Department of the Air Force

Integrated Cultural Resources Management Plan

Buckley

Installation Supplement

ABOUT THIS PLAN

This installation-specific Environmental Management Plan (EMP) is based on the U.S. Air Force's (USAF's) standardized Integrated Cultural Resources Management Plan (ICRMP) template. This Plan is not an exhaustive inventory of all cultural resource requirements and practices. External resources, including Air Force Instructions (AFIs); Air Force Manuals (AFMANs); USAF Playbooks; and federal, state, local, and permit requirements are referenced, where applicable.

Certain sections of this ICRMP begin with standardized, USAF-wide "common text" language that addresses USAF and Department of Defense (DoD) policy and federal requirements. This common text language is restricted from editing to ensure that it remains standard throughout all plans. The designated Air Force Civil Engineer Center (AFCEC) Office of Primary Responsibility (OPR) with assistance from the AFCEC Office of Collateral Responsibility (OCR) maintains and updates common text language as appropriate.

Installation Supplement sections follow each of the USAF-wide common text sections. Installation Supplements sections contain installation-specific content to address state, local, and installation-specific requirements. Installation sections are unrestricted and are maintained and updated by AFCEC environmental Sections and/or installation personnel. Updates should be made only when there are unique requirements at an installation. They should not be used to reiterate standard USAF requirements, such as those found in AFIs, AFMANs, or Department of Defense Instructions (DoDIs).

DOCUMENT CONTROL

Standardized ICRMP Template

In accordance with (IAW) the Air Force Civil Engineer Center (AFCEC) Environmental Directorate (CZ) Business Rule (BR) 08, *EMP Review, Update, and Maintenance*, the standard content in this ICRMP template is reviewed periodically, updated as appropriate, and approved by the Cultural Resources Subject Matter Expert (SME).

This version of the template is current as of 06/26/2020 and supersedes the 2020 version.

Installation ICRMP

Record of Review – The ICRMP is updated annually, or more frequently, as changes to cultural resource management and protection practices occur, including those driven by changes in applicable regulations. Updates will be made directly in the body of the document or to an appendix, as appropriate. The ICRMP will be revised and approved at least every five years, or when there is a significant change to the mission or installation, in accordance with (IAW) DoDI 4715.16, *Cultural Resources Management*, and AFMAN 32-7003, *Environmental Conservation*. The Base Civil Engineer (BCE) level, at a minimum, will sign the five year/significant updates. The installation Cultural Resources Manager (CRM) or an AFCEC Branch or Section Cultural Resources Media Manager (CRMM) will update the Plan every year. ICRMP updates should consider the effects of installation missions on cultural resources, the maintenance and upkeep of those resources, and compliance with National Historic Preservation Act (NHPA) Sections 106 and 110, and new survey and evaluation data. The CRM, the CRMM, or the Branch specialist will send the ICRMP, or a summary of updates since the last approval, to the Civil Engineer (CE) squadron commander or comparable officer/civilian for review IAW DoDI 4715.16 and AFMAN 32-7003. Annual reviews do not require BCE signature, but are captured in a memo to the BCE. Annual review procedures are outlined below:

ICRMP Annual Review and Coordination

Annual Requirements (at a minimum)

- Update data tables (minimum will include: resources, evaluations, locations, and references), including the Installation Profile
- Update survey locations tables and maps. Always include surveyed acreage and survey boundaries, note the dates of the surveys, and cite the survey report on the map or in map legends
- Add new Memoranda of Agreements (MOAs), Programmatic Agreements (PAs), Native American Graves Protection and Repatriation Act (NAGPRA) Comprehensive Agreements (CAs) and Plans of Action, and other signed agreements or understandings that drive work requirements
- Summarize MOAs, PAs, NAGPRA CAs/Plans of Action and other agreement or understanding documents in the Executive Summary and Work Plan
- Add outline of new planning data, to include mission changes, construction, destruction, development, etc., that will drive NHPA Section 106 and/or Environmental Impact Analysis Process (EIAP) reviews and consultations

Timing

- Update period is at least annual
- ICRMP may (and should) be updated continuously through the year

Validation

- The AFCEC CRMM or the installation CRM writes an Annual Update Memo to the installation briefly outlining annual changes and additions
- Annual Update Memo included in the ICRMP
- Update is complete when the Annual Update Memo is sent to the installation CRM for appropriate installation-level distribution. The annual review cycle is complete (and the ICRMP will show as "green" on all relevant eDASH dashboards) after the Memo is sent and all required metrics are updated in the Plans and Permits tool on eDASH

Digital File Storage and Archiving

- Current approved ICRMP PDF is kept on installation eDASH page
- Installation will follow their installation's approved file management plan (e.g. Air Force Records Management System [AFRIMS]) for archiving older ICRMPs IAW with current USAF policy

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Review Date	Review Participants	Notes/Remarks	Result in Plan Update? (Yes or No)
4 March 2021	Jeffrey Harrison	Updated AFI 32-7065 to AFMAN 32-7003, Update DAFI 90-2002; update Tribal contacts; update goals and projects; update all tables and maps	Yes, Annual Update

ICRMP APPROVAL (SIGNATURE PAGE)
Installation Supplement

Signature Page - 2020 ICRMP Buckley-Final v2020.pdf

[SIGNATURE]

1 OVERVIEW AND SCOPE

This ICRMP was developed to provide for effective management and protection of cultural resources. It summarizes the history and prehistory of the installation and reviews past historical and archaeological survey efforts. It outlines and assigns responsibilities for the management of cultural resources, discusses related concerns, and provides standard operating procedures (SOPs) that will help to manage or preserve the cultural resources of the installation within the context of the mission. The ICRMP is intended for use by all personnel involved in installation planning. AFMAN 32-7003 acts as the main driver for the ICRMP. The Cultural Resources Management Playbook serves as supplemental guidance to this Plan.

1.1 Executive Summary
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This ICRMP has been developed in accordance with the revised guidelines for AFMAN 32-7003, *Environmental Conservation* and includes a brief historical context for the installation and a description of the facility components (Section 2.0), a discussion regarding historic preservation issues and requirements, a description of the compliance and consultation process under Section 106 of the NHPA, SOPs relevant to Cultural Resources Management Program (CRMP) compliance (Section 7.0), contact

information for key persons who may be involved in Section 110 and 106 compliance and consultation (Section 7.8), and a brief discussion of forthcoming CRMP activities on Buckley Space Force Base (BSFB).

1.1.1 Summary of Major Points

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BSFB has many legal responsibilities related to the identification, preservation, and management of cultural resources on its lands. This ICRMP is intended to serve as the planning and guidance document that will assist the base in complying with Federal preservation requirements and AF policy directives. BSFB Commander (referred to hereafter as the Commander) has responsibility for implementing the Cultural Resources Management Program (CRMP) and all other responsibilities assigned in AFMAN 32-7003, *Environmental Conservation* and DAFI 90-2002, *Air Force Interactions with Federally Recognized Tribes*. The CRMP is managed by a CRM who is responsible for overseeing the day-to-day operations of the program.

Currently there are 12 historic properties on BSFB (Appendices A and B) resulting from 12 archaeological projects, 8 building inventories, and 3 landscape studies (see Section 8.4). BSFB has identified 10 "needs data" cultural resources and will treat them as if they are eligible for inclusion in the NRHP until further site visits can assess their significance to determine the eligibility of the resources. Consultations with the Colorado State Historic Preservation Office (SHPO) in 2019 show that the built environment of the installation does not meet the criteria for National Register eligibility as a designed landscape (Steve Turner to Mark S. Laudenslager, letter, History Colorado [HC] #75988, dated 28 May 2019, History Colorado, Colorado).

Since the early 1990s, BSFB has participated in face-to-face, government-to-government meetings with their culturally affiliated tribes for American Indian Religious Freedom Act (AIRFA), NAGPRA, and other compliance requirements. Recent meetings with up to 31 Tribes have not been consultation-driven, but have been relationship-building endeavors to introduce tribal representatives to the installation, its leadership and staff, and other compliance supporting personnel within AFCEC (Bubar & Hall Consulting, LLC 2017; Texas State University and Stell 2019). BSFB participated in the Tribal Consultation Meeting and Third Annual Front Range Tribal Relations Meeting held on September 10th and 11th of 2019. The government-to-government consultation included 19 tribal representatives from 15 culturally affiliated tribes to discuss formal and informal topics related to cultural resource management, Programmatic Agreements, the roles of Native American tribal representatives in resource management, and essential consultation procedures. As of 2019 there are no known Traditional Cultural Properties (TCPs) or Sacred Sites on BSFB (Appendix C). However, during a recent Texas State University (TSU) archaeological survey of the installation, researchers recommended further Tribal consultation for three sites holding potentially significant plants (Sagebrush) (Thornton-Barnett et al. 2019). BSFB will continue to consult about potential sacred sites, TCPs, or traditional plants and other resources on the installation. Tribes have requested that future BSFB Class III surveys consider the use of TCSs (Tribal Cultural Specialists) and Tribal monitors.

The CRMP currently operates under an two MOA's for it's historic properties (Appendix D). The MOA titled, *Memorandum of Agreement Between 460th Space Wing and the Colorado Historic Preservation Officer Regarding Renovations of Building 909 at Buckley Air Force Base, Arapahoe County, Colorado, April 2016* provided stipulations agreed upon for the resolution of adverse effects to maintenance hangar 5AH.2276. The MOA titled, *Memorandum of Agreement Between Buckley Garrison, The Aurora History Museum, and the Colorado State Historic Preservation Office Regarding the Demolition of Buildings 429 and 431 at Buckley Space Force Base, Aurora, Arapahoe County, Colorado* provides stipulations agreed upon for the resolution of adverse effects to the demolition of Buidling 429 and 431 and the indirect effect to Buildings 430, 432, and 433.

For streamlining the Section 106 process on a day-to-day basis, BSFB currently operates under one PA (Appendix E). Certain re-occurring activities are exempted under the *Programmatic Agreement among 460th Space Wing, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Section 106 Consultation for Activities at Buckley Air Force Base, Colorado* (informally termed the Section 106 PA).

Overview of Historic Properties

The protection of historic properties while meeting facility mission objectives is the primary goal of the ICRMP at BSFB. In order to meet this goal, a number of cultural resources inventories and assessments have been conducted. To date, the following cultural resources have been identified:

- Of the 61 recorded prehistoric, multi-component, and historic archaeological sites on base, none are considered eligible for listing in the NRHP (Appendix A). The 10 "needs data" resources will be treated as if they are eligible for inclusion in

the NRHP until further site visits can assess their significance and eligibility. With the exception of the limited (and disturbed) portions of the heavily developed ADF-C/2nd Space Warning Squadron (2 SWS) area, the entirety of BSFB has been surveyed for archaeological resources twice in the past.

- Of the 447 buildings and structures at BSFB, 82 have been evaluated within a NRHP framework and 12 have been identified as NRHP-eligible (Appendix B). These 12 properties are:
    - Building 402 - Satellite Communications Ground Terminal, 5AH.2332
    - Building 403 - Satellite Communications Ground Terminal, 5AH.2288
    - Building 404 - Satellite Communications Ground Terminal, 5AH.2289
    - Building 405 - Satellite Communications Ground Terminal, 5AH.2333
    - Building 432 - Satellite Communications Ground Terminal, 5AH. 2297
    - Building 434 - Satellite Communications Ground Terminal, 5AH.2299
    - Building 801 - Maintenance Hangar A, 5AH.2274
    - Building 909 - Maintenance Hangar, 5AH.2276
    - Building 431 - Air Communications Relay Center, 5AH.2296
    - Building 433 - Electrical Power Station Building, 5AH.2298
    - Building 630 - Airmen Dining Hall, 5AH.2306
    - Building 814 - Shop/Storage Facility, 5AH.2309
- There are no NRHP-eligible landscapes or NRHP Districts within BSFB. An historic landscape/viewshed evaluation conducted in 2004 did not reveal any NRHP-eligible landscapes and no further work on this topic was recommended (Geo-Marine, Inc., 2004a). In 2018, a Historical Research Associates, Inc. project also concluded that the landscapes on BSFB do not meet any criteria for listing in the NRHP (Beckner and Perrin 2018). The Beckner and Perrin (2018) survey did result in six new structures (radomes 432 and 434; and buildings 431, 433, 630, 814) being NRHP-eligible per SHPO's concurrence (HC#75988).
- As of 2019, there are no known Traditional Cultural Properties (TCPs) or traditional plants on the installation. However, resulting from the 2018 survey conducted by Thornton-Barnett et al. (2019) three potential sites (5AH.481, 5AH.482, and 5AH.483) will be consulted on with the culturally-affiliated Tribes due to the presence of aboriginally significant plants found during the survey. The NRHP eligibility of these sites will remain as "needs data" until future tribal inspection can confirm if the plants are culturally significant. Until the status of these sites is determined, they will be managed as if they are NRHP-eligible.
- In 2021, an ethnographic study was finalized for five AFCEC Midwest Peterson Section entities: Buckley Space Force Base (BSFB), Cheyenne Mountain Space Force Station (CMSFS), F.E. Warren Air Force Base (FEWAFB), Peterson Space Force Base (PSFB), and Schriever Space Force Base (SSFB). The ethnographic study has outlined which tribes hold an affiliation to the installations and will provide the foundation for the future development of a Front Range Regional Comprehensive Agreement (CA) for NAGPRA and inadvertent discoveries.

1.1.2 Cultural Resources Management Goals and Objectives

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To protect the historic properties described above and any resources that may be discovered in the future, the following cultural resources management goals and objectives (listed below) have been identified for implementation over the 5-year period of the ICRMP for BSFB.

Goal: Execute all aspects of this ICRMP, including all SOPs.
Objectives: • Continue to comply with all Air Force and Federal requirements that relate to cultural resources management.
Goal: IAW AFMAN 32-7003 and DAFI 90-2002, sustain a Tribal relations program
Objective: • IAW DAFI 90-2002, Section 2.11, establish tribal consultation protocols with Tribes and continue to support government-to-government meetings. • Ensure BSFB maintains an Installation Tribal Liaison Officer (ITLO) and implement and sustain an Installation Tribal Relations Plan (ITRP, forthcoming) IAW 90-2002. • In consultation with culturally-affiliated Tribes, draft and execute access provisions IAW SOP 8.3 to facilitate agreements for the collection and assessment of traditional use materials that are found significant by the Tribes.

Goal: Add the expired Radome PA stipulations to the amended Section 106 PA.

Objectives:

- Amend the Section 106 PA to include stipulations found in the expired Radome PA and ensure comprehensive coverage for Section 106 reviews.

Goal: Execute stipulations and requirements of Section 106 PA.

- Continue to follow the stipulations set forth in the PA and coordinate CRM review of all projects with installation personnel**.**
- Send annual report associated with this PA to the COLORADO State Historic Preservation Office (COSHPO) NLT 60 days of each new fiscal year the PA is in effect.
- Update list and maps of historic properties annually.
- Annual meeting with consulting parties NLT 15 July of each year.
- Amend the PA to include the Radomes, TSU data, and update the basewide map

Goal: Execute the stipulations and mitigation measures specified in Building 909 MOA.

Objectives:

- Continue coordination with the COSHPO on the execution of stipulations.

Goal: Continue to seek funding for a cultural resources staff position and fund cultural resources management training to maintain the highest level of management and responsiveness.

Objective:

- Find funding for a full-time government CRM.
- Find contract agent for a contractor to assist the government CRM.

Goal: Design, implement, and sustain a cultural resources training program.

Objective:

- BSFB has created a PowerPoint training module for a variety of audiences on BSFB (facility mangers, planners, key leaders, etc.) related to cultural resources awareness, responsibilities, the section 106 process, compliance with laws and regulations, standard operating procedures, agreements between BSFB and SHPO, and the legal responsibilities for preservation and protection of historic properties. The cultural resource awareness training has been implemented on an annual bases to include presentations at the installation orientation briefings and shop level trainings.

Goal: Re-evaluate existing "public involvement" procedures to ensure that provisions of 36 Code of Federal Regulations (CFR) Part 800.2 (d) and 800.3(e) are met.

Objective:

- IAW requirements included in Section 7.1 and 7.8, develop and implement a public involvement plan.
- Update brochures for distribution during environmental week.
- Work with the Aurora History Museum to update and grow the BSFB display.

Goal: Continue ethnographic work on BSFB.

Objective:

- Past ethnographic project work will aid in completion of an installation planning map and the finalization of an ITRP.
- BSFB will continue to consult about potential sacred sites, TCPs, or traditional plants and other resources on the installation.

1.1.3 Current and Priority CRM Requirements (5 Year Plan)

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As with any planning document, it is important to provide goals and objectives that will enable the facility to protect its historic properties while meeting its mission objectives. Broad goals and objectives that relate to the CRMP, as a whole, are presented to include specific management objectives and program milestones that are to be implemented over the 5-year period of the BSFB ICRMP.

Year 1-2 Goals:

- Amend the 106 PA to include the Radomes and updated basewide map
- Find funding to create a dedicated CRM/Contractor.
- Continued coordination between the CRM and all BSFB tenants to ensure that the stipulations of the 106 PA are being followed.
- Continued execution of stipulations in the Building 909 MOA.
- Facilitate movement of digital copies of reports and forms into the Digital Archeological Record (tDAR).

- Complete and execute an ITRP, continue to support government-to-government meetings, and continue Tribal consultation IAW AFMAN 32-7003 and DAFI 90-2002.
- Participate in the Front Range ethnographic study to document the traditionally used resources and history of the BSFB land from a tribal stakeholder perspective.
- Execute 1350 acre survey for areas that have not been surveyed within the last five years.
- Host an annual Native American consultation at BSFB
- Inventory remaining Radome buildings with potential Criterion G significance.
- Inventory any buildings that will be turning 50 years old for consultation and inclusion in the amended Section 106 PA.
- Develop a Memorandum of Agreement between the Aurora Museum and BSFB for curation of BSFB artifacts at the Aurora History Museum.
- Through the Section 106 process, work any adverse effect mitigation efforts with SHPO, tribes, and other consulting parties.

Year 3-5 Goals:

- Host and attend Front Range tribal consultation meetings and continually improve the relationships BSFB has with its tribal stakeholders.
- Consult with culturally-affiliated Tribes on traditional use material that is significant to the Tribes.
- Identify potential buildings that will be turning 50 years old for survey.
- Continue to develop and update the 106 PA.

Ongoing Goals:

- Continue to find funding to create a cultural resources support position.
- Per NHPA Section 106, ensure that all AF Forms 813 and 332 are reviewed to assess potential adverse effects to historic properties, documenting each review.
- Per NHPA Section 110, consult on newly conducted building and land survey's.
- Respond to inadvertent discoveries if they occur and follow the proper procedures described in ICRMP Section 7.4, Cultural Discoveries.
- Continue to annually review and update the ICRMP and route document to AFCEC for review and signature.
- Curate newly discovered artifacts from projects following the procedures and processes listed in Sections 7.7 and 7.8.
- Per AFMAN 32-7003 2.14.7.2, periodically inspect and ensure proper curation of artifacts at F. E. Warren curation facility or new facility once a new curation location has been selected.
- Ensure that all ICRMP SOPs are fully implemented and followed through CRM involvement in the project planning process and Section 106 process.
- Provide annual CRM-led cultural resources training to make BSFB personnel aware of what cultural resources are, what exists at BSFB, responsibilities, legal requirements, the consultation process, and the SOPs found in Sections 7.4 and 7.6.

Objectives of the CRMP at BSFB

- Integrate the archaeological and historic preservation requirements of applicable laws into the base planning process and daily operations.
- Encourage adaptive reuse of historic buildings.

- IAW SOP in Section 7.4, ensure that any inadvertently discovered cultural materials are protected until their significance has been evaluated by a Secretary of the Interior-qualified archaeologist.
- Work with local agencies, tribes, organizations, cultural resources professionals, and the public on outreach projects related to the cultural resources of BSFB.
- IAW the Section 8.3 SOP, protect the rights of Native Americans to exercise traditional religious and cultural practices on the base.
- Provide base personnel with appropriate training in the protection and management requirements for the base's cultural resources.

Management Objectives Related to Inventory and Evaluation of Cultural Resources

One of the primary management objectives of the BSFB CRMP has already been achieved. Specifically, the entirety of undisturbed portions of installation have been surveyed for archaeological resources and all buildings, structures, and landscapes have been evaluated. As of 2021, 12 of the 447 buildings and structures on base have been identified as NRHP-eligible. Of the 61 archaeological sites and 31 isolated finds identified by cultural studies, none have been recommended as eligible for inclusion in the NRHP. The COSHPO has "officially" concurred with these eligibility recommendations. An historic buildings inventory was performed in January, 2018, resulting in the addition of six new structures (Radomes 432 and 434; Buildings 431, 433, 630, and 814) to the list of buildings NRHP-eligible on BSFB (Beckner and Perrin 2018). An archaeological survey was conducted in July, 2018 by TSU with the results of an increase from 43 archaeological sites and 25 isolate finds to 54 archaeological sites and 31 isolated finds on BSFB. The TSU survey resulted in none of the archaeological sites being eligible for the NRHP, however, COSHPO recommended further Tribal consultation for three sites holding potentially significant plants (5AH.481, 5AH.482, and 5AH.483), and a determination of "needs data" for three prehistoric sites (5AH.528, 5AH.3753, and 5AH.3756), one historic railroad grade (5AH.536.1), and consultation on the Smokey Hill North Trail (5AH.207) (HC# 78105). From 2020 to 2022, archaeological and landscape surveys were conducted by AFCEC resulting in an increase to 61 archaeological sites (HC# 79083, HC#80025, HC#80878)).

Management Objectives Related to Protection of Known Cultural Resources

As described previously, twelve buildings at Buckley have been identified as NRHP-eligible and require special consideration as to their management and protection. These properties include 2 maintenance hangars (Buildings 801 and 909) and six satellite communication ground terminals and/or radomes (Buildings 402-405, 432, and 434). In-kind exterior physical changes to Buildings 402-405 and 432 and 434 (such as repair, replacement, removal, or other alteration of the radome skins) will be proposed exempted activities as part of the terms of the amended 106 PA. Until such time that this amendment occurs, the CRMP will treat all radomes (Buildings 402-405, 432 and 434) as though they are historic properties and will consult with COSHPO, Tribes, and Stakeholders through the Section 106 process.

