DRAFT ENVIRONMENTAL ASSESSMENT

FOR THE

OFFUTT AIR FORCE BASE
FLOOD RECOVERY REBUILD

AIR FORCE – AIR COMBAT COMMAND

Offutt Air Force Base
Sarpy County, Nebraska

July 2020

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 Code of Federal Regulations (CFR) Parts 1500 to 1508), and 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).

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

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Draft Environmental Assessment for the

Offutt Air Force Base Flood Recovery

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Abbreviations and Acronyms

Acronym	Definition
ABNCP	Airborne National Command Post
AFB	Air Force Base
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AST	Above ground storage tank
BASH	Bird/wildlife Aircraft Strike Hazard
bgs	Below ground surface
BMP	Best Management Practices
CAA	Clean Air Act
C2G	Command and Control Group
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
dBA	decibel
DOD	Department of Defense
EA	Environmental Assessment
EESOH-MIS	Enterprise Environmental Safety Occupational Health-Management Information System
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impacts Statement

ESA	Environmental Site Assessment
EO	Executive Order
ERP	Environmental Restoration Program
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FOD	Foreign Object Damage
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
HAP	Hazardous air pollutants
IICEP	Interagency/Intergovernmental Coordination for Environmental Planning
LF	linear feet
LUC	Land Use Controls
SATCOM	Satellite Communication
MOA	Memorandum of Agreement
msl	Mean sea level
MWR	Morale Welfare Recreation
NAAQS	National Ambient Air Quality Standards
NC3	Nuclear Command, Control and Communication
NDEE	Nebraska Department of the Environment and Energy
NDNR	Nebraska Department of Natural Resources
NEPA	National Environmental Policy Act
NEACP	National Emergency Airborne Command Post

NESHAP	National Emission Standards for Hazardous Air Pollutants
NGPC	Nebraska Game and Parks Commission
NHPA	National Historic Preservation Act
NKO	Non-Kinetic Operations
NO2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PL	Public Law
PM10	Particulate matter (less than 10 microns in diameter)
PM2.5	Particulate matter (less than 2.5 microns in diameter)
RCRA	Resource Conservation and Recovery Act
SAC	Strategic Air Command
SATCOM	Satellite Communications
SF	square feet
SHPO	State Historic Preservation Office
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USSTRATCOM	U.S. Strategic Command
UST	Underground Storage Tank
VOC	volatile organic compound
WG	Wing

1 Purpose of and Need for the Proposed Action

1.1 Introduction

This draft Environmental Assessment (EA) describes the Proposed Action and alternatives related to flood recovery efforts at Offutt Air Force Base (AFB) in Sarpy County, Nebraska. The United States Air Force (USAF) is proposing to rebuild and re-establish those areas of Offutt AFB that were damaged during record flooding that occurred in March of 2019. The base is home to the 55th Wing (55 WG), United States Strategic Command (USSTRATCOM), and the 595th Command and Control Group (595 C2G); which support a constant state of readiness for the National Command Authorities under any contingency or declared national emergency. The 55 WG is the largest wing in Air Combat Command and the second largest in the Air Force. The mission is to provide global reconnaissance, real-time intelligence gathering, command and control, information warfare, electronic attack, world-wide theater weather forecasts, treaty verification and combat support to national leaders and agencies as well as Air Force and joint warfighters. Additionally, the 55 WG provides infrastructure support to over 50 associate units including USSTRATCOM, the 557th Weather Wing, 595 C2G and the Defense Prisoner of War/Missing in Action Accounting Agency (Continental U.S. Annex).

1.2 Project Location and Description

Offutt AFB is located in eastern Sarpy County, Nebraska, approximately 10 miles south of the city of Omaha and adjacent to the city of Bellevue. Offutt AFB lies immediately east of US Highway 75 (US-75), six miles south of its intersection with Interstate Highway 80 (I-80) (Figure 1-1). The installation comprises 4,041 acres and is located in the Missouri River and Papillion Creek watersheds. The area surrounding Offutt AFB includes a mix of residential (including base housing), commercial, industrial, and agricultural areas. This area is part of the Iowa and Missouri Deep Loess Hills Resource Area (SCS 1975), which is generally characterized by rolling hills and bluffs along the Missouri River. The total topographical relief is 270 feet (1,220 feet above mean sea level (msl) in the Missouri River bluffs and 950 feet above msl in the southeast corner). Predevelopment surfaces have been greatly modified by construction activities (USAF 2015B). Offutt AFB has been a military facility for over 100 years. Almost all of the facility has been modified by human development and major land additions have not been made since the mid-1950s.

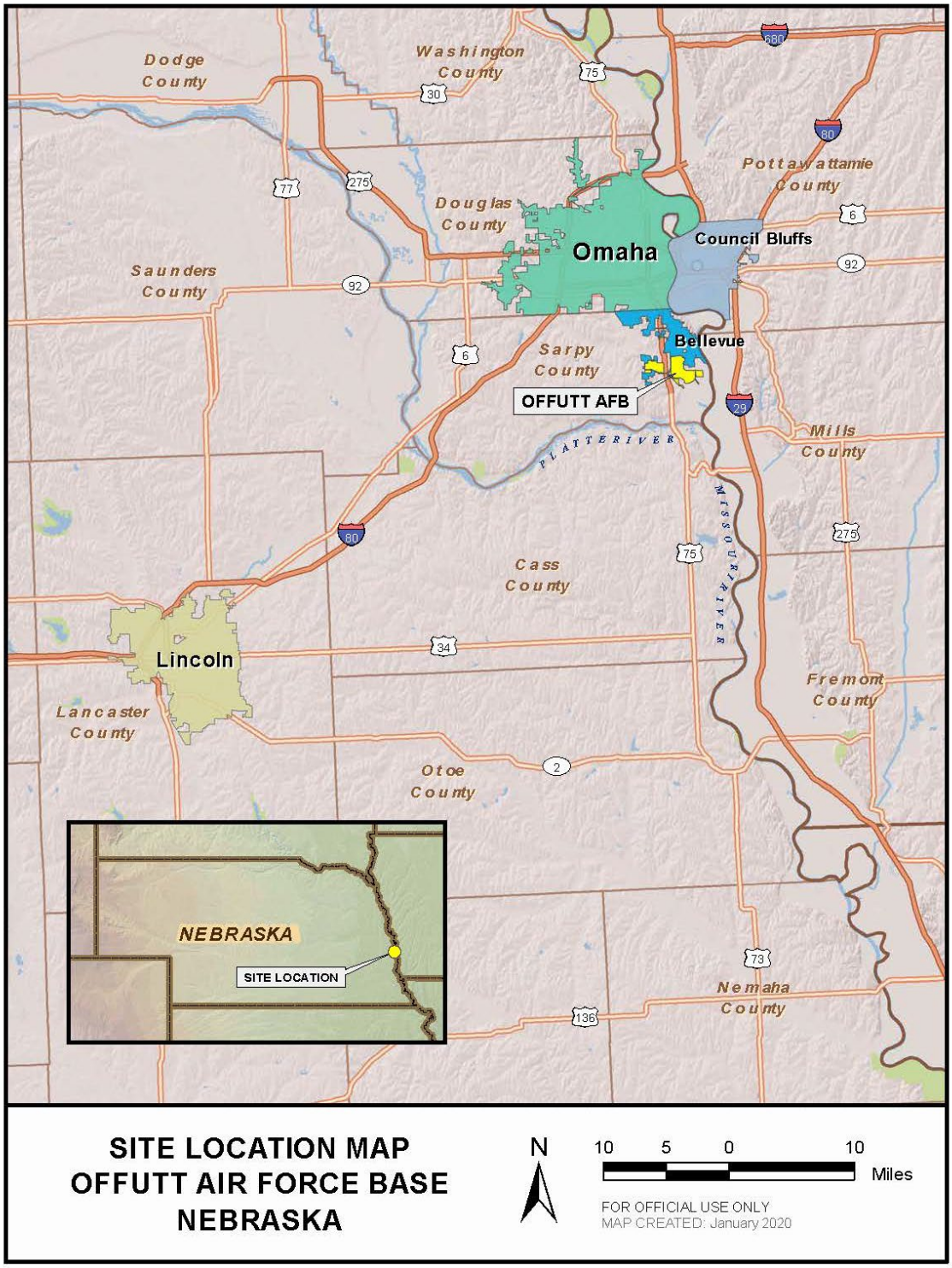

Figure 1-1. Offutt Air Force Base Vicinity Map

1.3 Background

In March 2019, Offutt AFB was inundated with floodwaters as part of a record flood event that occurred in eastern Nebraska, western Iowa, and northern Missouri. Snowmelt, ice storms and heavy rains caused the R-613 Levee at the intersection of the Platte and Missouri Rivers to fail which allowed the river to overrun the R-616 Levee that protects Offutt AFB. These floodwaters overwhelmed the southeastern side of the base with floodwater from the Missouri River and Papillion Creek. Approximately 137 buildings and structures including the headquarters facilities of the 55 WG, 55th Security Forces Squadron, 97th Intelligence Squadron, 343rd Reconnaissance Squadron, the Bennie L. Davis maintenance facility, flight simulators facility, several aircraft hangars including the E-4 Hangar, fuel tanks and other structures were damaged by the floodwaters. Approximately 44 were occupied buildings with office space totaling 1.2 million square feet. Approximately one-third of the base, including everything south and east of the runway, which sits on lower ground, was flooded (Figure 1-2).

Figure 1-2. Typical Conditions on March 20, 2018 Compared to Flooding Extent on March 16, 2019

The facilities remained underwater for weeks after the initial event. Cleanup and evaluation efforts determined some of the facilities could be reclaimed and reutilized. A significant portion of the structures that were examined were determined to be unsalvageable as flood waters soaked the interior walls causing them to retain a significant amount of moisture resulting in severe damage to the underlying walls, floors, ceilings and electrical and communications systems. Some units that were

affected by the flood have moved into temporary spaces in different locations on the base. Some of the lost facilities included aircrew training simulators, causing Offutt AFB to send airmen to Texas and England to receive required simulator training. Initially, about 3,200 personnel were displaced from normal work centers.

1.4 Purpose

The purpose of the Proposed Action would be to recover areas of Offutt AFB damaged by the flood, and to rebuild and re-establish critical facilities and infrastructure in a manner that reduces the risk of future flood damage in order to support the full functioning of missions at Offutt AFB. The purpose would also include consolidating functions that are spread around the installation in a manner not conducive to efficient and effective operational and mission requirements. The lack of consolidation pre-dated the flood in some areas and is a result of relocations due to flooding in other areas. Finally, the purpose of the proposed project would also include ensuring the location, size, and configuration of new facilities and infrastructure support current and anticipated future mission requirements.

1.5 Need

The need for the Proposed Action is evident in the current condition of critical facilities and infrastructure at Offutt AFB that were impacted by the flood. Under current conditions, the mission of Offutt AFB would continue to be negatively impacted by the loss of critical mission and support facilities. Tenant organizations' operational missions would continue to be negatively impacted as they would be forced to continue to operate in a diminished capacity in facilities dispersed across the installation that are undersized, overcrowded, poorly configured and inadequately equipped with the utilities and communications infrastructure necessary for them to successfully accomplish their assigned mission. Prior to flooding, some functions were scattered in different base areas (e.g. the flightline Maintenance facilities, Alert facilities). As many facilities were damaged by flooding, it would also be an opportune time to serve the need to right-size, consolidate and realign functions for more effective and efficient operations. The need for the Proposed Action would be supported by the following:

- The March 2019 flood destroyed existing critical facilities and infrastructure that support tenant and host organizations.
- The existing disbursed nature of functions degrade mission capability.

A description of the general existing conditions of damaged facilities and infrastructure follows in order to further explain the need for the Proposed Action.

1. **Alert Facilities** – The Alert facilities provide a secure alert force complex for the Joint Staff National Airborne Operations Center mission, 595 C2G, the USSTRATCOM Airborne National Command Post (ABNCP) and the National Airborne Operations Center. The aircraft and crew are on alert 24/7 to ensure survivable, endurable, and reliable communications from the President and Secretary of Defense to the Nation's Nuclear Triad of strategic weapons delivery systems. The existing alert facilities were impacted by the flood event. Adequate and efficiently configured facilities are required to provide a secure alert force complex. Alert crew and support personnel currently have diminished operational capabilities at Offutt AFB. Improvised facilities utilized during disaster recovery inefficiently displace and separate personnel, functions and training. Prior to the flood, the alert facilities were spread throughout the base in seven different buildings, hindering the ability to provide the best alert response. The prior existing facilities were also not sized or configured adequately to accommodate requirements.

2. **Satellite Communications** – Satellite Communications (SATCOM) provides the President, Secretary of Defense and the U.S. Armed Forces with assured, survivable satellite communications with low probability of interception and detection and is designed to overcome enemy jamming and nuclear effects. Consolidated SATCOM Satellite communications are needed because the current SATCOM facility is operating in a diminished capacity in its current location as the existing facilities were destroyed by the flood.
3. **Flying and Intelligence Operations Facilities** – The current facilities were damaged by the flood event and the functions are currently dispersed across the installation. Functions include the Language Learning Center, Simulators, controlled space, and squadron operations facilities. They are operating in a diminished capacity in facilities that are overcrowded and poorly configured to meet their assigned mission. There is a need to provide mission planning space, language training, simulators and proficiency training in an efficient, consolidated environment.
4. **Security Forces Facilities** – The flood event severely impacted security facilities, and they were among the hardest hit by the flood. Military working dog facilities and the existing firing range were among the functions that were damaged. The security function is currently operating out of temporary quarters that do not provide for efficient operations. The current conditions are causing an increase in time spent on patrolling and securing the base.
5. **Flightline Facilities** – Facilities associated with the flightline include aircraft and support equipment fuel servicing such as de-icing, fluids storage and dispensing, and liquid oxygen. Multiple buildings serving these functions were impacted by the flood event, and prior to the flood, there was an existing need to right-size, consolidate and realign functions for more efficient operations. Cohesive flightline facilities are needed to consolidate function, reduce trip time for servicing aircraft, simplify deliveries from vendors and reduce foreign object damage hazard.
6. **Logistics Facilities** – Numerous existing logistics facilities were damaged by the flooding event. These included storage buildings, loading docks, base supply warehouse, logistics and administration areas, shipping and receiving operations areas, open storage areas, hazardous storage and recycling areas, loading and uploading aprons. As a result, these operations had to be relocated temporarily to facilities that do not meet their mission requirements.
7. **Emergency Power Generation** – The emergency power grid provides sufficient back up generation for critical facilities during a commercial grid outage. The existing infrastructure was damaged by the flood. There is also a need to resize and reconfigure the system and associated commercial and emergency power distribution infrastructure to better serve and isolate new and existing facilities and critical loads. There is also a need to meet energy capacity to provide full mission support during prime power failure.
8. **Base Lake Facilities** – Due to flood damage, facilities are not functional in their current condition. The Family Camp provides important recreational opportunities to local service members and their families, and also accounts for a large contribution to Category C revenue generation, thereby funding other important programs on base. A large portion of the facilities are unsalvageable as flood waters have soaked walls, floors, ceilings, and electrical and communications systems. The excessive moisture is the main contributing factor to the widespread mold growth that has begun to cover the interiors of buildings and will continue to overtake the facilities as the weather warms in the spring and summer. There has also been road damage in the vicinity of the base lake and some areas of riprap bank stabilization were washed out along the lake shoreline.

1.6 NEPA Compliance Requirements

The USAF is the lead federal agency and the decision-maker for this NEPA process. The EA has been prepared in accordance with NEPA of 1969 (Public Law (PL) 91-190); the President's CEQ regulations (40 Code of Federal Regulations [CFR] 1500-1508); 32 CFR 989, the EIAP; Planning Requirements in EIAP Guidance; and the USAF EIAP Desk Reference. The information presented in the EA serves as the basis for deciding whether the Proposed Action would result in significant impacts to the human environment requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant impacts would occur, in which case, a Finding of No Significant Impact (FONSI) would be appropriate. If it is determined that the execution of the Proposed Action would involve "construction" in a wetland, as defined in Executive Order (EO) 11990, *Protection of Wetlands*, or "action" in a floodplain under EO 11988, *Floodplain Management*, a Finding of No Practicable Alternative (FONPA) would be prepared in conjunction with the FONSI.

The potential direct, indirect, and cumulative physical, environmental, cultural, and socioeconomic effects of the Proposed Action and the No Action Alternative will be analyzed in the EA. A detailed description of the Proposed Action is provided in Section 2.1.

This EA evaluates the potential impacts of implementing the Proposed Action and alternatives. Resource categories described and evaluated in the EA include: land use, air quality, noise, topography, geology and soils, water resources, biological resources, including vegetation, wildlife, and endangered and threatened species, cultural resources, health and safety, infrastructure, and hazardous materials and wastes.

Implementation of the Proposed Action would involve coordination with several state, local, and federal entities. Adherence to the requirements of specific laws, regulations, BMPs and necessary permits are described under each resource section in Chapters 3 and 4.

1.7 Intergovernmental and Stakeholder Coordination

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) is a federally mandated process for informing and coordinating with other governmental agencies regarding federal actions. CEQ regulations require intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the IICEP process, the USAF notifies relevant federal, state, and local agencies and allows them sufficient time to make known their environmental concerns specific to a Proposed Action. Comments and concerns submitted by these agencies during the IICEP process are subsequently incorporated into the analysis of potential environmental impacts conducted as part of the EA. This coordination fulfills requirements under EO 12372 (superseded by EO 12416 and subsequently supplemented by EO 13132), which requires federal agencies to cooperate with and consider state and local views in implementing a federal proposal. It also constitutes the IICEP process for the EA. Federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action have been notified and consulted during the development of the EA including: the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency (EPA), the Federal Aviation Administration, the Nebraska State Historic Preservation Office (SHPO), the Nebraska Department of the Environment and Energy (NDEE) and the Nebraska Game and Parks Commission (NGPC). Other entities/stakeholders notified include the Papio-Missouri River Natural Resources District, the city of Bellevue, Nebraska, and Sarpy County, Nebraska. Correspondence is provided in Appendix A.

The USAF invites public participation in decision-making on new proposals through the NEPA process. The USAF as the lead agency, will publish and distribute the draft EA and the draft FONSI/FONPA for a 30-day public review and comment period, as announced by a Notice of Availability in the *Omaha World Herald* and *Bellevue Leader* newspapers.

The National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800) require federal agencies to consult with stakeholders, including federally-recognized Native American tribes when an undertaking has the potential to adversely affect properties of religious and/or cultural significance to Native American tribes. In addition, under Department of Defense (DOD) Instruction 4710.02, *Interactions with Federally-Recognized Tribes,* federally-recognized tribes historically affiliated with lands in the vicinity of proposed and alternative actions have been invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to tribes.

The tribal consultation process is distinct from the NEPA interagency coordination process and requires notification specific to consultation. The tribal governments that have been consulted with regarding the Proposed Action are listed, along with correspondence, in Appendix A. Tribes were asked for input on any concerns or information of traditional resources within the proposed project area potentially impacted by the Proposed Action. Upon request from the Ponca Tribal Historic Preservation Officer (THPO) copies of previously conducted cultural surveys on Offutt AFB were shared as noted in Appendix A.

2 Proposed Action and Alternatives

This section provides a description of the Proposed Action and alternatives to the Proposed Action that were considered in the planning process.

2.1 Proposed Action

The Proposed Action would re-establish critical facilities and infrastructure to support the full functioning of Offutt AFB and would consolidate functions that were spread around Offutt AFB prior to the flood. The Proposed Action would also consolidate related functions into eight different campuses that would allow for more effective and efficient operations. The Proposed Action would also involve demolishing damaged structures and constructing new facilities and infrastructure in each of the functions that experienced flood damage. Overall, there would be approximately 61 buildings demolished, 22 buildings repaired, and 21 new buildings constructed. The new buildings would consolidate the function of the buildings that would be demolished. Utility needs and locations would be determined in final design; however, it is anticipated that utility work would occur within the Proposed Project Area identified in Figure 2-1 or in other areas that have already been developed. The approximate locations of proposed new buildings and demolition are provided in Figures 2-1, 2-2, and 2-3. Non-mission critical buildings would be constructed two feet higher than the flood elevation 972 msl. Mission-critical facilities would be constructed three feet higher than the flood elevation. Approximately 560,000 cubic yards of new fill would be required in order to raise buildings to the minimum requirements. It should be noted that although some facilities may be moved or reconfigured in final design, the changes would occur within the Proposed Project Area as identified in Figures 2-1, 2-2, and 2-3. The square footage of proposed new structures is provided under each campus description.

The potential square footage of buildings listed below is approximate, and may be expanded during final design in some instances in order to ensure industry standards for operations/floor space are achieved.

