur over approximately 10 years and both utility systems have the capacity to meet new demands from increases in demand that would be anticipated with future development of GrandSKY Business Park. The electrical capacity is sufficient to support future growth.

Potable Water Supply

Under the Proposed Acton, negligible adverse impacts would be expected to the potable water system. Demand would increase due to additional development at GrandSKY Business Park. However, the construction would occur over approximately 10 years and the existing potable water supply system has the capacity to meet demands of future growth and development of the business park.

Sanitary Sewage

Under the Proposed Acton, negligible adverse impacts would be expected to the sewage system. Demand on the sewage system would increase under the Proposed Action due to increased development at GrandSKY Business Park. However, the construction would occur over approximately 10 years and the sanitary sewer and wastewater treatment system has the capacity required to meet new demands.

Solid Waste Management

Under the Proposed Acton, negligible adverse impacts would be expected to solid waste management. Demand on the solid waste system would increase under the Proposed Action due to additional development at GrandSKY Business Park. However, the construction would occur over approximately 10 years, allowing GrandSKY Business Park to work with private contractors and provide sufficient time to adjust to increased capacity needs that would result from accommodating the waste generated from future development of GrandSKY Business Park (USEPA, 2023g).

While each system has the capacity to support additional development in the long term, it can be assumed that future construction at GrandSKY Business Park would generate additional short-term waste. Construction projects generate approximately 4.39 pounds (lbs)/ft^2 of construction activity (buildings and impervious surfaces) (USEPA, 2003). It would be anticipated that approximately 2,282,147 ft^2 of building construction could occur under the Proposed Action. This would result in approximately 10,018,000 lbs of construction-related materials and waste. Construction associated with the Proposed Action would be anticipated to occur over a 10-year period, resulting in just over 1 million lbs of construction-related materials and waste per year. The City of Grand Forks Municipal Landfill would be expected to have sufficient capacity to support construction-related waste.

3.12.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in no significant impacts to infrastructure, including transportation and utilities. Should the construction activities identified in **Table 3-1**, such as those described in the GFAFB BASH EA, occur at the same time as the construction activities under the Proposed Action, there could be temporary cumulative impacts to traffic patterns. Projects evaluated under the GFAFB BASH EA would include ground maintenance, regrading, and repair projects that would have the potential to disrupt transportation or utility networks within GFAFB, in which GrandSKY Business Park is located. While GrandSKY Business Park is completely separate from GFAFB, both utilize US-2 for their respective accesses. Deconfliction of scheduling and communication of construction activities between development of the Proposed Action and development occurring because of projects identified in **Table 3-1** would reduce adverse cumulative impacts to traffic congestion on US-2. Additionally, housing developments identified in **Table 3-1** indicate the need for planned housing to accommodate the population growth within the city of Grand Forks. While there is currently a low demand for housing due to a housing surplus in the area, there would be a potential for further population growth and increased demand for

housing when combined with the Proposed Action. More population growth in the region would require infrastructure, utility, and transportation systems to match the demand; therefore, long-term, minor impacts to infrastructure, including transportation and utilities, would be anticipated to occur when combined with the projects identified in **Table 3-1**. Under the Proposed Action, there would be operational changes to the transportation and utility networks at GrandSKY Business Park. However, these changes would be confined to GrandSKY Business Park. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant cumulative impacts to infrastructure, including transportation and utilities, would be anticipated to occur with implementation of the Proposed Action.

3.12.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County.

3.13 NOISE

3.13.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations exhibited as waves, measured in frequency and amplitude, which travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. Noise is generally described as unwanted sound. Unwanted sound can be based on objective effects (such as hearing loss or damage to structures) or subjective judgments (community annoyance). Noise analysis thus requires assessing a combination of physical measurement of sound, physical and physiological effects, and psycho- and socio-acoustic effects. The response of different individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise, its appropriateness in the setting, the time of day, the type of activity during which the noise occurs, and the sensitivity of the individual. Noise may also affect wildlife through disruption of nesting, foraging, migration, and other life-cycle activities.

The ROI for noise is GrandSKY Business Park and the adjacent GFAFB airfield used for GrandSKY Business Park's UAS missions and activities.