1.2 General Information

1.2.1 Mission Statement

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Buckley SFB has officially been an active SF installation since 4 June 2021. Currently there are 95 organizations located at the installation, including the host organization. The mission of the Buckley Garrison (B GAR) is to, "Maximize missile warning through Overhead Persistent Infrared operations and deliver outstanding installation support." The following groups support B GAR in accomplishing its mission ("Organizational Chart, 460 SW, Buckley SFB" figure below):

- 460th Operations Group is responsible for satellite tracking and data reception programs.
- 460th Mission Support Group provides quality of life, human resources, force protection, infrastructure, contracting, logistics and environmental stewardship to support the 460 SW, its customers, and base operations missions.
- 460th Medical Group provides medical support to the front-range defense community.

Buckley SFB hosts a number of tenant units and organizations, including:

- Aerospace Data Facility-Colorado (ADF-C)
- Colorado Air National Guard (COANG), 140th Wing (140 WG)
- Colorado Army National Guard (COARNG) Army Aviation Support Facility (AASF)

- 743rd Military Intelligence Battalion
- Air Reserve Personnel Center (ARPC)
- Naval Information Operations Command (NIOC) Colorado
- 566th Intelligence Squadron
- Marines (Q Battery)
- Marines (CLB 453rd)

Buckley's facilities include a single 11,000-foot runway, which is operated by the 140 WG of the COANG. It is the only operational military airfield in the Denver Metropolitan area, and it supports the COANG's squadron of F-16 Fighting Falcons, as well as other aircraft of all commands and services.

Figure: Organizational Chart, B GAR, Buckley SFB

1.2.2 Historical Perspective

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Lt. John Harold Buckley

Colorado Air National Gaurd

Buckley AFB, originally Buckley Field, was established on land originally owned by the city of Denver, in 1938. Located 5 miles east of the city, Buckley served as an auxiliary landing field for Lowry Field and was utilized by pilots from Lowry to land, load bombs, and then fly along a government-owned corridor to the bombing range, where the payloads were dropped. In 1941, the field was named after World War I hero and native of Colorado, Lt. John Harold Buckley. In 1942, the Army Air Force Technical Training School was established at Buckley Field to coincide with the expansion of Lowry Field. At this time, Buckley Field consisted of 1,250 acres (ac) and was equipped to house 12,000 personnel. The mission of Buckley Field during the 1940s was to prepare armaments for fighter planes and provide specialized training armories for B-17 and B-24 aircraft operations (BANGB 1990b; Craven and Cate 1955; Geo-Marine, Inc., 2004b; Levy and Scanlan 1987; Porter 1978).

During World War II, additional funds were allocated to Buckley Field. These funds were used to expand Buckley Field's training capabilities and included the construction of a hospital, which administered to casualties of war; a railroad spur used to transport building materials, troops, coal, and equipment; and training facilities for armament, basic, and arctic training. In 1945, Buckley became a subpost of Lowry Field and hosted the Chemical Training Center for the Air Force and Camouflage Training Center (BANGB 1990).

After World War II, Buckley Field became inactive; much of the equipment and buildings were sold as war surplus, and the bombing range was leased for grazing rights. In 1946, the COANG acquired Buckley Field but was unable to financially support the base. The Department of the Navy took over Buckley in September 1947 and renamed the base Naval Air Station–Denver, Colorado (CO). During this period, many more buildings were sold or renovated as low-income housing for veterans (BANGB 1990).

The Naval Air Station was decommissioned in 1959 and control over Buckley returned to the COANG. The COANG was the host until the realignment, when the 821st Space Group at Peterson AFB became the interim host during the transition prior to standing up as the 460th Air Base Wing (ABW). The 460 ABW became the host in the fall of 2001. On August 19, 2004, the ABW became the 460th Space Wing (SW). The base currently comprises 3,283 ac, hosts numerous tenant organizations, and is the hub of transient military air traffic in the Denver metropolitan area (BANGB 1990).

On 20 December 2019, the United States Space Force (USSF) was established with the enactment of the 2020 National Defense Authorization Act. On 8 January 2021, the Department of the Air Force approved Buckley Space Force Base (SFB) as an established branch of the USSF, decommissioning Buckley as an Air Force Base. On 4 June 2021, Buckley held a ceremony to adopt the base name change as Buckley SFB under the command of Buckley Garrison.

Historic Photo of Building 801

1.2.3 Legal Requirements

Cultural resource management must be performed IAW federal laws and regulations and DoD and USAF policies and requirements. Specific legal requirements are identified in applicable sections of this Plan, the Cultural Resources Management Playbook, the eDASH Cultural Resources Home Page, the eDASH Air Force Legal Operations Agency (AFLOA) Legal and Other Requirements List, and in referenced documents.

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The Colorado SHPO has developed a comprehensive statewide preservation plan for 2021-2025, multiple historic contexts, and guidance for conducting cultural resources surveys. These resources are located on the Colorado SHPO website at https://www.historycolorado.org/.

2 INSTALLATION PROFILE

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Scope of Plan	The scope of this plan affects BSFB and Squadrons with a physical presence at the installation. Tenant units assigned to BSFB share in cultural resource responsibility and for facilities under their control. They include: • ADF-C • Headquarters Air Reserve Personnel Center • 140th Wing of the Colorado Air National Guard • Colorado Army National Guard • Navy Reserve Operational Center • Marines (Q Battery) • Marines (CLB 453rd)
OPR	460 CES/CEIE has overall responsibility for implementing the Cultural Resources Management Program and is the lead organization for monitoring compliance with applicable federal, state and local regulations
Cultural Resources Manager	Name: Jeffrey Harrison Phone: 720-847-9032 Email: jeffrey.harrison.6@spaceforce.mil

State Historic Preservation Office	Colorado State Historic Preservation Office Dawn DiPrince, SHPO 1200 Broadway, Denver CO 80203 Phone: (303) 866-3392 Fax: (303) 866-2711 Email: hc_oahp@state.co.us Submissions: https://oitftapp01.state.co.us/
Consulting Native American Tribe(s)	See "List of Stakeholders" in section 7.8
Routinely consulted parties	See "List of Stakeholders" in section 7.8
Office of the Secretary of Defense most current "Base Structure Report" notion of the "total acres" managed by the Installation including GSUs	3309
Installation surveyable acres (i.e., undisturbed, accessible acres)	3309
Total acres ever surveyed	3309
Acres surveyed in FY21	21
Cultural Resources outreach program (e.g., website, welcome package, or brochures)?	Yes
Total archaeology sites recorded	61
Archaeology sites recorded in FY21	0
Cumulative number of archaeology sites recorded through FY21	61
Number of eligible or listed sites	0
Number of non-eligible sites	51
Number of unevaluated sites	10
Number of archaeology sites evaluated in FY21	2
Total number real property facilities as reported in Appendix B	84
Number of eligible or listed real property facilities as reported in Appendix B	12
Number of non-eligible real property facilities as reported in Appendix B	77
Number of unevaluated real property facilities as reported in Appendix B	2
Number of real property facilities evaluated in FY21 as reported in Appendix B	5
Have Historic Status Codes been updated in the159951 Accountable Property System of Record in FY21?	Yes
Number of archaeology sites mapped into GIS	61
Number of surveyed acres mapped into GIS	3309

The Cultural Resources Management Program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively manage associated risks, and to instill a culture of continual improvement. The ICRMP serves as an "administrative operational control" that defines compliance-related activities and processes.

4 GENERAL ROLES AND RESPONSIBILITIES

AFMAN 32-7003 and the Cultural Resources Management Playbook contain detailed roles and responsibilities for cultural resources management. Installation-specific cultural resources management roles and responsibilities are described throughout this Plan and in referenced documents.

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Ultimately, the commander of BSFB is responsible for the management of the cultural resources on the installation. The day-to-day responsibility for cultural resources management at the facility, however, is coordinated between the CRM, the BSFB Civil Engineer Squadron/ Environmental, and AFCEC.

Responsibilities of the Commander:

- Establish and maintain government-to-government relationships with Indian Tribes as appropriate and in accordance with DoD and Air Force policy and guidance, and appoint an ITLO, per DoDI 4710.02 and DAFI 90- 2002.
- Conduct at least one annual face-to-face consultation meeting with affiliated tribal leaders.
- Obtain appropriate training in tribal communications, culture, and consultations within their first year of assignment to an installation,
- Develop protocols or standard processes for communicating with tribes that have a cultural or historical affiliation with the lands affected by the installation and its activities.
- Determine protocols for follow-on interactions with tribal leadership, such as staff-to-staff consultation under Title 54 USC Section 300101 et seq., the National Historic Preservation Act (NHPA), specifically NHPA Section 106 undertakings (54 USC §306108), or NEPA actions.
- Designate a civilian government employee as the ITLO and ensure they obtain the appropriate training soon after their appointment.
- Approve the ITRP and its updates, and ensure it is appropriately implemented by installation personnel.
- Coordinate with other installation commanders to identify a single installation to serve as the designated point of contact for a tribe(s) in cases where more than one installation manages the airspace over a specific tribe's land.
- Involve tribal governments early in the planning process for proposed actions so that tribal governments have enough time to provide meaningful comments on potential effects to protected tribal rights, land, water, or other resources. Ensure sufficient time for follow-on discussions.
- Ensure that proponents of actions on installation lands, or in installation-managed airspace, coordinate tribal issues with the host installation in order to identify and address tribal concerns early in the planning process.
- Review and provide information on tribal relations to AFCEC during the biannual data calls to support Department of the Air Force, DoD, and Congressional reporting requirements.
- Publish the list of federally recognized Indian tribes affiliated with the installation on the installation's public website.
- Approve and sign, after coordinating with installation JA, AFCEC, Headquarters Air Force/A4C, and SAF/IEE, Memoranda of Understanding, Memoranda of Agreement, and Programmatic Agreements.
- Authorize the Base Civil Engineer (BCE) to issue Archaeological Resources Protection Act (ARPA) permits to qualified applicants, if applicable, and provide a copy of the signed permit to AFCEC.
- Designate the BCE as the federal agency official with responsibility over and signature authority for installation compliance with the National Historic Preservation Act, per 36 C.F.R. Part 800; the Native American Graves Protection and Repatriation Act, per 43 C.F.R. Part 10; and for the management and curation of archaeological artifact collections and associated records, per 36 C.F.R. Part 79.
- Maximize reuse of historic buildings and structures, where justified by an objective economic analysis of life-cycle benefits and costs, before disposal, new construction, or leasing, in accordance with 54 U.S.C. § 306101(a)(2), Executive Order 13693, DoD Directive 4165.06, DoDI 4165.70, and DoDI 4715.16, AFMAN 32-7003.
- Designate an installation Cultural Resource Manager in accordance with AFMAN 32-7003 and the stipulations in the Section 106 PA.

Responsibilities of Installation CRM:

- Ensure compliance with all historic preservation laws and regulations. Coordinate with AFCEC, the State Historic Preservation Office, affiliated Tribal stakeholders, the ACHP, and others, as appropriate, to identify significant cultural resources; assess potential impacts from installation activities; and work to avoid, minimize, or mitigate adverse effects to historic properties.
- IAW NHPA, 54 U.S. C. 306102, in coordination with AFCEC and SHPO as technical advisors and for project planning, ensure federal property has been inventoried for the identification of cultural and Tribal resources, that inventories remain current, and prepare documentation to obtain official determinations of eligibility (DOE) from SHPO for identified resources.
- In conjunction with Civil Engineer planning personnel and others as appropriate, review and document all installation activities/actions to identify the potential for affects to historic properties, and determine and document when the installation has a signed agreement document in place to allow for streamlining of the NHPA, 54 U.S.C. § 306108, process regarding certain types of undertakings.
- Monitor and document activities of tenant organizations and contractors that have the potential to adversely affect cultural resources on the installation, on lands controlled by the installation, or on non-Air Force lands impacted by installation-facilitated activities.
- Prepare, coordinate, and implement Memoranda of Understanding, Memoranda of Agreement, and Programmatic Agreements, as appropriate, with the technical assistance of AFCEC
- In coordination with AFCEC, assist the Installation Tribal Liaison Officer with the identification of culturally-affiliated Tribes and arrangements for tribal relationship-building and interaction opportunities as currently outlined in DAFI 90-2002, *Interactions with Culturally-Affiliated Tribes*.
- Assist in facilitating participation by the installation Commander or designated official in government-to-government consultation meetings with tribal representatives. Maintain records of tribal contacts for showing compliance with Executive Order 13175; 54 U.S.C. § 306108, the National Environmental Policy Act, and the Native American Graves Protection and Repatriation Act (NAGPRA). Develop NAGPRA Comprehensive Agreements as needed, with the technical assistance of AFCEC.
- In coordination with AFCEC, develop/update, implement, and sustain an installation Integrated Cultural Resources Management Plan (ICRMP) following the AFCEC EMP template.
- Annually review changes to the base development plan, Integrated Natural Resources Management Plan, Range Comprehensive Plan, and other plans as needed, to identify potential impacts to cultural resources for inclusion/discussion in the annually updated ICRMP.
- Annually update the ICRMP to include new survey and evaluation data; requirements; status of NHPA, Section 106 Memoranda of Agreement, Programmatic Agreements, and all other applicable Program Alternatives, and to improve on problems and shortfalls in the ICRMP. Adjust actions as needed to reach ICRMP goals during each work plan year.
- In coordination with AFCEC, develop and maintain an installation cultural resources database. As the primary data steward, the CRM will ensure that geospatial data and business data (supporting, descriptive, reference, interpretive, and other related information) for installation cultural resources are properly entered, shared, protected, and maintained.
- Maintain accuracy of the Historic Status Codes used in the installation Accountable Property System of Record (e.g., Tririga), and ensure that the System includes or operators have access to the installation's updated historic property data. Historical office of the Office of the Secretary of Defense (OSD) Historic Status Codes are listed and defined in the Air Force Cultural Resources Management Playbook.
- Assist the Real Property Officer with physical inventories of installation historic property and heritage assets at least every three years. Annually, or as required by circumstances, monitor, assess, and document condition of Heritage Assets.
- Provide DoD and Air Force required data via AFCEC in response to case-specific or recurring reporting requirements.
- Identify to the National Museum of the United States Air Force items of potential importance to Air Force history. Such items may include aerospace vehicles, weapons, equipment, supplies, personal property, and other tangible objects that are associated with the Air Force's heritage. Air Force historical property under the Museum's control and accountability including, but not limited to, static display aerospace vehicles, are not eligible for listing in the National Register of Historic Places due to their transportable nature. Items relocated to an Air Force heritage activity are inappropriate for listing in the National Register (see AFPD 84-1and AFI 84-103).
- Ensure proper curation of recovered archaeological collections and material. At a minimum, every three years assess curation repositories per 36 C.F.R. Part 79 to verify that facilities meet requirements and standards of 36 C.F.R. Part 79, and review curation agreement procedures and schedules.
- Conduct public awareness and education programs, and incorporate basic information on cultural resources into installation newcomer orientation briefings. Periodically brief ICRMP highlights at Commanders' calls and other installation

forums. Annually inform personnel occupying historic buildings about the significance of these buildings and explain any special management considerations.
- Installation Cultural Resources Managers must thoroughly review contractor or cooperator eligibility recommendations in reports before submitting them to the SHPO and other consulting parties.
- Installation Cultural Resources Managers, with AFCEC/CZ, ANG, or AFRC, must program funds to formally evaluate a portion of these archaeology sites or facilities each year.
- In coordination with AFCEC, develop and maintain installation cultural resources data tables.
- The installation Cultural Resource Manager will use the "Not Assessed Routinely" (NAR) RPA Historic Status Code for those real property assets with a facility code (FACCODE) on the NAR-approved FACCODE list unless a National Register eligibility has been determined.
- Cultural Resources Manager, must restrict public knowledge regarding the specific location of archeological resources, traditional cultural resources, and other important historic properties to protect them from unauthorized trespass, vandalism, or other harm.
- Installation Cultural Resources Managers, with AFCEC/CZ, ANG, or AFRC, must write statements of work or performance work statements for cultural resource identifications to require the contractors to evaluate resources for National Register eligibility and provide eligibility recommendations.
- Assist proponents to:
    - Coordinate with the CRM in initial project planning to ensure that the CRM has reviewed projects for the potential to adversely affect historic properties, and to assist in modifying project scopes to avoid, minimize, or mitigate for adverse effects to historic properties, as necessary.
    - Accurately estimate funding for mitigation measures necessary for adverse effects to historic properties, including but not limited to data recovery and building documentation.
    - Follow stipulations outlined in executed Memoranda of Agreement, Programmatic Agreements, Native American Graves Protection and Repatriation Act Comprehensive Agreements and Plans of Action, and other agreement documents.
    - Recognize that failure to adhere to these responsibilities could result in costly project delays, fines, adverse publicity, personnel actions, and lawsuits.

Responsibilities of AFCEC and the Peterson Section CRM:

- Plan, organize, direct, and control installation conservation programs on behalf of AF/A4C. Provide technical expertise at national, regional, and local echelons to develop and execute cultural and natural resources programs in coordination with installations.
- Staffs the following subject matter experts:
    - Cultural Resources Expert. Serves as program manager and provides technical assistance and guidance to the Air Force on issues related to cultural resource programs.
    - Natural Resources Expert. Serves as Serves as program manager and provides technical assistance and guidance to the Air Force on issues related to natural resource programs.
- Develop guidelines and other documents to assist execution of the conservation programs.
- Represent the Air Force on DoD-sponsored teams and conservation working groups.
- Collect, analyze, and report Air Force-wide performance information to AF/A4C and SAF/IE in support of the Air Force Environmental Management System and Environmental Management Review by the OSD.
- Reconcile heritage asset and historic property reported data and advise AF/A4C of any discrepancies to maintain Real Property Inventory accuracy, in accordance with AFI 32-9005, *Real Property Accountability*, paragraph 3.2.3.1
- Review and coordinate with SAF/IEE on any undertakings which require NHPA Section 106 (54 USC § 306108) consultation and could have Air Force-wide policy implications.
- Manage Air Force conservation information clearinghouses available to Air Force personnel and others through the internet.
- Oversee the maintenance and release of cultural resources information beyond the custody of AFCEC and installation cultural resources personnel.
- Monitor and coordinate with SAF/IEE NHPA activities pursuant to Section 106 (54 USC § 306108) when NHPA activities involve multiple installations, other DoD components, or other federal agencies.
- Author, staff, and maintain the Air Force conservation Playbooks and eDASH conservation webpages.
- Validate program goals and objectives and provide Program Objective Memoranda (POM) and Integrated Priority List (IPL) guidance, approval, validation, advocacy, and oversight.

- Ensure active duty installation funding requirements are correctly identified, programmed, supported, executed, and tracked. Identify, program, and validate conservation requirements to build the Air Force POM and IPL. **(T-1)**.
- Provide and manage contracts, interagency agreements, and cooperative agreements on behalf of, and for use by, Air Force organizations for conservation management assistance and implementation of conservation projects.
- Provide conservation training for base personnel, facility managers, residents, contractors, tenants, and others, as appropriate.
- Provide technical support and advice to MAJCOMs and installations on conservation programs and compliance with these programs.
- Review proposed actions for cultural resources impacts and engage in integrated planning with proponents. Develop and implement a process to fully integrate cultural resources planning with broader planning activities in accordance with DoDI 4715.16, *Cultural Resources Management*. Provide support and expert advice for Environmental Impact Analysis Process reviews. Integrate the ICRMP with the installation Activity Management Plan process and the Program Objective Memoranda.
- Provide DoD and Air Force required data in response to case-specific or recurring reporting requirements.
- Respond to Freedom of Information Act requests, requests from media and public affairs, and higher echelon data calls and congressional inquiries.
- Provide cultural resources expertise to support environmental baseline surveys (EBS) for real property, forward basing, and other Combatant Command decision-making. Follow the EBS procedures and documentation per AFI 32-7066, *Environmental Baseline Surveys on Real Property Transactions,* and do not substitute for consultation and compliance with applicable cultural resources regulations (e.g., NHPA, Archaeological Resources Protection Act [ARPA], etc.).
- Develop lessons learned and best practices; communicate and share with installations and AFCEC.
- Develop, review, or comment on draft installation cultural resources MOA, PAs, comprehensive agreements, curation agreements, and ARPA permits. Initiate such documents only after coordination with legal counsel and the installation Cultural Resources Manager.
- Develop, review, or comment on draft National Register nominations. Prepare nomination packages for coordination with the installation and through AF/A4C and SAF/IEE to the Keeper of the National Register.
- Provide information on cultural resources training, and professional development for Cultural Resources Managers.
- Monitor historic preservation outreach and awareness programs.
- Notify Headquarters AF/A4C of unanticipated discoveries of archaeological resources or emergencies affecting historic properties.
- Advocate for resources required to implement approved installation INRMPs and ICRMPs through the PPBE process.
- Assist installation commanders and ITLOs in identifying tribes that have historic or cultural affiliation with lands controlled, used, or overflown by the Department of the Air Force. Provide information from authoritative sources to commanders, including input from tribes, when appropriate.
- Ensure installation commanders receive appropriate senior-level training that highlights tribal history, laws, treaties, and government-to-government consultation requirements and techniques.
- Advise on the development and maintenance of ITRPs.
- Provide cultural resources subject matter specialists to assist installations with technical issues and guidance, and provide reach-back support to the Cultural Resources Subject Matter Expert.
- Identify training opportunities and provide training information on tribal culture, history, laws, and treaties, as well as access, use, and privacy issues that may be affected by Department of the Air Force operations, such as low-level flights and access to sacred sites.
- Produce an annual report on the Department of the Air Force's compliance with this DAFI and submit through AF/A4C to the Department of the Air Force Tribal Liaison Officer in SAF/IEE.
- Maintain annual tribal relations reports, copies of installation tribal relations plans, and an updated list of ITLOs on the AFCEC Environmental Dashboard webpage.

Annually reviews the ICRMP and identifies and reports problems in these plans to the installation..

- Assists Commanders, ITLOs, and CRMs in identifying Tribes with historic or cultural affiliation to BSFB.
- Ensures installation commanders receive appropriate senior-level training that highlights tribal history, laws, treaties, and government-to-government consultation requirements and techniques.
- Advises/assists ITLO on the development and maintenance of ITRPs.
- Provides cultural resources training to BSFB personnel as requested/required.
- Oversee the maintenance and release of cultural resources information beyond the custody of AFCEC and installation cultural resources personnel.
- Review proposed actions for cultural resources impacts and engage in integrated planning with proponents.

- Provide cultural resources expertise to support environmental baseline surveys (EBS) for real property, forward basing, and other Combatant Command decision-making.