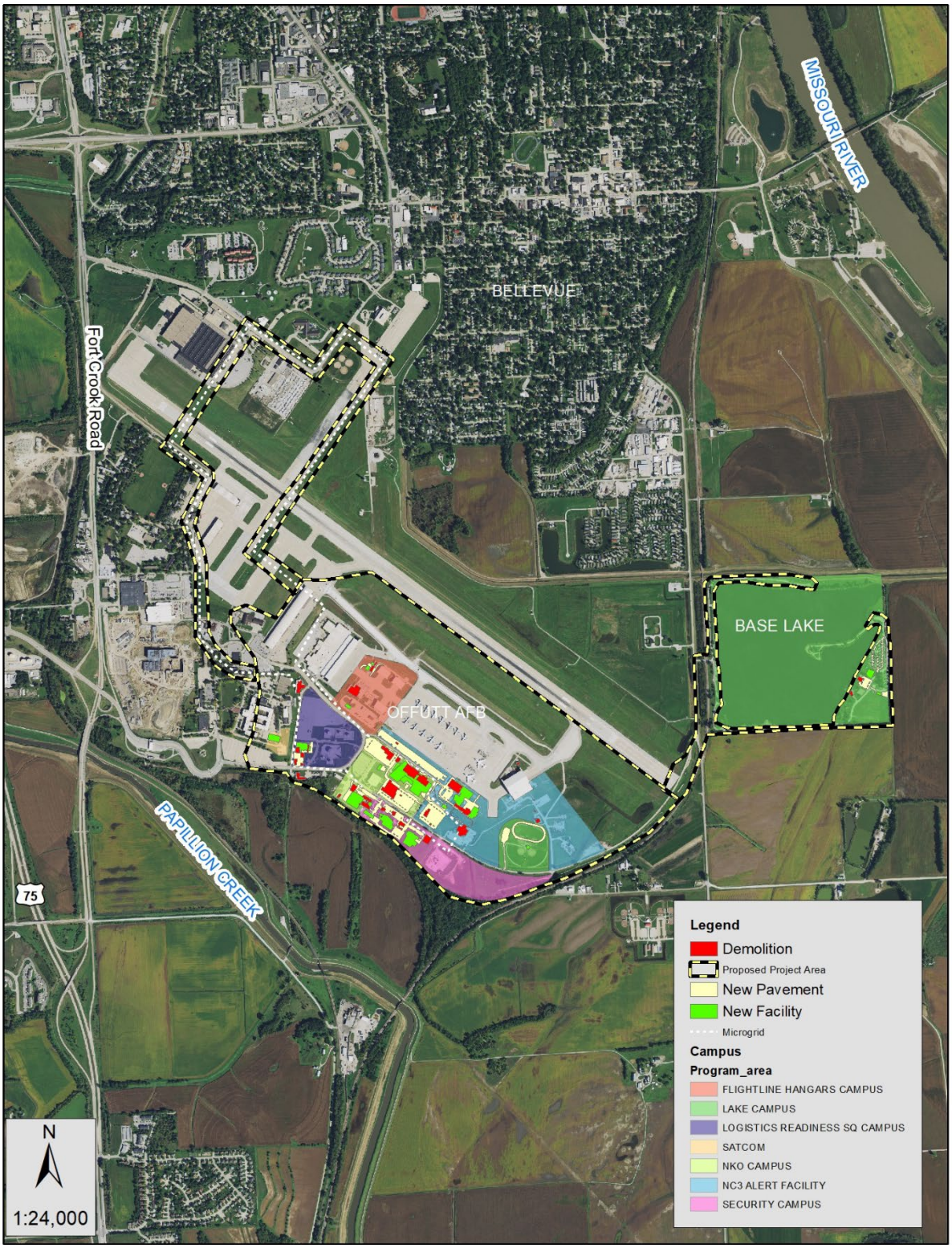

Figure 2-1. Overview of the Proposed Action

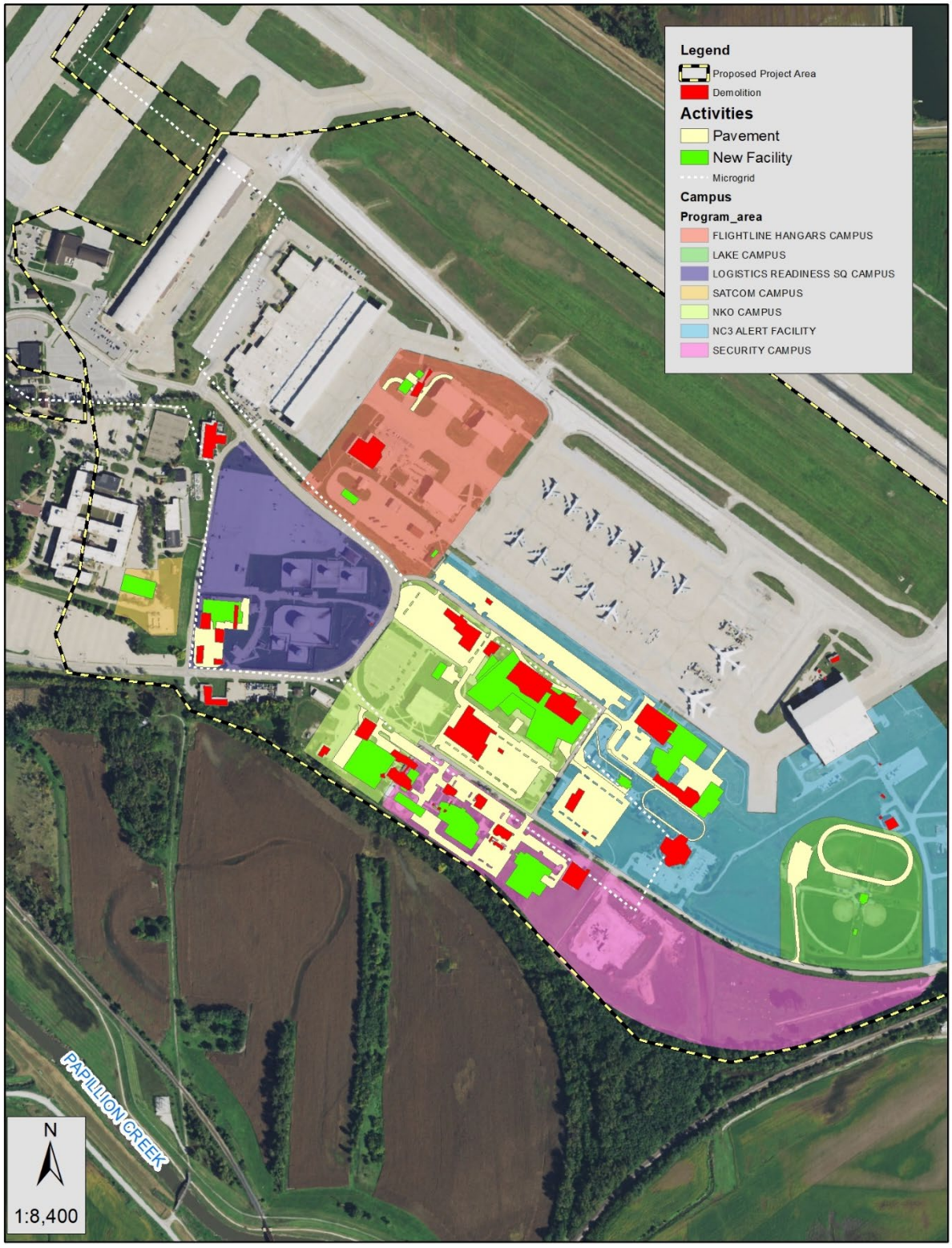

Figure 2-2. Proposed Action Main Campuses and Activities

Figure 2-3. Proposed Action Base Lake Campus Activities

Nuclear Command, Control, and Communication (NC3) Alert Campus – Activities at the NC3 Alert campus would involve constructing a two-story alert facility, a one-story aircraft maintenance/spares storage building, a one-story survival, evasion, resistance, and escape facility, an aircrew flight equipment facility, and a one-story simulator building for a total of approximately 170,000 square feet (SF) of new construction. Backup power generators would also be required, and would be powered by a new diesel fuel line looped from the flightline campus. Supporting construction would include parking areas, road realignment, site grading, security fencing, utilities and connections including placement of utility infrastructure for water, underground electrical, communications, site lighting, sanitary sewer and other site improvements. Activities would also include demolishing 10 buildings (approximately 112,000 SF) that were damaged by the flood. It is estimated that seven above ground storage tanks (ASTs) and six underground storage tanks (USTs) would need to be removed as part of activities on the NC3 Alert campus (see Table 4-5 in Section 4.9.1 for tank details) Construction activities on the NC3 campus would occur from May of 2021 through May of 2023.

SATCOM– Activities would include constructing a consolidated SATCOM station with adjacent antennae farm. Primary facilities would include a communications facility, special foundations, and redundant power generators. The communication facility would include administrative areas with a controlled space and corresponding, six-sided, High Altitude Electromagnetic Pulse shield totaling approximately 40,000 SF. Supporting construction would include site development, utilities and connections such as placing utility infrastructure for water, underground electrical and site lighting, communications, sanitary sewer, and substantial retaining walls, parking realignment and additions, walkways, and other site improvements. Construction activities on the SATCOM campus would occur from January of 2022 through January of 2024.

Non-Kinetic Operations Campus – Activities in the Non-Kinetic Operations (NKO) area would include constructing an approximately 420,000 SF NKO Facility, an approximately 4,400 SF Courier Station building, and a SERE/AFE facility at approximately 48,000 SF. Backup power generators would also be required and would be powered by a new diesel fuel line looped from the flightline campus. Other activities would include associated utilities infrastructure, road realignment, parking, and security fencing. Nine buildings damaged by the flood would be demolished in this area (approximately 147,000 SF). Construction activities on the NKO campus would occur from February of 2022 to February of 2026.

Security Campus – Activities in this area would include constructing a new approximately 45,000 SF facility for a Security Forces Operations Center. This facility would replace existing facilities that were flooded and damaged beyond repair. Activities would also include replacement of 6,000 linear feet (LF) of chain-link boundary fence that was damaged by flooding. Facilities would also include an approximately 31,000 SF Indoor Small Arms range which would also house a Combat Arms training facility (approximately 10,200 SF). Additional facilities include a Military Working Dog Kennel with a covered canopy (approximately 14,500 SF), and a one-story storage facility warehouse (approximately 5,100 SF). The old small arms range berm would be removed from the site and any environmental contamination would be remediated. It is estimated that four ASTs and three USTs would need to be removed. Backup power generation would be provided with diesel ‘day tanks’. There would be demolition of 17 flood damaged buildings in this area (approximately 88,240 SF). Construction activities on the Security campus would occur from June of 2021 through June of 2023.

Flightline Campus – Activities in this area would consolidate various functions that were previously spread around the area in a manner unconducive to efficient operation and mission accomplishment. The Proposed Action would include demolishing buildings that were flood damaged beyond repair and locating them in the flightline campus. Building 585 (Petroleum Operations Facility) would be demolished and rebuilt to better align with the Installation Development Plan and remove it from the flightline area (approximately 4,800 SF). Additional replacement facilities would include a consolidated LOX storage facility (approximately 4,800 SF), a de-icing liquid storage facility (approximately 1,100 SF), and a supply and equipment storage facility (approximately 1,900 SF). These facilities would also be constructed in the flightline campus for improved adjacency to operations. Approximately 18,500 SF of damaged facilities would be demolished along with an aircraft test cell that is no longer used. It is estimated that two ASTs would need to be removed as part of construction activities. A total of 13 buildings would be demolished. Construction activities on this campus would occur from May of 2021 through November of 2022

Logistics Readiness SQ Campus – Activities in this area would include constructing a consolidated LRS warehouse with loading docks (approximately 27,000 SF), and an open storage area (approximately 64,000 SF). The Proposed Action would demolish approximately 25,000 SF of existing substandard warehouse space and other facilities (eight buildings). Supporting facilities would also be constructed including underground utilities (water, sewer, and gas), electric service, paving, sanitary sewer system, storm drainage, roadway and parking realignment, security fencing and gates, and other site improvements. Construction activities would occur from July of 2021 through January of 2023.

Emergency Power Microgrid – Activities would include replacing lost power generation capability and the associated distribution infrastructure in or near the existing power plant to provide backup generation capability. The system and associated infrastructure would be resized and reconfigured to better serve new and existing facilities. The plan for new generators would be to spread them in strategic locations and tie them back to a control system. The generators would provide redundancy and resiliency to meet energy capacity to provide full mission support during prime power failure. The microgrid would tie together NC3 Alert, NKO, SATCOM/SATCOM, Security campuses, LRS campus, flightline campus, and the 557th Weather Wing. Once the microgrid is functioning, the existing power plant would be demolished (approximately 15,000 SF). The activities would take place within the Proposed Project Area as identified in Figure 2-1. Construction activities would occur from May of 2022 through October of 2023.

Lake Campus – Activities in this area would include constructing a new consolidated recreational facility (approximately 10,200 SF) and would also include a reception hall, equipment rental and check-out, restrooms, laundry, shower facilities, snack bar, kitchen, dining room, mechanical room and supporting infrastructures. It would also include a maintenance shed (approximately 3,000 SF). The construction would include all HVAC, electrical, communications, plumbing and ADA requirements, retaining walls, railings and sidewalks and pavements. The finished floor elevation of the Recreation Facility would be raised two feet above the flood elevation to reduce the risk of future flooding. This would necessitate ramps, rails, and retaining walls. The softball complex building would also be replaced (approximately 2,600 SF). There would also be repair of some supporting facilities (family camping area, RV pads and power pedestals) required due to flood inundation. Supporting construction would include: site development, utilities including placement of utility infrastructure for water, underground electrical, site

and athletic field lighting, communications, sanitary sewer, large retaining walls, parking realignment and additions, walkways, and other site improvements. Water line replacement for upsizing may be required due to inadequate fire flow in the area. The entire roadway access to the site was severely damaged by floodwaters and would need to be milled and resurfaced. Four buildings would be demolished in this area (approximately 10,800 SF). Two existing playgrounds would also be removed and eventually replaced. Construction activities would occur from July 2021 through January 2023.

2.2 Selection Standards

In accordance with 32 CFR Section 989.8(c), selection standards were develop to establish a means of determining the reasonableness of an alternative and whether an alternative should be carried forward for further analysis in the EA. Consistent with 32 CFR Section 989.8(c), the following selection standards meet the purpose and need for the Proposed Action were used to identify reasonable alternatives for analysis in the EA:

- Re-establish critical facilities and infrastructure damaged by the flood to support the full functioning of operations and missions at Offutt AFB.
- Ensure the location, size, and configuration of new facilities and infrastructure support current and anticipated future mission requirements.
- Design the overall project to align with the Installation Development Plan.
- Rebuild facilities on higher ground where possible, reducing the risk of damage from future flooding.
- Locate campuses near the flightline (with the exception of the lake campus) to promote efficient and effective mission execution.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

Planning efforts identified potential means of meeting the project's purpose and need. Similar to the Proposed Action, another alternative (hereafter referred to as Alternative 1) identified through the planning charrettes would also include eight campuses with consolidated functions (Figure 2-4). Alternative 1 would include repairing, demolishing, or replacing structures in each of the eight campuses as described under the Proposed Action; however, the size, location, and configuration of some buildings have been modified under the Proposed Action to better achieve the project objectives. The main difference would be that the SATCOM infrastructure would be located further north on the installation away from other campuses under Alternative 1. This alternative was eliminated from detailed analysis because it was determined that this location would not support the SATCOM mission requirements. Specifically, this location does not allow the communication network look angles needed to see the front underside of parked aircraft and the entire runway, thereby not supporting SATCOM mission requirements. These reasons are associated with the Purpose of the Proposed Action and Selection Standard #2. The Proposed Action would move the SATCOM infrastructure closer to the other campuses.

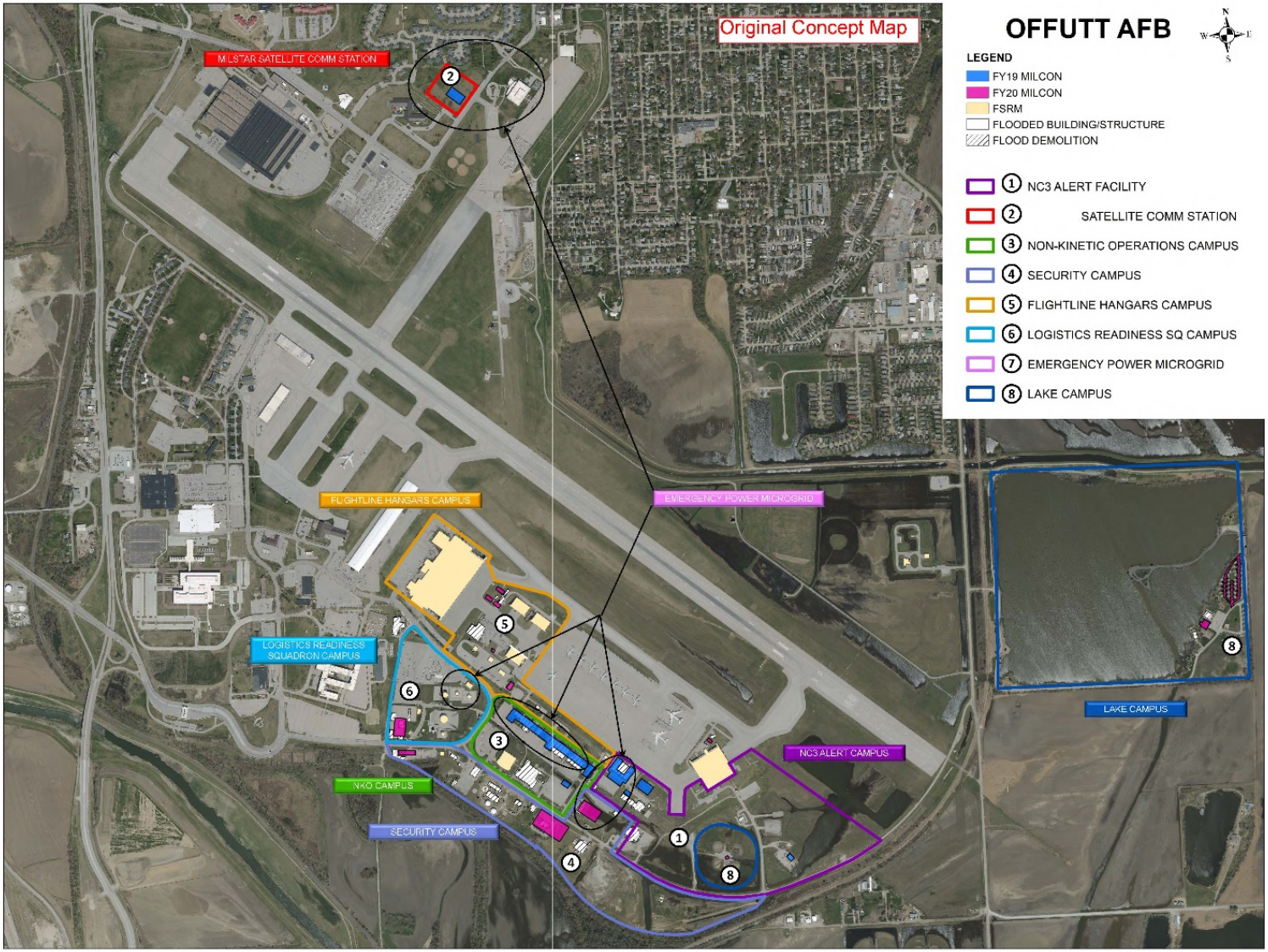

Figure 2-4. Alternative 1

Because it was necessary to consolidate function and be located near the flightline in order to ensure that current and future mission requirements are met, options for re-establishing critical facilities and infrastructure were relatively limited. Siting would need to be near the flightline and other existing facilities and infrastructure where feasible. Therefore, the Proposed Action and the No Action Alternative were carried forward for detailed analysis.

A comparison of the relative performance of each alternative against selection standards is provided in Table 2-1.

Table 2-1. Comparison of Alternatives with Selection Standards

Selection Standard	No Action	Alternative 1	Proposed Action
Re-establish critical facilities and infrastructure damaged by the flood to support the full functioning of operations and missions at Offutt AFB.	This alternative would not repair or rebuild facilities; therefore, it would not meet this selection standard.	This alternative would meet this standard through re-establishing critical facilities and infrastructure damaged by the flood.	The Proposed Action would meet this standard through re-establishing critical facilities and infrastructure damaged by the flood.
Ensure the location, size, and configuration of facilities and infrastructure support current and anticipated future mission requirements	This alternative would not repair or rebuild facilities; therefore, it would not meet this selection standard.	This alternative would not fully meet this standard because the SATCOM location would be further from other campuses and would not allow for the correct communication system look angles.	The Proposed Action would fully meet this standard. It would ensure the location, size and configuration of facilities and infrastructure meet current and anticipated future mission requirements.
Align with the Installation Development Plan	This alternative would not repair or rebuild facilities that are included in the Installation Development Plan; therefore it would not meet this selection standard.	This alternative would be aligned with the Installation Development Plan.	The Proposed Action would be aligned with the Installation Development Plan.

Rebuild on higher ground, reducing the risk of future flooding	This alternative would not repair or rebuild facilities; therefore, it would not meet this selection standard.	This alternative would re-establish new facilities on higher ground, raising non-mission critical buildings two feet above the flood elevation and mission critical buildings three feet above the flood elevation.	The Proposed Action would re-establish new facilities on higher ground, raising non-mission critical buildings two feet above the flood elevation and mission critical buildings three feet above the flood elevation.
Locate campuses near the flight line to promote efficient and effective mission execution	This alternative would not repair or rebuild facilities; therefore, it would not meet this selection standard.	This alternative would not fully meet this standard because the SATCOM campus would be located further from the flightline and other campuses.	The Proposed Action would fully meet this standard by locating all of the campuses near the flightline.