Noise Metrics

Noise and sound levels are expressed in logarithmic units measured by decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech equates to a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort, and sound levels between 130 and 140 dB are felt as pain (Berglund and Lindvall, 1995).

All sound contains a spectral content, which means the magnitude or level differs by frequency, where frequency is measured in cycles per second, or hertz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements usually employ an "A-weighted" scale, denoted as dBA, that de-emphasizes very low and very high frequencies to better replicate human sensitivity.

In accordance with DoD guidelines and standard practice for environmental impact analysis documents, the noise analysis herein uses the Day-Night Average Sound Level (DNL) and the Onset-Rate Adjusted DNL. DNL is a cumulative measure of multiple flight and engine maintenance activities throughout an average year.

3.13.2 Existing Conditions

The primary sources of noise within GrandSKY Business Park are UAS missions, associated airfield operations at the adjacent GFAFB airfield, UAS manufacturing and maintenance activities, and vehicular traffic. Noise-sensitive receptors on GFAFB are located outside of GrandSKY Business Park and include the GFAFB Medical Clinic, Education Center, Nathan Twining Elementary and Middle School, Dakota Lanes Bowling Alley, the Military and Family Readiness Center, residential communities, dormitories, administrative buildings, library, aquatic and fitness centers, playgrounds, and recreation trails. Several private residences are located within approximately 1 mile west and northwest of GrandSKY Business Park. Other off-Base noise-sensitive receptors include the residential communities within the city of Emerado, Ascension Lutheran Church, and Emerado Elementary School, all of which are located approximately 2 miles from GrandSKY Business Park.

Under current operations, ambient noise levels within GrandSKY Business Park do not exceed DNL 65 dBA. Most of the noise generated at GrandSKY Business Park is centered around the GFAFB airfield, approximately 2,000 ft northeast of GrandSKY Business Park. Noise on the airfield ranges from 65 to 80 dBA (**Figure 3-4**).

3.13.3 Environmental Consequences

3.13.3.1 Evaluation Criteria

When evaluating noise effects, several aspects are examined:

- the degree to which noise levels generated by construction and operational activities would be higher than the ambient noise levels;
- the degree to which there would be hearing loss and/or annoyance; and
- the proximity of noise-sensitive receptors (e.g., residences, schools, hospitals, parks) to the noise source.

An environmental analysis of noise includes the potential effects on the local population and estimates the extent and magnitude of the noise generated by the Proposed Action.

3.13.3.2 Alternative 1 – Proposed Action

Under the Proposed Action, all construction activities would occur entirely within GrandSKY Business Park. The affected environment for noise effects from these activities and ongoing operations is narrowly focused and compact and generally would include the area lying within 1 mile of the proposed projects. Noise-sensitive receptors are located entirely outside of the ROI and would be unlikely to experience construction- and operations-related noise impacts. Currently, GrandSKY Business Park operates approximately 40 sorties per month. The 2014 EA evaluated 100 sorties per month. This volume is still adequate, and the thresholds of the 2014 analysis have not been met; therefore, additional UAS activities associated with the development of GrandSKY Business Park would not contribute to unevaluated noise impacts to the GFAFB airfield or surrounding areas. Should the number of sorties need to increase to beyond the previously evaluated 100 sorties per month, additional noise and environmental analysis would be required.

The Proposed Action would cause short-term, localized noise impacts during construction activities. Sound would be generated from construction equipment and traffic. However, the equipment would be operated intermittently during construction, and potential noise impacts would be short term, limited to daylight hours, and highly localized. The loudest noise would be associated with machinery listed in **Table 3-8**.