Responsibilities of the ITLO:

- Obtain appropriate training in tribal communications, culture, and consultations within a year of appointment by an installation commander.
- Develop and oversee the implementation of the ITRP in accordance with this Instruction and supplementary guidance.
- Identify, in consultation with tribal leaders, a tribal representative to work routine issues.
- Coordinate with the installation Small Business Director to increase local tribal awareness of Small Business Administration and Business Development Program opportunities, for example requirements for prequalification of tribal firms, etc.
- Verify tribes having a historic or cultural affiliation with installation-controlled lands or lands under its managed airspace are identified.
- Ensure installation commanders are aware that tribes are often concerned with protecting properties (or areas) of religious, traditional, ancestral, and/or cultural importance.
- Ensure compliance with the installation/tribal written agreement whenever a planned action has the potential to significantly affect protected tribal resources, tribal rights, or Indian lands.
- Ensure the ICRMP describe appropriate tribal consultation protocols. Summarize and reference protocols in the INRMP, as appropriate.
- Ensure the installation involves tribes in early planning for actions analyzed under the AF Environmental Impact Analysis Process (EIAP).
- Monitor turnover in tribal governments and contact new leadership to ensure continuity with ongoing consultations and protocols.

- Educate installation personnel who conduct activities that may affect tribal lands or resources to understand local tribal issues and rights, which may be affected by military plans, activities or operations.
- Ensure tribes with historic or cultural affiliations with lands and resources managed by the installation have opportunities to consult in and/or participate in the development and maintenance of the ICRMP and INRMP.
- Work with the Installation Cultural Resources Manager and AFCEC specialists to consider and strive to protect cultural resources of concern to tribes.
- Work with the installation organizations to ensure information on the locations of sensitive archaeological resources, traditional tribal places, and sacred sites are not disclosed to the general public.

- Prepare an Annual Report for the Installation Commander and report on any other ITRP activities. Provide to tribes, upon request, information on acquiring surplus equipment and personal property, through the Defense Logistics Agency (DLA), Reutilization, Transfer and Donation (R/T/D) program.
- Provide regular updates to, and seek feedback from, affiliated tribes regarding ongoing activities of the installation that might affect protected tribal resources, tribal rights, or Indian Lands.
- Engage with tribes, face-to-face when possible, to develop formal agreements that identify common goals and include general protocols, and/or other formal issue-based agreements.
- When requested, provide tribes with information on acquiring surplus equipment and personal property through the Defense Logistics Agency, Reutilization, Transfer and Donation program.

5 TRAINING

Cultural resources management training is crucial to ensure that installation personnel, contractors, and visitors are aware of their role in the program and the importance of their participation to its success. The eDASH Training Matrix, available from the eDASH Cultural Resources Home Page, identifies cultural resources-related training topics, target audiences, training frequency, etc. Appropriate personnel must complete required education, training, and certification necessary to perform their jobs. Training records are maintained IAW the Recordkeeping and Reporting section of this Plan.

Installation Supplement

Training Plan

Category	Training Course	Installation Plan (Describe training frequency, attendees and delivery method)
Archaeological	Archaeological Resources Protection	CRM and CEIE one time upon assumption of duties
Buildings	Historic Facility Management	CRM and CEIE one time upon assumption of duties
Buildings	Historic Structure Reports	CRM and CEIE one time upon assumption of duties
General Cultural Resources	Introduction to Cultural Resources Management – Laws and Regulations	CRM, CEIE, and base JA one time upon assumption of duties
General Cultural Resources	Advanced Section 106/Agreement Documents	CRM, CEIE, and base JA every 5 years
Tribal	American Indian (or Alaskan) Cultural Communication Course	CRM, CEIE, ITLO, and base JA every 2-3 years
Tribal	American Indian Cultural Awareness Course	CRM, CEIE, ITLO, and base JA every 2-3 years
Tribal	Native American Graves Protection and Repatriation Act	CRM and CEIE one time upon assumption of duties
NEPA/EIAP	Understanding and Preparing Preliminary EIAP Documents: USAF Specific	CRM and CEIE one time upon assumption of duties
NEPA/EIAP	EIAP Course (Air Force Institute of Technology [AFIT])	CRM and CEIE one time upon assumption of duties
NEPA/EIAP	Applying the National Environmental Policy Act (NEPA)/EIAP Process: USAF Specific	CRM and CEIE every 2-3 years

6 RECORDKEEPING AND REPORTING

Recordkeeping

The installation maintains required records IAW AFMAN 33-364, *Management of Records*, and disposes of records IAW the AFRIMS Records Disposition Schedule (RDS). Numerous types of records must be maintained to support implementation of the Cultural Resources Management Program. Specific records are identified in applicable sections of this Plan, in the Cultural Resources Management Playbook, and in referenced documents.

Reporting

The installation CRM is responsible for responding to cultural resources-related data calls and reporting requirements. The CRM and supporting AFCEC Branch and Section specialists should refer to the Environmental Management System Playbook for guidance on execution of data gathering, quality control/quality assurance, and report development.

Installation Supplement

Cultural resources documentation, to include a survey and inventory report bibliography and administrative site information, is maintained in Excel database and EMP format at BSFB and with AFCEC Peterson Section ISS personnel. Some copies of past survey and inventory reports have been saved in digital form at AFCEC, and records of correspondence with other state, federal and tribal agencies are maintained on site at BSFB or within the T-Dar system. State of Colorado Cultural Resource Inventory Forms for BSFB cultural resources are found in paper and digital form within the collections at the COSHPO in Denver, Colorado. Digital copies of site forms can also be viewed via the Compass on-line database. Some curation records exist in digital form on BSFB and GIS data are available through BSFB/CENM.

7 STANDARD OPERATING PROCEDURES

This section contains SOPs for managing and protecting cultural resources. The CRM ensures that appropriate procedures are properly communicated and followed by necessary personnel.

7.1 Communication, Planning, and EIAP
Installation Supplement

Applicability Statement:

This SOP applies to all USAF installations.

Background/Overview:

The EIAP is the USAF procedure for performing environmental project review, in compliance with the requirements of the NEPA. The proponent of an action is responsible for initiating the EIAP early in the planning stages of a proposed action. The EIAP process is documented, when required, on an Air Force (AF) Form 813, *Request for Environmental Impact Analysis*. The CRM must be familiar with NEPA and the EIAP process.

Procedure:

The CRM shall, at a minimum:

- Work in close coordination with the EIAP manager during all NEPA reviews;
- Assist the EIAP manager to determine whether existing and planned formal agreements under NHPA or other cultural resources authorities may be associated with the NEPA planning effort;
- Confirm that NHPA Section 106 review is required and identify other applicable cultural resources laws;
- Disseminate the results of the undertaking review to the main entities POC;
- Identify and consult with SHPO/THPO/local governments/other parties; and
- Plan for public participation, as necessary.

NOTE: A CATEGORICAL EXCLUSION UNDER NEPA DOES NOT EXCLUDE THE ACTION/PROJECT FROM COMPLIANCE REVIEW UNDER SECTION 106. ALL PROJECTS ARE TO BE REVIEWED UNDER SECTION 106 BY THE CRM FOR POTENTIAL FOR ADVERSE EFFECTS TO HISTORIC PROPERTIES, AND RESULTS OF EACH REVIEW ARE TO BE DOCUMENTED FOR ANNUAL REPORTS, DATA CALLS, AND AFCEC REVIEW.

7.2 36 CFR Part 800 Process (Implementing NHPA Section 106)
Installation Supplement

Applicability Statement:

This SOP applies to all USAF installations

Background/Overview:

36 Code of Federal Regulation (CFR) Part 800 implements Section 106 of the NHPA. It is a federal review process designed to ensure that historic properties are considered during the planning and execution of federal undertakings. Activities, programs, or projects that have the potential to involve or affect historic properties and could trigger a 36 CFR Part 800 review include, but are not limited to:

- Rehabilitation, renovation, or addition to buildings, structures, and/or utilities

- Replacement or maintenance of infrastructure
- Demolition of buildings and structure
- Proposed beddowns
- Environmental Restoration Program (ERP) investigations and clean-up
- Real property actions such as land transfers, privatization, out-leasing, etc.

The 36 CFR Part 800 review process should be initiated early in the planning stages of a project.

Procedure:

Project Proponents should:

- During initial project planning (e.g., completion of AF Form 813; AF Form 332, *Base Civil Engineer Work Request*; work requests in Tririga, DD Form 1391, *Military Construction Project Data*, AF Information Management Tool (IMT) 103, *Base Civil Engineering Work Clearance Request* ["Dig Permit"]), provide adequate information necessary to determine whether historic properties are present and to assess impact of the proposed project on historic properties
- The CRM will review projects daily or as they are submitted through Tririga and 813's to ensure all projects are being evaluated for historical and cultural resources.
- If a proposed project could involve preparation of an environmental assessment or environmental impact statement, contact the installation CRM as early as possible to ensure that any required public participation, analysis, and review can be planned to meet the requirements of both NEPA and NHPA Section 106 in a timely and efficient manner
- Implement mitigation or management conditions stipulated by the CRM resulting from the Section 106 consultation/coordination process

The CRM should:

- Determine whether the proposed action is an undertaking IAW 36 CFR Part 800 and the Section 106 PA stipulations. If the action is an undertaking, define the Area of Potential Effect (APE) and determine if any historic properties are present within the APE. Assess impact of proposed project on historic properties. Results of this review could include:
    - ***No Historic Properties Affected***: This determination is made when the project will have no foreseeable effects on historic properties. The installation should seek concurrence from the COSHPO and other consulting parties (i.e., tribal stakeholders)
    - ***No Adverse Effect***: This determination is made when there might be an effect, but the effect will not be harmful to those characteristics that qualify the property for inclusion in the National Register of Historic Places (NRHP). The installation must seek concurrence from the COSHPO and other consulting parties that no adverse effect is likely
    - ***Adverse Effect***: This determination is made when the effect of an undertaking could diminish the integrity of the characteristics that qualify the property for the NRHP. The installation will continue consultations with the COSHPO and other interested parties whenever an "adverse effect" is likely, expected, or unavoidable
- Coordinate execution of 36 CFR Part 800 process to support desired project schedules. Refer to the Cultural Resources Management Playbook for detailed descriptions of the Section 106 review process
- Disseminate the results of the undertaking review to the main entities POC.

7.3 Regular Review of NHPA MOAs or PAs
Installation Supplement

Applicability Statement:

This SOP applies to all USAF installation that have NHPA MOAs and/or PAs in place. BSFB has one PA and one MOA in place and is required to implement this SOP.

Background/Overview:

IAW 36 CFR § 800.6(c)(4), NHPA agreement documents should including a requirement to monitor and report on the implementation of the agreement. In the case of many housing privatization programmatic agreements, there are annual or semi-annual review and reporting requirements, for example. The regular review of agreements is critical to ensure that historic properties are not adversely impacted through use and maintenance, contrary to NRHP regulation and the executed agreement. All MOAs in effect are in Attachment D. All PAs in effect are in Attachment E of this ICRMP.

Procedure:

The CRM should:

- At minimum, BSFB annually reviews the PA/MOA in place to ensure that compliance measures are on schedule and resources are in place to meet stipulations.
- BSFB reviews the Section 106 PA on an each project to ensure compliance with the stipulations are being fulfilled and adds the review to the annual report.
- BSFB reviews the MOA on each project associated with Building 909 to ensure the stipulations are being fulfilled and adds the review to the annual report which is due by July each year.
- Per PA/MOA stipulations, BSFA consults with COSHPO on an annual basis, no later than July 31st of each year, to ensure the PA and MOA stipulations are being met and determine if adverse impacts to historic properties, including privatized housing or other privatized assets, have occurred.
- Work with the installation Housing and Real Properties managers to review all agreements for privatized housing and determine if properties have been evaluated for NRHP eligibility.
- Work with AFCEC CRMM, proponent, and agreement signatories, as appropriate, to correct any deficiencies identified in meeting stipulations of executed MOAs or PAs.

7.4 Discoveries of Archaeological Resources and NAGPRA Cultural Items
Installation Supplement

Applicability Statement:

This SOP applies to all USAF installations that contain or potentially contain archaeological resources and/or NAGPRA cultural items. Installations that have agreements with tribes concerning the treatment of these two types of resources in discovery situations should include those procedures, in addition to the SOP described below. Cite the title and date of the agreement(s) when summarizing the procedures and ensure a copy of the agreement(s) is appended to the ICRMP.

Background/Overview:

Accidental or unanticipated discoveries of archaeological resources may occur on USAF controlled lands. When discoveries occur, the proper actions must be taken to minimize damage to these resources and to ensure that legal requirements are met. The relevant statute is Archaeological Resources Protection Act (ARPA) and the regulation is 32 CFR Part 229, *Protection of Archaeological Resources*.

There is also an important legal subset of archaeological resources, which includes NAGPRA cultural items (i.e., Native American human remains, associated or unassociated burial artifacts, and objects of cultural patrimony). The relevant regulation is 43 CFR Part 10, *Native American Graves Protection and Repatriation Regulations*. See the Cultural Resources Management Playbook for detailed guidance on the requirements of NAGPRA and this regulation.

It is a federal offense, under the provisions of ARPA and 32 CFR Part 229, to excavate, remove, damage, or otherwise deface any archaeological resources located on federal lands, without authorization. The provisions of ARPA apply to archaeological material greater than 100 years in age, regardless of the NRHP status of the site where they are found. Any person wishing to excavate or remove archaeological resources from an USAF installation must apply for an ARPA permit. USAF-contracted work is exempted from the permitting provision of ARPA. In the event of a permit request, the installation CRM should notify the AFCEC Section CRMM. Detailed information to assist in facilitating ARPA permitting is available in the Cultural Resources Management Playbook.

Procedure:

USAF or contractor personnel that make or become aware of a potential archaeological discovery on installation lands should:

- Immediately notify the CRM of the nature and location of the discovery, Jeffrey Harrison, 720-847-9032, jeffrey.harrison.6@spaceforce.mil
- Immediately cease potentially damaging activities and take efforts to ensure protection of resources until arrival of the CRM or designee

The CRM should:

- The CRM will provide all USAF and contractors with the Inadvertent Discovery SOP with approval of projects and dig permits
- Notify Security Forces of the discovery
- Ensure that all archaeological items are left in place and that no further disturbance is permitted to occur
- Sufficiently identify the location of the discovery to provide efficient relocation, yet take efforts to minimize the types of signs that could attract personnel and place the discovery in danger
- Direct installation personnel and contractors to take efforts to resume mission-associated activities in a reasonable and timely manner

Security Forces should:

- Notify the Buckley Garrison Commander regarding the location, nature, and circumstances of the discovery
- Provide security/protection for the site to prevent unauthorized disturbance, looting, or vandalism

If human remains are discovered or if there is sufficient reason to suspect that human remains are present (such as the observation of an oval-shaped rock or earthen mound), the CRM should:

- Determine (with the aid of a coroner or forensic anthropologist) if the remains are human, and whether or not they are associated with an archaeological deposit
- If the remains are not human, and not associated with an archaeological deposit, work may continue
- If the remains are human, Security Forces should notify local law enforcement agency and a coroner, who will determine if the remains are recent, or ancient (with the aid of a forensic anthropologist). If the human remains are modern, the matter may become the responsibility of law enforcement officials who will determine when project activities may resume
- Invite consultation with Native American tribes, as appropriate. If a qualified professional finds the human remains to be Native American, the provisions of NAGPRA apply. Follow the procedures outlined in 43 CFR Part 10 or in existing installation NAGPRA agreements with tribes

7.5 Accidents and Emergencies Affecting Historic Properties

Installation Supplement

Applicability Statement:

This SOP applies to all USAF installations.

Background/Overview:

Federal laws and regulations provide exceptions to the standard Section 106 and 110 reviews that may be used in times of emergency. Immediate rescue and salvage operations conducted to preserve life or property are exempt from the provisions of Sections 106 and 110 and the procedures outlined in 36 CFR § 800.12. Per 36 CFR Part 78, the Secretary of the Air Force may waive all or part of the USAF's Section 106 responsibility on a specific undertaking if the Secretary determines the existence of an imminent major natural disaster or a threat to national security. Such waivers will not exceed the period of the emergency, and generally do not extend to reconstruction or other activities beyond those immediately required to prevent endangerment of human life or property.

Procedure:

The following actions may be performed when responding to an accident or emergency situation (e.g., hazardous material spill, aircraft or vehicular accidents, fires/explosions, natural disasters) where cultural resources may be affected:

USAF Personnel, Construction Crews, Utility Workers, Contractors, and Rescue Workers should:

- Notify the CRM as soon as possible upon realizing potential for impact to cultural resources associated with an emergency situation, Jeffrey Harrison, 720-847-9032, jeffrey.harrison.6@spaceforce.mil
- Take reasonable steps to avoid or minimize disturbance of significant cultural resources during emergency operations, as appropriate to concerns for human life or property

The CRM should:

- Identify cultural resources that might be affected by emergency response and provide guidance and advice to emergency operations workers on methods to avoid or minimize negative effects to cultural resources
- As soon as possible, notify the Installation Commander and AFCEC of the emergency or disaster, including descriptions of historic properties potentially affected
- Per Stipulation V(C) of the base wide PA, Buckley SFB will notify the COSHPO via telephone within 48 hours of commencing the emergency situation. As soon as practicable and within 14 days of the conclusion of the emergency situation, notify the THPOs and other stakeholders of any adverse effects to historic properties that resulted from the emergency and emergency response
- Consult with the COSHPO or THPO about steps necessary to reduce or mitigate adverse effects to historic properties when additional actions are necessary to stabilize, repair, or demolish historic properties damaged in the emergency or emergency response (e.g., demolition of historic properties that cannot be repaired, or have become unsafe)
- If a waiver is requested, provide information to installation personnel regarding the status of the waiver request (granted or denied) and direction regarding follow-on notification of parties
    - If a waiver is granted, provide information regarding the scope and limitations of the waiver to appropriate installation personnel and initiate required notifications to COSHPO
    - If a waiver is not granted, provide direction to installation personnel regarding resumption of work and implement the Section 106 consultation process

7.6 Suspected Vandalism
Installation Supplement

Applicability Statement:

This SOP applies to all USAF installations.

Background/Overview:

The installation has established procedures to deter vandalism and to investigate suspected acts of vandalism when a cultural resource protected under NHPA, ARPA, or NAGPRA is damaged as a result of unauthorized activity.

Procedure:

In the event of a discovery of damaged archaeological site or other historic property, the following actions should be performed:

Discoverer of potential looting or vandalism should:

- Immediately notify the CRM at 720-847-9032 and Security Forces at 720-847-9227
- Take all necessary precautions to protect the resource from further damage, loss, or destruction
- Wait for further instructions from the CRM or other authority

Security Forces should:

- Notify the Installation Commander immediately regarding the location, nature, and circumstances of the looting or vandalism
- Provide security/protection to prevent further unauthorized disturbance, looting, or vandalism

The CRM should:

- Inspect the site to assess damage

- Notify the Installation Commander of damage within 48 hours of discovery. Include the following information in the damage report: Circumstances of site damage, assessment of the nature and extent of damage, recommendations for treatment procedures (coordinate with COSHPO and tribal authorities, as appropriate), and suggestions for future protection measures
- Notify Native American organizations and individuals if traditional cultural resources or sacred sites were damaged

The CRM will provide all USAF/USSF and contractors with the Inadvertent Discovery SOP with approval of projects and dig permits

- • Notify Security Forces of the discovery
- • Ensure that all archaeological items are left in place and that no further disturbance is permitted to occur
- • Sufficiently identify the location of the discovery to provide efficient relocation, yet take efforts to minimize the types of signs that could attract personnel and place the discovery in danger
- • Direct installation personnel and contractors to take efforts to resume mission-associated activities in a reasonable and timely manner

Legal Department personnel should:

- Assess whether or not accused violators can be prosecuted
- Determine whether a civil penalty or other prosecution can be applied

7.7 Curation of Collections and Records
Installation Supplement

Applicability Statement:

This SOP applies to USAF installations that maintain archaeological collections that require curation. This installation DOES/DOES NOT maintain such a collection and IS/IS NOT required to implement this SOP.

Background/Overview:

Federal regulations require curation of archaeological collections and their associated records owned by federal agencies in perpetuity (36 CFR Part 79, *Curation of Federally Owned and Administered Archeological Collections*). Curation of artifacts collected from USAF property shall be consistent with procedures in the *Guidelines for the Field Collection of Archaeological Materials and Standard Operating Procedures for Curating Department of Defense Archaeological Collections* (1999, Legacy Project No. 98-1714). Specific recommendations and procedures for curation are described in this ICRMP, where applicable, and in the Cultural Resources Management Playbook. Records related to historic properties or historic preservation should be evaluated for their usefulness in documenting the history of the installation's cultural resources and should be maintained or disposed of as appropriate.

Procedure:

The CRM and Base Historian should:

- Ensure that installation personnel are aware of the historic value of old records, collections, etc.;
- Identify federally-owned and administered archaeological collections and associated records required to be curated;
- Identify an appropriate curation facility (or facilities). Location(s) where archaeological collections and their associated records are currently maintained include:
  - FE Warren AFB Curation Facility
    Building 1470,
    F.E. Warren AFB,
    Cheyenne, WY 82005
- To contact the F.E. Warren AFB CRM, Karin Schubert, karin.schubert@us.af.mil, 307-481-2598 or DSN 481-2598;
- Prepare collections for moving to the identified curation facility;

- Make a duplicate copy of all documentation on either acid-free paper or in digital format and store in a separate, secure, fire-safe location;
- Transfer collections to the appropriate facility;
- Conduct an annual inventory and inspect curated collections for compliance with applicable requirements; and
- Maintain records/documents regarding transferred collections
- Maintain archaeological and cultural heritage documents, images, datasets, and other digital files in the Digital Archaeological Record (tDAR)

7.8 Management and Coordination

Installation Supplement*Applicability Statement:*

This SOP applies to all USAF/USSF installations.

Background/Overview:

The following procedure outlines and describes cultural resources-related communication, review, and coordination processes and workflows.

Procedure:

Internal Reviews

Internal review procedures will be initiated as early in project planning as possible so that personnel are allowed sufficient time to implement appropriate cultural resource activities, as required. Specific documents and processes that require internal review include:

- Completion of a work order request through Tririga for proposed work to Civil Engineering to determine whether the proposed work will affect any natural or cultural resources;
- Completion of the AF form 103 generally for work involving digging to CE to determine whether the proposed work will affect any natural or cultural resources; or
- NEPA project review including the EIAP and completion of AF Form 813, when required.

Notification and Consultation

- Consultation can be required at any time with Native American tribal groups or other stakeholders at the discretion of the CRM, ITLO, and Installation Commander.
- Notification and consultation with tribal groups must occur immediately if any human remains are encountered.
- Per Stipulation VI (B) of the BSFB Section 106 PA, annual reports will be posted on the BSFB website for public availability.