2.4 No Action Alternative

Under the No Action Alternative, new facilities and infrastructure would not be constructed and Offutt AFB would continue to operate in a diminished capacity. Displaced functions would continue to operate in facilities that do not fully support mission effectiveness as described in Section 1.5. This alternative would not fully meet any of the selection standards identified in Section 2.2 and Table 2-1.

2.5 Summary of Potential Environmental Consequences

The potential impacts associated with the No Action Alternative and the Proposed Action are summarized in Table 2-2. The summary is based on the information discussed in detail in Chapter 4 (Environmental Consequences) of the EA.

Table 2-2. Summary of Potential Environmental Consequences

Resource	Proposed Action	No Action
Land Use	Short-term, minor, adverse, localized, less-than-significant impacts to land use on Offutt AFB that would occur as a result of construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Air Quality	Short-term, minor, adverse, localized, less-than-significant impacts to air quality would occur from a temporary increase in dust generation from construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Noise	Short-term, negligible to minor, adverse, localized, less-than-significant impacts to the noise environment would occur from construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Topography, Geology, and Soils	No effect to geology or prime farmland would be expected. There would be short-term, minor, localized, adverse, less-than-significant impacts to soils and topography from construction activities. Placement of fill to raise structures would modify the topography for the long-term, but this is not considered to be an adverse effect.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

Water Resources	Short-term, negligible, localized, adverse, less-than-significant effect to surface waters and connected groundwater from a temporary increase in construction-related runoff would occur. Long-term, negligible, localized, adverse, less-than-significant effect to wetlands from filling approximately 0.87 acres of non-jurisdictional stormwater drainage ditch wetlands would occur. There would be no effect to the floodplain as the Proposed Action is landward of the existing levee.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Biological Resources	There would be no effect to the pallid sturgeon, piping plover, least tern, prairie fringed orchid, or river otter. The Proposed Action may affect, but is not likely to adversely affect the northern long-eared bat. There would be potential short-term, negligible, localized less-than-significant effect to vegetation and wildlife species that inhabit vegetation in the proposed project area.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

Cultural Resources	There would be no adverse effects to eligible historic properties or archeological resources.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Hazardous Materials and Waste	Short-term, negligible to minor, adverse, localized, less-than-significant effect would occur from the use of hazardous materials and the generation of hazardous wastes during demolition, site preparation, and construction. Short-term, negligible to minor, adverse, less-than-significant impacts would occur from construction activities adjacent to or coincident with Environmental Restoration Program (ERP) sites and from removal of USTs and ASTs.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Health and Safety	Short-term, minor, adverse, less-than-significant impacts to contractor health and safety in carrying out construction activities would occur. There would be no effect to mission safety or public safety.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter. The health and safety risk posed by existing flood damaged buildings would persist.

Infrastructure	Short-term, minor, adverse, less-than-significant impacts from construction activities causing a temporary increase in truck traffic on local highways and roads would occur. There would be no adverse effect to Offutt AFB infrastructure.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

3 Affected Environment

Existing environmental conditions could be affected by the Proposed Action and alternatives. The existing conditions for relevant resources are defined to provide a meaningful baseline from which to compare potential future effects. In this chapter, each resource is defined followed by a description of the existing conditions for that resource. The anticipated geographic scope of potential consequences is unique to each resource and is described in each section.

3.1 Resources Eliminated from Detailed Analysis

In compliance with NEPA, CEQ NEPA regulations and USAF EIAP guidelines, this EA focuses only on those environmental resources considered potentially subject to impacts from the Proposed Action. These environmental resources are land use, air quality, noise, topography/geology/soils, water resources, biological resources, cultural resources, hazardous materials and waste, health and safety, and infrastructure. Airspace, socioeconomics, and environmental justice are not analyzed in detail in this EA because potential impacts would clearly be insignificant, or no impacts would occur. The following paragraphs explain why these resources were dismissed from detailed analysis in this EA.

Environmental Justice. E.O. 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations and E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks, requires that all federal agencies address the effects of policies on minorities, low-income populations, and children. All proposed construction activities associated with the Proposed Action would be contained within Offutt AFB boundaries. The Proposed Action would not significantly impact on- or off-base communities including the Offutt AFB Child Development Center located approximately 5,900 feet north of the proposed project area. Therefore, no populations (minority, low-income, or otherwise) would be disproportionately or adversely impacted and no adverse impact with regard to environmental justice would occur. Implementation of the Proposed Action would not result in increased exposure of children to environmental health risks or safety risks such as those associated with the generation, use, or storage of hazardous materials. Standard construction site safety precautions (e.g. fencing and other security measures) would reduce the potential risks to minimal levels and any potential impacts to children would be negligible and short-term. Therefore, environmental justice is not analyzed in-detail in Chapters 3 and 4.

Airspace. The Proposed Action at Offutt AFB would have no impacts on airspace. The proposed buildings would be sited to prevent airspace conflict and would not require changes to existing airspace

configurations (i.e. size, shape, or location) or changes to the manner in which the existing airspace is used. Additionally, no changes to the number or type of aircraft, aircrew or support personnel assigned would be associated with the Proposed Action. The Proposed Action would not require changes to the number of takeoff and landings, the time of day of these activities nor flight profiles. As such, further analysis of airspace impacts is unnecessary for this EA.

Socioeconomics. The Proposed Action would not have significant adverse impacts to socioeconomics. It is not anticipated that a large number of new personnel would be permanently added to Offutt AFB as part of the Proposed Action; therefore, no appreciable change to the local population and demand for public/social services would occur. Beneficial impacts on the local economy would occur from the sale of construction materials and employment of local construction workers. Therefore, socioeconomics are not analyzed in-detail in Chapters 3 and 4.

3.2 Land Use

Land use refers to property classifications that indicate either natural conditions or the types of human activities occurring on a parcel. In many cases, land use descriptions are codified in master planning and local zoning laws; however, there is no nationally recognized land use naming convention or terminology. As such, land use descriptions, labels, and definitions often vary by jurisdiction. Land use planning in the USAF is guided by Air Force Instruction (AFI) 32-1015*, Integrated Installation Planning*. The proposed redevelopment activities would be located on land owned by the USAF within the boundary of Offutt AFB. The base is made up of 11 distinct land use categories. The main base is divided by the airfield and runway, with one base road connecting the north side of the base with the south side. The north side of the base is a mixture of various land uses, from industrial to family housing (USAF 2018a). The south side of the base is a mixture of land uses as well, ranging from administrative to recreational lands uses. As defined by *Installation Development Plan for Land Use* (USAF 2018a), the proposed project area would include land uses categorized as: Administrative, Aircraft Operations and Maintenance, Airfield Clearance, Airfield Pavements, Community Commercial, Community Service, Housing (accompanied), Industrial, Medical, Open Space, Outdoor Recreation, and Lake/Pond. Figure 3-1 displays the land-use types on Offutt AFB in relation to the proposed project area.

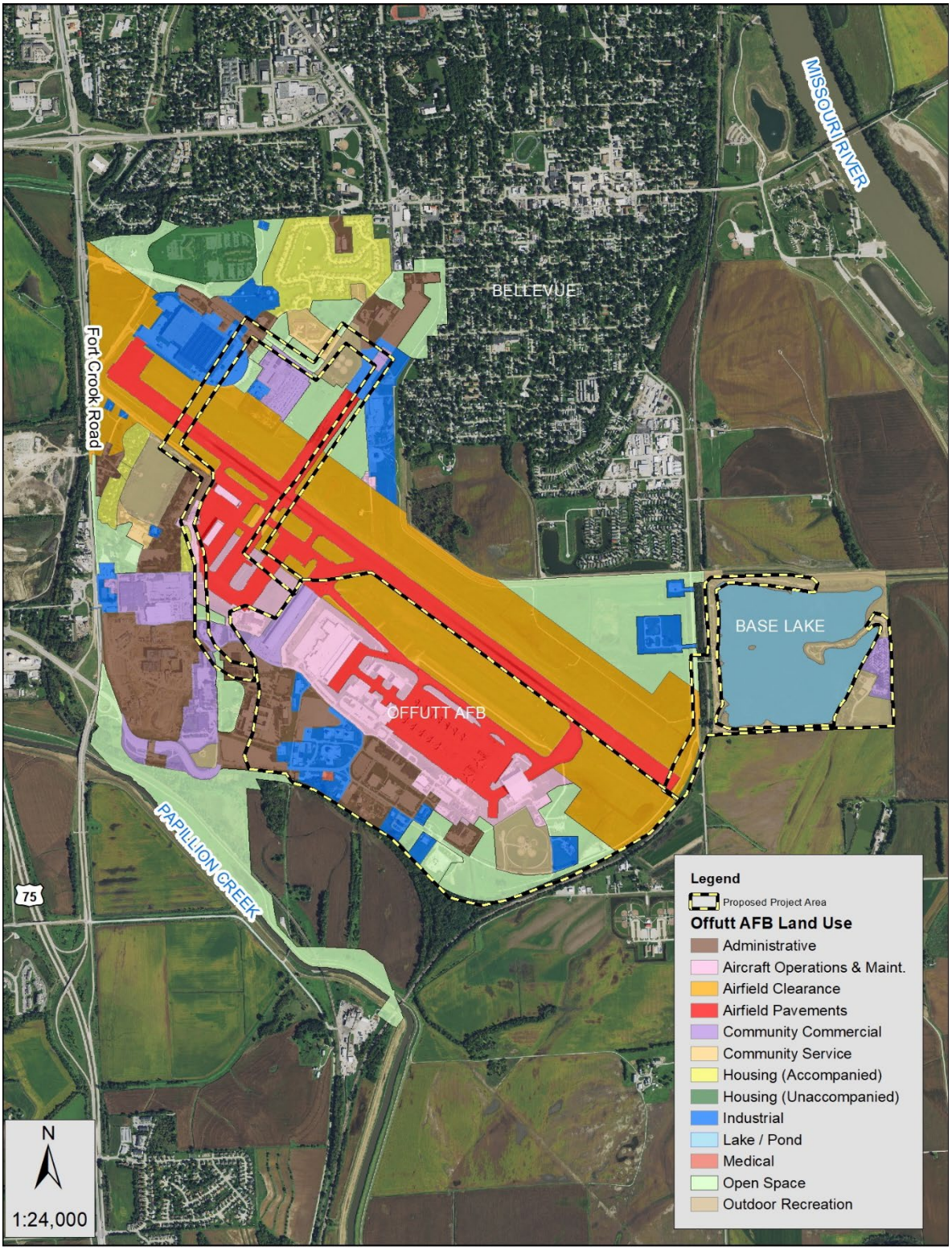

Figure 3-1. Land Use in the Proposed Project Area

Offutt AFB is adjacent to the city of Bellevue, NE and is surrounded by a mixture of land uses that primarily include agricultural and undeveloped fields as well as residential areas to the north of the base. The land adjacent to the eastern side of the main base is largely agricultural and open space. The land west of US Route 75, surrounding the base housing area, is primarily residential. The land to the north and northeast of the main base is also largely residential and this development extends to the fence line of the installation in some areas. The land to the south and southeast is largely agricultural and open space (USAF 2018a). Figure 3-2 provides projected future land use categories which include areas of potential future industrial uses south of Offutt AFB in addition to the previously mentioned land use categories.

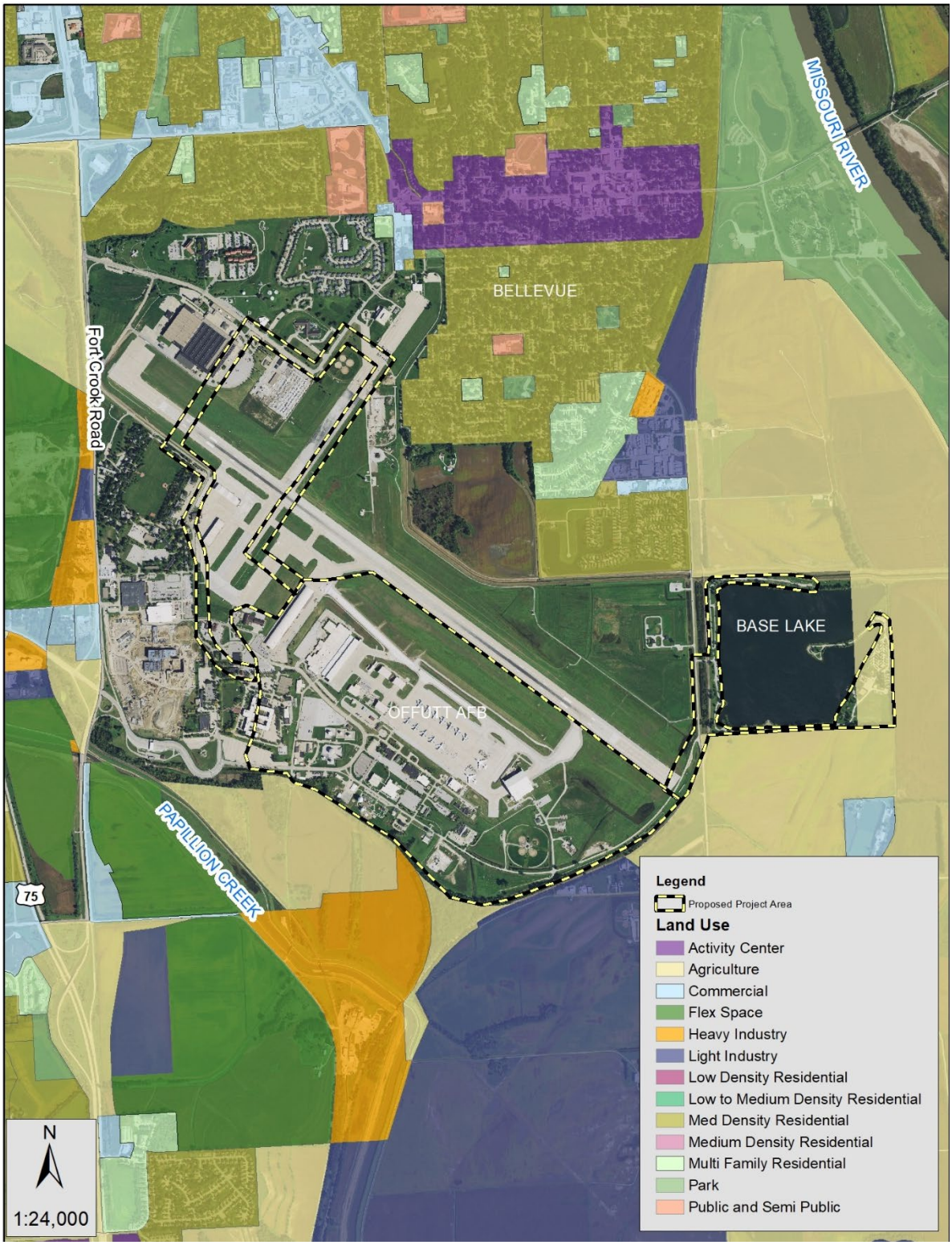

Figure 3-2. Sarpy County Planned Future Land Use

3.3 Air Quality

The air quality of a region is defined and monitored by the EPA and is based on concentrations of various pollutants in the atmosphere typically measured in parts per million or micrograms per cubic meter. Air quality is influenced by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and prevailing meteorological conditions. Air pollutants are generated by a variety of sources including factories, power plants, vehicles, airplanes, fire, and windblown dust from natural sources and from human activities such as construction.

3.3.1 Ambient Air Quality Conditions

To facilitate a quantitative assessment of an area's compliance with the Clean Air Act (CAA), the EPA developed National Ambient Air Quality Standards (NAAQS) that establish a maximum concentration for seven common criteria pollutants that can affect human health or harm the environment.

- Carbon monoxide (CO)
- Nitrogen dioxide (NO2)
- Ozone (O3)
- Particulate matter measuring less than 10 microns in diameter (PM10)
- Particulate matter measuring less than 2.5 microns in diameter (PM2.5)
- Sulfur dioxide (SO2)
- Lead (Pb)

The Proposed Action would be located within Sarpy County which is designated by the EPA as being in attainment for all criteria pollutants. Local sources for emissions include vehicle, industrial activities, fugitive dust from agricultural areas, and aircraft operations.

Air compliance for Offutt AFB comes under the purview of the CAA as amended (42 United States Code (USC 7401 et seq.) and the regulations promulgated under its authority (40 CFR, Subchapter C, Parts 50-99). The responsibility for CAA programs have been delegated to the state of Nebraska, with the NDEE serving as the compliance agency. NDEE has promulgated regulations under Title 129- Nebraska Air Quality Regulations. The USAF has implemented Air Force Policy Directive (AFPD) 32-70, Environmental Quality, by identifying USAF requirements for an air quality compliance program in AFI 32-7040, *Air Quality Compliance*. This AFI provides guidance for compliance with applicable DOD directives and federal, state, and local standards for air quality.

Offutt AFB is located in the Omaha-Council Bluffs interstate Air Quality Control Region which includes the counties of Douglas and Sarpy in Nebraska and Pottawattamie in Iowa. This region is in attainment for all NAAQS.

Actual emissions at Offutt AFB are below all major source thresholds, but major source evaluation is based on a facility's potential to emit air pollutants, not its actual emissions. Offutt AFB is considered a major stationary source of NO_2, CO, and volatile organic compounds (VOCs), but is not considered a major source of hazardous air pollutants (HAPs). As such, Offutt AFB is required to obtain a Class II Synthetic Minor Air Operating permit from NDEE for its stationary emission sources, but the National Emission Standards for Hazardous Air Pollutants (NESHAP) are not applicable, except for the Asbestos NESHAP, since Offutt AFB is not a major source for HAPs.

Stationary emission sources on Offutt AFB include combustion emissions from boilers and furnaces, combustion emission from electrical power generators and fire pumps, combustion emissions from the fire training facility, evaporative losses from fuel storage tanks and transfer operations base-wide, evaporative losses from aircraft fuel cell maintenance, evaporative losses from solvent tanks in various maintenance shops, evaporative emissions from the use of paint booths (corrosion control and wood mill), and evaporative losses from general chemical usage in aircraft, vehicle, and facility maintenance

activities base-wide (aerosol paints, cleaners/degreasers, etc.). Actual emissions are required to be reported to NDEE annually in the Air Emissions Inventory.

Offutt AFB is subject to the applicable requirements of the Prevention of Significant Deterioration program, the New Source Performance Standards, and Title VI - Stratospheric Ozone Protection. Mobile source emissions are not currently regulated on Offutt AFB except for the requirements to utilize low sulfur diesel fuel for diesel fueled vehicles and restrict dispensing of gasoline to less than 10 gallons per minute. Offutt AFB tracks all sources (permitted and non-permitted) in the Offutt Comprehensive Air Emissions Inventory per USAF policy.

Asbestos containing material on Offutt AFB is regulated under the Asbestos NESHAP, NDEE Title 129 Chapter 23, and Nebraska Department of Health Title 178 Chapter 22.

3.3.2 Air Quality Sensitive Receptors

Sensitive receptors are areas where frequent human use occurs or sensitive environmental areas exist. Sensitive receptors for air quality include, but are not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, and childcare centers. Sensitive environmental areas would include, but are not limited to national parks, wildlife refuges, and national monuments.

The nearest sensitive air quality receptors to the proposed project area would be a residential community to the north (approximately 3,700 feet), an elementary school (approximately 5,600 feet to the north), the Offutt AFB Child Development Center (approximately 5,900 feet to the north), commercial areas located to the west of Offutt AFB, and a golf course owned and operated by Offutt AFB (approximately 7,000 feet to the west).

3.4 Noise

Noise is defined as unwanted sound, or, more specifically, as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. The unit of sound pressure is the decibel (dBA). A-weighting is a method for mimicking the human ear by weighting the frequency spectrum of sounds. The Day-Night Sound Level is the A-weighted equivalent sound level for a 24-hour period (US EPA 1978). Human responses to noise vary depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and time of day.

3.4.1 Noise Sources

The ambient noise level at the proposed project area would be high given its proximity to existing flightline operations and other activities at Offutt AFB, its proximity to the urban community of Bellevue, and nearby U.S. highway 75 traffic. Existing noise at Offutt AFB has a 65-80 dBA Day-Night Average Sound Level contour (USAF 2015a). A map of noise contours surrounding Offutt AFB is provided as Figure 3-3. Noise levels anticipated to result from proposed construction and operation of the activity as part of the Proposed Action are compared with existing noise to determine the magnitude of potential impacts.