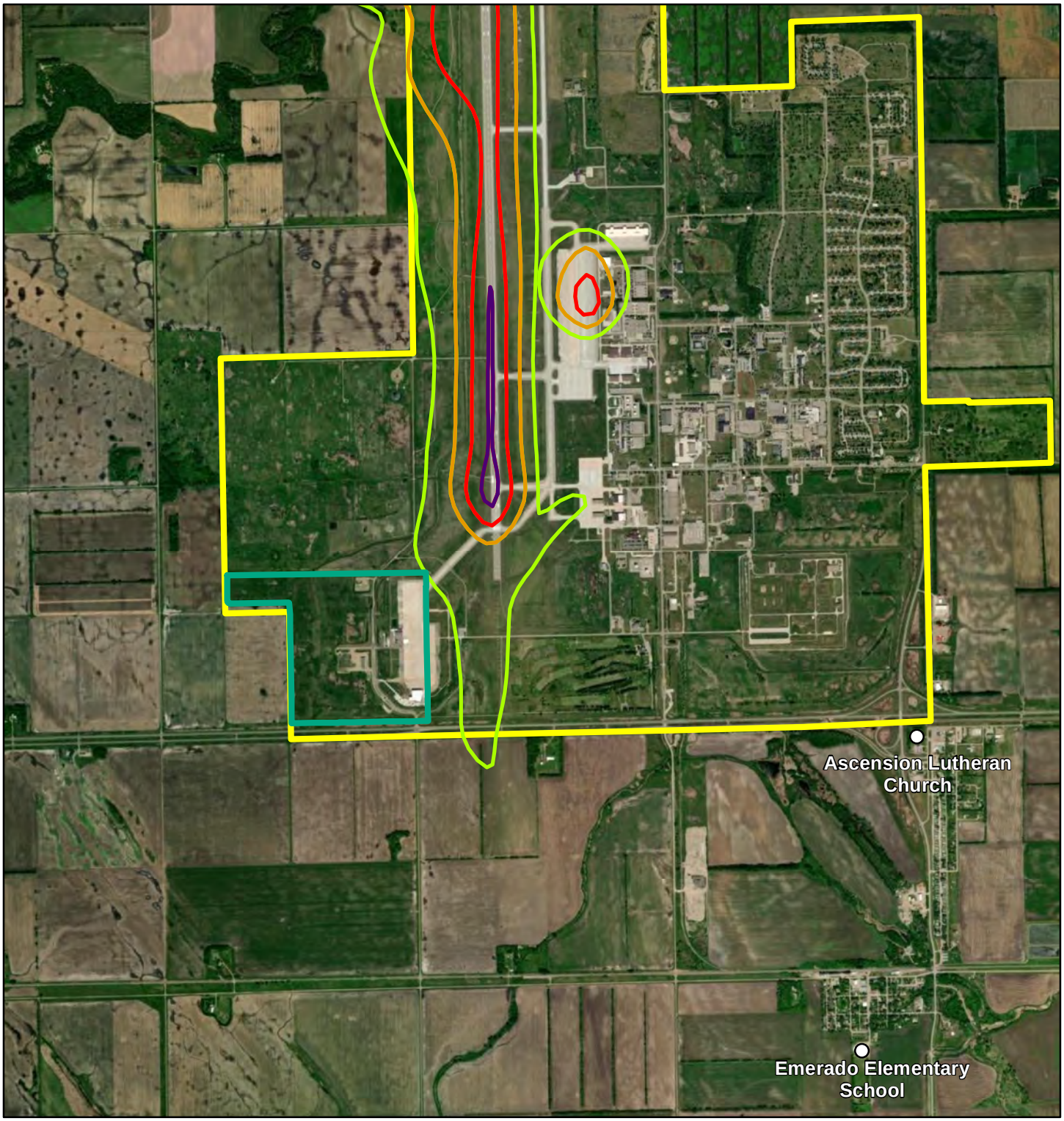


FIGURE 3-4
Noise

GrandSKY Business Park
Installation Boundary
65 Decibels
70 Decibels
75 Decibels
80 Decibels

N

0 1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

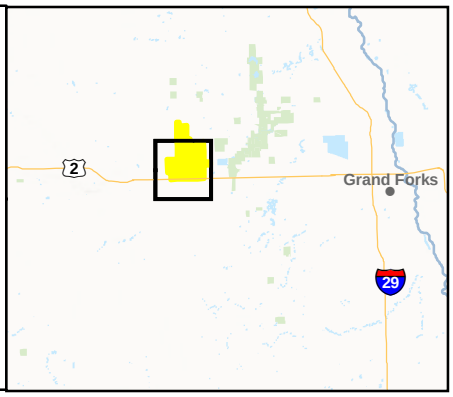


Table 3-8.
Sound Levels of Construction Equipment under the Proposed Action from a Distance of 50 Feet