Stakeholder Reviews

- Installation stakeholders can include, but are not limited to: the COSHPO, Tribes, local surrounding communities, Districts, National Historic Landmarks (NHL), and the National Park Service (NPS)

- The Public Affairs Office manages the official website for the installation and uploads cleared, sanctioned information for public access
- The installation CRM and the ITLO are responsible for contacting NPS, COSHPO, and all tribal groups for any reviews of cultural resource documents.

This section lists important POCs. Copies of correspondence, including records of telephone calls with external contacts, should be maintained by the CRM. In the event any of the contacts changes or the Buckley CRM changes, the list will be updated.

List of Stakeholders	
U.S. Air Force Contacts	
Mr. Jeffrey Harrison	Ms. Pamela Miller and Mr. Mark Owens

CRM, 460 CES/CEIE	Cultural Resource Media Manager
Air and Cultural Program Manager	AFCEC/CZO
460th Civil Engineer Squadron	Midwest Peterson Installation Support Team
660 South Aspen Street (Stop 86)	580 Goodfellow Street
Buckley Garrison, CO 80011-9564	Peterson SFB, CO 80914-2370
Telephone: 720-847-9032	Telephone: 719-556-9328
Installation Tribal Liaison Officer (ITLO)	**Advisory Council on Historic Preservation (ACHP)**
Primary - Mr. Mark Laudenslager	Ms. Katharine Kerr
Chief, Installation Management (CEI)	Historic Preservation Specialist
460th Civil Engineer Squadron (CES)	Advisory Council on Historic Preservation
660 South Aspen Street (Stop 86)	1100 Pennsylvania Avenue NW, Suite 809
Buckley Garrison, CO 80011-9564	Washington, D.C. 20004
Telephone: 720-847-9218 Alternate – Matthew Rodgers Chief, Environmental (CEIE) 460th Civil Engineer Squadron (CES) 660 South Aspen Street (Stop 86) Buckley Garrison, CO 80011-9564 Telephone: 720-847- 7245	Telephone: 202-517-0216
Colorado State Agencies Contacts	
Colorado Office of Archaeology and Historic Preservation	
Holly K. Norton, PhD, SHPO	
Civic Center Plaza	
1200 Broadway	
Denver, CO 80203	
(303) 866-2736	
holly.norton@state.co.us	
Local Stakeholders	
Colorado Department of Transportation	Aurora Historic Sites and Preservation Office
Dan Jepson	Drake Brownfield
Cultural Resources Section Manager	Historic Preservation Specialist
Environmental Programs Branch	15051 E. Alameda Parkway, Aurora, CO, 80012
2829 West Howard Place, 4th Floor	Tel: 303-739-6661
Denver, CO, 80204	Email: dbrownfi@auroragov.org
Tel: 303-757-9631	
Email: Daniel.jepson@state.co.us	
Primary Tenant Contacts	
ADF-C	Colorado Air National Guard, 140th Wing
Erik Leis	Lt Col Hope F Shrader
Tel: 208-272-0766	Tel: 720-847-9042

Naval Information Operations Command	743rd Military Intelligence Battalion
Broderick Jones	Amanda Brown
Tel: 720-847-6423	Tel: 720-847-6163
broderick.jones@navy.mil	amanda.brown.30@us.af.mil
Air Reserve Personnel Center	Marines – Q Battery
Timothy Dibble	Ali Mehmood
Tel: 720-847-3251 Timothy.dibble@us.af.mil	Tel: 347-891-8867 ali.r.mehmood@usmc.mil
Marines – CLB 453rd Dennis Burns Tel: 267-981-9559 dennis.burns@usmc.mil	-
Culturally-Affiliated Tribes	
Apache Tribe of Oklahoma	Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
Mr. Deurell Cooper	Ms. Dyan R. Youpee
Chairman and THPO	THPO
PO Box 1330	PO Box 1027
Anadarko, OK 73005	Poplar, MT 59255
Tel: 405-247-9493	Tel: 406-768-2328
Email: apachechairman@gmail.com	Email: d.youpee@fortpecktribes.net
Cheyenne and Arapaho Tribes of Oklahoma	Cheyenne River Sioux Tribe
Mr. Max Bear	Mr. Steve Vance
Director, Cultutral, THPO	THPO
PO Box 8	PO Box 590
Concho, OK 27511	Eagle Butte, SD 57625
Tel: 405-422-7482	Tel: 605-964-7554
Email: mbear@c-a-tribes.org	Email: stevev.crstpres@outlook.com
Comanche Nation of Oklahoma	Crow Tribe
Ms. Martina M. Callahan, THPO	Mr. Aaron Brien
Historic Preservation Office, #6	THPO
SW "D" Avenue , Suite C,	PO Box 159
Lawton, OK 73507	Crow Agency, MT 59022
Tel: 580-595-9618	Tel: 406-529-7991
Email: martina.callahan@comanchenation.com	Email: aaron.brien@crow-nsn.gov
Crow Creek	
Merle Marks	
THPO	
P.O. Box 50	
Fort Thompson SD 57339	
Tel: 605-245-2221 (ext. 110)	
Email: cchistory@midstatesd.net	

Tel: 307-335-2081	Tel: 605-997-3512
Email: jmann@easternshoshone.org	Email: garrie.killsahundred@fsst.org
Fort Belknap Indian Community	Fort Sill Apache Tribe
Mr. Michael J. Black Wolf	Mr. Leland Darrow
THPO	THPO
656 Agency Main Street	43187 US Hwy 281
Harlem, MT 59526	Apache OK 73006-8038
Tel: 406-353-2293	Tel: 580-588-2298 (ext. 204)
Email: mblackwolf@ftbelknap.org	Email: michael.darrow@fortsillapache-nsn.gov
Jicarilla Apache Tribe	Kiowa Tribe of Oklahoma
Mr. Jeffrey Blythe	Mr. Phil Dupoint
THPO	Acting THPO
PO Box 1367	PO Box 50
Dulce, NM 87528	Carnegie OK 73015
Tel: 575-759-0062	Tel: 405-435-1650
Email: janthpo@gmail.com	Email: museum@kiowatribe.org
Little Shell Tribe of Chippewa Indians	Lower Brule Sioux Tribe of the Lower Brule Reservation, SD
Mr. Duane Reid	Clair Green
THPO	THPO
615 Central Ave West	PO Box 187
Great Falls, MT 59404	Lower Brule, SD 57548-0187
Tel: 406-315-2400	Tel: 605-730-1935
Email: duanereid451@gmail.com	Email: clairgreenoffice@gmail.com
Mescalero Apache Tribe	Northern Arapaho Tribe
Ms. Holly Houghten	Mr. Ben Ridgley
THPO	THPO Director
PO Box 227	P.O. Box 396
Mescalero, NM 88340-0227	Fort Washakie, WY 82514
Tel: 575-464-3005	Tel: 307-856-1628
Email: holly@mathpo.org	Email: benridgley007@gmail.com
Northern Cheyenne Tribe	Oglala Sioux Tribe
Ms. Teanna Limpy	Mr. Thomas Brings
THPO	THPO
PO Box 128	P.O. Box 2070
Lame Deer, MT 59043	Pine Ridge, SD 57770
Tel: 406-477-4839/4838	Tel: 605-867-5624
Email: teanna.limpy@cheyennenation.com	Email: t.brings@oglala.org
Pawnee Nation of Oklahoma	Pueblo of Taos
Mr. Matt Reed	Mr. Fred Romero
THPO Director	War Chief (Historic Preservation)
PO Box 470	PO Box 2596
Pawnee, OK 74058	Taos, NM 87571-1846
Tel: 918-762-2180	Tel: 575-758-3883
Email: jreed@pawneenation.org	Email: warchief@taospueblo.com
Pueblo of Zuni	Rosebud Sioux Tribe

Mr. Kurt Dongoske	Lone Quigley
THPO	THPO Director
PO Box 1149	PO Box 809
Zuni, NM 87327	Rosebud, SD 57570
Tel: 505-782-4814	Tel: 605-747-4255
Email: kdongoske@cableone.net	Email: ione.quigley@rst-nsn.gov
Santee Sioux Nation	Southern Ute Indian Tribe
Ms. Misty Frazier	Ms. Cassandra Atencio
Interm THPO	NAGPRA Coordinator
52946 Highway 12, Suite 2	PO Box 737
Niobara, NE 68760	Ignacio, CO 81137
Tel: 402-857-3568	Tel: 970-563-0100 (ext. 2257)
Email: ssn.thpo@gmail.com	Email: cnaranjo@southernute-nsn.gov
Spirit Lake Nation	Standing Rock Sioux Tribe
Dr. Erich Longie	Mr. Jon Eagle
THPO	THPO
PO Box 359	PO Box D
Fort Totten, ND 58335	Fort Yates, ND 58538
Tel: 701.230.7029	Tel: 701-854-2120
Email: thpo@gondtc.com	Email: j.eagle@standingrock.org
Three Affiliated Tribes of the Mandan, Hidatsa & Arikara Nation	Ute Indian Tribe of the Uintah & Ouray Reservation
Ms. Mary Baker	Ms. Betsy Chapoose
THPO	Cultural Rights & Protection Director
404 Frontage Road	PO Box 190
New Town, ND 58763-9402	Ft. Duchesne, UT 84026
Tel: 701-862-2474	Tel: 435-722-4992
Email: marybaker@mhanation.com	Email: betsyc@utetribe.com
Ute Mountain Ute Tribe	Yankton Sioux Tribe
Mr. Terry Knight	Mr. Kip Spotted Eagle
THPO/NAGPRA Representative	THPO
PO Box 468	Box 1153, 800 Main Avenue SW
Towaoc, CO 81334-0188	Wagner, SD 57380
Tel: 970-564-3751	Tel: 605-384-3641 (ext. 1033)
Email: tknight@utemountain.org	Email: yst.thpo@gmail.com/ kipspottedeagle247@gmail.com

Agreement Documents

- Agreement documents, such as MOAs, PAs, CAs, Plans of Action, etc. will be drafted and coordinated by the CRM and approved by the Installation Commander
- Agreement documents are referenced in the Appendix section of this ICRMP

GIS Management

confidentiality prevents damage to sites. In the spirit of ARPA, all maps of archaeological sites have restricted access. Access will be granted by the CRM IAW user need and 32 CFR Part 229.18 (a)(1).
- GIS maps are created by the Buckley GIS Analysts in the Engineering Flight (CEN).

7.9 Installation SOPs

8 CULTURAL RESOURCES INVENTORY

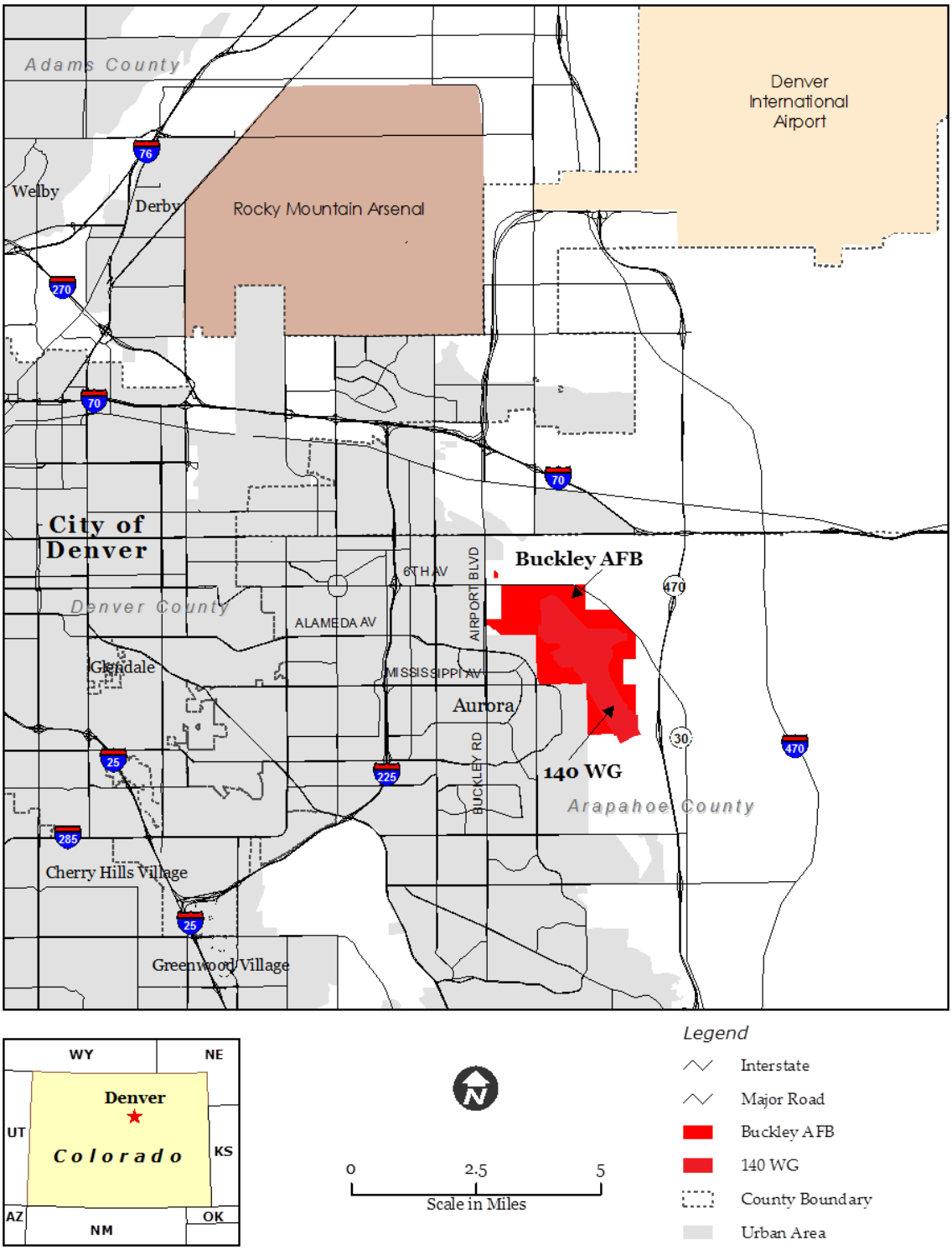
8.1 Physical Setting
Installation Supplement

Located in the Denver-Boulder-Greeley Consolidated Metropolitan Statistical Area (CMSA), Buckley SFB occupies approximately 3,283 ac, or 5 square miles, of federally-owned land surrounded by the city of Aurora in Arapahoe County, CO (Figure 8.1). Situated in an urban/industrial/agricultural environment, the base is approximately 3 miles east of Interstate 225 and 10 miles southwest of Denver International Airport (Buckley Air National Guard Base [BANGB] 1989, 1997; COANG 1998).

From a general land use perspective, approximately 54 percent of the base's grounds have been developed and are considered either improved or semi-improved. The improved grounds (approximately 56.9 ac) are the developed areas of the base that have either an impervious surface (e.g., streets, sidewalks, and buildings, excluding runway and apron areas) or lawns and landscape plantings that require intensive maintenance. The airfield runway and apron areas consist of approximately 1,450 ac. Semi-improved grounds (approximately 265.2 ac) are areas where periodic ground maintenance activities are performed for operational or aesthetic reasons. Semi-improved grounds are located primarily in the central portion of the base and consist of runways, aircraft parking aprons, and clear zones. The remaining ac (approximately 500 ac) are unimproved/undeveloped lands and include areas that have been set-aside for outdoor recreational purposes.

The unimproved areas predominantly encompass the perimeter of the base. Physiologically, Buckley SFB is located in the Colorado Piedmont Section of the Great Plains province. The topography consists of rolling prairie, covered primarily by short grasses, bottomland meadows, and landscaped areas; cottonwood, box elder, and willow trees are found along intermittent drainages that cross the area. East Toll Gate Creek is the only stream crossing the installation flowing southeast to northwest across the southwestern portion of base. Sand Creek flows southeast to northwest, just north of the base; both East Toll Gate Creek and Sand Creek are part of the South Platte River System and waters of the U.S. Granby Ditch, part of the City of Aurora stormwater drainage system, receives stormwater runoff flows from the northwestern portion of the base. The only other surface water feature is Williams Lake, a man-made reservoir located in the northeastern portion of the base. Elevations across Buckley SFB range between 5,470 feet and 5,660 feet. The climate is semi-arid and has extremes in summer and winter temperatures (Geo-Marine, Inc., 2002, 2004b; Higginbotham and Associates 2002).

Figure 8.1: Regional Map, Buckley SFB, Colorado



8.2 Prehistory and History
Installation Supplement

Prehistory

Buckley SFB is within the Platte River Prehistoric Context Area as defined by Colorado Council of Professional Archaeologists. The following overview presents a cultural history for this area. Primary sources presenting greater contextual and chronological detail include the Draft Final Buckley AFB Cultural Resource Management Plan (Foothill Engineering, Inc., 2002); Gilmore et al. 1999; Cassells 1997; Eighmy 1984; Morris 1982; Benedict 1975a, 1979; and Benedict and Olson 1978. All dates in this prehistoric regional overview are reported in years before present (B.P.).

Table 8.2-1: General Prehistoric Chronology and Climatic Conditions for Eastern Colorado

12,000 – 7,500	Paleo-Indian Clovis (12,000-11,000 B.P.) Folsom (11,000-10,000 B.P.) Plano (10,000-7,500 B.P)	Cooler mean annual temperatures; precipitation levels 10-25% above present; open grassland and boreal forest on Plains; warming with expanding grassland after c. 10,000 B.P.
7,500 – 5,000	Early Archaic	Continental warming trend; Atlantic episode produces Pacific circulation resulting in decreased precipitation on Plains.
5,000 – 3,000	Middle Archaic	Sub-Boreal episode; Plains significantly wetter and cooler in some areas, considerable variability.
3,000 – 1,800	Late Archaic	Sub-Atlantic episode; variable, with warming and dune formation on portions of the Plains interspersed with increased moisture.
1,800 - 800	Early Ceramic	Sub-Atlantic conditions until c. 1,500 B.P. and onset of Scandic episode; Expansion of sage-grassland vegetation zone
800 - 400	Middle Ceramic	Atlantic episode; Audubon Cirque glaciations on Front Range; cyclic droughts on Plains.
450 - 150	Protohistoric/Historic	Neo-Boreal episode; cooler, wetter conditions; predominantly modern conditions late in this period.

Paleo-Indian Stage (12,000 B.P. - 7,500 B.P.)

The Paleo-Indian Stage is recognized archaeologically by the presence of various types of lanceolate projectile points that have been found in association with extinct Pleistocene megafauna (Gilmore et al. 1999:59-75). These animals, which include mammoth, bison, giant bear, dire wolf, horse, and camel, as well as smaller game, such as deer and elk, were hunted by Paleo-Indians. Although big game hunting was a major indicator of the Paleo-Indian Stage, smaller animals and plants also provided supplemental food resources (Irwin and Wormington 1970).

The Paleo-Indian Stage in the western United States is typically divided into three periods: Clovis (11,500-11,000 B.P.), Folsom (11,000-10,000 B.P.), and Plano (10,000-7,500 B.P.). A pre-projectile point (pre-Clovis) period has been postulated by Stanford (1979), who has offered evidence (although disputed) from the Lamb Spring Site (5DA83) in Douglas County (located approximately 15 miles southwest of Buckley SFB). This site contained intentionally piled mammoth bones in association with bone flakes and expedient stone tools. Analysis of this material has been inconclusive as to whether a true pre-Clovis occupation is represented (Fisher 1992).

Clovis (12,000 - 11,000 B.P.)

The Clovis period is the earliest generally accepted Paleo-Indian period in the United States; large fluted projectile points are the defining cultural trait (Gilmore et al. 1999:55). Clovis projectile points have often been found in association with mammoth remains at kill and butchering sites, locations that suggest that Clovis hunters trapped single animals in bogs, marshes, or arroyos, and then killed their prey with spears (Frison 1978:109,112; Jennings 1983:63). Kalasz et al. (1992:24) note that a large portion of known Clovis sites in continental North America is concentrated along the eastern flanks of the Rocky Mountains and within the adjacent Plains region.

The earliest undisputed date of Clovis occupation in eastern Colorado has a radiocarbon age estimate of 11,200 ± 500 B.P., from the Dent Site in Douglas County, Colorado above an old channel of the South Platte River (Cassells 1997:48). Other Clovis sites, including Claypool and Dutton, both in eastern Colorado, contain butchered remains of mammoth and other extinct mammals, and represent components of a hunting-oriented lifeway.

Folsom (11,000 - 10,000 B.P.)

The Folsom period is also characterized by an orientation toward big game hunting. The diagnostic projectile points of this period are fluted as are Clovis points, but are distinctly shorter and contain a deeply concave base (Guthrie et al. 1984:13). It is

thought that following the extinction of the mammoth, Folsom groups focused on Bison antiquus as a preferred prey. Variation in projectile point size suggests that Folsom hunters also exploited smaller animals such as antelope and horse. Their camps and special activity sites are even more numerous in Colorado than are Clovis sites. In the mountains region, the Folsom period is represented primarily by sites within the San Luis Valley as well as by isolated surface finds of Folsom points in the remainder of the region (Guthrie et al, 1984). Important Folsom sites include the Lindenmeier, Powars, Fowler-Parrish, and Johnson sites. The largest and most thoroughly investigated of these sites is the Lindenmeier site in Larimer County.

Plano (10,000 - 7,500 B.P.)

The Plano period is characterized by a variety of distinct lanceolate projectile points, which lack the characteristic fluting of the earlier Clovis and Folsom types (Gilmore et al. 1999:75). Plano artifact assemblages contain an array of unfluted lanceolate projectile point types, each of which identifies a specific archaeological complex. The various Plano complexes include Firstview, Kersey, Hell Gap, Agate Basin, and Cody. Hunting during the Plano period became more sophisticated with organized game drives and continued hunting of the now-extinct Bison antiquus (Frison 1978:179; Jennings 1974:119,123). Evidence for Plano occupation in the mountains region is provided by surface finds of Plano type projectile points; most Plano period sites, however, have been found on the plains.

In situ remains of this terminal Paleo-Indian stage may be present at the Gordon Creek Burial Site in northern Larimer County (Anderson 1966); other Colorado locations include the Claypool, Nelson, Jurgens, Frazier, Olsen-Chubbock, Lamb Spring, Frasca, Jones-Miller, and Wetzel sites. Increased exploitation of plant resources is indicated at the Jurgens Site in eastern Colorado (Wheat 1979), and some researchers think a greater level of social organization is indicated at certain Plano period sites than at earlier Paleo-Indian sites (Kalasz et al. 1992:26).