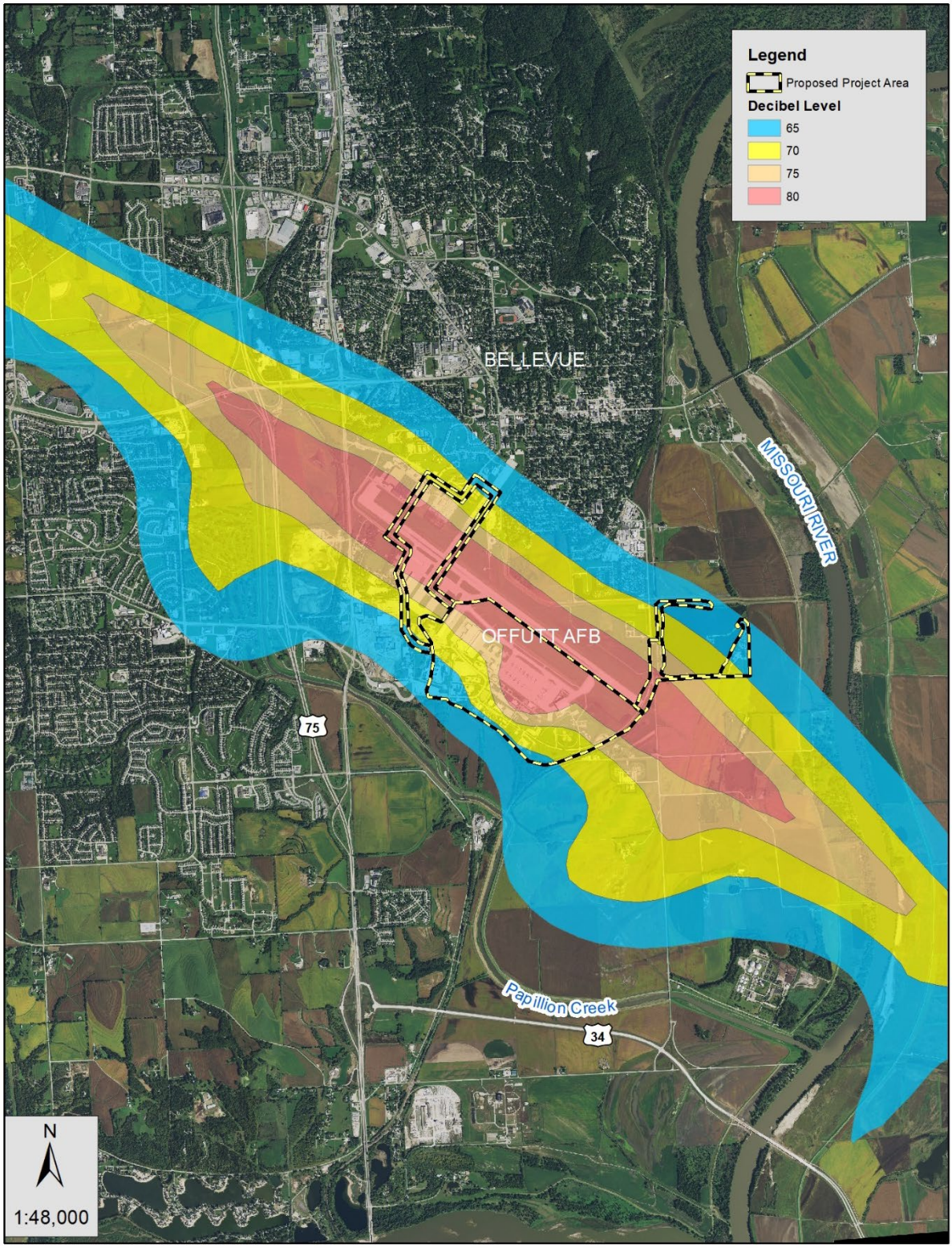

Figure 3-3. Existing Noise Contours at Offutt AFB

3.4.2 Noise Sensitive Receptors

Because surrounding land uses are compatible with the operations of Offutt AFB there are few sensitive noise receptors in the vicinity of the proposed project area. Much of the surrounding area is open space, agricultural land, and some industrial areas. The nearest sensitive noise receptors to the proposed project area would be a residential community to the north (approximately 3,700 feet), an elementary school (approximately 5,600 feet to the north), the Offutt AFB Child Development Center (approximately 5,900 feet to the north) and a golf course owned and operated by Offutt AFB (approximately 7,000 feet to the west).

3.5 Topography, Geology, and Soils

3.5.1 Topography

Topography refers to the general shape and arrangement of a land surface, including its height and the position of its features. Offutt AFB is located on the Iowa and Missouri Deep Loess Hills Resource Area (SCS 1975), generally characterized by rolling hills and bluffs along the Missouri River. The Loess Hills are a distinctive topographic region found along the alluvial plain of the Missouri River, which comprises small valleys with narrow floodplains and larger valleys with broad bottomlands. The total topographical relief is 270 feet (1,220 feet above msl) in the Missouri River bluffs and 950 feet above msl in the southeast corner. Predevelopment surfaces have been greatly modified by construction activities. Uplands are occupied by narrow ridges separated by narrow valleys. Water erosion has created the existing landscape in the upland areas as individual valleys join to form drainage basins into the Missouri River, Platte River, or Papillion Creek. Most upland areas have moderate slopes (3 to 7 percent) to strong slopes (7 to 11 percent) (USAF 2015b). Elevation contours are shown on Figure 3-4.

Figure 3-4. Offutt AFB Elevation Contours

3.5.2 Geology

Geologic resources generally refer to the defining geologic features that make up the physiography (physical patterns) of an area. Geologic hazards are natural geologic events that can endanger lives and threaten property. Examples of geologic hazards include erosion, earthquakes, and landslides. The geology in the vicinity of the proposed project consists of Quaternary loess deposits overlain on pre-Illinoian till, which is all underlain by Pennsylvanian and Cretaceous bedrock of shale, mudstones, and sandstones (NRCS 2017). The Quaternary section, from 150 to 450 feet thick, has deeply incised gullies and fine-grained alluvial deposits from the Holocene cycles of erosion and deposition.

The state of Nebraska does not have any recognized quaternary faults, or active earthquake faults (USGS 2020). The U.S. Geological Survey (USGS) 2018 Seismic Hazard Map shows that the proposed project is located in the lowest hazard level out of seven levels. USGS has documented earthquake activity in Nebraska (USGS 2020) including a 3.6 magnitude earthquake that occurred in 2011. The epicenter of this earthquake was near Auburn, Nebraska, approximately 75 miles south of the proposed project area. The Omaha and Bellevue, Nebraska areas also experienced tremors in September, 2016 that were caused by a 5.6 magnitude earthquake originating from an epicenter in north-central Oklahoma.

Bedrock in eastern Sarpy County consists of limestone and shale of the Lansing and Kansas City Groups (Missouri Series of the Pennsylvanian System). The depth to bedrock varies throughout the base. Bedrock at the main base varies from less than 30 feet below ground surface (bgs) south of Landfill 4 to 124 feet bgs in the south-central portion of the base. Offutt AFB is located above the south limb of an anticlinal structure related to the Richfield Arch. Pennsylvanian rocks below Offutt AFB are gently folded. The Winterset Limestone located at the City Wide Rock Quarry, three miles south of the Rising View Communities, contains a fault with approximately four feet of vertical displacement. The folding of the Pennsylvanian strata may be a result from faulting of Precambrian rocks at this depth. The Humboldt Fault Zone is located approximately 2.5 miles west of Offutt AFB. This is an active fault (Woodward Clyde 1993).

Surficial geology at Offutt AFB is primarily unconsolidated sediments, man-placed fill, and/or concrete and asphalt. Several small areas along the eastern half of the base contain disturbed soils created by sand and gravel quarry operations.

3.5.3 Soils

Soils are the unconsolidated materials overlying bedrock or other parent material and are typically described in terms of their type and physical characteristics. Alluvial sediments are located throughout the base. These areas vary in terms of surface materials, but mostly consist of silty sands. All soils located at Offutt AFB generally provide sufficient nutrients to support growth of grasses, woody plants, and trees without the need for intense application of chemicals. In soil series where lime content is high, phosphorous may be added to spur growth. Soils along the southeast end of the runway in the vicinity of the ammunition storage facility and on the banks of base lake drain poorly, are elastic, and maintain a high water table during the wet season. The parent material for soils found at Offutt AFB can be grouped in five categories that include:

- Loess: windblown silty clay

- Colluvium: silty clay derived from uplands and redeposited on toe slopes or drainages
- Sandy alluvium: sand with minor silt and clay transported by streams
- Silty colluvium: silt with minor sand and clay transported by streams
- Clayey alluvium: clay with minor sand and silt transported by streams

The proposed project area is mapped entirely as Urban Land – Udarents complex, 0 to 16 percent slopes. These soils are not considered to be prime or unique farmlands or farmlands of statewide importance (USDA 2020). Artificially placed cut and fill soils exist where construction has occurred including the area identified for the Proposed Action.

3.6 Water Resources

Surface water resources include lakes, wetlands, rivers and streams, and are important for a variety of reasons including ecological, economic, recreational and human health. Groundwater comprises subsurface water resources and is an essential resource in many areas because it is used as a source of potable water for agricultural irrigation and for industrial purposes. Groundwater properties are often described in terms of depth to aquifer, aquifer or well capacity, water quality and the surrounding geology.

3.6.1 Surface Water

The proposed project area lies within the Mud Creek-Papillion Creek Watershed (Hydrologic Unit Code 12) and the Upper Missouri River and Tributaries basin (Figure 3-5). The National Hydrography Dataset shows that the main drainages within the Big Papillion-Mosquito Watershed are Mosquito Creek, Papillion Creek, Big Papillion Creek, and the Missouri River (EPA 2020). The Missouri River flows from north to south, like Papillion Creek, which is located just south of the proposed area. Papillion Creek confluences with the Missouri River approximately 2.75 miles southeast of the proposed area. No streams or rivers exist in the proposed project area or on Offutt AFB. Surface water areas in the vicinity of the proposed project include a network of stormwater drainage ditches and detention basins and the Offutt base lake. These ditches are ephemeral, meaning they only flow in conjunction with rainfall events. The base lake has approximately 113 surface acres and an average depth of 15 feet and is included within the proposed project area. Variations in the elevation of the Missouri River directly affect the lake's surface elevation. The lake was formed from dredging that supplied material for construction on base. Surface waters within the proposed project area are shown below on Figure 3-6.

Figure 3-5. Proposed Project Area Watershed

Figure 3-6. Surface Waters and Wetlands

Surface waters on the proposed project area generally drain to either the Missouri River via a drainage ditch to the north or to Papillion Creek via a drainage ditch to the south. The portions of the Missouri River and Papillion Creek nearest the proposed project area have been assigned beneficial uses by the NDEE including: Warmwater A, Recreation, Agricultural A, and Aesthetics to the Papillion Creek; and Warmwater A, Recreation, Public Drinking Water, Agricultural A, Industrial, and Aesthetics to the Missouri River (NDEE 2019). Offutt base lake has been assigned beneficial uses of Warmwater A, Recreation, Agriculture, and Aesthetics. The definitions for the NDEE uses are provided in Table 3-1 below.

Table 3-1. Beneficial Use Definitions

Public Drinking Water	These are surface waters which serve as a public drinking water supply. These waters must be treated before the water is suitable for human consumption.
Recreation	This use applies to surface waters which are used, or have a high potential to be used, for recreational activities.
Warmwater A	These are surface waters that provide, or could provide, habitat suitable for maintaining year round populations of a variety of warmwater fish and associated vertebrate and invertebrate organisms and plants.
Agricultural A	These are waters used for general agricultural purposes (e.g. irrigation and livestock watering) without treatment.
Aesthetics	To be aesthetically acceptable, waters are to be free from human induced pollution which causes: 1) noxious odors; 2) floating, suspended, colloidal, or settleable materials that produce objectionable films, colors, turbidity, or deposits; and 3) the occurrence of undesirable or nuisance aquatic life.

Industrial	These are waters used for commercial or industrial purposes such as cooling water, hydroelectric power generation, or nonfood processing water; with or without treatment.

The Clean Water Act (CWA) requires states to prepare a list of impaired surface waters every even numbered year. These waters do not support their assigned beneficial uses as listed in Title 117 – Nebraska Surface Water Quality Standards. The Offutt base lake is identified as being impaired for aquatic life due to hazard index compounds in the lake. A fish consumption advisory has been issued for the base lake, but a Total Maximum Daily Load (TMDL) has not been developed. Papillion Creek is identified as being impaired for recreation due to e-coli. A TMDL has been developed for Papillion Creek by the NDEE. The TMDL identifies potential e-coli sources including: failing septic tanks or other wastewater systems, runoff from livestock pastures, improper or over-application of biosolids and urban stormwater runoff not regulated by a National Pollutant Discharge Elimination System (NPDES) permit (NDEE 2018).

Portions of the existing stormwater infrastructure have been degraded due to flood damage. Stormwater runoff pollution is a closely monitored aspect of the Offutt AFB environmental program. A NPDES Permit for construction is required for all construction projects greater than one acre in size and would be required for the Proposed Action. The stipulations of the permit outline the responsibilities of contractors and base personnel in minimizing erosion and discharge of pollutants through surface water runoff. A Stormwater Pollution Prevention Plan (SWPPP) is required for projects requiring NPDES permits from the NDEE and would be required under the Proposed Action. Offutt AFB stormwater discharges are also covered under a Municipal Separate Storm Sewer permit and a General Industrial Stormwater permit.

3.6.2 Groundwater

Groundwater is typically found across the base at depths as shallow as five feet. At the higher elevations of the base, groundwater is located 70 or more feet bgs (USAF 2015b). Groundwater generally flows from uplands to lowlands. Given the proximity to Papillion Creek, there is a known shallow groundwater table in the proposed project area. General depth to groundwater information can be found in the Environmental Site Assessment Phase I report accompanying this EA (Appendix C). Groundwater tables across the various campuses range from five to 15 feet deep with shallower depths closer to Papillion Creek.

According to the Nebraska Department of Natural Resources (NDNR) records, there is one public supply well within 1,000 feet of the proposed project area and numerous registered monitoring wells within the proposed project area (Appendix A).

3.6.3 Wetlands

A wetland is an area inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation adapted to an aquatic environment. Three environmental

characteristics are associated with wetlands: hydrophytic vegetation that has the ability to grow and compete in anaerobic soil conditions; hydric soil conditions; and water permanently or periodically saturating the soil to a depth of seven feet at some time during the growing season of the prevalent vegetation. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

A boundary denoting jurisdictional and non-jurisdictional waterways was identified in 1998 by base personnel. This boundary was coordinated with the U.S. Army Corps of Engineers (USACE). In a letter dated 10 February 1998, the USACE concurred that the boundary identified by base personnel serves as an accurate division for jurisdictional and non-jurisdictional waters of the US. The USACE confirmed an updated boundary of jurisdictional and non- jurisdictional waters at Offutt AFB in a letter dated 17 December, 2004. Wetlands considered to be non-jurisdictional include most of the main base property, with the exception of the southwestern border of the base and the base lake (see Figure 3-6 for overview of wetland areas). Correspondence with the USACE regarding jurisdictional status of wetlands and other water features on Offutt AFB is provided in Appendix A.

A wetland delineation performed according to the USACE wetland delineation manual was conducted at the base and satellite properties between 26 and 28 May 2009. The prolonged inundation and/or high groundwater table that existed in the southeast corner of the base (March to November 2019) is an atypical situation. It is anticipated that areas of hydrophytic vegetation that was established as a result of the 2019 high water levels will give way to upland vegetation in normal years. Given that wetlands in the proposed project area are defined by the topography of the site (e.g. confined to low-lying areas and stormwater ditches), and the topography of the site has not changed appreciably since the delineation was conducted, it was determined that wetland boundaries determined in the 2009 wetland delineation were still the most accurate information on wetland boundaries. The following discussion provides additional detail on wetland areas in the vicinity of the proposed project area including jurisdictional status. Wetland delineation maps are provided as Figures 3-7 and 3-8.

Figure 3-7. Wetland Features – Papillion Creek and Southeast Base Areas

Figure 3-8. Wetland Features near Base Lake

The Papillion Creek Area (Figure 3-7) lies south of the proposed project area. The prominent feature associated with this area is Papillion Creek (A4), a jurisdictional stream. Papillion Creek is bounded on both sides by steep slopes of a levee. The creek's lower banks support emergent vegetation including smartweed (*Polygonum pensylvanicum*), giant ragweed (*Ambrosia trifida*), various species (spp.) of rushes (*Juncus* spp.), and reed canary grass (*Phalaris arundinacea*). The area depicted on Figure 3-7 includes wetland feature A-2, a jurisdictional scrub-shrub wetland dominated by willow species (*Salix spp.*) and other hydrophytic shrubs. This area also includes jurisdictional wetland A-3, a wetland swale connected to feature A-2, and A-15, a small wetland area located in a drainage swale.

The southeast corner of Offutt AFB (Figure 3-7) includes numerous small drainages and wetlands features that have been greatly altered by various operations on the Base. A prominent feature of the area is a 7.7 acre 'L-shaped' wetland (C1) that receives drainage from above and below-ground sources. The above-ground sources are generally depressional swales that receive frequent mowing and include sites C2, C3, and C12. Hydrology for this portion of the area is due to runoff from the airfield and associated operational areas. Other wetland features identified in the area include a network of depressional swales and road-side drainages that are mowed regularly (sites C4, C5, C7, C8, C9, C10, C15 and C16). A second primary drainage for the area is a drainage ditch and associated wetland (sites C6 and C13). These features collect water from parking lots, road- sides, and operational facilities located in the area. Drainage is directed to site C6 and then ultimately off Base property.

The Offutt base lake (Site B-7 shown on Figure 3-8) is a 119 acre open water feature that is considered a water of the U.S. Concrete rip-rap has been placed along most of the shoreline and in some areas, vegetation is not present. In areas with little or no rip-rap, vegetation primarily consists of a narrow band of willows with interspersed pockets of cattails (*Typha latifolia*) and spike rush (*Eleocharis palustris*). Wetland features identified within these zones include sites B2-B5. Sites B6-B8 are fringe wetlands associated with a constructed drainage channel. The channel is heavily vegetated with emergent vegetation and is considered a water of the U.S. due to a significant nexus to the Missouri River. Sites D2-D9 and D-14 are stormwater drainage ditches mowed depression receiving drainage from paved runways. These ditches exhibit wetland characteristics, but are considered to be non-jurisdictional waters.

3.6.4 Floodplains

Executive Order 11988 (Floodplain Management) defines the term "floodplain" to mean the lowland and relatively flat areas adjoining inland and coastal waters including any floodprone areas of offshore islands, including at a minimum that area subject to a one percent or greater chance of flooding in any given year (FEMA 2020). Much of the area presently occupied by Offutt AFB had historically been located within the floodplains of the Missouri River and Papillion Creek. The R616-613 levee along Papillion Creek provides flood risk protection for the proposed project area. Correspondence documenting compliance with EO 11988 is provided in Appendix A. The levee system that surrounds Offutt AFB is intended to reduce flood risk, and consequently removes Offutt AFB from the regulatory special flood hazard area defined by the Federal Emergency Management Agency (FEMA). Because of the levee protection, the proposed project area is not mapped as occurring within the 100-year floodplain (1% annual chance flood) or "base flood" area. Although Offutt AFB is not mapped on the current effective digital flood insurance rate maps, it is evident from the surrounding mapping that

portions of the base could be considered Zone X. Zone X implies that the area is excluded from the 1% annual chance flood because of a levee. As seen in the March 2019 event; however, flood risk does remain in this area even though it is protected by Federal levees. As with any flood risk mitigation measure, residual flood risk is present. In this instance, future flooding in excess of levee or building heights is the primary risk. The March 2019 flood event was unprecedented. Flooding was caused by a convergence of a 100+ year event on the Missouri River combined with an estimated 250 to 300 year event on the Platte, Elkhorn and Loup Rivers. An estimate of the frequency of occurrence for this convergence of events is not yet available. Initial estimates indicate that it would be higher than a 500-year event. Efforts are underway to better understand the flow frequency on the Platte and Missouri Rivers. These studies will update the understanding of future flood potential. A map of the 100-year floodplain in relation to the proposed project area is shown in Figure 3-9.

Figure 3-9. 100-Year Floodplain Extent

3.7 Biological Resources

Biological resources include native or naturalized plant and animals and the habitats (e.g. wetlands, grasslands, forests) in which they exist. Protected and sensitive biological resources include ESA-and state-listed species. Migratory birds are protected under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.

3.7.1 Vegetation

Offutt AFB has been a military facility for over 100 years. Almost all of the facility has been modified by human development. Significant land additions have not been made since the mid-1950s. The "improved" and "semi-improved" areas of Offutt AFB generally have five types of planted grasses that include brome (*Bromus spp.*), creeping red fescue (*Festuca rubra*), Kentucky bluegrass (*Poa pratensis*), tall fescue (*Festuca arundinacea*), and perennial ryegrass (*Lolium perenne*). The "unimproved" lands have a combination of buffalo grass (*Bouteloua dactyloides*) and blue grama (*Bouteloua gracilis*), which are native species. Various species of trees and shrubs are also found throughout Offutt AFB. Typical tree species include green ash (*Fraxinus pennsylvanica*), silver maple (*Acer saccharinum*), Eastern cottonwood (*Populus deltoides*), honey locust (*Gleditsia triacanthos*), crabapple (*Malus spp.*), Norway maple (*Acer platanoides*), red mulberry (*Morus rubra*), and Colorado Spruce (*Picea pungens*). Vegetation around the Offutt base lake and other wetland areas include arrowhead (*Sagittaria latifolia*), foxtail (*Hordeum jubatum*), duckweed (*Lemna spp.*) cattails (*Typha spp.*), bulrush (*Scirpus spp.*), horsetail (*Equisetum spp*.), goldenrod (Solidago spp.), and cottonwood (USAF 2015).