Equipment	Sound Level (dBA)
Bulldozer	85
Scraper	85
Front Loader	80
Backhoe	80
Grader	85
Crane	85

Source: US Department of Transportation, 2006
dBA = A-weighted decibel

Adherence to standard Occupational Safety and Health regulations that require hearing protection along with other personnel protective equipment and safety training would minimize the risk of hearing loss to construction workers. Therefore, noise associated with construction projects under the Proposed Action would not be anticipated to result in any significant direct or indirect impacts on noise-sensitive receptors.

Operational noise under the Proposed Action would increase during the 10-year construction period, as the GrandSKY Business Park is expanded and the number of personnel working on site increases. At peak development, an additional 1,700 personnel would have the potential to work at or be associated with GrandSKY Business Park (Gerken, 2023a). This increase would occur over time, reaching a steady state, and long-term impacts to operational noise levels would be gradual and minor. The exact number of steady-state operations is dependent on tenant need and is not currently known; however, at steady state, operations would not be expected to exceed current noise levels. Operations would be primarily administrative, and UAS maintenance and manufacturing would not be anticipated to exceed 65 dBA within GrandSKY Business Park or 80 dBA within the GFAFB airfield.

3.13.3.3 Cumulative Impacts

Project activities associated with the Proposed Action would result in temporary, localized noise increases. Noise could be compounded by other construction projects occurring concurrently. All development would be implemented in GrandSKY Business Park, and resulting development would utilize areas already subject to a high level of noise from aircraft operations, which is the primary source of noise on GFAFB. In order to minimize disturbance to local residences, workplaces, and sensitive receptors, noise attenuation measures would be incorporated into design and implementation. No construction activities (**Table 3-1**) would take place after 10 p.m. or prior to 6 a.m.

When combined with the projects identified in **Table 3-1**, changes to the noise environment would occur solely from the Proposed Action over the 10-year construction period. Aircraft operations would continue to be the dominant source of noise. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, no significant cumulative impacts to the noise environment would be anticipated with implementation of the Proposed Action.

3.13.3.4 No Action Alternative

Under the No Action Alternative, noise levels would remain at current levels. Temporary increases in noise would be anticipated to occur as a result of new construction evaluated under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County.

3.14 SOCIOECONOMICS

3.14.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements, such as population levels and economic activity. Several factors can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of dependents living below the poverty level, employment, and housing data. Employment data identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Socioeconomic data are typically presented at county, state, and national levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends.

The ROI is defined as GrandSKY Business Park within GFAFB and the surrounding metropolitan areas that would be impacted by the project area.

3.14.2 Existing Conditions

3.14.2.1 Population

GFAFB lies entirely within Grand Forks County, adjacent to the city of Emerado, and within the Grand Forks, North Dakota-Minnesota Metropolitan Statistical Area (MSA). The Base occupies an area of approximately 5,000 acres and is centrally located in Grand Forks County. In 2021, the population of Grand Forks County was approximately 73,000 people (**Table 3-9**). Between 2011 and 2021, the populations of North Dakota, Grand Forks County, and the Grand Forks, North Dakota-Minnesota MSA increased by 16, 10, and 6.5 percent respectively (USCB, 2022).

Table 3-9.
Population Characteristics

Location	Census Year		AARG	Total Growth
	2011	2021		
USA	306,603,772	329,725,481	0.8	7.5
North Dakota	666,783	773,344	1.6	16
Grand Forks County	66,662	73,101	1	10
Grand Forks, ND-MN MSA	98,054	104,404	0.6	6.5

Source: USCB 2023a, 2023b
AARG = average annual growth rate

3.14.2.2 Employment

Unemployment rates for Grand Forks County over the same period were, on average, about half of that of the US but slightly higher than those for North Dakota as a whole (**Figure 3-5**). The largest employment sector in all the evaluated areas is educational services, health care, and social assistance (**Table 3-10**). The next-largest civilian employment sector across all areas is retail trade, apart from the US, for which professional, scientific, and management, and administrative and waste management services was the next-largest sector. Employment in the Armed Forces accounts for just under 3 percent of the total employment characteristics in Grand Forks County (USCB, 2022).