Near Wray, Colorado, in the South Platte River Valley, the Jones-Miller site was an extensive bison kill with Hell Gap points, radiocarbon dated to ca. 9,070 B.P. (Stanford 1974). The Frazier site near Kersey yielded butchered bones of an extinct form of bison associated with Agate Basin projectile points, radiocarbon dated to ca. 9,600 B.P. (Cassells 1997; Malde 1984). At the nearby Jurgens site, activities including habitation and butchering of bison, were linked by the presence of Kersey projectile points (Wheat 1979). The Olson-Chubbuck site in eastern Colorado was a large bison kill, which Wheat (1967) related to the Firstview complex, radiocarbon dated to ca. 10,200 B.P. Cody complex artifacts, found in association with bison bones at the Lamb Springs site, were radiocarbon B.P. (Rancier et al. 1982).dated from about 8,920 to 7,920.

Archaic Stage (7,500 B.P. - 1,800 B.P.)

The onset of the Archaic Stage is marked by the beginning of a warmer and drier climatic episode, traditionally known as the Altithermal, a period during which a significant reorientation of prehistoric lifeways occurred (Benedict 1979:1-12). Antevs (1955) postulated that climatic conditions in western North America were markedly drier and hotter during the Altithermal, which he assigned to the period from about 7,000 to 5,000 B.P. Subsequent paleo climatic and archaeological research indicates this period was probably more complex than Antevs initially expected, with significant local variation in rainfall and temperature throughout the western United States (Grayson 1993). The overall trend, however, is one of significantly drier conditions, with the lower limit of the pine forest zone shifting upward approximately 300-700 m since roughly 10,000 B.P. (USGS 2004).

The archaeological record from this period reflects technological change marked by the appearance of a more diverse tool kit, a wider array of ground stone tools, and a general decrease in the size of projectile points (Guthrie et al. 1984). Archaic projectile points within and near the study region are stemmed, side-notched, or corner-notched, and are not as delicately flaked as the earlier Paleo-Indian types. The transition from large lanceolate projectile points to these smaller projectile point forms is generally interpreted as reflecting a change in hunting patterns.

During Archaic times, prehistoric peoples turned to hunting smaller game and gathering wild plants, presumably as a result of the warmer and drier conditions, and a decrease in the large game population. It has been suggested that this Archaic adaptation originated in the Great Basin and includes archaeological features such as stone boiling pits, hunting blinds, structures defined by patterned post molds, and stone circles (commonly referred to as "tipi rings") (Guthrie et al. 1984:22). The project region contains a variety of archaic site types, including camps, habitations, stone quarries, and rockshelters. The most important regional sites are LoDaisKa (5JF142), a rockshelter just south of Morrison (Irwin and Irwin 1959), and two open camps at Cherry Gulch (5JF63) and Magic Mountain (5JF223) (Irwin-Williams and Irwin 1966; Nelson 1981). Researchers have subdivided the Archaic Stage into three distinct periods: Early Archaic (7,500 B.P. - 5,000 B.P.), Middle (5,000 B.P. - 3,000 B.P.), and Late (3,000 B.P. - 1,800 B.P.).

Early Archaic (7,500 B.P. - 5,000 B.P.)

Some researchers (Benedict 1981; Benedict and Olson 1978) have proposed that the Colorado Mountains were a refuge sought by Early Archaic peoples to escape harsh climatic conditions on the plains. These people developed a distinct mountain-oriented culture. Campsites, some open, and some in rockshelters, represent sites of this period almost exclusively. The most common projectile points from dated components of the Early Archaic are triangular and ovate in form, with convex to straight bases, and wide, shallow, side notches. Diagnostic projectile points of this period include Blackwater, Pahaska, and Southsider Side-notched points, Hawken, Bitterroot, and Oxbow point types, and some Mummy Cave points (Guthrie et al. 1984:23). This period coincides approximately with the desiccation of pluvial lakes in the Great Basin, and a similar subsistence shift toward higher elevations and a broader based hunting and gathering economy (Grayson 1993).

One of the most important sites of this period, which has been preserved by Jefferson County Open Space within Apex Park just west of Golden, about 25 miles northwest of Buckley A.F. Base, is the aforementioned Magic Mountain Site (5JF223) where a distinct mountain-oriented culture referred to as the Magic Mountain Complex was first defined (Irwin-Williams and Irwin 1966). This site represents one of the best-preserved stratified cultural sequences along the Front Range, spanning approximately 5,000 years from approximately 6,000 to 950 B.P. However, since Irwin-Williams and Irwin first studied the site, the cultural/geological units of the site have been subject to interpretive revision (Scott 1980). Other researchers (Benedict and Olsen 1978) have suggested that the Magic Mountain Complex contained material culture similar to a range of sites within the region, and suggested that it belonged to a more broadly defined complex called Mount Albion Complex, which is represented at LoDaiska (5JF142) approximately four miles south of Magic Mountain (Eighmy 1984:53; Irwin and Irwin 1959). This association, it should be noted, is retrospective, since the Mount Albion Complex was defined after the LoDaiska Site was excavated and initially interpreted. Foothills sites that exhibit early Archaic components include Magic Mountain (Irwin-Williams and Irwin 1966), LoDaisKa (Irwin and Irwin 1959), Bayou Gulch (Gilmore 1991), Monaghan Camp (Tucker 1990), Cherry Gulch, Willowbrook Shelter, and Helmer Ranch. Early Archaic components on the northeastern plains of Colorado, east of the Plains-Foothills transition zone, are virtually unknown. This absence of evidence would seem to support the idea that the Plains region was largely abandoned during this time.

Middle Archaic (5,000 B.P. - 3,000 B.P.)

The Middle Archaic period is more intensively represented among sites on the plains and in mountain settings than are any previous cultural periods, suggesting a population increase in conjunction with improving climatic conditions and availability of a broader resource base. Stemmed, indented base projectile points representing the McKean and Duncan-Hanna series, as well as side-notched styles (Eighmy 1984:55) are indicative of this period. Endscrapers and sidescrapers also appear in Middle Archaic tool kits and ground stone tools are abundant. True metate grinding slabs appear; features include roasting pits and/or boiling pits. These cultural developments and the projectile point styles appear similar to those of contemporaneous occupations in the Great Basin (Jennings 1978). Other diagnostic projectile points of the Middle Archaic include the Mallory, Yonkee, and Oshara styles, the Elko series, and Northern, Hawken, and Sudden Side-Notched projectile points (Guthrie et al. 1984:23).

Benedict (1981) believes there is evidence that the McKean complex developed out of the late Plano culture in the Colorado Mountains, based on the similarity between the Jimmy Allen point and the Duncan and McKean points found at the Fourth of July Valley site. This view should not be used uncritically, however, for it is counter to a considerable body of evidence from the Great Basin (Grayson 1993). Gleichman et al. (1995) also suggest that McKean has its origins to the west of the Front Range. There are numerous components in the foothills dating to the Middle Archaic, including Magic Mountain (Irwin-Williams and Irwin 1966, Kalasz and Shields 1997) and Complex C from LoDaisKa (Irwin and Irwin 1959). A late Middle Archaic occupation at the Button Rock Site in the mountains of Boulder County, however, contained lithic materials from plains and foothills locations, suggesting a Plains orientation (Grant and De Angello 1998). On the northeastern plains, a McKean complex was noted in Zone D of the Dipper Gap site near Sterling, Colorado, radiocarbon dated from about 1570 to 1230 B.C. (Metcalf 1974). Bayou Gulch (Gilmore 1991), near Franktown, produced a radiocarbon date of ca. 1460 B.C., while the Willow Creek site, also in Douglas County, produced a date of ca. 2760 B.C. (Jurgens et al. 1981). Other Middle Archaic sites in the Denver Monaghan Camp (Tucker 1990), and Rock Creek (Gleichman et al. 1995)The Late Archaic exhibits a continuing trend of increasing ground stone tool frequencies and decreasing projectile point sizes (Guthrie et al. 1984:23). Diagnostic projectile points of this period include Pelican Lake points, Magic Mountain Apex Complex types, LoDaisKa Complex types, and Besant and En Medio points.

Late Archaic components occur throughout the plains and mountain regions of Colorado and neighboring areas. Artifact assemblages from this period typically contain corner-notched dart points, bifaces, scrapers, drills, gravers, grinding stones, hammer stones, and bone tools. These artifacts are often found in association with hearths and are associated with the remains of bison, mule deer, jackrabbit, bobcat, and other fauna (Eighmy 1984:60). Falcon's Nest (5JF211) contained a burial of an adult male whose skull matrix was dated to 1,990 ± 240 B.P.; in addition, 52 hearths and nearly 4,000 stone tools were excavated, although many may date to a later period (Adkins and Kurtz 1993:61; Colorado Historical Society [CHS] 1996:14). A Late Archaic

component (Zone C) at Magic Mountain (5JF223) contained scrapers, bifaces, and manos, as well as three burials covered by rock cairns (Irwin-Williams and Irwin 1966:195-196).

The distribution of radiocarbon dates in eastern Colorado for the period 1,700-6,500 B.P. is positively skewed with the frequency of dated sites increasing markedly after about 3,500 B.P. When broken down by subareas, this trend is significantly more pronounced in the Plains than in the Foothills or Mountain areas (Gilmore et al. 1999:97-98), suggesting intensified used of the Plains throughout the Middle and Late Archaic periods.

Late Prehistoric Stage (1,800 B.P. - 450 B.P.)

The end of the Archaic Stage in northeastern Colorado is indicated by the occurrence of three roughly contemporaneous events in the archaeological record: 1) the introduction of ceramic technology; 2) the replacement of the spear thrower with the bow-and-arrow; and 3) the advent of horticulture. These innovations appeared locally in the context of a semi-nomadic lifeway, which, in the Mountains and Foothills regions, does not appear to have differed greatly from that of the Archaic period. This is referred to traditionally as the Plains-Woodland period, which lasted from 1,800 to 800 B.P. However, the term Plains-Woodland is falling out of use because, as Zier and Kalasz (1999:160) point out, the term "promotes confusion about local developmental sequences and those east" of the region. Eighmy (1984) found it practical to divide this stage into Early and Middle Ceramic periods, and this terminology has been retained (Gilmore et al. 1999). Both ceramic technology and horticultural practices within the study region are believed to represent attenuated manifestations of a true Woodland culture centered on the eastern plains, or a result of combined eastern woodland and southwestern influences (Cassels 1983:158-160). Horticulture does not appear to have developed fully on the Front Range or the nearby plains area at any time during this stage. Cord-impressed vessels with conical bases are typical of early ceramic artifacts in this region.

Early Ceramic (1,800 B.P. - 800 B.P.)

Although this period is contemporaneous with the rise of a relatively sedentary, horticultural way of life, there is in some areas, including the project region, scant evidence of plant domestication.

Archaeological evidence, including floral and faunal data, from Foothills region sites suggests a hunting and gathering economy with occasional use of domesticated corn (Eighmy 1984:86). Wood (1967) has argued that Woodland inhabitants of northeastern Colorado were indigenous hunters and gatherers who probably borrowed the idea of pottery making from their eastern neighbors; however, ceramics from Foothills sites have been reported to resemble western Fremont and Shoshone styles (cf. Nelson and Graeber 1966). Woodland sites are the most common prehistoric manifestations found in the project region (Black 1992:24).

The first excavated component from the Colorado Foothills dating to this period is from LoDaisKa (5JF142), where an occupational date range of approximately 1,310 to 1,020 B.P. was obtained (Irwin-Williams and Irwin 1961:114). Pottery types from LoDaisKa consist of cord-marked pottery and plain surface pottery, ceramic items that were found in association with small corner-notched points (most with serrated edges), small ovoid knives, and various chipped and ground stone tools (Eighmy 1984:84). Features from the site included rock- and ash-filled pit hearths containing remains of deer, bison, and small animals.

The Spring Gulch Site (5LR252) also yielded cord-marked pottery, in addition to diagonally notched serrated points and rock-lined hearths. Woodland components were also identified at Magic Mountain (5JF223) (Irwin-Williams and Irwin 1966), Willowbrook (5JF6) (Leach 1966), Cherry Gulch (5JF63) (Nelson 1981), Hall-Woodland Cave (5JF9) (Nelson 1967:3-10), where cord-marked pottery and corner-notched points were reported (Eighmy 1984:87), and a rockshelter at Red Rocks Park (5JF146) (Black 1992:24). Woodland habitation structures include stone enclosures, such as those excavated at the George W. Lindsay Ranch Site (5JF11) north of Dinosaur Ridge (Nelson 1971), which probably supported conical timber and brush, or hide lodges.

Early Ceramic components were found at Zone D of the Uhl site and Stratum VI at the Biggs site, radiocarbon dated to ca. 1805 and 1450 B.P., respectively (Wood 1967). The Senac Dam site, about 10 miles south of the present project area in the Denver Basin, is another example of a Woodland camp. This site was radiocarbon dated from ca. 1670 to 1080 B.P. (O'Neil et al. 1988). The Box Elder-Tate Hamlet site on Denver International Airport dates to the Early and Middle Ceramic periods and contains pithouse-like habitation structures (Tucker et al. 1992). Other sites with structural remains include Lindsay Ranch (Nelson 1971) near Golden, Valley View near Loveland (Cassells 1997), Kinney Spring near Fort Collins (Morris and Litzinger 1985), and Magic Mountain (Kalasz et al. 1995; Kalasz and Shields 1997). Stone circles are commonly associated with sites of this period.

From these cultural manifestations, a concept of a Foothills-Montane culture or Hogback Phase has been proposed by some researchers (Benedict 1975a, 1975b; Nelson 1971). These investigators believe that an indigenous Front Range population lived in the Foothills region during the winter and spring, and migrated to the mountains during the summer (Eighmy 1984:90). This period in eastern Colorado has been characterized as a marginal representation of sedentary culture, more adapted to a nomadic

hunting and gathering lifeway (Irwin and Irwin 1959). It has been suggested that an increased focus on hunting, a direct result of climatic improvements and increasing bison populations, is reflected in the archaeological record (Wood 1967; Wood 1971). In support of this notion, a marked decrease in the frequency of manos and metates has been reported from the region. Such items are typically associated with the processing of gathered or cultivated plant products.

The diagnostic artifacts of this period are globular jars with out-curving collared rims and small triangular projectile points. Most known sites were used as seasonal hunting camps perhaps by non-indigenous inhabitants during hunting forays into the region. Wood (1971:81) proposed that few Middle Ceramic period sites in eastern Colorado have been identified in areas suitable for cultivation. Relatively few sites dating to this period have, in fact, been documented in the Foothills and surrounding Plains region. Eastern Colorado radiocarbon dates for the years 400 to 2,000 B.P. are more or less normally distributed with a peak at about 900 – 1,300 B.P. and a decline in frequency thereafter (Gilmore et al. 1999: 186).

Ceramics of this period are probably related to the Upper Republican culture, first defined in Kansas and Nebraska, where such materials are usually associated with sedentary horticultural villages. In northeastern Colorado, however, the few sites assigned to this period are open camps and rockshelters. The Middle Ceramic period encompasses both the Franktown and Buick foci developed by Withers (1954), but rarely used today. Withers proposed that materials from Franktown cave, about 30 miles south of Buckley SFB, were transitional between the Woodland and Upper Republican cultures. Cassells (1997), however, feels this assertion is based on too little evidence. Upper Republican sites in northeastern Colorado include Franktown Cave (Withers 1954); Buick and Smiley shelter near Limon (Withers 1954, Wood 1971); Agate Bluff (Irwin and Irwin 1957) and Peavey rockshelters (Wood 1967), both near the Wyoming border; Biggs (Wood 1967); and Donovan (Reher and Scheiber 1996). No structures have been identified at these sites (Cassells 1997). The fact that relatively few Upper Republican sites have been found in northeastern Colorado suggests to Eighmy (1984) that the post-1,000 B.P. occupation of the area was relatively sparse. A component at the Spring Gulch site (Kainer 1976) near Fort Collins, radiocarbon dated to ca. 885 B.P., together with components from Happy Hollow Rock can be placed in this period. Pottery collected by Wood (1967) at sites 5WL37 and 5WL43 are similar to Upper Republican wares.

Protohistoric/Historic Stage (450 B.P. - 150 B.P.)

The Protohistoric/Historic Stage encompasses the period between the earliest contacts of Native Americans with items of European origin and the beginning of direct and frequent encounters between Native and Euro-Americans. This stage is generally depicted as one of relatively sparse population and occupation in Colorado (Eighmy 1984:151), and is associated with projectile points indicative of use of the bow-and-arrow, small side-notched points, some corner-notched points, and serrated blade edges (Guthrie et al. 1984:46). Protohistoric occupations are rare in the Foothills region (Hand 1995).

Sometime after the Pueblo Revolt in New Mexico in 1680 (Sando 1979) and before 1720, Native Americans in northeastern Colorado acquired horses (Ewers 1980). The presence of metal projectile points, European weaponry, and the use of horses, distinguishes Protohistoric occupations from those of the preceding period (Guthrie et al. 1984:46). It is often difficult to distinguish early Protohistoric sites from late prehistoric occupations, and very late Protohistoric sites may be mistaken for early European camps. Numerous tribes are known to have used the area during a period of accelerated mobility and conflict that followed the acquisition of firearms and horses. Eighmy (1984) has noted that virtually all of the Protohistoric sites in eastern Colorado have been associated with the Dismal River Aspect, a designation that has implied Protohistoric Apache affiliation.

By the 1500s, the Jicarilla Apaches controlled the land between the South Platte and the Arkansas rivers (Simmons and Simmons 1992:25). Incoming Comanche's and their allies, the Utes, drove the Apaches south during the early 1700s. The Utes were a mobile society of hunters who eventually occupied most of the Western Slope and controlled the mountain passes. Linguistic and archaeological evidence suggest that Utes migrated from their southwestern Great Basin homeland (Guthrie et al. 1984:46; Jennings 1974). From the early 1800s, Arapahoes and Cheyennes occupied most of eastern Colorado north of the Arkansas River. By the mid-1800s, several successive groups of Native Americans, including the Sioux, had used northeastern Colorado as hunting grounds.

Although the Foothills region was used as hunting grounds by several groups of Indians, none had a strong hold on it. Still a point of controversy, archaeological remains of Shoshoni culture in the Foothills may date back 600 to 700 years, as known from Graeber Cave (5JF8) in Turkey Creek Canyon (Nelson and Graeber 1966). Since none of the protohistoric tribes dominated the region, little resistance was offered to Anglo settlements either in the project locality or in other parts of Colorado (Simmons and Simmons 1992:25).

History

The following sections briefly describe the historic context of Buckley SFB, as described in the Historic Building Inventory and Evaluation, Buckley Air Force Base. Colorado (Geo-Marine Inc., 2004). The history has been adapted from a number of existing documents, including the Draft Final Buckley SFB Cultural Resource Management Plan (Foothill Engineering Consultants, Inc., 2002); Aurora Gateway to the Rockies (Mehls et al. 1985); and Colorado Pride—A Commemorative History of the Colorado Air National Guard 1923-1988 (Colorado Air National Guard 1989). Readers interested in a more detailed history of Buckley SFB and the surrounding community are directed to the documents and reports cited in Section 11.2 of this report and found in the holdings of public libraries, archives, and museums located in the Denver, Colorado area.

Pre-Military History

Spanish Exploration: Recorded history of the high plains began in the early 1500s with exploration by Spanish explorers searching for the fabled seven cities of gold (Cibola). By the early 1700s, the Spanish had explored areas of the South Platte River as far east as present day Nebraska, and by 1803, settlers from the eastern United States were beginning to move west (Mehls et al. 1985).

Between 1820 and 1840, fur trappers and traders moved across the west establishing a number of trading posts; however, stories by these travelers describing the area as the "great American desert" discouraged significant permanent settlement until the late 1850s when rumors of gold in the high plains and mountains reached eastern cities. At that time, thousands of settlers set out for the Colorado Territory using the well-known phrase "Pike's Peak or Bust!" After arrival, many of the prospectors discovered that the stories of rich gold fields had been grossly exaggerated and many returned to the east. Some settled in the area, however, either by choice or because they could not afford the trip home (Mehls et al. 1985).

Development of Denver and Surrounding Communities: Largely due to the number of primary wagon trails that crossed the city and surrounding area, by 1861 Denver, "Queen City of the Plains," had become the principal city in the Colorado Territory. The northern branch of one of the trails (the Smoky Hill Trail), crossed part of the area that would eventually become the city of Aurora and was a primary artery for high plains trade and travel during the 1860s. Small outposts sprang up along the trail and by 1870, when the railroad was completed through the Territory, the entire region was experiencing enormous growth and settlement. By the time Colorado was given statehood (1876), there were dozens of new settlements and an increasing market for locally produced agricultural products. Farmers and ranchers began to settle on the land east of Denver (now Aurora) to produce the food and livestock that Denver and other large communities in Colorado needed.

As a result, small communities that would one day become the suburbs of Denver emerged. Among these were the Aurora Subdivision, New England Heights, Boston Heights, and Fletcher—all of which later became the city of Aurora (Mehls et al. 1985).

Aurora and Arapahoe County: By the mid-1870s, Denver had emerged from a sprawling western town into a booming manufacturing community with soaring real estate prices, and a rapidly rising population. Likely drawn by the enormous growth of Denver and the silver discoveries in Leadville, 100 miles to the west, Donald Fletcher, moved from Chicago to Denver in 1879. Initially, Fletcher worked for the Denver and Rio Grande Railway, but within four years, he had become more interested in the real estate potential of the area and the prospects of subdividing and developing the area around the new State Capitol Building. Fletcher was convinced that the best neighborhoods would develop to the south and east of the city and, by the late 1880s, he was looking east along Colfax Avenue for land to develop a subdivision that could be connected to Denver by a trolley line. Along with two associates—Thomas Hayden and Samuel Perry—Fletcher began to purchase land in what was then unincorporated Arapahoe County. Fletcher and Hayden bought parcels along the north side of Colfax Avenue; Perry and his family bought parcels on the south side of Colfax Avenue (Mehls et al. 1985).

In 1889, Perry platted his land as the Aurora Subdivision and began to sell lots on an installment plan. Hayden, Perry, and Fletcher (acting as the Colfax Trust Company) consolidated their efforts the following year and by mid-1891, the three businessmen owned 4 square miles of land bisected by Colfax Avenue. In April 1891, surrounded on three sides by prosperous farms and ranches, they incorporated their land as the Town of Fletcher (Mehls et al. 1985).

Arapahoe County records indicate that two subdivisions were also platted within the area now encompassed by Buckley SFB, just prior to the turn of the twentieth century. East Colfax Heights was established in 1893 and, in 1897, the Fairmount Gardens subdivision was platted. There are no records to indicate that either property was ever developed.