Although trees are scarce in turf and landscaped areas, native elm (*Ulmus spp.*), ash, and cottonwood tree species are the most prevalent in the unimproved areas along fence lines and watercourses. The improved and semi-improved areas are comprised primarily of juniper (*Juniperus*) trees. The Base is divided into zones for landscaping and flora planning. Based upon the 1999 tree survey, there are approximately 9,315 woody plants at Offutt AFB. The 10 most common trees found on Offutt AFB include the green ash, silver maple, Eastern cottonwood, ornamental crabapple, thornless honey locust, Norway maple, red mulberry, Colorado spruce, Siberian elm, and Austrian pine (USAF 2015b).

3.7.2 Fish and Wildlife

Numerous species of wild mammals are known to exist in Sarpy and Douglas Counties. Many of the mammals that frequent this part of Nebraska occur on or near Offutt AFB including opossum (*Didelphis virginiana*), moles (*Scalopus aquaticus*), shrews (*Blarina spp*), raccoons (*Procyon lotor*), bats (*Myotis spp.*), rabbits (*Sylvilagus floridanus*), coyotes (*Canis latrans*), skunks (*Mephitis mephitis*), foxes (*Vulpes vulpes*), mink (*Neovison vison*), river otter (*Lontra canadensis*), and whitetail deer (*Odocoileus virginianus*). Reptiles and amphibians that frequent the base include various snakes, frogs, toads, lizards, and salamanders (USAF 2015b).

Numerous bird species frequent the area surrounding Offutt AFB. Songbirds (robins, swallows, sparrows, etc.) are prevalent throughout the base as both resident and migratory populations. Resident populations of waterfowl (ducks, geese, swans) are located around nearby grain fields and water bodies. Offutt AFB is located within a migratory bird corridor, thus migratory waterfowl travel in large flocks during spring and fall. Raptors (hawks, eagles, owls, kites, etc.) are often observed. Migratory birds are protected through international treaties and the Migratory Bird Treaty Act. Federal regulations (50 CFR) and EO 13186 (Responsibilities for Federal Agencies to Protect Migratory Birds) provide the framework

for regulation of migratory bird take and possession. Federal permits are required to take, possess, transport and dispose of migratory birds, bird parts, feathers, nests, or eggs. The Bald and Golden Eagle Protection Act prevents prohibits the take or possession of bald and golden eagles, with limited exceptions. Bald eagles that have been observed on Offutt AFB are primarily associated with forested areas adjacent to lager bodies of water such as the Papillion Creek corridor south of the proposed project area (USAF 2015c).

The base lake is a relatively small lake that provides recreational fishing for Offutt AFB personnel. Access to the base lake for the general public is prohibited due to installation security and force protection requirements. The lake is stocked with several fish species, including smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), hybrid striped bass (*Morone sp.*), and channel catfish (*Ictalurus punctatus*) (USAF 2015b).

3.7.3 Endangered and Threatened Species

Lists of federally-listed endangered or threatened species that could be applicable to the proposed project area were provided by the USFWS and state-listed threatened and endangered species by the NGPC (See Appendix A).

Five federally-listed species have been documented in Sarpy County, although not on Offutt AFB property. These species include the northern long-eared bat, interior least tern, piping plover, pallid sturgeon, and western prairie fringed orchid (Table 3-2). Six state-listed threatened or endangered species are also located in Sarpy County. These include the same species that are federally listed with the addition of the river otter which is only state listed (Table 3-2).

Table 3-2. Threatened and endangered species observed in Sarpy, County, NE

Common Name	Scientific Name	Federal Status	State Status
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Threatened
Piping plover	*Charadrius melodus*	Threatened	Threatened
Interior least tern	*Sterna antillarum athalassos*	Endangered	Endangered
Pallid Sturgeon	*Scaphirynchus albus*	Endangered	Endangered
Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Threatened
River Otter	*Lutra canadensis*	None	Threatened

The northern long-eared bat typically roosts singly or in colonies in cavities, underneath bark, or inside cavities, crevices, or hollows of live and dead trees or snags. Males and non-reproductive females may also roost in cooler places, like caves or mines. They forage for insects in upland and lowland woodlots and tree-lined corridors along water features. The proposed project area is located in Sarpy County, a county that is included within the range of the northern long-eared bat. Potential habitat for the northern long-eared bat exists in the Papillion Creek forested riparian corridor south of Offutt AFB just south of the proposed project area (USAF 2015c, 2017a). An acoustic bat survey, conducted in 2017, documented northern long-eared bat activity along the southern, southwestern, northern, and eastern edges of Offutt AFB (USAF 2017a).

The least tern and piping plover typically nest on sandbars of major rivers, non-vegetated sand piles, and exposed sand shorelines. Because the preferred nesting habitat does not occur on Offutt AFB, these species are not expected to occur on the Base.

The pallid sturgeon is one of the largest fish in the Missouri and Mississippi River systems and was the first fish species from the Missouri River to be protected under the Endangered Species Act. Pallid sturgeon are bottom-oriented large-river fish found in areas of strong current and firm sand bottom in the main channel of large turbid rivers such as the Missouri River. Large-river habitat is unavailable on Offutt AFB; thus these species are not be expected to occur on the Base.

The western prairie fringed orchid is a federally and state-listed threatened prairie wildflower that is observed most often in remnant native prairies and meadows, but that has also been observed at disturbed sites. On occasion, it is found in prairies and swales in sand dune complexes fed by shallow underground water. To date, the western prairie fringed orchid has not been observed on Offutt AFB. There are no remnant native prairie or meadow areas on the base that would be expected to support western prairie fringed orchid.

The river otter typically occupies large areas of major rivers such as the Missouri River. Although river otters are known to use lakes and ponds, they typically reside alongside rivers and streams. This species has not been observed on Offutt AFB. Due to habitat restrictions, chances are low that these species will occur on the Base.

3.7.4 Invasive Species

The primary invasive animal species of concern to Offutt AFB is the zebra mussel (*Dreissena polymorpha*). Zebra mussels, originally from Eurasia, were introduced to Lake St. Clair in the Great Lakes region during 1988. The ability of zebra mussels to adhere to hard surfaces, live for extended periods of time out of water, and the microscopic size of their larvae (veligers) provide conditions for them to be easily transported unknowingly on recreational boats, trailers, and bait buckets. The NGPC confirmed the presence of zebra mussels in the base lake in April 2006, which was the first confirmed reproducing population of zebra mussels in the state of Nebraska. Zebra mussels are presumed to have been introduced to the base lake from a boat or boat trailer that had been used on a water body infested with zebra mussels and subsequently transported to the lake (USAF 2017c). On 17 to 18 September 2008 and 7 to 8 April 2009, the chemical copper sulfate was used in the base lake as an attempt to eradicate zebra mussels from the lake. After repeated sampling, zebra mussels were not immediately detected in the lake after the chemical treatment was completed. However, its presence was suspected in 2013 and confirmed by the USFWS in the spring of 2014. A 2017 sampling effort conducted by the USFWS

confirmed the continued presence of zebra mussels in the base lake (USFWS 2017). Current efforts are focused on studying and controlling the zebra mussel population in the base lake.

Several invasive plant species designated as noxious weeds by the Nebraska Department of Agriculture have been identified on Offutt AFB: musk thistle, leafy spurge, Canada thistle, spotted knapweed, diffuse knapweed, purple loosestrife, plumeless thistle, and saltcedar. Invasive tree species, including eastern red cedar, tree-of-heaven, and Russian olive are also known to occur on Offutt AFB. Management of invasive species involves ongoing control of the occurrence and spread of these species on the Base (USAF 2015b).

3.8 Cultural Resources

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes.

The Proposed Action would occur within an environment that has been inventoried for both archaeological and architectural cultural resources. The appendices of the Offutt AFB Programmatic Agreement (USAF 2017) and the Integrated Cultural Resource Management Plan (ICRMP) (Chesley 2019) provide a description of cultural resources within Offutt AFB. Both documents refer to a 1991 archaeological survey of the main base area conducted by the National Park Service (NPS). Based on these inventories it was determined that further archaeological inventory was unnecessary baring future discovery. The Nebraska SHPO has concurred with this assessment, with the caveat that buried sites cannot be discounted (Chesley 2019). Architectural resources are managed in accordance with a Programmatic Agreement with the Nebraska SHPO and the Advisory Council on Historic Preservation. Based on the cultural resource determinations within the 2018 Programmatic Agreement, two potentially eligible historic properties are located within the proposed project area. These properties are buildings 524 and 500.

3.9 Hazardous Materials and Wastes

Hazardous wastes are non-radioactive solid wastes that are reactive, corrosive, ignitable, toxic or otherwise harmful to people or the environment (40 CFR 261, subpart D). The rules and regulations governing hazardous wastes are found in the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. The applicable regulations include: 29 CFR 1910; 40 CFR 260-271, 280; and 49 CFR 171-179.

Offutt AFB activities that generate hazardous wastes include vehicle and aircraft maintenance, painting and paint-stripping, maintenance of communication equipment, photographic developing, and fueling. Some medical wastes also qualify as hazardous waste. The Offutt AFB main base is a Large Quantity Generator of hazardous waste and has two 90- day hazardous waste storage facilities located in Buildings 594 and 564. Building 594 is divided into diked storage bays and outfitted with emergency equipment, as it was originally constructed as a RCRA Part B permitted Transportation, Storage and Disposal Facility.

Approximately 52 Satellite Accumulation Points exist at or adjacent to operations, which generate quantities of hazardous wastes. Munitions wastes are handled according to the Military Munitions Rule. The Munitions Flight handles the collection and transportation of all such materials under rules found in the Military Munitions Rule and the DOD Policy to Implement the EPA's Military Munitions Rule.

3.9.1 Hazardous Materials

Hazardous materials are defined as products which can harm people or the environment if not properly handled. Accounting for the quantities and purposes of use provides the data necessary to set priorities to reduce consumption. Offutt AFB personnel establish target quantity use of hazardous materials at the beginning of each year and set priorities for reduction of the most dangerous materials. Annual audits of consumption to monitor progress are conducted to provide the sources of information about generation of hazardous wastes.

Offutt AFB uses the USAF tracking system Enterprise Environmental Safety Occupational Health – Management Information System (EESOH-MIS) to track shop authorizations, safety data sheets, and hazardous materials orders. Individual shops on Offutt AFB identify what hazardous materials they need based on technical orders, commercial manual requirements, and local requirements and procedures. Individual shops go through the process authorization in EESOH-MIS. They enter material stock numbers of the hazardous materials into a process for their shop. The authorization request is then submitted for approval through EESOH-MIS. For approval, the request goes through Bioenvironmental Engineering and Environmental and Wing Ground Safety. Once these entities have approved, the shop is authorized to order and use the requested hazardous material item. Shops only get enough materials authorized for them to complete their mission. Shops track their hazardous materials by use of authorizations and their shop authorizations report. They are required to conduct an annual audit of their standard operating procedure authorized use list against their actual hazardous materials and the safety data sheets they have on hand in order to ensure they are up to date. Hazardous materials are considered expended upon issue.

After the 2019 flood damage, the shops continue to obtain authorizations and track hazardous materials as before. During the interim, while many base organizations are spread out and relocated across the base, the process of having hazardous materials delivered and inventoried becomes more challenging for those shops which have been relocated.

3.9.2 Groundwater Pollution

Contamination of underground water sources may be caused by leaching of petroleum products from USTs and seepage from landfill sites. All of the UST's at Offutt AFB are in compliance with applicable requirements. Environmental management of USTs is provided by 40 CFR Parts 110, 112, 280, 300, 302, and Section 311 (j) (i) (c) of the CWA. There are no active sanitary landfills operating at Offutt AFB. There are active ERP sites (see Section 3.9.3) from past actions that operate under the ERP RCRA Corrective Actions Permit (EPA 2010). The remaining USTs and other sites have been or are presently undergoing active investigation/assessment and remediation where compliance with federal and/or Nebraska state law dictates. The current inventory of ASTs and USTs is depicted on Figure 3-10.

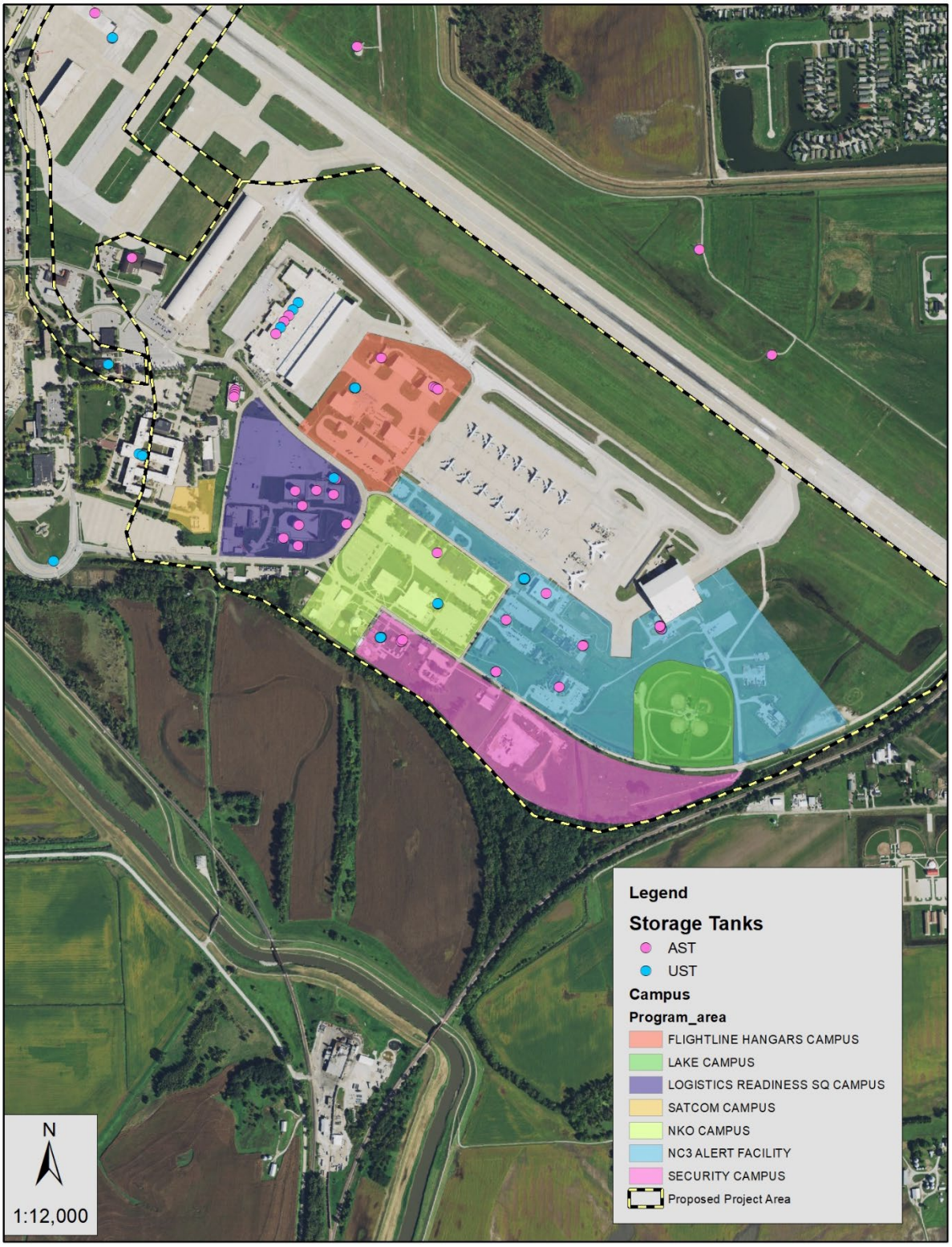

Figure 3-10. Storage Tank Locations

3.9.3 Environmental Remediation

Environmental remediation sites on Offutt AFB are shown on Figure 3-11. There are 47 ERP sites on Offutt AFB with 20 still undergoing investigation, remediation, and/or long-term monitoring. The Comprehensive Environmental Response, Compensation and Liability Act and RCRA require federal installations to investigate and remediate or mitigate health risks associated with releases of contaminants to the environment. The primary remediation sites at Offutt AFB are landfills, fire training areas, and fuel and solvent spills. All nine sites have established land use controls to restrict activities without special permissions. The Phase I Environmental Site Assessment conducted in January of 2020 is provided as Appendix C. The Phase I ESA identifies areas with established land use controls that could potentially be impacted by the Proposed Action.

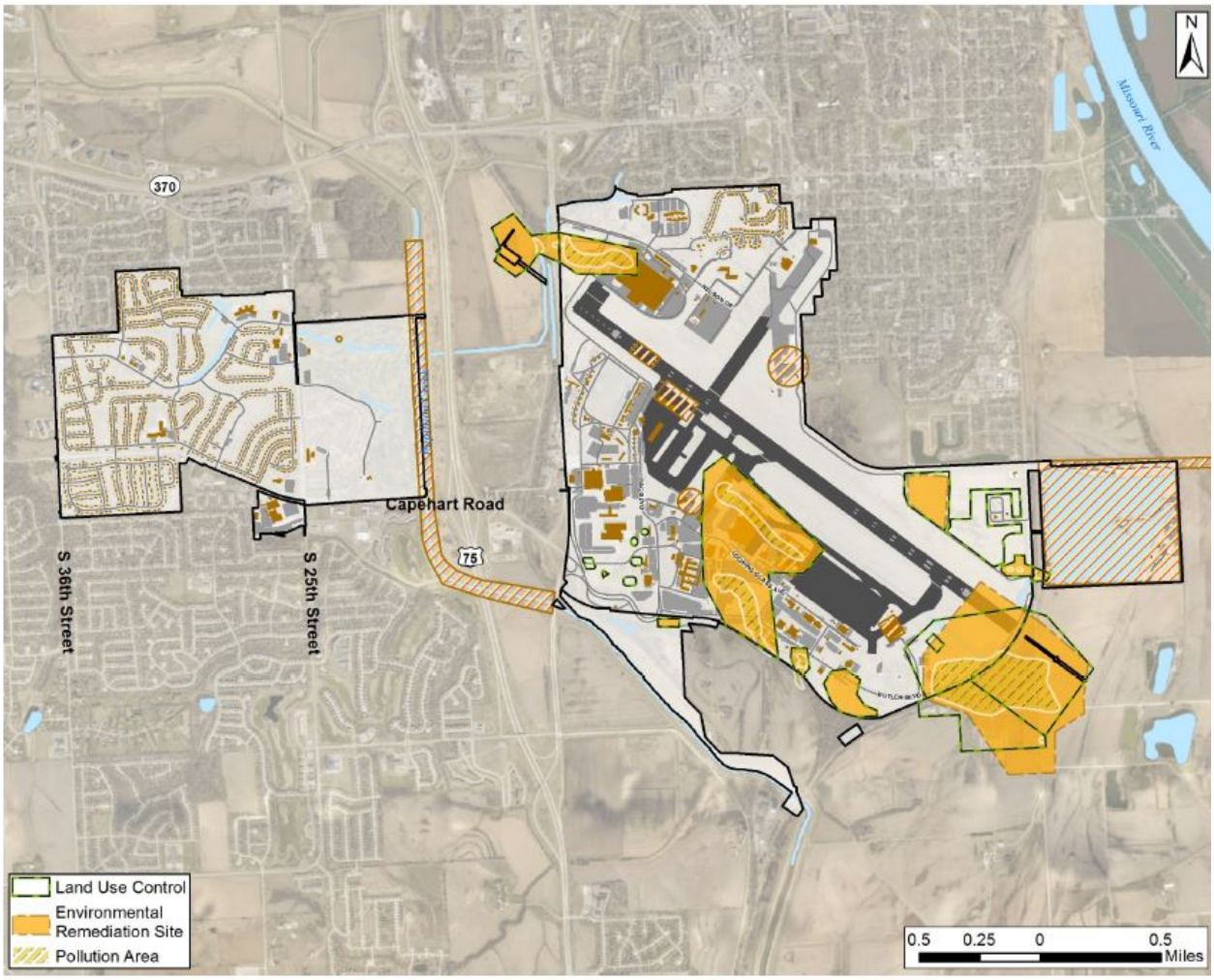

Figure 3-**11**. Environmental Remediation Areas (source: Offutt IDP, 2018a)

3.10 Health and Safety

Health and Safety refers to processes or activities that involve: the use, production, and/or handling of materials that may contain radioactive, chemical, and or biological hazards; involve the generation of physical hazards; or involve the generation of conditions that increase (or decrease) the occurrence in the environment of natural hazards.

Under existing conditions, a health and safety risk is posed by flood damaged buildings that are damaged and contaminated with mold. All contractors performing construction and demolition on USAF installations are responsible for following federal Occupational Safety and Health Administration (OSHA) regulations and are required to conduct these activities in a manner that does not increase risk to workers or the public. OSHA regulations address the health and safety of people at work and cover potential exposure to a wide range of chemical, physical, and biological hazards. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, use of personal protective equipment, and availability of Safety Data Sheets.