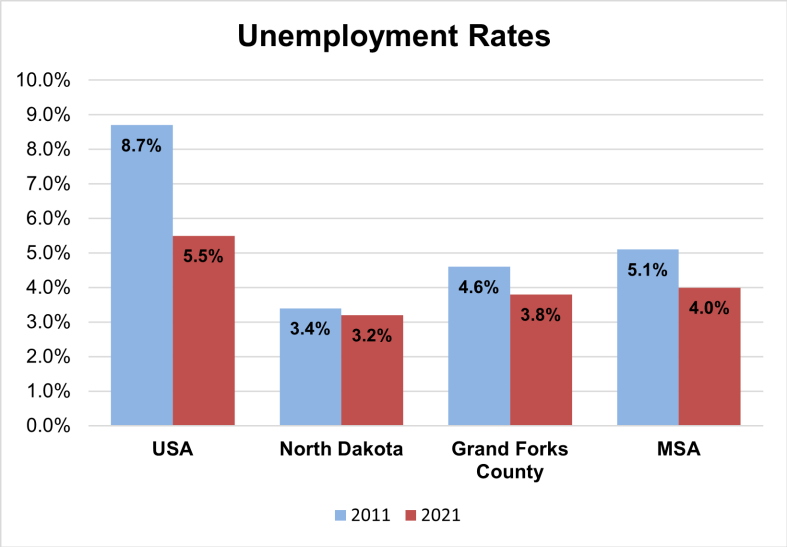


Figure 3-5 10-Year Estimate of Average Unemployment Rates (2011–2021)

Table 3-10.
5-Year Estimate of Employment Characteristics (2016–2021)

Employment Characteristics (Percent)	USA	North Dakota	Grand Forks County	Grand Forks ND-MN MSA
Population 16 years and over in labor force	164,343,933	418,556.5	41,933.5	58,085.5
Civilian employed population	152,756,154	399,598	38,886	54,328
Agriculture, forestry, fishing and hunting, and mining	1.8	9.1	3.4	4.55
Armed Forces	0.45	1.1	2.75	1.95
Arts, entertainment, recreation, and accommodation and food services	9.4	8.2	9.8	9.1
Construction	6.6	7.5	6.7	6.8
Educational services, and healthcare and social assistance	23.2	25.4	32.6	31.6
Information	2	1.3	1.3	1.3
Finance and insurance, and real estate and rental and leasing	6.7	5.7	4.5	4.1
Manufacturing	10.2	6.8	6.1	7.4
Professional, scientific, and management, and administrative and waste management services	11.6	6.7	5.8	5.7
Public administration	4.7	4.8	4.6	4.4
Retail trade	11.3	11.4	14.4	13.5
Transportation and warehousing, and utilities	5.4	5.6	4.6	4.7
Wholesale trade	2.6	3.4	2.2	2.4
Other services, except public administration	4.9	4.4	4.4	4.7

Source: USCB, 2022
Grand Forks ND-MN MSA = Grand Forks, North Dakota-Minnesota Metropolitan Statistical Area

3.14.2.3 Housing

As of November 2023, Grand Forks County's housing supply is defined as a buyer's market, meaning the supply of homes is greater than the demand for homes (Realtor, 2023). Additionally, the Grand Forks City Planning and Zoning Department lists several residential developments as having been recently completed or approved to move forward, while five multi-family developments including apartments and townhomes have been approved within the last five years. No single-family developments are currently approved by the City of Grand Forks (City of Grand Forks, 2023). Of the currently available homes within the city of Grand Forks, the average home price is in the middle $300,000 range, while the 2022 median household income in the Grand Forks MSA is $59,079 (Realtor, 2023; USCB, 2023).