In the early years of the twentieth century, the growth of Fletcher (renamed Aurora in 1907) and the surrounding area was largely a result of Denver's increasing need for fresh produce, meat, and dairy products. Dairy farms, nurseries (for shrubs and trees to adorn the city), and sugar beet production were the primary industries, all of which coincidentally stimulated the growth of East Colfax Avenue as a major transportation corridor to the east. Trolley services were increased to meet the demand, a bicycle path was added, and, by 1910 (to accommodate the first automobiles), Colfax Avenue had been designated one of the first Federal

roads in Colorado (U.S. 40) (Dorward 2001; Mehls et al. 1985). "…what was important was that Colfax Avenue stood at the heart of a semi-rural community that stretched into the [Arapahoe] county lands" [Mehls et al. 1985].

World War I/Post World War I History

The World War I Years: When World War I began (1914), the demand for farm and ranch products to support the war effort rose dramatically. Thousands of farmers nationwide cultivated additional lands in corn and wheat and the depressed mining industry was revived for the production of equipment and ammunition. Farms and ranches east of Denver expanded and prospered and the mines west of Denver re-tooled to meet demands.

As the country mobilized, the U.S. Army recognized that there was a lack of sufficient medical facilities to support the inevitable war injuries and diseases contracted by American soldiers supporting the war effort in foreign areas—particularly those caused by chemical weapons (mustard gas, chlorine, etc.) and extremely damp climates (e.g., tuberculosis). To support this need, the Denver Civic and Commercial Association (a sub organization of the Chamber of Commerce) approached the U.S. Army Medical Corps about the benefits of constructing an Army medical facility northeast of the city. Aurora was the most promising location for a new medical facility, and in 1918, funds donated by the community had been raised and a parcel, the Gutheil Nursery northeast of Colfax and Peoria Streets, purchased. The land was then offered to the Army under a lease agreement for one dollar a year for the construction of a 48 building, temporary Army Recuperation Camp. Dedicated on October 13, 1918, the facility was initially named Army Hospital No. 21; it was renamed Fitzsimons General Hospital in 1920.

In addition, World War I also heralded the beginning of military aviation in Colorado. The enthusiasm of young American soldiers for the emerging Army Air Service is well described in Colorado Pride—A Commemorative History 1923-1988 (Colorado Air National Guard 1989):

> When the call for World War I was sounded, aviation ranks were filled by a surge of imaginative young men seeking the challenges and thrills offered by a branch of service requiring a combination of strength, skill, and consummate nerve. Battlefront reports left little doubt about the airplanes' military value and by 1916, the American attitude toward aviation was changing.

The observation squadron was appropriately called the "Eyes of the Army." While not a combat unit in World War I, early observation unit aircraft were fully armed. Skirmishes with enemy planes were often experienced by pilots and observers during the war. The photographic Section of observation units provided Army commanders with accurate pictures of enemy positions, while their intelligence Sections sought and reported information for effectively guiding troops. Although artillery surveillance constituted the major part of the work, when balloons were not able to effectively adjust artillery fire, observers in aircraft assisted in finding the range and reporting the accuracy of the hits.

Recognizing the Army's new focus on air power and pilot training, the Denver community submitted several bids for a military training field; but there were no flying fields established in Colorado during the World War I years (Colorado Air National Guard 1989; Scamehorn 1961).

The Years between World War I and World War II

The 1920s: At the end of World War I (1918), America suffered a brief depression. Serious economic problems developed as farm prices declined and then stabilized at lower levels; there was large-scale immigration; and the country was struggling with how to deal with prohibition (Colorado Air National Guard 1989). In addition, a variety of environmental factors (droughts, plagues of grasshoppers, and cattle diseases) caused farmers and ranchers in the plains states to seek other types of jobs or leave their farms all together.

Aurora, like much of Colorado, depended heavily on business from the farm community and suffered when agricultural prices moved downward. Farmers purchased fewer goods and services in Aurora as they sought to cut back their production in order to decrease costs. The Federal government eventually stepped in to assist both urban and rural citizens on an unprecedented scale and New Deal agencies such as the Civilian Conservation Corps (CCC), the Works Projects Administration (WPA), and the Civil Works Administration (CWA) were created. Public works programs were responsible for major construction projects in the state, including the Colorado-Big Thompson Project, the completion of the Moffat Tunnel, and dozens of civic improvements, including schools, parks, and roads. Many other government-sponsored programs assisted local residents, enabling them to survive the economic crisis.

In addition, at the end of World War I, the U.S. Army Air Service was demobilized, leaving thousands of men looking for work and thousands of biplanes, most of which were Curtiss Jennie trainers, to be sold for scrap or to civilians for personal use. To re-direct the loss of flying units in the regular Army, the War Department began allocating observation squadrons to the National Guards

of several states and, in 1923 Colorado's Secretary of State Carl Milliken, organized the 120th Observation Squadron, 45th Division Air Service, and Colorado National Guard. The organization became the first flying unit assigned to the Colorado National Guard and the first regular or reserve unit to be assigned to the state of Colorado (Colorado Air National Guard 1989):

Although Colorado now had a military aviation unit, there were several important features precluding an active training program. First, the squadron lacked facilities. The unit had no land, buildings, or airstrip. Second, the 120th had no airplanes, cameras, or other necessary equipment. Until the unit could report to the War Department that it had acquired a suitable flying field, it was in danger of losing its Federal recognition.

Undaunted by these problems, the fledgling squadron proceeded to build a flying organization. Through the help of several spirited citizens and the tireless efforts of Major Milliken, 80 ac of land were acquired for an airfield just to the east of the present location of the Park Hill Golf Course at East 38th Avenue and Dahlia Street, near City Park in the Park Hill Section of Denver. The land was graded, plowed, and seeded, and by the end of the 1923 summer, the field enjoyed the distinction of being one of the best-equipped National Guard Air Service fields in the country.

The field was on the main line of the Union Pacific Railroad from Denver to Kansas City, with a siding that made possible the delivery of airplanes and parts. A quarter of a million dollars was invested in the planes, hangars and other equipment, and an additional $35,000 a year was allocated to the unit for its air service payroll.

In April 1924, the new airfield was officially named the Frances Brown Lowry Field, as a tribute to 1st Lieutenant Lowry, who was killed during a photographic mission over France in 1918 (Colorado Air National Guard 1989).

Throughout the 1920s, the 120th Observation Squadron and similar units across the country were instrumental in generating public acceptance of military and commercial aviation. The unit entered cross county "aeroplane" races, offered its services for humanitarian missions (e.g., delivery of emergency supplies and medicines), performed aerial demonstrations, and patrolled the skies over Colorado during a series of coal mining strikes. Bolstered by the successes of early aviators such as Charles Lindbergh and Amelia Earhart (both of whom visited Lowry Field) American aviation was beginning to give technological hope to a country that was experiencing the worst economic depression in its history.

Every additional plane in the air is another demonstration to the public of the practicability and safety of flying. The public is looking, judging, and rapidly getting into the mood to patronize aerial transportation on a large scale [Colorado Air National Guard 1989]

After the Crash: In 1929, the stock market crashed. Unemployment rose from 10,000 in 1931 to 15,000,000 in 1932. There were no jobs, businesses failed, and hundreds of manufacturing plants closed. In the Denver area, the government threatened to close Fitzsimons General Hospital and re-direct its funding to support the social programs of President Roosevelt's New Deal. Many of the buildings at the hospital, originally designed as temporary or semi-permanent structures, were beginning to deteriorate and maintenance costs were escalating. The question of whether to commit funds for major improvements or to abandon the facility dominated the first half of the 1930s. Colorado's Congressional delegation and Denver representatives lobbied vigorously in Washington to defeat several attempts to close Fitzsimons and, in 1935, the War Department agreed to request allocations from work relief funds for improvements at the facility. Several hundred men were put to work rehabilitating sewer, water, and electrical systems; improving the grounds; and building new garages under the direction of the Works Project Administration (WPA). In the end, it was the escalating crisis in world events (pre-World War II events) and the expansion of the Army that ended calls for closing Fitzsimons. In 1938, the Army began construction of a huge modern hospital, with substantial funding from the WPA. When construction was completed, Fitzsimons was the largest general hospital in the country.

Throughout the 1930s, the Denver Chamber of Commerce devoted considerable time and energy towards promoting their city as the "Little Capital of the United States." Known as the "Second Capital Program," the focus of their effort was to convince Federal agencies to locate regional offices in the "Mile High City." Unlike large manufacturing plants, Federal jobs were viewed as "clean" enterprises, but the desire for a greater Federal presence extended well beyond Federal civilian agencies.

In 1934, Congressman J. Mark Wilcox (Democrat-Florida) urged that 20 air bases be constructed around the country for purposes of expanding national air defense. Wilcox informed Denver officials that he felt one of the inland bases should be located in their city. The Denver Chamber of Commerce welcomed the suggestion and sent a delegation to Washington D.C. to campaign for its implementation. The Chamber pointed out that Denver was a logical choice for an air base because of the need to protect the gold supply housed at the Denver mint and because an air base would complement existing military facilities in the area—Fitzsimons General Hospital, Fort Logan, and the 120th Observation Squadron at Lowry Field.

In that same year, the Army Air Corps announced that it intended to build a new technical school, replacing its facilities at Chanute Field, Illinois. Chanute Field, which housed the Army's Air Service Mechanics School and a technical school established in

1922 for aerial photography, was designated for replacement due to old facilities, inadequate space for a bombing field, and limited clear weather days for aerial photography training. A committee headed by Lieutenant Colonel Barton K. Yount, Commanding Officer of Bolling Field, Washington, D.C., was appointed to recommend a new site for the Air Corps Technical School. The Army established two major prerequisites for the new school site. First, the school required a location with weather conditions more favorable for training activities, a stipulation the Denver area easily met. Second, the school had to have adequate space for a bombing range. To meet this requirement, Denver promised to donate to the Federal government 100 square miles of open land that could be used for bombing practice. As an added inducement, Denver officials also offered to donate to the Army the campus and buildings of the Agnes Memorial Sanatorium, a vacant tuberculosis treatment facility that had been constructed in 1904 (Dorsett 1977; Levy and Scanlan 1987).

Denver boosters began a campaign in March 1934 to secure the new training base for their city and enlisted the support of the mayor, the governor, the state's congressional delegation, and the Chamber of Commerce. The Chamber formed a special Air School Committee to focus on the project and Denver Congressman Lawrence Lewis was active in the effort. In April 1934, the city made a formal bid to the War Department for the facility (Levy and Scanlan 1987).

Denver faced stiff competition for award of the facility. The Air Corps examined 82 communities throughout the nation as possible sites for the training base but, in May 1934, Lieutenant Colonel Yount and his committee visited Denver and were impressed with the possibilities offered by the Agnes Memorial (Phipps) Sanatorium property. Located southeast of East 6th Avenue and Quebec Street, the sanatorium was constructed by Lawrence C. Phipps, Sr., a wealthy industrialist who ultimately became a U.S. senator. Named for Phipps's mother who died of tuberculosis, the property contained 17 buildings designed by the Denver architectural firm of Gove and Walsh on an 880-acre campus. A 1903 newspaper article about plans for the facility noted "the buildings front to the southwest, so as to give the maximum amount of sunlight to all the rooms", a planning decision that would later affect street layouts in the development of the (new) Lowry Field. The 150-bed facility opened in 1904 and continued caring for patients with tuberculosis until its 1932 closure because of declining patient rolls and revenues (Rocky Mountain News 1903).

During their visit, Colonel Yount and his committee were also entertained by Denver Manager of Parks and Improvements George Cranmer who arranged a driving tour of the mountain parks system and an evening party at his home. Mr. Cranmer was quoted in the Rocky Mountain News (1935a) as saying that a party at his home would be better than to "regale them with facts and figures which they would promptly forget."

In March 1935, the Yount committee recommended Denver as its top choice for the location of the new training base. The committee noted that Denver was a "fine, large modern city" with an "excellent climate" that had offered a "good site which will be presented to the government with several valuable buildings" (Rocky Mountain News 1935b).

A bond issue to purchase the Phipps sanatorium land and existing buildings was approved by Denver voters by a two-to-one margin and, in May 1935, the City and County of Denver purchased the vacant property from Phipps for $200,000. Two years of debate in Congress ensued over authorization of the new site. The large Illinois Congressional delegation opposed transferring functions and jobs from their state, but eventually, a compromise was engineered that permitted Chanute Field to continue as the headquarters of the Air Corps Technical School and to retain the training of aircraft mechanics. Training in aircraft armament and photography would be moved to the new center, known as the Denver Branch of the Air Corps Training School. Legislation funding the new installation was approved by Congress and signed by President Franklin D. Roosevelt in August 1937.

Following Congressional approval of funding for the Denver Branch of the Air Corps Training School, Capt. Harold D. Stetson began the task of converting the sanatorium to a municipal airport (Denver Municipal Airport—later Stapleton International Airport) and a military installation. More than 400 WPA workers renovated sanatorium buildings and constructed runways, making the project the largest single WPA project in Colorado in 1937. Reflecting an increased emphasis on defense-related projects, more than 1,500 WPA workers eventually supported the conversion of the sanatorium and, by 1939, more than $3.6 million WPA funds had been spent on the new facility.

Although it was established during peacetime, the Denver Branch was created by the Army's Technical Training Command (TTC) in an effort to keep up with the latest technological developments in warfare. The primary purpose of the TTC was to train highly skilled technicians for the nation's AF, which were considered to be of utmost military importance. These specialists included radio officers, link trainer instructors, parachute riggers, mechanics, instrument specialists, weather observers, electricians, armorers, and photographers. Specifically, the new school in Denver was established to give students state-of-the-art training in two specialized fields: aircraft armament and aerial photography.

In February 1938, the 120th Observation Squadron ceased operations at the (old) Lowry Field and moved its personnel, equipment, and airplanes to the new Denver Municipal Airport; the name Lowry Field was transferred to the TTC. The renovation

of existing buildings and the construction of new structures were still in progress, when 300 training instructors and their equipment arrived from Chanute Field, Illinois, and Langley Field, Virginia. The initial trainees included 170 students in the Armament Department and 60 in the Photographic Department. The Armament Department provided instruction in "the loading and dropping of bombs, and trained master, advanced, and airplane armorers," while the Photographic Department taught "elementary, ground and aerial photography; mosaics and mapping; camera repair; cinematography; and photographic field equipment". In October 1938, the installation also received the Department of Clerical Instruction from Chanute Field, which trained clerks in engineering, administrative, and supply specialties (Levy and Scanlan 1987).

World War II History—1938-1945

Expansion of Lowry Field and Establishment of an Auxiliary Landing Field: Construction continued at the "new" Lowry Field during the remainder of 1938. Although the first unpaved runway became operational in early April, Denver Municipal Airport housed most of the training center's aircraft operations in the 1938-39 period. Lowry Field received a major boost when the Army Air Corps announced a $3.5 million, four-year expansion program for the installation. The new construction included a layout plan for the air school, a massive 850-man barracks and other quarters, permanent hangars, runways, utilities, and improvements to the grounds.

Additional land acquisitions in support of Lowry Field were made by the city and county of Denver in 1938. The principal parcel acquired by the city was a 64,000-acre tract of land 20 miles to the southeast of Lowry Field to be used as a bombing range. The Lowry tract, used by the Armament Department for training purposes, was the largest Army-AF bombing range in the country at the outbreak of World War II. City possession, anticipated by January 1938, was delayed by property owner disputes over land evaluation. Denver also purchased 960 ac approximately 6 miles east of Lowry Field as an auxiliary landing field (initially known as Lowry Field No. 2, later re-named Buckley Field). Pilots from Lowry would land at the auxiliary field, load bombs, and then fly along a government-owned corridor to the bombing range, where the payloads were dropped (Craven and Cate 1955; Levy and Scanlan 1987; Porter 1978).

Following the German invasion of Poland in September 1939, Congress authorized expansion of the Army Air Corps. By June 1940, German armies had overrun Denmark, Norway, Belgium, the Netherlands, and France. Aerial attacks on Great Britain began in August and invasion seemed imminent. In response, the U.S. Congress approved substantially increased levels of military spending, including almost $217 million for new construction. The German blitzkrieg had demonstrated the destructiveness of enemy air bombing operations and the Quartermaster Corps of the Army was working on almost $91 million of Air Corps construction (Hafen 1948; Levy and Scanlan 1987; Wasch and Busch 1989).

Buckley Field: In June 1941, Lowry Field No. 2 was re-named Buckley Field, after Lt. John Harold Buckley, a Colorado war hero killed on a volunteer flight a few days before the end of World War I. Lt. Buckley was a graduate of Longmont High School and attended the University of Colorado, where he was captain of the track team. The Buckley family had been in Colorado since the pioneer days and his grandfather, John A. Buckley was a founder of Longmont. Buckley enlisted in the Army, received training at Fort Riley, Kansas, and was transferred to the Aviation Corps.

After attending training schools in Pennsylvania and Louisiana, he was ordered to France as a fighting pilot assigned to the Twenty-eighth Aerial Squadron. Buckley's squadron was the only one with hand bombs, which required flying very low before the bombs were released. Buckley saw much action during the war. On 27 September 1918, during the Argonne drive, he volunteered for a flight over enemy territory and was killed in action. Buckley was twenty-two years old at the time of his death. He was buried in the Argonne Forest. The American Legion Post in Longmont is named in honor of Buckley. Shortly before his death, Buckley wrote, "There is nothing in the world I like better than being master of the air. If I knew that tomorrow would be my last flight, I would still go with the same thrill that I have today" (Rocky Mountain News 1941).

The World War II Years: The Japanese attack on Pearl Harbor on December 7, 1941 resulted in America's declaration of war on Japan. Three days later, the United States also declared war on Germany and Italy. The nation's defense planning turned into a full-scale war effort, and a total mobilization of the country's armed forces was under way. At the beginning of 1942, the War Department assigned Lowry Field the ambitious task of training 55,000 troops a year, but the growing numbers of trainees created over-crowded conditions at the installation. To accommodate the increase in training personnel, in April 1942 the Army announced the creation of a new Army Air Force Technical Training School to be located at Buckley Field. Planned for a capacity of 12,000 men, the new school would be almost equal in size to that at Lowry (17,000 men) (Levy and Scanlan 1987).

Funds for Buckley Field were released in March 1942, and the cost of building the new school was estimated at $15 million. Within two weeks of the announcement that construction would begin at Buckley Field, another $5 million was allocated to the project. Work on the site began the first week in April 1942, and the first concrete for buildings was poured on May 18th. The 850th Ordnance Detachment arrived to supervise construction of the ordnance facilities and provide security for the area.

Buckley Field's first commanding officer was Brigadier General Lawrence A. Lawson, who planned the layout of the base and supervised construction of the school. Detachments from the quartermaster, medical, signal, and finance corps were to have headquarters at Buckley Field, as well as the chemical warfare service. Davis and Wilson, an architectural engineering firm from Lincoln, Nebraska, was awarded the design contract for the school, which was constructed by local contractors under the direction of the U. S. Army Corps of Engineers Area Engineer. With an emphasis on standardization and speed, the War Department succeeded in opening the new field three months after construction began. Contractors worked on a two-shift basis, from sunrise to sundown, and the school opened on July 1, 1942. Instructors arrived on that date and the first group of students came six days later. In cooperation with the Denver Tramway company, an express bus schedule was inaugurated between Buckley Field and the end of the streetcar line on East Colfax Avenue. The bus service began at 3:17 a.m. on weekdays so that civilian workers and instructors at the school who lived off the post would have convenient transportation to and from Denver (Craven and Cate 1955; Levy and Scanlan 1987).

During World War II, Buckley Field was one of the largest armament schools maintained for the technical training of enlisted men. While Lowry specialized in training bombardment armorers, Buckley prepared armorers for fighter planes. Armament students received a basic three-week armament course and then either remained at Buckley Field to study fighter armament in detail or went to an adjacent school to specialize in bombardment armament. Troops were trained in .30 and .50 caliber machine guns, 20 millimeter (mm) and 37mm cannons, and bombs used on fighter planes. Soldiers were taught how to tear down, repair, reassemble, and adjust the weapons; load and charge them; and install them in aircraft (Army Air Forces Technical Training Command 1943; Denver Post 1942a, 1942b; Rocky Mountain News 1942a).

The local community supported the construction and opening of the new field and in July 1942, 200 works produced by artists with the WPA's Colorado Art Project were presented to Buckley Field as permanent gifts. The art included oils, lithographs, and wood blocks depicting local scenes. The Denver Post described the works given to Buckley Field as "one of the finest collections ever to be donated to an Army post." The art was produced by 18 professional artists, including Turner Messick, Eugene Trentham, and Juan Menchaca, a well-known portrait painter (Denver Post 1942c).

On Labor Day 1942, Buckley and Lowry fields hosted an open house for more than 50,000 Denver residents. According to the Rocky Mountain News, "the principal attraction was at Buckley Field" where approximately 35,000 people visited. This was the first time the public was able to view the new construction. Although the roads, grounds, and housing were not complete, Denver citizens were able to inspect "row after row of buildings, which give sightseers reason to marvel at the rate of progress at which the field is taking shape." Soldiers demonstrated the Army's "toughening-up" activities, including running newly constructed obstacle courses. Visitors also viewed barracks, mess halls, and the airdrome area with displays of small arms and technical equipment, schoolrooms, and other facilities. An exhibition baseball game between the Buckley Field team and the team of the Zone Cab Company was also held. Included among the guests were the parents of Lt. Buckley for whom the post was named (Rocky Mountain News 1942b).

Like many other World War II mobilization bases across the nation, Buckley Field was like a small city. When it was completed, the base's facilities included streets, school buildings, barracks, headquarters, hospital buildings, runways, churches, stores, movie theaters, clubs, a bank, and a newspaper office. Heating was provided by the base's own coal-fired steam heating system. Buckley Field also had its own water, sewage, and electrical systems as well as 16,800 feet of railroad track.

During the war years, Buckley Field, Lowry Field, and Fitzsimons General Hospital were connected by a railroad spur that joined the main lines of the Union Pacific and Rock Island Railroads at the Sable station. Constructed by the Army, the railroad spur was used to transport building materials, troops, coal, and equipment. The facilities were also used to train soldiers in rail maintenance and sabotage operations. At its peak, the railroad averaged 135 runs a week. Traffic decreased after the war, and the railroad ceased operations in the 1960s (Higginbotham & Associates 1988; Levy and Scanlan 1987; Rocky Mountain News 1943a).

Buckley Field was established to train military personnel in the maintenance and calibration of weapons used on aircraft. Week after week the field graduated men trained in the principles and techniques of maintaining and servicing guns, loading and fusing bombs, synchronizing and harmonizing guns on an airplane, adjusting and maintaining gunsights, and making all installations on an aircraft. As the war progressed and there was an increased need for trained soldiers, additional training facilities were established at Buckley. These facilities included advanced armament, military police training, and flying continuation (Rocky Mountain News 1942c).