Occupational health and safety is the responsibility of each employer, as applicable. Employer responsibilities are to review potentially hazardous workplace conditions; monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous substances); physical (e.g., noise, falls), and biological (e.g., infectious waste, wildlife,) agents, and recommend and evaluate controls. Additionally, employers are responsible for ensuring a medical surveillance program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection, engaged in hazardous waste work, asbestos, lead handling, or other work requiring medical monitoring.

Mission safety on USAF installations is maintained through adherence to DOD and USAF safety policies and plans. The USAF safety program ensures the safety of personnel and the public on the installation by regulating mission activities. AFI 91-202, *The USAF Mishap Prevention Program,* implements AFPD 91-2, *Safety Programs*, and provides guidance for implementing the safety program on all activities that occur on USAF installations.

Offutt AFB is a secure military installation with access limited to military personnel, civilian employees, contract employees, military dependents, and approved visitors. Operations and maintenance activities conducted on the installation are performed in accordance with applicable USAF safety regulations, published USAF Technical Orders, and standards prescribed by USAF occupational safety and health requirements. Adherence to industrial-type safety procedures and directives ensures safe working conditions.

3.11 Infrastructure

Infrastructure generally consists of systems and physical structures that enable a population in a specified area to function according to the designed use of the area.

The main roadways traversing through the city of Bellevue near Offutt AFB include US Route 75 and Nebraska Hwy 370. Roads within Offutt AFB, excluding the public access and parking areas, include both paved and gravel roads, which are not accessible to the public. Two entry access points are located off of Fort Crook Road. The main vehicular access to the installation occurs at the Kenney Gate on Nelson

Drive. The second entry access point is the STRATCOM Gate on SAC Boulevard. Other entry control points include the Bellevue Gate on Nelson Drive off of Lincoln Road.

Offutt AFB real property as of 2018 is summarized in Table 3-3.

Table 3-3. Offutt AFB Real Property (USAF 2018a)

Buildings/Facilities	Number of Buildings
Communications/navigation aids/airfield lighting	50
Maintenance facilities	19
Storage facilities	21
Medical facilities	5
Administrative facilities	34
Dormitory quarters and dining facilities	11
Personnel support and services	60
Morale/welfare/recreation	5
Electricity, heat, water, sewage, and waste	24

Offutt AFB has one air traffic control tower. Aircraft that use this airport include single-engine aircraft, multi-engine aircraft, jet aircraft, and helicopters. Average aircraft operations are 168 per day. The air traffic control tower and airfield are open and operate 24 hours a day, seven days a week, except during scheduled or emergency maintenance operations.

The primary runway is 11,703 feet long and 150 feet wide with grooved concrete pavement. This runway is oriented in a northwest-southeast direction with a heading of 124 magnetic and 129 true north. Runway elevation ranges from 972 feet to 1049 feet (AirNav 2017).

The existing base infrastructure systems include water, sanitary sewer, storm sewer, electricity, natural gas, liquid fuels, industrial waste, communications and other related systems. These systems are described in detail in the Offutt AFB Installation Development Plan (Offutt, 2018a).

4 Environmental Consequences

4.1 Introduction

This section of the EA describes the potential environmental consequences resulting from implementation of the Proposed Action and the No Action alternative, including implementation of BMPs where applicable. Baseline data were compiled from consultation with facility personnel, queries of resource-specific databases, site-visits, previous environmental documents prepared by or for nearby local municipalities and Federal agencies.

The following discussion elaborates on the nature of the characteristics that might relate to various impacts:

- Short-term or long-term. These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts would occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term impacts would be more likely to be persistent and chronic.
- Negligible, minor, moderate, or major. These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts might be perceptible but would be at the lower level of detection. A minor effect would be slight, but detectable. A moderate impact would be readily apparent. A major impact would severely adverse or exceptionally beneficial.
- Adverse or Beneficial. An adverse impact would have unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact would have positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.
- Context. The context of an impact could be localized (confined to the proposed project area or nearby) or more widespread (e.g., regional, global).

4.2 Land Use

4.2.1 Effects of the Proposed Action

Significant impacts to land use on Offutt AFB from the Proposed Action would occur if the Proposed Action required a land use reclassification to a purpose that is incompatible with existing land uses and/or future land uses identified in the Installation Development Plan. Significant impacts to land use would also occur if the Proposed Action was incompatible with existing land uses surrounding the proposed project area outside of Offutt AFB.

The Proposed Action would result in short-term, localized, minor adverse impacts to land use on Offutt AFB. The Proposed Action activities would be compatible with the existing land use classifications of administrative, industrial, airfield pavements, aircraft operations and maintenance and open space. There would be short-term minor impacts to land use in the area because the land would be used for construction activities until complete. Impacts would be minor because most of the activities in this area have already been impacted by the 2019 flood event. There would be long-term beneficial effects

to land use on Offutt AFB because consolidation of similar functions is one of the main goals of the Installation Development Plan (USAF 2018a). Impacts would be short-term because they would only last during the construction of the project. The Proposed Action would not impact land uses surrounding Offutt AFB in the short-term or long-term because existing land uses, and future land use plans, surrounding Offutt AFB have been designed to be compatible with the base's operations. The Proposed Action would return Offutt AFB to full operation.

Because the Proposed Action would be compatible with existing and planned land uses on and around Offutt AFB, a change in land use classification would not be required; and therefore, there would be no significant adverse impacts to land use.

4.2.2 Effects of the No Action Alternative

Under the No Action Alternative, the proposed redevelopment activities would not occur and it is assumed that land use classifications on Offutt AFB and in the surrounding areas would remain the same. Therefore, there would be no impacts to land use on Offutt AFB or in the surrounding area.

4.2.3 Mitigation Measures

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels.

4.3 Air Quality

4.3.1 Effects of the Proposed Action

Significant impacts to air quality would occur if the Proposed Action resulted in an exceedance of NAAQS or in emissions sufficient to cause the area to become a non-attainment area with NAAQS. The USAF Air Conformity Applicability Model (ACAM) was run to assess the potential air quality impacts associated with the Proposed Action in accordance with AFI 32-7040, *Air Quality Compliance and Resource Management*, the EIAP for USAF (32 CFR 989), and the General Conformity Rule (40 CFR 93 Subpart B).

Based on the results of the ACAM analysis, pollutants generated from the Proposed Action would not exceed EPA General Conformity Rule air quality indicator thresholds. The ACAM output reports are provided in Appendix D. Air quality impacts generated from implementation of the Proposed Action would result in less-than-significant short-term adverse impacts related to proposed construction activities. Table 4-1 provides ACAM outputs for the year 2022, which would be the year with the most potential construction activity. The year 2022 impacts would be considered the worst-case scenario.

Table 4-1. ACAM Analysis Results for Most Impactful Year (2022)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.595	100	No
NOx	30.536	100	No
CO	28.256	100	No
SOx	0.075	100	No
PM 10	44.023	100	No
PM 2.5	1.246	100	No
Pb	0.000	25	No
NH3	0.032	100	No
CO2e	7525.9		

Potential impacts would be caused by local increases in air emission levels because of construction activities. As shown in Table 4-1, there would be increases in pollutants under the Proposed Action; however, all emissions would be below air quality indicator thresholds under the worst-case scenario. Air pollutant generating sources present during proposed construction activities would be associated primarily with standard construction equipment performing demolition, site grading and preparation, building construction, applying coatings to buildings, and installing pavement for parking lots. Dust emissions from proposed construction activities can vary substantially daily depending on levels of activity, specific operations, and prevailing meteorological conditions. Increased dust (PM10) emissions resulting from the proposed construction would comprise short-term, localized, minor, adverse impacts that could be managed through standard dust minimization practices. Emissions of greenhouse associated gases such as NOx, CO, SOx, and CO_2 and CO from construction activities would also comprise short-term, localized, minor, adverse air quality impacts that would fall below the threshold tons/yr. Emissions of other pollutants would be negligible based on emissions of tons/yr compared to air quality thresholds.

The USAF would ensure dust control is implemented and the potential for adverse air quality impacts are managed or eliminated, by implementing typical dust-control BMPs, as applicable. These dust-reducing measures would be briefed to the contractor at the construction kick-off meetings. The USAF on-site construction manager would be responsible to bring air quality issues, if they arise, to the appropriate entity for resolution. Construction of the Proposed Action would require a general construction permit to be filed with the NDEE. Fugitive Dust regulations within Title 129 Chapter 32 would be followed for all demolition, grading, and construction activities.

The Proposed Action would include replacing flood damaged facilities with new energy efficient, state-of-the-art buildings. Construction of state-of-the-art facilities would not be anticipated to cause an overall long-term increase in emissions compared to the existing operation of Offutt AFB. Given that Offutt AFB is in compliance with its existing air quality permit, is in an attainment area, and would be

replacing flood damaged buildings with newer more energy efficient facilities, it would be anticipated that there would be no long-term adverse effect to air quality. In Nebraska, the CAA responsibilities have been delegated to the state of Nebraska, with the NDEE serving as the compliance agency. The NDEE has reviewed the Proposed Action and indicated that no Air permit would be needed (see letter dated March 31, 2020 in Appendix A).

The Proposed Action would occur in an area in full attainment with NAAQS and would not cause an exceedance of the NAAQs. Therefore, no significant adverse impacts to air quality would occur as a result of implementing the Proposed Action.

4.3.2 Effects of the No Action Alternative

Under the No Action Alternative, there would be no impact to existing air quality conditions beyond those described in the Affected Environment because no construction or demolition activities would occur.

4.3.3 Mitigation Measures

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels. BMPs related to air quality are described in Section 4.3.1 and also provided in Table 5-1.

4.4 Noise

4.4.1 Effects of the Proposed Action

Significant impacts to noise would occur if noise levels from the Proposed Action would exceed the Federal Highway Administration's (FHWA) Construction Noise General Assessment Criteria for Residential Land Use (Daytime and Nighttime criteria are 90 dB Leq and 80 dB Leq over a period of one hour respectively) or caused violations of any other state, federal, or local noise regulations, or cause a noise impact that would be incompatible with long-term uses of the surrounding area.

The potential noise generation would be typical of construction activities at a large construction site. Potential short-term less-than-significant adverse impacts would occur during the proposed construction with implementation of appropriate BMPs. The proposed construction activities and operation of the proposed project would have less-than-significant short-term adverse effects on the noise environment in the immediate surrounding area. Use of heavy equipment for demolition, site-preparation, and construction would generate short-term noise exposure above typical ambient levels within and adjacent to the proposed project area.

According to AFI 32-1015 (*Air Force Noise Program*) Section 3.2.10, the proper construction noise reference/methodology is the 2006 FHWA Construction Noise Handbook. This handbook describes the methodology to determine potential noise impacts that would be associated with construction equipment and specifies to determine the two loudest pieces of construction equipment that would be working simultaneously (Bull Dozer, 85 dBA at 50 feet, and Dump Truck, 84 dBA at 50 feet) and calculate the expected noise level (88 dBA-weighted [dBA] at 50 feet). It is assumed that the proposed construction would take place during a normal working week (Monday through Friday) and during normal working hours (i.e., 8:00 AM to 5:00 PM).

The proposed construction noise levels are depicted in Table 4-2 with the nearest sensitive receptors. Potential noise levels from proposed construction activities would not exceed the FHWA Construction Noise General Assessment Criteria or Detailed Assessment Criteria (Tables 4-3 and 4-4).

Table 4-2. Potential Noise Impacts from Proposed Construction

Receptor	Nearest Proposed Construction	Distance (feet)	Potential Construction Noise Level (dBA) at Receptor	Current Noise Level Contour (dBA)
Elementary School	Flightline Construction and Demolition	5,600	47.02	65
Residential Community	Flightline Construction and Demolition	3,700	50.62	65-70
Offutt AFB Child Development Center	Flightline Construction and Demolition	5,900	46.57	70
Golf Course	SATCOM Construction	7,000	45.08	65-70

Table 4-3. FHWA Construction Noise General Assessment Criteria

Land Use	Day (dBA)	Night (dBA)
Residential	90	80
Commercial	100	100
Industrial	100	100

Table 4-4. FHWA Noise Detailed Assessment Criteria

Land Use	Day (dBA)	Night (dBA)
Residential	80	70
Commercial	85	85
Industrial	90	90

Potential short-term, localized, negligible adverse impacts on the noise environment would result from the proposed construction. Potential impacts would result from noise generated by heavy equipment during the proposed construction. The potential impacts would not exceed FHWA criteria; would not lead to a violation of any federal, state, or local noise regulations; and would not contribute to areas of incompatible land use on or adjacent to Offutt AFB. The potential noise levels at identified sensitive receptors would be less than the decibels of the current noise contours they are located within. In addition to adhering to all noise regulations, BMPs including appropriate noise dampening devices on construction equipment, and conducting construction activities during the daytime, would be implemented to further reduce noise impacts. No additional impacts on the noise environment from the proposed operation of new facilities are anticipated. While facilities would be consolidated to new locations, the type and magnitude of operations would generally stay the same as existing.

4.4.2 Effects of the No Action Alternative

The No Action Alternative would not cause a change from existing noise conditions as described in the Affected Environment Chapter because no construction activities would occur.

4.4.3 Mitigation

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels. BMPs related to noise are described in Section 4.3.1 and also provided in Table 5-1.

4.5 Topography, Geology, and Soils

4.5.1 Effects of the Proposed Action

Significant impacts to geology would occur if the Proposed Action caused significant increase in geologic hazards such as seismic activities, subsidence, or rock fall.

No impacts to geology or bedrock would occur under the Proposed Action because project activities would occur in surficial soils, meaning no deep excavation that would be near bedrock is proposed. No geologic hazards are apparent in the proposed area and would not be expected to impact human health because of the proposed implementation. Based on currently available data, no active significant faults are known to extend through the proposed area subsurface geology. As such, no impacts associated with geologic hazards are identified.

Significant impacts to topography would occur if the Proposed Action results in unstable slopes and changes in surface flow patterns causing adverse effects such as flooding or landslides.

There would be short-term, localized, minor, adverse impacts to topography. Under the Proposed Action, approximately 180 acres of previously developed surface area would be impacted by construction equipment. Implementation of the Proposed Action would require grading of soils with fill (estimated 560,000 cubic yards) needed to raise mission critical facilities to three feet above the levee minimum elevation and non-critical facilities to two feet above the levee minimum elevation. The existing network of stormwater ditches would be modified to accommodate the new proposed drainage patterns in the vicinity of buildings, but the overall drainage pattern of stormwater would not change. Stormwater would continue to flow through the stormwater system network with portions draining to Offutt base lake and other portions draining south through drainage ditch off-property towards Papillion Creek.

Significant impacts to soils would occur if the Proposed Action results in major changes to soil properties resulting in increased erosion and sedimentation to streams and other waterways or causing impacts to adjacent properties.

During the proposed construction, less-than-significant short-term impacts may occur with the potential to increase soil erosion at the proposed site. The proposed construction would remove vegetative cover, disturb the soils, surface, alter soil structure, and compact the soil. The soil would be susceptible to erosion by wind and surface runoff during the proposed construction. Potential exposure and erosion of the soils during the proposed construction would have the potential to result in increased sedimentation in offsite surface waters. Potential impacts to soils would be minimized through implementation of BMPs such as erosion and sedimentation prevention measures (silt-fencing, detention basins, etc.). Short-term disturbance areas would be regraded and revegetated, thus minimizing the length of time the soils would be exposed and susceptible to erosion. There would be no potential impacts to prime farmlands as none are located in the proposed project area.

4.5.2 Effects of the No Action Alternative

Under the No Action Alternative, there would be no new soil disturbance or changes to the topography of the proposed project area; therefore, there would be no change expected from existing conditions.

4.5.3 Mitigation

No mitigation actions would be required to lower potential effects to less than significant. BMPs that would be implemented are identified in Section 4.5.1 and Table 5-1.

4.6 Water Resources

4.6.1 Effects of the Proposed Action

4.6.2 Surface Water

Significant impacts to surface water would occur if activities caused violation of downstream water quality standards or otherwise caused major impacts to the existing beneficial uses of surface water bodies in the vicinity of the proposed project.

Under the Proposed Action, there would be potential short-term, localized, negligible adverse effects to surface waters from a temporary increase in construction-related runoff. Construction-related stormwater controls (e.g. retention/detention basins, infiltration basin, stormwater velocity dissipating devices, and landscaping features) would be designed to address any potential increase in stormwater velocities and volumes. Construction related stormwater controls and BMPs would be designed and implemented in order to help minimize stormwater impacts. Additional information related to stormwater BMPs is provided in Table 5-1. As part of the Proposed Action, a construction stormwater general permit would be obtained; and, a SWPPP would be prepared and followed. Offutt AFB's municipal separate storm sewer system (MS4) permit and stormwater management plan identifies the minimum control measures for construction site runoff control and post construction runoff control. If constructed, the operations of the proposed facilities would be subjected to minimum control measures under the MS4 permit such as public education and outreach, public involvement, illicit discharge detection and elimination, and pollution prevention/good housekeeping. Under the Proposed Action, the Installation Stormwater Management Plan (SWMP) and SWPPP would need to be updated to include the proposed facilities. The proposed design and construction would also need to comply with the Energy Independence and Security Act Section 438 requirement to maintain or restore pre-development hydrology for federal developments that exceed 5,000 square feet. The contractor would also need to obtain a de-watering permit from the NDEE and follow any necessary permit required BMPs for de-watering. There would be no potential significant impacts to surface waters, water quality standards, or downstream beneficial uses.

4.6.3 Groundwater

Significant impacts to groundwater would occur if there was a loss of wells or other physical changes through earthwork that would alter flow, recharge or other hydrologic conditions. Under the Proposed Action there would be potential short-term negligible adverse effects to groundwater from a temporary increase in construction-related runoff that could affect groundwater via infiltration from receiving surface waters. Potential impacts would be anticipated to be short-term, localized, negligible, and adverse due to the stormwater controls described for surface water resources. Potential long-term effects to groundwater recharge would not be expected because there would be a similar amount of impervious surfaces in the area after proposed construction. The stormwater system would continue to drain the proposed project area in a similar fashion. According to NDNR records, there is one public supply groundwater well within 1,000 feet of the proposed project area and numerous registered groundwater wells within the proposed project area. The Proposed Action would not include disturbing any registered groundwater wells.

4.6.4 Wetlands

Significant impacts to wetlands would occur if the Proposed Action resulted in a major loss of wetland function or adversely affected a large number of jurisdictional wetlands. Wetland functions in the proposed project area include stormwater attenuation and filtration of pollutants contained in runoff. None of the wetlands within the proposed project area are considered to be jurisdictional. The wetlands in the proposed project area do not support a diverse assemblage of wetland plant species or provide quality wildlife habitat because the stormwater ditches are often mowed and because of their close proximity to the flightline and other operations that would disturb wildlife.

There would be potential long-term, localized, negligible adverse impacts to wetlands in the proposed project area. A small reduction in the overall amount of stormwater ditch wetlands would occur (0.87 acre out of a total of approximately 23.5 acres of wetlands throughout the same stormwater ditch system). Wetland areas that would be filled are non-jurisdictional stormwater ditch wetlands identified as areas C-15 and C-16 on Figure 3-5. Although some stormwater ditch wetland areas would be filled by the proposed project, the function of wetlands (stormwater attenuation and pollutant filtration) in the proposed project area would not be significantly impacted because the stormwater system would be re-established and downstream detention basin wetlands would continue to attenuate stormwater and filtration of pollutants before reaching downstream waters such as the Offutt base lake and Papillion Creek. Because the Proposed Action would not cause a major loss of wetland function or impact a large number of jurisdictional wetlands, no significant impacts would occur.

It is anticipated that a CWA Section 404 permit would not be required under the Proposed Action because the Proposed Action would not involve dredge or fill activities in a water of the U.S. Similarly, it is anticipated that a Section 401 water quality certification would not be required under the Proposed Action because there would not be a discharge of pollutants into a water of the U.S.

4.6.5 Floodplains

Significant impacts to floodplains would occur if the proposed project would cause a rise in surface water levels on the floodplain. Because the Proposed Action is landward of the existing levees and as such would not be expected to cause a rise in water surface (see USACE floodplain memo in Appendix A). The Proposed Action would include raising buildings to two feet above the flood elevation for non-mission critical structures and three feet above the flood elevation for mission-critical structures.

4.6.6 Effects of the No Action Alternative

The No Action Alternative would not include any demolition, site preparation, or construction activities on Offutt AFB, therefore there would be no change from the existing conditions described in the Affected Environment.

4.6.7 Mitigation

No mitigation measures would be required to reduce impacts to water resources to less than significant levels. Best management practices that would be implemented are identified in Section 4.6.1 and Table 5-1.

4.7 Biological Resources

4.7.1 Effects of the Proposed Action on Vegetation

Significant impacts to vegetation would occur if the Proposed Action would result in the loss of habitat that supports state and/or federally-listed species, loss of critical habitat for a listed species, and/or results in establishment of uncontrolled noxious weeds within the proposed project area.