3.14.2.4 Education

Grand Forks School District, Emerado Public School District, and Grand Forks Air Force Base School District provide education for ROI. Emerado Elementary School is the nearest school to GrandSKY Business Park off Base, located just south of US-2. On Base, Nathan Twining Middle School provides education for grades 4–8 (Grand Forks Housing, 2023). Carl Ben Eielson Elementary on GFAFB previously provided education for grades pre-kindergarten–3 but is now an abandoned building; the Grand Forks Public School District will construct a new Nathan Twinning Elementary and Middle School on the site. Upon completion of the new schools, the old facilities will be demolished. The Grand Forks School District serves the city of Grand Forks via 11 elementary schools, 4 middle schools, and 3 high schools. The Grand Forks School District also provides adult learning centers, pre-kindergarten programs, and other specialized programs (Grand Forks Public Schools, 2023). Various higher-education programs are located within Grand Forks County, including the University of North Dakota. GFAFB provides continuing education through Lake Region State College, Park University, and Central Michigan University.

3.14.2.5 Law Enforcement and Fire Protection

As an EUL within GFAFB, law enforcement and fire protection services at GrandSKY Business Park are supported by local law enforcement and fire protection services and supplemented by DAF staff as needed.

3.14.3 Environmental Consequences

3.14.3.1 Evaluation Criteria

Consequences to socioeconomic resources are assessed in terms of the potential impacts on the local economy from implementation of a proposed action. The level of impacts from expenditures associated with the Proposed Action was assessed in terms of direct impacts on the local economy and indirect impacts on other socioeconomic resources (e.g., housing, employment). The magnitude of potential impacts can vary greatly depending on the location of an action. For example, implementation of an action that creates 10 employment positions might be unnoticed in an urban area but might have significant impacts in a rural region. In addition, if potential socioeconomic changes from a Proposed Action result in substantial shifts in population trends or in adverse effects on regional spending and earning patterns, such changes may be considered adverse.

3.14.3.2 Alternative 1 – Proposed Action

Population

Under the Proposed Action, additional development of GrandSKY Business Park would not affect the number of personnel assigned to or employed by GFAFB. Based on the current tenants and anticipated trends, under the Proposed Action, GrandSKY Business Park would be expected to employ approximately 1,700 people over 10 years (Gerken, 2023a). Due to the projected long-term availability of jobs that would be created from the expanded development of the business park, the population within the ROI would be expected to increase. Population growth projections between 2010 and 2020 estimated 1-percent population growth in Grand Forks County, or about 669 additional residents (Grand Forks AFB, 2014). This growth was surpassed, with the county seeing a 10-percent total increase in population from 2011 to 2021

(USCB, 2023). Under the Proposed Action, increases in population within Grand Forks County as a result of increased employment opportunities would be expected to occur.

Employment

Under the Proposed Action and with GrandSKY Business Park, anticipated employment includes work in supporting research, development, testing and evaluation, and operations of UAS activities. It would be expected that, outside the construction-based jobs, the majority of the directly related jobs would be in the professional, scientific, management, and educational services sectors. In addition, the influx of employees and their families to fill directly related jobs would drive the creation of indirectly related jobs in such areas as retail, food services, and real estate.

The creation of additional employment opportunities could marginally decrease the unemployment rate, although a majority of the directly related jobs would have the potential to be filled from outside of the Grand Forks region. The increased employment opportunities could also marginally decrease the unemployment rates for the Grand Forks, ND-MN MSA since it would be expected that many of the construction jobs would be sourced from local businesses in that area. Because development is scheduled to occur over a 10-year period, these increases would be spread out over that time. The most immediate increase likely would be realized with jobs in the construction sector. The addition of professional, scientific, management, and educational jobs in the ROI would be expected to change the employment characteristics of the ROI, Grand Forks County, and, to a lesser extent, the Grand Forks, ND-MN MSA. In addition, there likely would be indirect increases in such sectors as retail, food and other services, health, manufacturing, and public administration. Median individual and household income could increase somewhat in the ROI and county as the percentage of employment shifts to higher-paying professional, scientific, and management jobs. In addition, the direct (GrandSKY Business Park) and indirect (housing) availability of long-term construction jobs could also attract more people to the area.

The Proposed Action, together with the potential increase in median individual and household incomes that could occur, could result in increases to the tax base in the ROI. Implementation of the Proposed Action would be anticipated to result in long-term, beneficial impacts to employment, income, and tax revenues within the ROI.