In order to train personnel on such a large scale, the base also provided recreational facilities and instruction in occupations that provided service to the students and allowed the installation to function efficiently. A cooks and bakers school opened in late July 1942 and a select group of men was taught the basics of food preparation. The Enlisted Men's Service Club offered the atmosphere of home, arranging for community singing, movies, talent shows by military personnel, and other entertainment. The

Service Club was housed in a large building where soldiers could meet with their relatives, eat in a cafeteria, or sit in comfortable chairs reading or playing games. In a wing of the Service Club was a library with thousands of books, magazines, and "hometown" newspapers.

Two Buckley Field bands, composed of musicians who played with big name bands before the war, entertained the troops. Two post theaters presented the latest films each week and soldiers were able to conduct financial transactions at the post bank operated by the Denver National Bank. The relatives of ill soldiers were invited to stay in a field guesthouse that provided comfortable rooms at a nominal charge. Together with the two post theaters, the Service Club helped maintain morale throughout the base. Entertainers such as Bob Hope, Frank Sinatra, Glen Miller, and Alan Ladd appeared at Buckley Field during the war (Nigro 1993; Rocky Mountain News 1942c).

In 1943, Buckley Field received its first contingent of flying cadets, most of whom were college graduates or students from the Midwest and West. The cadet corps was housed separately in barracks and commanded by its own officers as an autonomous unit of Buckley Field. The cadets received training in bayonet fighting, rifle and machine gun marksmanship, grenade throwing, and physical training. Academic courses for the cadets included military courtesy, chemical warfare, defense of airdromes, and military law (Denver Post 1943a).

With the goal to graduate 100,000 trained armament technicians annually, by April 1943, more than a full division of men was quartered at Buckley Field. The base's assigned tasks continued to expand and change throughout the war and, in July 1943, an Army Air Forces basic training center was established at the field; the center was then considered one of the toughest and best in the nation. In August 1943, Buckley Field was also selected as one of seven new processing and screening centers for aircrew, combat crew, and ground crew trainees. Several hundred men each day were processed through aptitude and placement tests (Denver Post 1943b; Rocky Mountain News 1943a, 1943b).

In August 1943, the Arctic Training Command was also transferred to Buckley Field, with a separate training facility at Echo Lake, Colorado. At the beginning of World War II, the Army realized that the shortest routes from the United States to the war zones were across the arctic. Expanded plane production and the urgent need to have airplanes reach the fighting fronts as quickly as possible necessitated the development of the arctic routes. However, arctic travel presented major challenges for training programs. To survive in the arctic troops needed knowledge of weather forecasting, creation of supply bases, specialized mechanical servicing, physical survival, rescue techniques, and special medical skills. Men sent to the arctic would have to live in isolation and extreme weather while servicing planes along the northern routes (Rocky Mountain News 1943b).

The first school for arctic training was established at Camp Williams, Wisconsin, and later moved to Holton, Maine but, in 1943 the arctic training school was moved to Colorado under the direction of Buckley Field because "in the Denver area are stretches of wilderness, snow-capped mountains, and terrain which make possible the easy and complete simulation of arctic conditions" (Denver Post 1943b). The first camp in Colorado was established at Jones Pass and was later moved to Echo Lake west of Denver and 15 miles from the summit of Mount Evans. It offered terrain that is more suitable. A hangar at Buckley Field was filled with classrooms and equipment necessary for the arctic school. In the classes at Buckley Field students were instructed in the operation of aircraft at subzero temperatures, how to construct prefabricated shelters, operation of trucks in low temperatures, and refueling procedures under arctic conditions. The trainees were then ready for the course at Echo Lake (Rocky Mountain News 1943b).

The Army leased the property and buildings at Echo Lake and the summit of Mount Evans from the city of Denver and closed and guarded the approach roads. While there, carefully screened trainees received five or six weeks of special instruction in living under extremely cold and isolated conditions. The students lived in portable houses that resembled half of a huge barrel, had rounded roofs, which shed snow, and were made of insulated synthetic materials. Major Frederick E. Crockett, dean of the school, was with the first Antarctic expedition of Admiral Byrd and spent two years in Greenland during the war. Capt. C.A. K. Innes-Taylor, a Canadian veteran of World War I, was in charge of the camp at Echo Lake. Innes-Taylor had participated in expeditions to the arctic as well as Byrd's expeditions to the Antarctic. Belmore Brown, a member of the first party to climb Mount McKinley, taught the men how to "live off" the arctic country. In addition, noted explorers visited the project from time to time to share their expertise and corresponded constantly with the leaders of the school. Arctic students also received training in giving first aid, rescuing the wounded, mechanical servicing of airplanes in low temperatures, airborne reconnaissance in searching for the missing, signaling systems, and delivery of food and medical supplies to the injured. The soldiers were taught woodcraft so they could make shelters; hunting and fishing to provide their own food; and snowshoeing and skiing so they could easily travel in snow (Denver Post 1943b).

In October 1943, Buckley was also given the mission of operating as one of seven Army Air Force convalescent centers for the rehabilitation and treatment of casualties returning from overseas. The base hospital had been originally designed to have a bed capacity comparable to Fitzsimons General Hospital. A complete clinical staff, including approximately 40 medical officers, was

assigned to the base from St. Luke's Hospital in Chicago. A large dental division was also provided for the base. Casualties from World War II were sent to Buckley Field to recover, and then relocated throughout the country. While there, patients were not allowed to suffer from boredom, but provided with convalescent and rehabilitation training. Courses included such subjects as camouflage, prevention of tropical diseases, booby traps, aircraft identification, military courtesy, radio transmitting, first aid, mathematics, electricity, photography, and calisthenics. Other activities designed to keep recovering soldiers cheerful were visiting entertainers, group discussions of current events, and crafts such as model airplane building. Many patients studied one of 15 foreign languages, ranging from Japanese to Arabic. One of the chief morale boosters at the hospital was the convalescents' own weekly newspaper. A radio station on the air 15 hours a day broadcasting entertainment and educational programs also cheered patients beginning in 1944. In July 1944, the Buckley hospital was selected as a penicillin depot for the region and received large shipments of the drug for storage and distribution to other military installations (Craven and Cate 1955; Denver Post 1942b, 1943b).

Buckley Field received its first company of Women's Army Corps (WAC) members in early October 1943. WAC volunteers provided the Army with workers in positions requiring civilian skills, such as mechanics, weather observers, carpenters, photographers, intelligence analysts, and heavy equipment operators. By the end of the war, over half of the students at the enlisted technician schools around the country were WACs. In order to receive a contingent of WACs, a post commander had to demonstrate considerable need, as the women were only assigned in detachments of 50 or more. In addition, suitable housing had to be provided for the women, including separate barracks at least 50 yards from the nearest men's housing and separate toilet facilities in offices.

Buckley's "feminine soldiers" immediately worked on various jobs on the post, relieving men for active duty. The WACs were quartered in their own separate area, which included a mess hall and day rooms. Among the features added to the women's quarters were inside toilets with partitions and doors, subdivided showers with shower curtains, bathtubs, window curtains, laundry tubs, and ironing boards. WAC quarters were provided with two-day rooms, one for social dates, and one for lounging. The WAC mess hall was often the center of community life for a WAC unit. At Buckley Field, squadron duties were performed by members of the Corps, who took turns with assignments such as kitchen police (Army Air Forces Technical Training Command 1943; Wasch and Busch 1988).

Between January and June 1943, approximately 30,000 soldiers graduated from the armament training school at Buckley Field, 10,000 soldiers received basic training, and 2,000 received arctic training. Before the end of 1943, Army Air Force expansion and training within the United States reached a peak, which included 345 main bases, 116 sub bases, 322 auxiliary fields, and 480 bombing and gunnery ranges. Nevertheless, as the bulk of trained men moved to the theaters of war in 1944, fields were closed, leases were terminated, and some facilities were transferred to the Navy. At the same time, the Army Air Corps made every effort to adapt existing facilities to new uses (Craven and Cate 1955). One of the new functions assigned to Buckley Field was to disseminate information about the war. The intelligence Section at the base set up a central information point that relayed facts about the progress of the war and a War Situation Room was set up and stocked with maps of the fighting fronts to help monitor progress of the Allies. A teletype machine was installed to turn out war bulletins 24 hours a day and an intelligence library with books, pamphlets, and periodicals was established. Through this program, soldiers kept abreast of the latest developments abroad and entered the war with a thorough knowledge of world events. In August 1944, Buckley became one of 17 fields to have its own insignia, "a winged bullet soaring across the skies in front of a background of snow-clad peaks" (Denver Post 1944a).

Buckley Field Becomes a Subpost, 1945: In January 1945, Buckley became a sub-post of Lowry Field, and was one of only four basic training centers kept open until September 1945. Most of Buckley's training activities were transferred to Lowry, although the hospital and photographic training facilities remained and some new responsibilities were added. In 1945, the Chemical Training Center of the Army Air Force, which provided for defense against chemical attack, advised the Army about the use of chemicals, and supplied all chemical equipment and munitions, was transferred to Buckley Field. In the same year, the Camouflage Training Center, which disseminated camouflage information, was moved there. Buckley also housed a K-9 program that trained dogs to guard overseas prisoner of war camps (Craven and Cate 1955).

Despite its reduced status as a sub-post, the retention of Buckley Field was seen as a victory by the Denver Chamber of Commerce and other civic groups, who hoped to see the base converted into a "West Point of the Air" after the war. The victory was short-lived, because it soon became clear that the Army Air Force was planning to close the base and its buildings, which were in a state of disrepair (Colorado Air National Guard 1989; Denver Post 1944b).

World War II Construction: During World War II, the ideal site for a temporary military base consisted of flat, well-drained, solid land, with a ready and abundant water supply. The land needed to be cheap and easily acquired but still situated close to centers of population and transportation facilities. Little of the land available met all of these specifications in its natural state, and the acreage acquired for Buckley Field was no exception. The site of Buckley Field, located on the eastern fringe of the metropolitan

area, was 12 miles east of downtown Denver and 6.6 miles east of Lowry Field. The selling point of the land was that it was sufficiently isolated to facilitate aircraft operations but close enough to draw construction labor and material support from the Denver-Boulder metropolitan area. However, the terrain was rolling and required alteration before runways and facilities could be constructed, so the Aurora City Council contracted with the builder to buy gravel located on the city's property and to grade the new military reservation (Mehls et al. 1985; Wasch and Busch 1989).

Historic maps, drawings, and photographs of Buckley Field reveal that the installation (then 5,740 ac) consisted of a number of principal areas distinguished by use. The Cantonment Area in the north-central Section of the base covered 400 ac and included housing, administrative, recreational, and educational facilities. Adjacent to the Cantonment Area on the northwest was a 60-acre Hospital Area. To the west was a 290-acre Maneuver Area, which included Sections used for physical training, a small camouflage area, and a chemical warfare area. A Depot Area of 44 ac adjoined the Cantonment Area on the northeast. Water wells were located northeast of the Depot Area, while a sewage disposal plant was situated northwest of the Hospital Area.

The Airfield Area was 1,920 ac in size and located to the southeast of the Cantonment Area. Aircraft operations included a large parking apron and two intersecting runways: Runway 3, which was oriented east-west, and Runway 4, which ran northwest-southeast. An 84-acre Ordnance Area was located to the southeast between the two runways and a pistol and rifle range was placed south of the end of Runway 4.

A corridor of 2,240 ac linked the other portions of Buckley Field with a Bombing Range covering more than 60,000 ac to the southeast.

Cold War History—1946-1989:

After the end of World War II, the Army Air Corps Technical Training Command no longer needed Buckley Field. In July 1946, Buckley was ordered to become "temporarily inactive," and military personnel were either transferred or discharged. The base quickly became a "ghost camp," as buildings were closed and furniture and equipment were stored, relocated, or sold; approximately 1,100 buildings at Buckley Field were declared war surplus. With the exception of the warehouses, the administration buildings, and the buildings along the flight line (hangars and hangar support buildings), all of Buckley Field's buildings were offered for sale by the War Assets Administration (WAA). The buildings were sold "as is" and included plumbing and electrical fixtures. As a stipulation for sale, the purchased buildings had to be removed. The smaller buildings were moved intact; the larger buildings had to be sawed into Sections before removal. Many of the buildings were removed by a private contractor and sold to various businesses and private citizens in the area (Denver Post 1946a).

The hospital buildings, which were also declared war surplus, were turned over to the city of Denver, which utilized them as emergency housing for veterans and their families. Denver's post-war housing shortage was severe, and an estimated 7,000 ex-servicemen and their families were without adequate living quarters. In November 1946, Mayor Benjamin Stapleton and the Denver City Council appropriated $60,000 to remodel Buckley's hospital buildings into temporary housing units. Known as Buckley Field Village, Denver's housing project at Buckley was patterned after a similar "veterans village" project at Fort Des Moines, Iowa, where barracks had been converted into temporary housing (Denver Post 1947).

Buckley Field Village apartments rented for as low as $18.75 a month, and were available to any veteran needing low-cost housing. Preference was given to those veterans and their families who were living apart because of the housing shortage. A non-profit organization, Veterans Village Inc., was established to oversee management of the project. Buckley Field Village had its own governing body, and elected its own mayor in 1948. The village newspaper, the Buckley Buckaneer, covered local events and tried to assist the veterans and their families in making the transition back into mainstream America. Buckley Field Village closed in 1953, at which time the buildings were transferred to the Navy (Colorado Air National Guard 1989).

In addition to establishing the veteran's village, the city of Denver also sold some of Buckley's surplus buildings. One of the major purchasers of surplus barracks was the Western Realty Company, a local firm that specialized in small home construction. The realty firm purchased barracks in order to relocate and rebuild them as single-family homes. The company built 20 such homes in the vicinity of East Seventeenth Avenue and Yosemite Street, and another 20 homes near East Sixteenth Avenue and Colorado Boulevard. The completed houses sold for less than $10,000 each and, in the view of Western Realty Company President C. A. Bresnahan, did "much to alleviate the housing shortage." Bresnahan also noted that the lumber used in the barracks was far superior to anything that could be purchased at that time (Denver Post 1948).

The government also began to accept bids for grazing rights on portions of the bombing range, which had been returned to Lowry Field supervision.

In 1946, the COANG was formed as a separate air arm of the state's National Guard organization, and in December of the same year, they acquired Buckley on a right-of-entry permit. The 140th Fighter Group (later the 140th Tactical Fighter Wing) was

formed the same year and the 120th Tactical Fighter Squadron was established as the combat arm of the 140th Wing.

The Navy Years—1947-1959:

In early 1947, it became apparent that the state of Colorado could not financially support the base and it was taken over by the U.S. Navy, who renamed it Naval Air Station (NAS)—Denver. The COANG continued to use the base, including hangar, classroom, and office space (Denver Post 1946b; McFadden and McFadden 1978).

NAS—Denver was administered by the Navy from 1947 until June 1959 and was situated at the highest elevation of any Navy field (5,380 feet). It was also situated the farthest from any large body of water. In September 1947, NAS—Denver had 30 officers and 316 enlisted men on active-duty status and served as the headquarters for the regional Naval Air Reserve. Under the command of the Ninth Naval District in Chicago, Illinois, approximately 1,600 reservists trained at the facility, initially from the Denver vicinity, but later from distant parts of Colorado, Wyoming, New Mexico, and Utah (Rocky Mountain News 1947).

The economic impact of NAS—Denver on the local community was about $2.5 million annually by October 1948. Of 27 similar stations around the country in 1950, the Denver base was the sixth or seventh largest in terms of aircraft and active duty personnel and sixteenth to eighteenth largest in terms of numbers of reserve personnel. Captain J. Thompson Brown, Commander of the installation in 1950, explained that such a large Naval presence in the Rocky Mountains was justified "because, for the cost of keeping one man on active duty, it can keep three and one-third reservists in readiness and training so that they could go to sea within a month's time in event of a national emergency" (Denver Post 1950).

During its tenure, the Navy made a number of improvements to Buckley Field. To support the Korean War effort (1950-1953), many temporary facilities were converted to permanent buildings and, in January 1951, $2.8 million of improvements were approved for lengthening of the main runway from 8,000 to 10,000 feet, construction of a new double bay hangar, and improvements to existing structures. The $1.7 million 310-foot by 240-foot concrete hangar was completed and occupied in May 1953 (now Building 801). The "Denver hangar" was reportedly the model for other similar hangars under construction at other bases.

Buckley Field and the COANG during the Korean Conflict

In June 1950, North Korean troops crossed the 38th Parallel into South Korea. Regarding this as an act of unprovoked aggression, the United Nations ordered troops from the United States, Great Britain, and other United Nations' members to support the South Korean government. More than 1,500 COANG personnel from the 140th Fighter Wing and it's assigned units were activated and sent to Clovis AFB (later Cannon AFB), New Mexico, to support a variety of war-related activities. These included rehabilitation of Clovis AFB to support increased personnel and activities; participation in an Atomic Energy Commission (AEC) demonstration at Yucca Flats, Nevada; and flying sortie's through Korea's famed "MiG Alley." Also during these years, the Wing transitioned into F-80 and F-86 aircraft, won an important national gunnery meet, and formed the Air National Guard's first (and only) precision aerial flying team. Activation of the 140th Fighter Wing marked Colorado's largest single contribution of military trained manpower to the armed forces (Colorado Air National Guard 1989).

The Wing remained at Clovis until January 1953, when it was released from active duty and returned to Colorado (Colorado Air National Guard 1989). The Korean conflict ended on July 27th of that year.

Following deactivation, the Wing reorganized and returned to its routine flying operations. By 1954, the Wing had nearly doubled in size and received its first jet aircraft—the Lockheed F-80A Shooting Star. Over the next year, pilots honed their skills on the new aircraft and competed in a series of gunnery meets, both at the national and worldwide levels. In the 1954 national competition in Boise, Idaho, the 140th Fighter Bomber Wing team was matched against the newer F-86 Saber Jet units, but the Colorado team won the meet.

The news that Colorado had won was met with wild enthusiasm. There was a feeling of great pride that an F-80 team had actually won the gunnery meet over teams equipped with aircraft that are more modern. They had accomplished the victory through a great team effort and a sheer desire to win [Colorado Air National Guard 1989].

Because of their win in Idaho, the 140th team represented the Air National Guard at the worldwide AF gunnery meet in 1955 at Nellis AFB, Nevada, and was provided with new F-86Es equipped with radar gun sights. The team placed third in the overall competition and took second place in air-to-air gunnery.

In July 1955, the 140th Fighter Bomber Wing was re-designated the 140th Fighter Interceptor Wing. The primary change from the re-designation was the elimination of air-to-ground firing and the initiation of air-to-air combat. To accommodate the new and changing missions, the COANG was authorized funds for the construction of a new hangar. Demolition of the existing wooden

hangar (once located between current buildings 801 and 909) was ultimately required and the new hangar (now building 909) was completed in August 1956. The hangar cost $750,000 to complete. Both the Navy's Blue Angels and the Air National Guard's Minute Men performed at the hangar's dedication ceremony.

COANG's Minute Men—1956-1959

Between 1956 and 1959, the COANG supported a precision demonstration team called the Minute Men. Colorado Pride—a Commemorative History 1923-1988 (Colorado Air National Guard 1989) describes the famous team:

> The Minute Men story actually began in Denver during 1947, when three pilots of the COANG, flying P-51s, formed a group to put on shows at local rodeos, fairs, and dedications. As their reputation grew, so did the number of requests. By 1950, the team was widely known in Colorado, and neighboring states were beginning to call upon their services.

When the COANG returned from active duty and received F-80s [Shooting Star], the idea of forming a precision team intensified. By the fall of 1953, the team was again organized with a fourth, or slot, position added to complete the diamond formation. By 1955, the team was well established in Colorado and the Rocky Mountain region. As their fame spread, air shows were scheduled further and further from Colorado.

During June 1965 at Casper National County Airport, the four pilots flew a very credible performance, witnessed by several dignitaries from the National Guard Bureau [NGB]. Although practice time had been extremely limited and the aircraft were not yet equipped with smoke, word spread rapidly following the performance. The team continued to perform at functions within Colorado, whenever time would permit.

NGB acquired a new director of Operations in 1956—Colonel Jack Blanchard. He had seen the show at Casper and was favorably impressed. When the Nevada Air National Guard asked him for assistance in obtaining an aerobatic team for an open house in April 1956, he suggested they contact Williams [Lt. Col. Walter Williams, 120th Fighter Bomber Squadron Commander] to see if the Colorado team was available. The show in Reno was the first "officially sanctioned" demonstration for the team, even though the team was still unofficial.

The Reno show was a great success. As additional requests poured in, Williams began inquiring about a name for the team. Hueholt [the left wing pilot] suggested Minute Men to represent the citizen-soldier militiamen.

The distinctive red and silver-painted aircraft were equipped with smoke for greater spectator interest by 1956. Requests for shows came in from, and were flown in all parts of the country, including a very fateful National Guard Association performance in Spokane, Washington, October 10, witnessed by SAF Donald Quarles. A few days later, the team was designated the official Air National Guard demonstration team.

With official recognition, some badly needed support was provided…and the "corkscrew roll" soon became the signature maneuver of the Minute Men. Budget cuts and a tragic accident in 1958 eventually caused the team to disband. The final demonstration was held in July 1959 at Grand Junction, Colorado.

By the time of NAS—Denver's 10th anniversary in February 1957, the installation supported not only the Minute Men, but 19 squadrons, 1,500 reservists, and 43 aircraft. The Denver Post noted "the center, which started with two wooden hangars and pockmarked runways, now boasts two new hangars, a tower and crash house, runways and taxi-ways resurfaced with asphaltic-concrete and a jet fuel storage area. These improvements were made at a cost of nearly $12 million" (Denver Post 1957).

In 1957-58, the field's runways were lengthened, adding 1,000 feet to the installation's north-south runway bringing it to 11,000 feet and 1,200 feet to the east-west runway for a total of 8,000 feet. An additional 8 to 14 inches of concrete was added to the runways in the ramp area. The improvements were aimed at accommodating the new and larger jet aircraft. In February 1958, City and County of Denver officials expressed concern over reports that further expansion was planned at Buckley: increasing the north-south runway to 19,000 feet; expanding the east-west runway to 15,280 feet; and installing all-weather navigational equipment. City officials feared that the expanded operations at the NAS would hamper development of the city's Stapleton Airfield as a jet airport. In April 1958, Rear Adm. Howard Caldwell announced that the reported expansions had been canceled. He explained, "There was a time when we planned to increase the size of all naval air stations to handle every kind of plane we have. That is no longer the case. Buckley's runways are long enough to handle the planes we'll bring in here" (Rocky Mountain News 1958a).