Potential short-term, negligible, localized, adverse impacts to vegetation would result from potential construction activities in the proposed project area. Construction would require temporary removal and compacting of existing turf grasses and other vegetation in the proposed project area. Vegetation would be replanted and would recover when construction is complete. Vegetation in the proposed

project area consists of flood damaged landscaped turf grasses and trees and do not represent important habitat for any native or listed species. Revegetation after construction would prevent the spread of invasive plant species into the proposed project area.

These effects are considered to be less than significant because they would not result in the loss of habitat supporting state or federally-listed species, loss of critical habitat for listed species, or result in the establishment of uncontrolled noxious weeds.

4.7.2 Effects of the Proposed Action on Wildlife and Migratory Birds

Significant impacts to wildlife and migratory birds would occur if the Proposed Action results in the loss of critical habitat, altered migration routes or behavior, or mortality of species of concern, including state and federally-listed species and/or migratory birds.

Potential short-term, negligible, localized adverse effects on wildlife and migratory bird species would occur from proposed construction activities. There is very little existing wildlife habitat in the proposed project area. The area was already developed prior to the 2019 flood event. Wildlife that are present would temporarily avoid the area during construction because of the increased noise and human presence. The primary nesting season of migratory birds is April 1 to July 15 in Nebraska. Clearing of vegetation and tree removal that could support nesting migratory birds would occur outside of this primary nesting season. If vegetation needs to be cleared during this timeframe, a qualified biologist would first conduct a migratory bird survey. Offutt AFB has a depredation permit for migratory birds issued to USDA Wildlife officials for migratory bird control on base.

These potential effects would be considered to be less than significant because they would not result in loss of critical habitat, altered migration routes or behavior, or mortality of species of concern, including state and federally-listed species and/or migratory birds.

4.7.3 Effects of the Proposed Action on Threatened and Endangered Species

Significant impacts to endangered and threatened species would occur if the Proposed Action results in altered behavior, loss of critical habitat, or the mortality of these species.

There would be no effect to the least tern, piping plover, pallid sturgeon, western prairie fringed orchid, or river otter because there is no habitat for these species within the proposed project area. The northern long-eared bat may occur within the proposed project area given documented occurrence along the southern, southwestern, northern, and eastern edges of Offutt AFB (USAF 2017a). . The Proposed Action would involve a minor amount of removal of ornamental trees in the proposed project area. The northern long-eared bat could occur in the proposed project area. Proposed tree removal would occur outside of the June 1 through July 31 timeframe (pup season) to avoid potential impacts to the northern long-eared bat during its reproductive time. If the proposed work occurs outside of pup season, it would be anticipated that the Proposed Action may affect, but is not likely to adversely affect the northern long-eared bat (see Appendix A for USFWS correspondence). It is unlikely that northern long-eared bats would be present in trees in the proposed project area given the presence of higher quality roosting and foraging habitat along the Papillion Creek corridor. Additionally, removal of trees outside of the June 1-July 31 pup season would make effects extremely unlikely to occur.

Although the piping plover, interior least tern, river otter, pallid sturgeon, and western prairie fringed orchid have been observed in Sarpy County, they are not present in the proposed project area which contains no suitable habitat. Therefore, the Proposed Action will have no effect on them. The Proposed Action may affect, but is not likely to adversely affect, northern long-eared bats. To minimize the risk of effects to the northern long-eared bat, tree removal would occur outside of the primary pup season of June 1-July 31.

4.7.4 Effects of the No Action Alternative

The No Action alternative would not include any demolition, site preparation, or construction activities on Offutt AFB, therefore there would be no change from the existing conditions described in the Affected Environment. There could be potential minor, long-term, adverse impacts to biological resources from leaving the area in its current flood-impacted condition under the No Action Alternative. The existing disturbed site-condition could provide invasive plant species an opportunity to establish. An increase in invasive plant species could have minor, long-term, adverse impacts to biological resources on Offutt AFB, primarily native plant species that are established in other areas of Offutt AFB and wildlife associated with those areas.

4.7.5 Mitigation

No mitigation measures would be required to reduce impacts to biological resources to less than significant levels. Best management practices that would be implemented are identified in Sections 4.7.1-4.73, and Table 5-1.

4.8 Cultural Resources

A property is eligible for the National Register of Historic Property if it possesses both significance in one or more of the four listing criteria and the integrity to communicate that significance. There are seven aspects of integrity that communicate the historic significance of historic properties. Any detrimental change to a supporting aspect of integrity is considered an adverse effect under 36 CFR 800. The same regulation requires that adverse effects be mitigated through the development and implementation of a Memorandum of Agreement (MOA) between the responsible agency and the responsible SHPO.

Adverse effect, per se, are fairly routine and in general do not raise to the level of significant impacts to the human environment, especially when mitigated through an MOA. Effects to historic properties that would raise to level of significant impacts would be those that occur to rare historic property types and those that occur without the prior implementation of an MOA. Among the rare property types are National Historic Landmarks (see 36 CFR 800.10) and UNESCO World Heritage Sites.

4.8.1 Effects of the Proposed Action

The Proposed Action has the potential to cause effects to two buildings that were eligible historic properties prior to the March 2019 flood. These are both architectural resources that were considered eligible for their relationship to historic events and their architectural or design merit. They are Building 500, currently the 55th Wing Headquarters building, but historically the headquarters building for SAC and its successor USSTRATCOM; and Building 524, historically the readiness building for the National Emergency Airborne Command Post (NEACP) program, currently the readiness building for the successor program, the National Airborne Operations Center.

Building 500, which is eligible for listing in the National Register of Historic Places, would be repurposed, which would have no adverse effect to the historic property. In addition, Building 524, which was also eligible for listing in the National Register of Historic Places prior to the March 2019 flood, no longer retains its historic integrity due to flood water inundation. The proposed demolition would have no adverse effect on it as it no longer considered eligible. The NE SHPO has concurred with these determinations and correspondence is provided in Appendix A.

There are no known traditional cultural resources or sacred sites identified on land under the control of Offutt AFB (USAF 2018b). However, the Omaha Tribe has a history of use and occupation of the Papillion Creek area west of Bellevue, NE (USAF 2018b). Procedures would be followed in the case of an inadvertent discovery of potential cultural resources are described in the Offutt AFB Integrated Cultural Resources Management Plan (USAF 2018b).

4.8.2 Effects of the No Action Alternative

Under the No Action Alternative, no construction or demolition activities would take place; therefore, no affects would occur to historic properties. As both properties are currently stable, no other degradation is anticipated. Therefore, the No Action Alternative would not result in impacts to the human environment.

4.8.3 Mitigation Measures

In terms of NEPA, it is not anticipated that any mitigation measures would be required to reduce effects to less than significant.

If the proposed demolition and construction activities occur, and any suspected archaeological materials or human remains are encountered, all construction activity in the vicinity of the remains would cease immediately and a qualified archaeologist or SHPO would be contacted. Construction would not continue until the site is cleared by a qualified archaeologist or the SHPO.

4.9 Hazardous Materials and Waste

Impacts on or from hazardous materials and wastes would be significant if a Proposed Action would result in noncompliance with applicable federal or state regulations, or increase the amounts generated or procured beyond current management procedures, permits, or capacities. Impacts on contaminated sites would be significant if a Proposed Action would disturb or create contaminated sites to a degree that would result in negative impacts on human health or the environment, or if a Proposed Action would make it substantially more difficult or costly to remediate existing contaminated sites.

4.9.1 Effects of the Proposed Action

Potential short-term, negligible to minor, localized adverse impacts would occur from the use of hazardous materials and petroleum products and the generation of hazardous wastes during demolition, site preparation, and construction. Hazardous materials that could be used include architectural coatings, welding gases, solvents, preservatives, and sealants etc. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be used in construction and demolition vehicles and equipment. Contractors would report the use of hazardous materials to the appropriate Offutt AFB entity in an effort to control any potential impacts on hazardous materials

management. Contractors would use environmental protection measures to prevent releases and ensure that any releases, should they occur, do not result in contamination. Construction would generate negligible to minor quantities of hazardous wastes. All hazardous materials, petroleum products, and hazardous wastes used or generated during construction would be continued, stored and managed in accordance with the installations' HAZMAT Plan; Hazardous Waste Management Plan; Integrated Contingency Plan; and federal, state, and USAF application regulations to minimize the potential for releases. The NDEE indicated in a March 31, 2020 letter (Appendix A) that a waste permit would not be required for the Proposed Action. All wastes generated would be properly handled, contained, and disposed as per all applicable regulations in Titles 128 and 132. Demolition materials would be disposed at a municipal solid waste landfill, or if available a construction and demolition landfill.

Short-term, negligible to minor, localized adverse impacts would occur because some projects coincide with or are adjacent to active ERP sites and would require removal of existing ASTs and USTs. Prior to the start of construction within or adjacent to an active ERP site, contractors would coordinate with Offutt AFB ERP staff to ensure that contamination from these sites is not impacted or spread from construction activities. A health and safety plan would also be developed in accordance with OSHA regulations to protect contractors. The ERP staff would ensure that coordination is completed with NDEE as necessary. Contractors conducting project activities within or adjacent to ERP sites with shallow groundwater contamination would take appropriate control measures should ground disturbance reach the depth of groundwater. Contractors would also ensure proper handling and disposal of any contaminated soils and/or groundwater encountered when working within or adjacent to sites with contamination. Construction would not impact the ability to remediate, investigate, or monitor the ERP sites, and project planning would include protection of ERP infrastructure (monitoring wells, in situ remedies, etc.). Coordination with ERP staff would occur in order to maintain access for required semi-annual sampling. The installation development project would not conflict with the land use controls imposed on the ERP sites. Contractors performing construction and demolition could encounter previously unknown soil or groundwater contamination. If soil or groundwater that is believed to be contaminated is discovered, the contractor would immediately stop work, report the discovery to the installation, and implement appropriate safety measures. Commencement of field activities would not continue in this area until the issue was investigated and resolve.

When removing storage tanks, contractors would need to follow American Petroleum Institute 1604, *Closure of Underground Petroleum Storage Tanks*. Table 4-5 below identifies the ASTs and USTs that overlap or are adjacent to features of the proposed project and would need to be removed. All associated soil and groundwater sampling strategies would be in accordance with all federal, state, and local laws and regulations and coordinated with the NDEE.

Table 4-5. Proposed Storage Tank Removal

Tank ID	Type	Contents	Capacity	Campus
393	AST	Diesel Fuel	2500	Flightline Hanger
399	AST	Diesel Fuel	445	Flightline Hanger
0470-001/1	AST	Diesel Fuel	75	NC3
0470-001	AST	Diesel Fuel	4000	NC3
0496-001	UST	Empty	10000	NC3
0523-001/1	AST	Diesel Fuel	200	Security
0523-001	AST	Diesel Fuel	10000	Security
524	AST	Diesel Fuel	900	NC3
531	AST	Diesel Fuel	50000	NC3
531-001	UST	Jet Fuel A/A-1	50000	NC3
531-002	UST	Jet Fuel A/A-1	50000	NC3
531-003	UST	Jet Fuel A/A-1	50000	NC3
531-004	UST	Jet Fuel A/A-1	50000	NC3
531-005	UST	Empty	2000	NC3
541	AST	Diesel Fuel	217	NC3
542-001/1	AST	Diesel Fuel	250	Security
542-001	UST	Diesel Fuel	15000	Security
542-002	UST	Diesel Fuel	12000	Security
578-001/1	AST	Diesel Fuel	250	Security
578-001	UST	Diesel Fuel	2000	Security
592-001	AST	Diesel Fuel	300	NC3
592-001/1	AST	Diesel Fuel	200	NC3

Under the Proposed Action, impacts on or from hazardous materials and wastes would not be significant because the Proposed Action would be in compliance with applicable federal or state regulations. The Proposed Action would not increase the amounts of hazardous wastes generated or procured beyond current management procedures, permits, or capacities. Impacts on contaminated sites would not be significant because the Proposed Action would not disturb or create contaminated sites to a degree that would result in negative impacts on human health or the environment, or make it substantially more difficult or costly to remediate existing contaminated sites.

4.9.2 Effects of the No Action alternative

Under the No Action Alternative, the Proposed Action would not occur. The land would remain in its current existing condition and would not incur any additional impacts.

4.9.3 Mitigation

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels. Best Management Practices would be followed as described in Section 4.9.1 and Table 5.1

4.10 Health and Safety

4.10.1 Effects of the Proposed Action

Significant impacts to health and safety resources would occur if the Proposed Action caused an unsafe environment for workers, base employees, and visitors, or violated National Fire Protection Association Standard 1500.

Potential short term, minor, adverse impacts on contractor health and safety would result from construction of the Proposed Action. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemical use; operating heavy machinery. To minimize health and safety risk, construction contractors would be required to use appropriate personal protective equipment and establish and maintain site-specific health and safety programs for their employees. Access to the construction site would follow all appropriate laws and regulations minimizing harm to visitors and base employees from construction activities.

4.10.2 Effects of the No Action Alternative

Under the No Action Alternative, Offutt AFB would not implement the Proposed Action; therefore no construction or demolition activities would occur. The existing conditions described under the Affected Environment would be unchanged.

4.10.3 Mitigation

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels. Best Management Practices would be followed as described in Section 4.10.1 and Table 5-1.

4.11 Infrastructure

4.11.1 Effects of the Proposed Action

Significant impacts to infrastructure would occur if the Proposed Action would require a major increase in infrastructure capacity such as for roads, utilities, or sewage treatment.

Potential short-term, minor adverse, localized impacts to infrastructure would occur under the Proposed Action from an increase in construction-related truck traffic on local highways and roads, and Offutt AFB roads. Offutt AFB would coordinate and finalize truck traffic routes with state and local officials prior to construction activities. The USAF participates in cooperative planning with local and state governments including the city of Bellevue, Omaha, Ralston, LaVista, Papillion, Plattsmouth, Sarpy and Douglas Counties, and the Nebraska Department of Transportation. Details of planned truck routes would be finalized with the applicable entities prior to the start of the proposed construction. Three different clear route courses of action (COAs) would be considered to avoid causing traffic issues on Offutt AFB. All are designed to avoid main entrances to the Base to the extent possible.

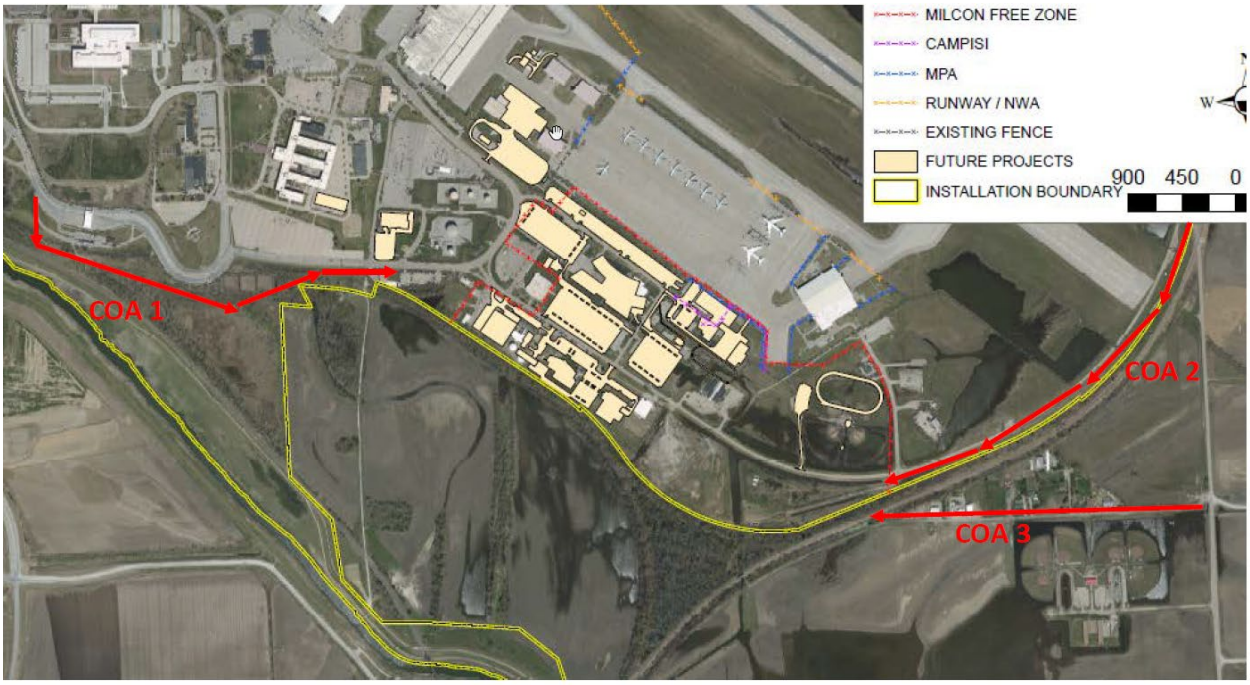

Figure 4-1. Potential Construction Haul Routes

Potential long-term traffic impacts to Offutt AFB and regional roadways would be absorbed by current infrastructure as the Proposed Action would replace prior infrastructure that had flooded. An increase in full time employees would not be anticipated due to the new facilities being constructed. It would be expected that the modern buildings would be more energy efficient than the older buildings that they would replace. Construction of state-of-the-art new facilities would result in greater efficiency in the use of water and power over the existing facilities.

No significant impacts to infrastructure would occur from the Proposed Action because no major increase in infrastructure capacity such as for roads, utilities, or sewage treatment would occur.

4.11.2 Effects of the No Action Alternative

Under the No Action Alternative, Offutt AFB would not implement the Proposed Action; therefore no construction or demolition activities would occur. The existing conditions described under the Affected Environment would be unchanged.

4.11.3 Mitigation

No mitigation measures would be necessary to reduce any adverse environmental impacts to below significant levels. Best Management Practices would be followed as described in Section 4.11.1 and Table 5-1.

4.12 Unavoidable Adverse Impacts

Unavoidable adverse impacts would result from the Proposed Action as described in each resource section and summarized in Table 2-2. None of these impacts would be significant. BMPs are identified to reduce impacts where applicable and have been identified in each resource section and Table 5-1.

4.13 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the impacts that use of these resources would have on future generations. Irreversible impacts primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable timeframe. The irreversible and irretrievable commitment of resources that would result from the Proposed Action involve the consumption of material resources used for construction including energy resources.

4.14 Short-term Uses of Resources vs. Long-term Productivity

Short-term uses of the biophysical components of the human environment include direct, project-related disturbances and direct impact associated with an increase of population and activity that would occur over the construction timeframe of 2021-2026. Long-term uses of the human environment include impacts occurring after the construction timeframe. The Proposed Action would not require short-term resource uses that would result in long-term productivity. The Proposed Action would be replacing infrastructure and operations that had existed prior to the March 2019 flooding event and activities would occur within previously developed areas.

4.15 Compatibility with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

The Proposed Action would occur on government-owned lands that USAF operates. The proposed construction and demolition and long-term operations associated with the Proposed Action would not differ substantially from current activities occurring within the proposed project area. The USAF would continue to follow all requirements related to installation development and would therefore be consistent with current federal, regional, state, and local land use policies and controls. The Proposed Action would not conflict with any applicable off-installation land-use ordinances and would follow all applicable permitting, building, and safety requirements. Local, regional, and state governments would continue to be coordinated with as detailed construction plans and designs become available as the project progresses.

5 Cumulative Impacts

As defined by CEQ regulations in 40 CFR Part 1508.7, cumulative impacts are those that "result from the incremental impact of the Proposed Action when added to other past, present and reasonably foreseeable future actions, without regard to the agency (federal or non-federal) or individual who undertakes such other actions." Cumulative impact analysis captures the effects that result from the Proposed Action and alternatives in combination with the effects of other actions.

Past, present, and reasonably foreseeable actions include transportation improvement projects, housing developments, commercial projects, other planned AF projects and operation of Offutt AFB. According to CEQ, a cumulative effects analysis may assess past actions in the proposed project area by focusing on the "current aggregate effects of past actions without delving into the historical details of individual past actions (CEQ, 2005)". Past activities are those actions that occurred within the geographic scope of cumulative impacts that have shaped the current environmental conditions at Offutt AFB and the surrounding area. The major past actions affecting resources in the proposed project area were the development of Bellevue, NE and the establishment and operation of Fort Crook from 1889 to 1947, and Offutt AFB from 1948 to present. Offutt AFB has been a military installation since 1897 and has modified the original environment substantially. For many resource areas such as biological resources and environmental contamination, the impacts of past actions are now part of the existing environment and are included in the description of the Affected Environment as described in Chapter 3. In this analysis, the impacts of past actions are considered to be evident in the existing conditions of resources described in the Affected Environment Chapter. Actions and trends that are ongoing or are anticipated to occur in the future that may result in cumulative effects include:

Future Roadway Improvements:

- Fort Crook Road, Cornhusker Road to Capehart Road. This road improvement project would be directly to the west of Offutt AFB. The project would include road resurfacing on a three mile stretch of Fort Crook road directly west of Offutt AFB and is scheduled to begin in 2024.
- Bridge Improvement - Fort Crook Road over Papillion Creek. This project would occur directly to the west of Offutt AFB. This would be a bridge replacement over Papillion Creek on Fort Crook Road directly west of Offutt AFB that is scheduled to occur in 2020.
- 36th Street Improvement Project: This project would convert to four-lane divided highway along 36th street between Cornhusker Road and Raynor Parkway. This project would occur approximately three miles northwest of Offutt AFB. Construction would begin in 2022.