Housing

The expansion of GrandSKY Business Park could generate a need for more development of homes of varying value because the jobs being created would include construction, maintenance, professional, scientific, management, and educational services positions. Currently, several residential developments within the city of Grand Forks are in the planning or early construction phases. No single-family developments are currently in progress within the city of Grand Forks; however, Grand Forks County's housing supply is currently a buyer's market, and the availability of single-family housing is high. Because the approximately 1,700 jobs created under the Proposed Action would be distributed over approximately 10 years and current approved residential developments include multi-family homes and townhomes, it would be anticipated that housing, including single-family developments, and associated utilities within the city of Grand Forks and Grand Forks County would be constructed to accommodate demand and increased populations at the same pace.

The current average home price of $350,000 would be anticipated to increase over the 10-year construction period as a result of normal market growth and increased demand associated with the Proposed Action. As described in the preceding section, the types of jobs that would be anticipated under the Proposed Action would be expected to provide higher salary ranges that would support the affordability of the current median house price. Under the Proposed Action, short-term, minor, adverse impacts to housing would occur while long-term, negligible, adverse impacts to housing would occur if housing development continued to be constructed to meet demands.

Education

Under the Proposed Action, the potential influx of employees and their families throughout the ROI would occur over time. Development under the Proposed Action would be anticipated to increase the working

population by approximately 1,700 personnel over 10 years (Gerken, 2023a) and, thus, the number of families and school-aged children that reside within the ROI. Most of the inmigrating families would be expected to reside in the city of Grand Forks, the largest municipality in the area. It is anticipated that most families would have school-aged children; therefore, Grand Forks School District would be anticipated to experience the largest increase in students. The potential influx of employees and their families, including school-aged children, would be anticipated to increase at a steady rate over the 10-year construction period. It is also anticipated that affected school districts would have opportunities to manage the gradual increase in school enrollment. Increased interest in higher-education programs within the area would be anticipated as potential employment opportunities promote specialized schooling, vocational programs, or certificate programs. Adult continuing education, vocational schools, and the University of North Dakota would be anticipated to realize a minor increase in attendance over the 10-year construction period. Therefore, the Proposed Action would be anticipated to have short-term and long-term minor impacts on area schools and educational systems in the ROI.

Law Enforcement and Fire Protection

Under the Proposed Action, increased development at GrandSKY Business Park would require additional support from law enforcement and fire protection services. The exact extent of needed law enforcement and fire protection services are not known at this time. However, as the development and increased use of GrandSKY Business Park would be anticipated to increase over approximately 10 years and then stabilize to steady state, it is unlikely that the capabilities of either service would be significantly overloaded. Any increased demand would be coordinated with law enforcement and fire protection services to allow adequate time for planning and adjustments to personnel and services. Therefore, impacts to law enforcement and fire protection would be long-term and negligible.

3.14.3.3 Cumulative Impacts

Implementation of the Proposed Action would result in moderate, long-term, beneficial impacts to socioeconomics. Short-term, minor impacts to socioeconomics would be anticipated to occur when combined with the actions described in **Table 3-1** due to an increased demand for housing in order to support the growing workforce. Should the construction activities identified in **Table 3-1** occur at the same time as the construction activities under the Proposed Action, there could be further creation of short-term jobs through construction and ground maintenance operations improvements. Proposed housing developments identified in **Table 3-1** would provide additional housing for the expected increase in personnel and employment within the area and would permanently increase the housing supply within Grand Forks County. A Grand Forks Airport runway project, located approximately 8 miles east of GrandSKY Business Park, would further provide socioeconomic support, growth, and connectivity for the region. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at GFAFB, long-term, beneficial cumulative effects to socioeconomics would be anticipated to occur with implementation of the Proposed Action.

3.14.3.4 No Action Alternative

Under the No Action Alternative, all activity at GrandSKY Business Park would remain as established under the 2014 EA. The built environment of GrandSKY Business Park would continue under the thresholds determined in the 2014 EA and impede the DAF's strategic goal of optimizing the value of its existing real property assets, limit future growth and development of the business park, and hinder the economic development potential of Grand Forks County.

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