Future Urban/Suburban Development:

Bellevue's new commercial growth is expanding to the south and southwest. Key growth areas in the Bellevue/Offutt AFB Community are:

- Cornhusker Corridor – east and west of US-75, east to Galvin Road and west to 36th Street
- Hwy 370 Corridor – west of US-75, between 25th street and 42nd Street (2.25 miles north of Offutt AFB)
- Capehart Corridor – west of US-75, between 25th street and 36th street (about one mile west of Offutt)
- Fairview Corridor – west of US-75, to 25th street and Platteview Road (about ½ mile southwest of Offutt AFB)

- Highway 34 Corridor – east of US-75, (light industrial development about two miles south of Offutt AFB)

Future land use surrounding Offutt AFB:

- Sarpy County geographic information systems mapping indicates that future land use south of Offutt AFB could transition from open space/agricultural to industrial activity (see Figure 3-2). While no specific development projects are planned, given suburban development trends in the area, it is reasonably foreseeable that at least some portion of the areas mapped as future industrial areas would see some industrial development.

Current and Future Operation and Development of Offutt AFB:

The operation of Offutt AFB results in wide ranging impacts to the environment (USAF 2015b). Impacts on natural resources from current and future operation and development include, but are not limited to:

- Air and water pollution from aircraft, vehicle operations, and chemical use
- Stormwater runoff into lakes, streams, and rivers
- Storage, use, and transportation of hazardous materials
- Generation, storage, and disposal of hazardous wastes
- Potential for soil and groundwater contamination
- Noise pollution from aircraft, vehicles, construction, and lawn maintenance equipment
- Future wetland management due to Bird/wildlife Aircraft Strike Hazard (BASH) concerns
- Increases in developed areas

5.1 Cumulative Effects Analysis

This section evaluates the cumulative impacts of the Proposed Action by determining the incremental contribution of the Proposed Action together with past, present, and reasonably foreseeable actions. Potential impacts to land use, air quality, noise, soils and topography, wetlands, groundwater, surface water, wildlife and migratory birds, cultural resources, hazardous materials and waste, health and safety, and infrastructure are identified, but managed through implementation of proposed BMPs described in Section 5.2. No adverse impacts to geology, prime farmlands, floodplains, state-listed or federally-listed species would be anticipated.

Under the No Action Alternative, the proposed Offutt AFB flood recovery re-build project would not occur. The assessment of direct and indirect effects determined that no effects to the existing condition of resources would occur under the No Action Alternative, therefore no cumulative impacts would occur.

5.1.1 Land Use

The Proposed Action would have short-term, minor, adverse, localized impacts to land use on Offutt AFB that would result from construction-related disturbance. The roadway improvements, urban/suburban development trends, potential changes in land use are outside of the Offutt AFB boundary. Ongoing operation of Offutt AFB would not have an additive, or incremental, adverse effect to land use designations on Offutt AFB when combined with the identified short-term direct/indirect effect of the Proposed Action. Therefore, there would be no cumulative impact to land use under the Proposed Action. Future installation development at Offutt AFB would comply with and be consistent with the

existing installation land use plans and policies as defined in the Offutt AFB Installation Development Plan. No off-installation land use designations or uses would require changes as a result of the Proposed Action. Therefore, the Proposed Action, when combined with other past, present and reasonably foreseeable future projects, would not result in a significant cumulative impact on land use.

5.1.2 Air Quality

The Proposed Action would have short-term, minor, adverse, localized effects to air quality from a temporary increase in dust generation from construction activities. The identified roadway improvements nearest to Offutt AFB (the bridge replacement and roadway improvements on Fort Crook Road) could have an additive effect in conjunction with the increased temporary dust generation from the Proposed Action. The nearest roadway improvement project is not scheduled to occur until 2024. By 2024, most of the construction from the Proposed Action would be complete. The bridge replacement project is scheduled to be complete before the proposed construction actions under the Proposed Project would start in 2021, therefore, there would be no cumulative effect. The ACAM model results predict that the highest years of particulate dust matter from the Proposed Action would occur in 2021 and 2022 when construction would be occurring on multiple campuses. The Proposed Action would have no direct or indirect long-term effects to air quality, therefore there would be no cumulative long-term effect.

5.1.3 Noise

The Proposed Action would have short-term negligible to minor, adverse, localized, less than significant impacts to the noise environment from construction of the proposed project. The identified roadway improvements and ongoing and future suburban corridor development could have an additive effect in conjunction with the increased temporary noise increase from the Proposed Action. The roadway improvement project nearest to the proposed project and identified sensitive receptors would not occur until 2024. By 2024, most of the construction from the Proposed Action would be complete. The bridge replacement project would be complete before construction actions under the Proposed Project would start in 2021, therefore, there would be no cumulative effect from the bridge project. The noise from construction activities would not increase the noise contours that exist from the current operation of Offutt AFB. There would be short-term, minor, adverse, localized less-than significant cumulative effects under the Proposed Action.

5.1.4 Topography, Geology and Soils

The Proposed Action would have short, term, minor, localized, adverse, less than significant impacts to soils and topography from construction. None of the cumulative actions identified would cause an impact to topography, geology, or soils within the area where direct/indirect impacts would occur from the Proposed Action, therefore there would be no cumulative effects to topography, geology, or soils.

5.1.5 Water Resources

The Proposed Action would cause long-term, negligible, localized adverse effects to surface water, groundwater, and wetlands. None of the identified cumulative actions would have impacts to these resources in the same locations as the Proposed Action except possibly for ongoing activities on Offutt AFB outside of the Proposed Action activities. Ongoing Offutt operations impact groundwater, surface

water and wetlands (Offutt 2016); however, these impacts are largely reflected in the existing condition of these resources. Future development would potentially add runoff and changes in stormwater flow from hard surfaces, added rooftops, and road surfaces. Future water quality potential impacts would also include runoff from road and parking lot surfaces, winter treatments, and vehicle fluids. The BASH plan for Offutt AFB indicated that additional stormwater drainage ditch wetlands may need to be relocated or filled in the future because they are located in close proximity to the runway and cause a wildlife hazard. Given the proposed project area's proximity to large wetland areas associated with the Papillion Creek and Missouri River any additional impact to stormwater wetlands on base would be minor. The cumulative impact of the Proposed Action when combined with ongoing and future operations is therefore not anticipated to have a significant cumulative effect.

5.1.6 Biological Resources

The Proposed Action would potentially cause short-term, negligible, localized adverse impacts to biological resources including vegetation, wildlife, and migratory birds. Potential impacts would occur through vegetation removal and short-term construction related disturbance. The Proposed Action would have no effect to the least tern, piping plover, pallid sturgeon, river otter, or western prairie fringed orchid. The Proposed Action may affect, but is not likely to adversely affect the northern long-eared bat. The No Action Alternative would potentially have long-term, minor, adverse impacts to biological resources by providing an opportunity for invasive plant species to establish in disturbed areas. Ongoing operations at Offutt AFB impact biological resources; however, these impacts are reflected in the existing condition of these resources. None of the other cumulative actions identified would cause more than a negligible short-term adverse impact to biological resources within the proposed project area. Past, present and reasonably foreseeable actions on Offutt AFB and within the surrounding area are not anticipated to result in significant impacts to biological resources under either the Proposed Action or No Action Alternative.

5.1.7 Cultural Resources

The Proposed Action and present and reasonably foreseeable actions on Offutt AFB and within the surrounding area are not anticipated to result in adverse impacts to cultural resources. No other reasonably foreseeable action would require impacting historic sites. There are no known archeological resources within the proposed project area. If during construction/demolition activities, any suspected archaeological materials or human remains are encountered, all construction activity in the vicinity of the remains would cease immediately and a qualified archaeologist or SHPO would be contacted. Construction would not continue until the site is cleared by a qualified archaeologist or the SHPO. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on cultural resources.

5.1.8 Hazardous Materials and Waste

The Proposed Action would cause short-term, negligible to minor, adverse localized effect from use of hazardous materials and generation of wastes during demolition, site preparation, and construction. The Proposed Action would also have short-term negligible to minor adverse impacts from construction activities adjacent to or coincident with ERP sites and from removal of USTs and ASTs. None of the identified cumulative actions outside of other proposed activities on Offutt AFB would have additive

impacts. The Proposed Action combined with other future operations and projects at Offutt AFB would result in intermittent, short-term, temporary increases in the use of hazardous materials and petroleum products and generation of waste. Future operations and development such as increased hard surfaces, parking lots, vehicle traffic, housing, gas stations, would potentially cause an increase in water flow and pollutants such as winter road treatments and vehicle fluids. Environmental control measures outlined in Chapter 4.9, to include proper vehicle maintenance, proper procurement of hazardous materials, and proper disposal of hazardous wastes are typical control measures to minimize impacts. If soil or groundwater that is believed to be contaminated is discovered on or off the installation, the contractor would immediately stop work. The appropriate Offutt AFB entities would be contacted and Offutt AFB would take the appropriate corrective actions. Commencement of construction activities would not occur until the issues were investigated and resolved. The Proposed Action, as well as present and reasonably foreseeable future projects at Offutt AFB would incorporate standard measures to limit or control hazardous materials into their design and operation plans. No other reasonably foreseeable actions would require disturbing ERP sites or removing ASTs or USTs. Therefore the Proposed Action, when combined with other past, present and reasonably foreseeable future projects, would not result in a significant cumulative impact on hazardous materials and waste.

5.1.9 Health and Safety

The Proposed Action at Offutt AFB and present and reasonably foreseeable action on Offutt AFB and within the surrounding areas would not result in cumulative impacts on health and safety. Adherence to established procedures, including the use of personal protective equipment, fencing around the proposed project areas and posting signs, and compliance with all federal state and DOD OSHA standards would reduce or eliminate health and safety impacts on contractors, military personnel and the general public. These procedures are typical of reconstruction projects on the installation and within the surrounding area. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on health and safety.

5.1.10 Infrastructure

The Proposed Action would cause potential short-term, minor, adverse impacts from an increase in truck traffic on local highways and roads. The roadway improvement project nearest to the proposed project and identified sensitive receptors would not occur until 2024. By 2024, most of the construction from the Proposed Action would be complete. The bridge replacement project would be complete before construction actions under the proposed project would be complete in 2021; therefore, there would be no cumulative effect from the bridge project. The exact routes that truck traffic would follow have not yet been determined, but haul routes would be closely coordinated with the appropriate Sarpy County, City of Bellevue, and state officials to avoid causing traffic issues. None of the other reasonably foreseeable projects would cause impacts to traffic; therefore, no significant cumulative effects would be anticipated.

5.2 Mitigation Measures and Best Management Practices.

Best Management Practices would be activities committed to by the USAF as part of the Proposed Action to manage or eliminate potential impacts to resources. Mitigation measures are required when

the assessment of potential impacts identifies a "significant" impact to a resource. Mitigation measures are developed and proposed in an effort to reduce identified, potentially significant adverse impacts to acceptable, less-than significant levels. With the implementation of BMPs summarized in Table 5-1 and within specific sections of Chapter 4, the Proposed Action and the No Action Alternative would not require mitigation measures to reduce anticipated impacts. With implementation of the proposed BMPs, potential impacts to resources were determined to be "no" impact or "less than significant" impact, thus mitigation measures would not be needed.

Table 5-1. Best Management Practices

Resource	Best Management Practices (BMPs)
Air Quality	Appropriate dust suppression methods during the proposed on-site construction activities would be used (i.e., available methods include application of water [fresh water only], soil stabilizers, or vegetation; use of enclosures, covers, silt fences, or wheel washers; and suspension of earth-movement or disturbance activities during high wind conditions).
	A speed of less than 15 miles per hour for construction equipment on unpaved surfaces would be required.
	Low VOC architectural materials, supplies, and equipment would be used.
	Construction equipment would be repaired and serviced as needed to prevent excess emissions.
	Heavy equipment would be turned off when not in use.
	Excess soil would be cleaned from heavy equipment and trucks leaving the construction zone to prevent off-site transport.
Noise	Appropriate noise-dampening/muffler devices on construction equipment would be used to minimize noise generation.
	Proposed construction activities would be limited to daytime hours, as allowable.
Biological Resources	If vegetation removal were to occur during the migratory bird nesting season (April 1 to July 31) or raptor nesting season (March 1 to August 31), a preconstruction nest survey would be conducted by a qualified biologist in vicinity of the proposed area. If active bird nests are identified, proposed construction activities would avoid disturbing any active nest. A qualified biologist would determine the appropriate no- work avoidance buffer distance, which would be implemented until nestlings have fledged from the nest and the nest is no longer active.

	To minimize impact on the northern Long-eared Bat, a threatened tree roosting species, any potential tree removal activities would occur outside of the June 1 to July 31 pup season.
	Short-term disturbance areas would be revegetated with native plants and seed mix where appropriate.
	Trees would be avoided or salvaged where practicable. Salvaged trees would be transplanted to other locations on the property or would be used for additional landscaping. Transplanting of salvaged trees would be done in accordance with the Offutt AFB tree plan in the Integrated Natural Resources Management Plan.
Water Resources	Vehicular traffic associated with construction and operational activities would remain on paved areas to the maximum extent practicable to minimize disturbance of surface soils. Surface disturbance would be kept to the minimum required to construct structures associated with the proposed area.
	Erosion-prevention measures would be implemented such as silt fences and water breaks, sedimentation basins, filter fences, sediment berms, interceptor ditches, straw bales, rip- rap, and/or other sediment control structures. Soils would be watered and stockpiled during construction to prevent erosive losses from excavation and other activities.
	Soil-stabilizing vegetation would be planted and maintained on disturbed areas.
	Because over 1 acre of land would be disturbed, a National Pollutant Discharge Elimination System Construction stormwater permit along with a SWPPP would be prepared and implemented by the construction contractor in accordance with the Offutt AFB existing permit and SWPPP. The contractor would need to use the EPA's 2017 Final SWPPP Template which is required by Offutt AFB. The contractor would also need to obtain a de-watering permit from the NDEE and follow any necessary permit required BMPs for de-watering.
	Because this federal development would exceed 5,000 square feet, the design and construction of the Proposed Action would comply with Energy Independence and Security Act Section 438 requirement to reduce stormwater runoff from development activities to protect water resources.
	Proposed construction and operation would comply with the Offutt AFB MS4 permit and SWMP, which would be updated to include the Proposed Action and associated activities.

	Temporary collection and containment systems for domestic and industrial wastewater would be provided during the construction phase of the proposed area in the form of portable toilets, designated concrete washout containment facilities, and similar practices as needed.
	The total amount of ground and vegetative cover disturbance would be minimized to the amount practicable.
	Construction staging areas would be limited to areas that have previously been disturbed, if possible.
	All chemicals and petroleum products would be stored and contained away from water sources.
	Secondary containment and barriers, or similarly effective means designed to prevent discharge of pollutants, would be implemented between any disturbed storage tanks and waterways. This would also include compliance with applicable state and federal laws regarding Spill Prevention, Control, and Countermeasure Plan requirements.
Hazardous Materials and Waste	Contractors would report the use of hazardous materials to the appropriate Offutt AFB entity in an effort to control any potential impacts on hazardous materials management. Contractors would use environmental protection measures to prevent releases and ensure that any releases, should they occur, do not result in contamination.
	Prior to the start of potential construction within or adjacent to an active ERP site, contractors would coordinate with the Offutt AFB ERP staff to ensure that ERP infrastructure (monitoring wells, in situ remedies, etc.) would either not be disturbed or would be repaired/replaced properly if disturbed.
	Coordination with ERP staff would occur in order to maintain access for required semi-annual sampling.
	A procedure for the proper handling, storage, use, disposal, and cleanup of hazardous wastes and/or toxic materials to be used during potential construction and operations would be handled in accordance with the installation's Hazardous Materials and Hazardous Management Plans.
	Prior to the start of construction within or adjacent to an active ERP site, contractors would coordinate with Offutt AFB ERP staff to ensure that contamination from these sites is not impacted or spread from construction activities a health and safety plan would be developed in accordance with OSHA regulations to protect contractors.

	Contractors conducting project activities within or adjacent to ERP sites with shallow groundwater contamination would take appropriate control measures should ground disturbance reach the depth of groundwater. Contractors would also ensure proper handling and disposal of any contaminated soils encountered when working within or adjacent to sites with soil contamination.
	If soil or groundwater that is believed to be contaminated is discovered, the contractor would immediately stop work, report the discovery to the installation, and implement appropriate safety measures. Commencement of field activities would not continue in this area until the issue was investigated and resolve.
	In removal of storage tanks contractors would need to follow American Petroleum Institute 1604, *Closure of Underground Petroleum Storage Tanks*.
Safety	Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemical use; and operating heavy machinery. To minimize the health and safety risk, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Access to the construction site would follow all appropriate laws and regulations minimizing harm to visitors and base employees from construction activities.
Cultural Resources	If the proposed demolition and construction activities occur, and any suspected archaeological materials or human remains are encountered, all construction activity in the vicinity of the remains would cease immediately and a qualified archaeologist or SHPO would be contacted. Construction would not continue until the site is cleared by a qualified archaeologist or the SHPO.

6 Comparison of Alternatives and Conclusions

6.1 Comparison of the Environmental Consequences of the Alternatives

This EA has evaluated the potential environmental, socioeconomic, and cultural effects of the Proposed Action and the No Action Alternative as detailed in Chapter 2. A comparison of the environmental consequences of these alternatives is provided below in Table 6-1.

Table 6-1. Summary of Environmental Consequences

Resource	Proposed Action	No Action
Land Use	Potential short-term, minor, adverse, localized, less than significant impacts to land use on Offutt AFB would occur as a result of proposed construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Air Quality	Potential short-term, minor, adverse, localized, less than significant impacts to air quality would occur from potential temporary increase in dust generation from construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Noise	Potential short-term, negligible to minor, adverse, localized, less than significant impacts to the noise environment would occur from proposed construction activities.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

Topography, Geology, and Soils	No effect to geology or prime farmland would be expected. There would be potential short-term, minor, localized, adverse, less than significant impacts to soils and topography from proposed construction activities. Proposed placement of fill to raise structures would modify the topography for the long-term, but this is not considered to be an adverse effect.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Water Resources	Potential short-term, negligible, localized, adverse, less than significant effect to surface waters and connected groundwater from a potential temporary increase in construction related runoff related to the Proposed Action. Potential long-term, negligible, localized, adverse, less than significant effect to wetlands from potential filling approximately 0.87 acres of non-jurisdictional stormwater drainage ditch wetlands related to the Proposed Action. There would be no effect to the floodplain as the Proposed Action is landward of the existing levee.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

Biological Resources	There would be no effect to the pallid sturgeon, piping plover, least tern, prairie fringed orchid, or river otter. The Proposed Action may affect, but is not likely to adversely affect the northern long-eared bat. There would be potential short-term, negligible, localized less than significant effect to vegetation and wildlife species that inhabit vegetation in the proposed project area.	The No Action Alternative would cause potential minor, long-term, adverse impacts to biological resources by providing an opportunity for invasive plant species to establish in disturbed areas.
Cultural Resources	There would be no adverse effects to eligible historic properties or archeological resources.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.
Hazardous Materials and Waste	Short-term, negligible to minor, adverse, localized, less than significant effect would occur from the use of hazardous materials and the generation of hazardous wastes during demolition, site preparation, and construction. Short-term, negligible to minor, localized, adverse, less than significant impacts would occur from construction activities adjacent to or coincident with ERP sites and from removal of USTs and ASTs.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

Health and Safety	Short-term, minor, adverse, localized less than significant impacts to contractor health and safety in carrying out construction activities. No effect to mission safety or public safety.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter. The health and safety risk posed by existing flood damaged buildings would persist.
Infrastructure	Short-term, minor, localized, adverse, less than significant impacts from construction activities causing a temporary increase in truck traffic on local highways and roads. No adverse effect to Offutt AFB infrastructure.	The No Action Alternative would not cause a change from existing conditions as described in the Affected Environment Chapter.

The evaluation performed as documented within this EA concludes that while some potential adverse effects from the Proposed Action would occur, they would be less than significant and managed with BMPs. There would be no significant adverse impact, either individually or cumulatively to the human environment as a result of implementing the Proposed Action Alternative. Therefore, based on this assessment, the USAF has determined that an Environmental Impact Statement is unnecessary and that a FONSI is appropriate. Because the Proposed Action would be located within the floodplain, if it were not protected by federal levees, and because the Proposed Action would impact 0.87 acre of non-jurisdictional wetlands, the USAF has also determined that a FONPA is also necessary. As described in Chapter 2, the Proposed Action was determined to best meet the Purpose and Need and selection standards and would not cause a significant impact to the human environment and is therefore identified by the USAF as the preferred alternative for implementation.

7 List of Preparers

The U.S. Army Corps of Engineers prepared this Preliminary Draft EA on behalf of the U.S. Air Force with assistance and review from U.S. Air Force staff and coordination with U.S. Army Corps of Engineers MILCON staff. The qualifications and roles of U.S. Army Corps of Engineers staff engaged in writing the EA are provided below:

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