Despite Adm. Caldwell's assurances that the Denver NAS would be one of the last naval air stations to close, in December 1958 the Navy announced plans to close the installation by June 30, 1959. No official reason was given for closing the facility by the Navy, but the Denver Post reported that "Naval officials have said the cause was partially an economy measure, and partially

because it wasn't practical to have reservists training so far away from the seas." During the Navy's occupation of Buckley, eight buildings, encompassing nearly 190,000 square feet and costing nearly $5 million, were added to the field (Rocky Mountain News 1958b).

Buckley Air National Guard Base—1959-2000

In June 1959, the Navy decommissioned NAS—Denver, and control of Buckley Field was transferred to the COANG. The Colorado unit was the first National Guard group to be entrusted with command of an active military base, and Brig. Gen. Joseph C. Moffitt became the first Air National Guard officer to command an air base during peacetime. On April 18, 1960, Buckley Field was renamed Buckley Air National Guard Base (McFadden and McFadden 1978).

In the years after becoming an active Air National Guard Base, the 140th Tactical Fighter Wing was called to active-duty during the Berlin Crisis (1961) and the Pueblo crisis (1968), and served 15 months in Vietnam (1968-69), where the unit flew more than 6,000 combat missions. Overseas training deployments for the wing have included missions to Turkey, the Netherlands, and Panama. Other tasks have included search and rescue missions for missing aircraft, and assistance following natural disasters such as floods, forest fires, tornadoes, and blizzards (Colorado Air National Guard 1989).

Titan Missile Support—1959-1965

As early as February 1958, Buckley was rumored to be a possible launch site for nuclear-warhead-equipped Titan Intercontinental Ballistic Missiles (ICBMs). There were also rumors that the installation might be used for the construction of "a huge radar." As the project ultimately developed, Buckley was used as a staging area for the construction of the Titan complex on the plains of the former Lowry Bombing Range (Denver Post 1958).

By October 1959, the Denver field office of the AF Ballistic Missile Division (BMD) was housed in a hangar at Buckley Field. The division had been created in 1954 to undertake a "crash program in missile research and development." The BMD group at Buckley coordinated the efforts of the U.S. Army Corps of Engineers, the Air Materiel Command, and numerous contractors in constructing the $250 million complex of six underground Titan I launch sites, each with three missile silos (Denver Post 1959).

The first Titan missile, an engineering model used to train crews and analyze systems at the launch complex, was placed in a silo in May 1961. All 18 missiles were in place and fully operational and on strategic alert by April 1962. Viewed as vulnerable to enemy attack, the missiles remained in place for only three years. The last missile was removed from the bombing range complex in April 1965.

As residential and commercial development in the area around Lowry AFB intensified in the late 1950s, flight operations in the Denver area became more problematic. In June 1960, the responsibility for handling transient jet flights was transferred to Buckley and, by July 1966, all flying operations had ceased at Lowry. To prevent similar development from occurring near Buckley, Brig. Gen. Joe C. Moffitt, Colorado's Adjutant General, noted the increased numbers of takeoffs at Buckley and urged a 4¬mile buffer zone around the base (Denver Post 1965a and 1965b). The buffer zone concept, however, was not adopted.

Aerospace Data Facility-Colorado—1970

In April 1969, the Denver Post reported the emergence of Buckley as an Aerospace Data Facility-Colorado (ADF-C) with the headline "Buckley Will Help Track Super-Secret Sky Spies." By mid-1969, construction had started on a site for tall tracking antennas and a control building. Located west of the main north-south entrance road, initial construction costs for the ADF-C were estimated at between $7 and $8 million and involved contractors from Hughes Aircraft and Lockheed Aircraft. Planned by the Air Force Space and Missile Systems Organization (SAMSO) of El Segundo, California, the facility was expected to initially bring 300 AF personnel to Buckley. Six satellite communication ground stations, enclosed in white geodesic domes (known locally as "golf balls"), were completed in the 1970-76 time period to support a U.S. military satellite network tracking intelligence data from a variety of orbiting satellites. In 1982, the facility became part of the AFSPC.

Cold War Construction

During the Cold War era, 79 new buildings were erected at Buckley Air National Guard Base; 63 of these were built in the 1970s and 1980s. In addition to ADF-C buildings, new facilities included support structures, warehouses, and recreation facilities. During the Cold War years, surrounding residential and commercial development began to again encroach on the installation. In 1983, base commander Col. Don Shields recalled, "you couldn't see one house" from the base when he arrived in 1975. By 1983, subdivisions were less than one mile from the base's western border (Denver Post 1983).

Post-Cold War Era—1990-PRESENT

The fall of the Berlin Wall and the collapse of the Soviet Union's empire in Eastern Europe in 1989 marked the end of the Cold War. In the Denver area, the shifting international scene and changing defense needs resulted in the closure of Lowry AFB and Fitzsimons Army Medical Center. The changes left Buckley Air National Guard Base as the region's largest military facility and the only military flying base. Buckley is now a hub for transient military air traffic and is the only airfield in a 410-mile radius capable of servicing weapons-loaded aircraft.

Until 2000, Buckley was one of just six Air National Guard-operated bases in the country equipped to be immediately available in times of a national or state emergency. The COANG was host to over 20 other organizations, including the Navy, AF, Army, Marines, and Coast Guard, both active and reserve, and the Red Cross. In July 1998, the installation was also chosen as one of ten national sites for a Rapid Assessment and Initial Detection (RAID) team (now known as the Civil Support Team [CST]), to combat chemical, biological, and other domestic terrorism acts.

Buckley AFB

On October 1, 2000, the base was realigned to an AF base that was hosted by the 821st Space Group. Exactly one year later, the 821st Space Group was inactivated and the 460th Air Base Wing (ABW) activated, transitioning the installation to an active AF Base, hosted by the 460 ABW. In August of 2004, the 460 ABW underwent an organizational change and became the 460th Space Wing (460 SW). The mission of the installation is to provide combat capability through superior services to air and space, DOD missions and expeditionary forces (Buckley AFB, Public Affairs Office 2003). Official Buckley SFB publications describe the new base as follows:

> The AF's main interest at Buckley will continue to be running the base and providing support to the Front Range military community and the 2nd Space Warning Squadron (2 SWS) monitoring and communications operation.

Officials at the base point out that the change [to an active AFB] is administrative. Yet big changes are coming to Buckley. A $23 million base exchange and commissary have just been completed and a second airmen dormitory, a second child development center, a transient lodging facility, a fitness center, and a new Wing headquarters building are all on the drawing board for the next several years. Over $100 million in new construction projects over the next five to seven years.

The base is one of Aurora's closest and largest neighbors, yet one of its least known. Under the shadows of Lowry AFB and Fitzsimmons Army Medical Center, Buckley has been a part of the Aurora community since the early 1940s. With the closure of Lowry and Fitzsimmons Army Garrison, Buckley has been thrust into the limelight.

The relationship among the three military facilities used to be termed as a "golden triangle," each relying on the other for services. Lowry did not have any active runways but needed Buckley's for training support. Fitzsimmons not only provided medical support and training to military personnel but also needed runways for the transportation of patients through the medical evacuation process.

Buckley is no ordinary airport. The 3,000-plus acre military base is headquarters to Army, Navy Marine, and Air National Guard, active duty and Reserve personnel. More than 8,000 military (including active duty, Guard and Reserve) civilian and contract people work at the installation.

Buckley has the only military runway, and the only airfield licensed to operate tactical aircraft loaded with munitions within a substantial radius. The base also employs a forward arresting system that can stop a high-powered military jet fighter that has declared an in-flight emergency.

Buckley's most apparent features are the six geodesic domes that can be viewed clearly from many points throughout the Denver-metro area. The domes were built by the AF in 1970 to shelter a multi-million dollar communications center.

Whenever there is trouble in the state, the personnel at Buckley and other guardsmen throughout the state may be called on to help. They fly search and rescue missions for downed aircraft, lost persons, and stranded hunters. They provided support and rescue operations in the 1976 Big Thompson flood, helped Limon and Thornton regroup after tornadoes ripped parts of their towns apart, and have helped fight forest fires for more than two decades.

Aircrews have fed stranded livestock in storms, delivered emergency medical supplies, located storm-stranded drivers, and during the 1982 and 1997 blizzards, ground troops pulled out hundreds of snowbound motorists. They have supported law enforcement officials looking for prison escapees, drug dealers, and marijuana growers.

The Guard also has been integral during several large public events over the years, including Pope John Paul II's visit to Cherry Creek Reservoir for World Youth Day in 1993 and the more recent G-7 Economic Summit. Based at Buckley are approximately 15 F-16 Fighting Falcons, one C-26 aircraft for the Army Guard, and several dozen helicopters. The Army Guard has recently begun using the UH-60 Blackhawk

Units stationed at Buckley can have personnel on duty virtually around the world on any given day in support of mission requirements. Because Buckley is strategically located for cross-country flights, it is a choice stop for all kinds of planes. Martin-Lockheed flies segments of missile stages in and out of Buckley. The Department of Justice lands here as does the Federal Bureau of Investigation, Immigration, and Naturalization, and the Federal Marshal's Office. The Department of Treasury delivered $1.3 billion in gold through the base in the early 1980s.

Numerous dignitaries including the President and Vice-President of the United States, cabinet members, and heads of state have landed here for official functions or to enjoy the Colorado Rockies while on vacation.

Buckley also contributes substantial economic impact in the community, contributing $381 million in 1996 alone.

Buckley SFB Organizations and Units

Following are brief descriptions of some of the diverse organizations and units currently hosted by or routinely use facilities Buckley AFB (Higginbotham & Associates 2002).

Buckley Garrison

On 20 December 2019, the United States Space Force (USSF) was established with the enactment of the 2020 National Defense Authorization Act. On 8 January 2021, the Department of the Air Force approved Buckley Space Force Base (SFB) as an established branch of the USSF. On 4 June 2021, Buckley held a ceremony to adopt the base name change as Buckley SFB under the command of Buckley Garrison.

Active Duty Air Force

2 SWS. Buckley SFB is currently home to the 2 Space Warning Squadron (SWS).

Co-located with the ADF-C, the 2 SWS has provided early ballistic missile warning to the citizens of North America, 24 hours a day, seven days a week for more than 30 years. For the past 3 decades, the mission of the 2 SWS has been to provide tactical and collateral support to AFSPC and the Pentagon by providing timely and accurate warning and space surveillance support through the operation of a highly available, survivable, and reliable satellite born surveillance system. The system detects and reports in real time, missile launches, space launches, and nuclear detonations using Defense Support Program (DSP) satellites. Information gathered from the real time reports is reported to a command center at the North American Aerospace Defense Command (NORAD), Cheyenne Mountain, Colorado Springs (http://www.buckley. af.mil 2003; U.S. Department of the Air Force 1995).

2 SWS is the primary DSP ground station in the continental United States. It currently utilizes a space-based infrared surveillance system (SBIRS), which was launched in December 2001 as the follow-on program to DSP. The newer system uses state-of-the-art, highly flexible, tasking infrared sensor technology to combat emerging threats (United States Air Force 2001).

Approximately 260 AF, Canadian, Australian, and British military members are assigned to the unit. Nearly 300 other representatives from several space-related contractors and United States civilian employees also assist as advisors and crewmembers (http://www.buckley.af.mil 2003).

Detachment 45, Air Force Technical Applications Center. Det 45 detects and reports atmospheric nuclear detonations using satellite sensor data.

566th Intelligence Squadron. The 566th IS provides Air Intelligence Agency (AIA) personnel to a multi-service organization supporting national-level communications, data processing, and high-speed data relay.

Detachment 4, Air Force Operational Test and Evaluation Center. Det 4 determines the operational capabilities and limitations of AF and joint systems to meet warfighter mission needs.

Detachment 801, Air Force Office of Special Investigations. Det 801 provides criminal, narcotic, fraud, counterintelligence, protective services, technical support, and other investigative services.

Department of Defense

Aerospace Data Facility-Colorado. The ADF-C is a Department of Defense information processing and analysis, relay, and test facility supporting the United States government and its allies. In addition, it provides an operational environment for training government and civilian personnel in the execution of their organizational mission.

Active Duty Army

743rd Military Intelligence Battalion. The 743rd Military Intelligence Battalion conducts non-conventional Signals Intelligence (SIGNIT) operations. Leverages national systems to support the warfighters' and national decision-makers' information superiority requirements.

Active Duty Navy

Naval Security Group Activity Denver. This Group provides sailors to fulfill the mission requirements of the ADF-C, Commander, Naval Security Group (CNSG), and the forward deployed warfighters.

Active Duty Marine Corps

Company A, Marine Support Battalion. Company A supports the ADF-C, training for Marine communications personnel, and augmentation personnel to the Fleet Marine Force Radio Battalions.

Colorado Air National Guard (COANG)/Colorado Army National Guard (COARNG)

Department of Military Affairs (DMA). This organization provides Base Operating Support (BOS) for the COANG. DMA is located on S. Revere Parkway and is not on Buckley proper.

Headquarters, Colorado Air National Guard. HQ COANG provides trained, well-equipped personnel who augment the active force during national emergencies or war, and provides assistance to the state during natural disasters and civil disturbances. HQ COANG is located on S. Revere Parkway and operates off base with the exception of specified weekends.

140th Wing COANG. The 140th Wing supports and operates a squadron of F-16 Fighting Falcon aircraft (120th Fighter Squadron) and operates and maintains the Buckley SFB airfield.

140th Civil Engineer Flight COANG. The 140th CEF assists Pacific Air Forces (PACAF) bases in designing buildings, wartime exercises, and augmenting headquarters and unit staffs.

United States Property and Fiscal Office. The Property and Fiscal Office represents the Federal government fiscal interests for the Chief, National Guard Bureau.

169th Field Artillery Brigade COARNG. The 169th commands and controls up to five General Support or General Support Reinforcing Field Artillery Battalions and/or a Target Acquisition Battery.

1st Battalion, 89th Troop Command COARNG. The 1st Battalion, 89th Troop Command is headquarters for Military Police, Signal, Public Affairs, and Army Band units throughout Colorado.

2nd Battalion, 135th (Light Utility Helicopter) Aviation COARNG. The 2nd Battalion, 135th, provides utility helicopter support to the combined arms battlefield.

101st Army Band COARNG. The 101st Army Band provides ceremonial musical support for military units and community events.

Detachment 5, Headquarters State Area Command (HQ STARC) COARNG. Det 5 provides medical support throughout the State Area Command.

Detachment 1, 1022 Medical Company (Air Ambulance) COARNG. Det 1 provides helicopter aeromedical evacuation support to the combined arms battlefield.

1/128 Mobile Public Affairs Detachment COARNG. This Detachment provides public affairs support to the theater command.

Air Force Reserve

8th Space Warning Squadron. The 8th SWS operates the SBIRS as an associate unit of 2 SWS.

Navy and Marine Corps Reserve

Naval and Marine Corps Reserve Center Denver. The Naval and Marine Corps Reserve Center Denver provides training and support for U.S. Navy and Marine reserve personnel.

Marine Air Control Squadron 23. Squadron 23 provides air surveillance and the control of aircraft and surface-to-air weapons systems.

Other Organizations

Headquarters, Colorado Wing, Civil Air Patrol. The Colorado CAP supports the search and rescue mission and carries out disaster relief and counter-drug missions for the State of Colorado.

U.S. Army Corps of Engineers Resident Office. This Corps Office oversees construction projects within its area of responsibility.

Post-Cold War Construction

More than 60 buildings have been constructed at Buckley since 1990 and a number of additional facilities are planned. Planned facilities include a privatized housing area containing 351 housing units; a new Community Center area, which would include a chapel, an education center, and a youth center; new campgrounds surrounding Lake Williams; and a new Wing Headquarters and Leadership Development Center (Buckley Air Force Base 2002).

Geodesic Dome History

Because the geodesic domes (also known as radomes) associated with the ADF-C/2 SWS complex are a distinctive feature of the Buckley SFB landscape, a brief discussion of their history is included.

History of the Geodesic Dome

The geodesic dome was invented and patented by R. Buckminster Fuller—inventor, architect, engineer, mathematician, poet, and philosopher—in 1927. Although this was not his only invention, it is the one for which he is most widely known. Fuller recognized that applying pressure to a rectangle and a triangle equally would cause the rectangle to fold and be unstable. The more rigid triangle, twice as strong would not fold. With the idea of "doing more with less," Fuller discovered that if a spherical structure was created from triangles, it would have unparalleled strength. He also knew that spheres could enclose the greatest volume of interior space, with the least amount of exterior surface area (thereby saving on materials and cost) and that doubling a sphere's diameter would quadruple its square footage, and produce eight times the volume.

In addition, the sphere is extremely energy efficient. This is largely due to the ability of air and energy to circulate without obstruction, allowing heating and cooling to occur more naturally. It is widely recognized that domes are 30 percent more energy efficient than rectangular buildings. Fuller once remarked that if he could construct a 2-mile-in diameter dome over Manhattan, New York, the temperature-controlled environment "would pay for itself within 10 years from snow removal alone."

Fuller's Goal

Using his knowledge of spheres and triangles, Fuller's goal was to change "human shelter" by applying the sphere principle to shelter construction; by making shelter more comfortable and efficient; and (most importantly) by making shelter more economically available to a greater number of people. Designed to be the "lightest, strongest, and most cost-effective structure ever devised," the geodesic dome can cover more space without internal supports than any other enclosure and is extremely easy to construct.

In 1928, Fuller described his concept for geodesic homes:

> These new homes are structured after the natural system of humans and trees with a central stem or backbone, from which all else is independently hung, utilizing gravity instead of opposing it. This results in a construction similar to an airplane; light taut, and profoundly strong.

Near the end of World War II (ca 1944), the United States suffered a serious housing shortage. Government officials knew that Fuller had developed a prototype single-family dwelling that could be produced rapidly using the same equipment that had previously built wartime airplanes. The structures could also be installed anywhere and with little difficulty. When one official flew to Kansas to see one of Fuller's domes, he quickly dubbed it the "house of the future."

Shortly thereafter, Fuller was inundated with orders from people wanting to buy his new geodesic home; but because of Union labor problems associated with associated utility hookups (power, water, etc.), he was never able to manufacture the home domes at full production.

By the 1950s, the geodesic dome had become a well-accepted and readily identifiable form of construction and, by early 1960, they were widely used to house airport radar units. The following press release from the Goodyear Tire and Rubber Company was issued in November 1960 (http://americanhistory.si.edu/scienceservice):

> Great nylon "mushrooms" called radomes will be raised atop major airports across the county within the next few months as part of a special radar system that will increase the safety of every air traveler. The domes are being built by the Goodyear Tire & Rubber Company to protect Airport Surface Detection Equipment, a radar system designed to minimize airport traffic problems.

The radomes, constructed of white hypalon-coated nylon fabric to protect the radar equipment from wind and weather, are a startling enigma; perfectly evident to the human eye, it is "invisible" on the radar picture, Goodyear officials explained. This permits transmission of airport traffic patterns without distortion. Each radome is 14 feet high and 17 feet in diameter and is constructed to withstand winds of more than 100 miles per hour and heavy snow or ice accumulation.

The FAA ordered the radomes for ten airports, including those located in Newark, Washington DC, Los Angeles, Cleveland, Boston, Seattle, and Portland. Once in place at the airports, radomes became popularly used around the world to shelter a variety of government, military, and scientific instruments.

How Radomes are Constructed

Radomes are constructed using straight or circular arc structural elements in tension, arranged in a framework of geometric patterns such as triangles or hexagons. The design results in a structure that provides maximum volume with minimum material, reduces stress and weight, and can be tailored to meet a variety of specifications. Radomes vary in size from several inches to 180 feet in diameter (http://www.afcsat.com/rad) and can be installed at just about any location in the world.

Worldwide Distribution of Radomes

There are currently about 300,000 radomes located throughout the world from the tropics to the arctic. Plastic and fiberglass radomes house delicate radar equipment in artic areas; corrugated metal domes shelter families in Africa; and the U.S. Marine Corps has hailed the radome as the first basic improvement in mobile military shelter in 200 years. An enormous dome located in Long Beach, California, once sheltered the Spruce Goose.

Today radomes are widely used by the governments of many countries to shelter radars; telemetry, surveillance, tracking, communications systems; airfield antennas; and radio-astronomy equipment from the environment. This improves system availability since the equipment is not affected by wind, rain, blowing sand, or ice and improves performance since high winds can distort signals. In addition, the domes are aesthetically generic, yet pleasing; are effective at concealing their contents; and have proven to reduce lifecycle maintenance costs compared to unprotected environments (http://www.afcsat.com/rad).

8.3 Ethnohistory and Native American Access
Installation Supplement

Members of federally-recognized tribes have the right to access sites of traditional, cultural, or religious importance on lands under USAF/USSF control and to practice traditional religious activities associated with these sites. Tribal members may also request permission to collect small amounts of minerals or plant or animal materials for traditional, cultural, or religious purposes. Installations should routinely grant such permission, within the constraints of operational and/or safety concerns.

Native American Tribes with Ancestral Ties to Installation Lands

Native American Tribe	Affected Lands	Access Procedures and Agreements
	BSFB	None at present
Apache Tribe of Oklahoma	BSFB	None at present
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	BSFB	None at present

Cheyenne and Arapaho Tribes of Oklahoma	BSFB	None at present
Cheyenne River Sioux Tribe	BSFB	None at present
Comanche Nation of Oklahoma	BSFB	None at present
Crow Nation	BSFB	None at present
Eastern Shoshone Tribe of Wind River Reservation	BSFB	None at present
Flandreau Santee Sioux Tribe of South Dakota	BSFB	None at present
Fort Belknap Indian Community	BSFB	None at present
Fort Sill Apache Tribe	BSFB	None at present
Jicarilla Apache Tribe	BSFB	None at present
Kiowa Tribe of Oklahoma	BSFB	None at present
Little Shell Tribe of Chippewa Indians	BSFB	None at present
Lower Brule Sioux Tribe of the Lower Brule Reservation, SD	BSFB	None at present
Mescalero Apache Tribe	BSFB	None at present
Northern Arapaho Tribe	BSFB	None at present
Northern Cheyenne Tribe	BSFB	None at present
Oglala Sioux Tribe	BSFB	None at present
Pawnee Nation of Oklahoma	BSFB	None at present
Pueblo of Taos	BSFB	None at present
Pueblo of Zuni	BSFB	None at present
Rosebud Sioux Tribe	BSFB	None at present
Santee Sioux Nation	BSFB	None at present
Southern Ute Indian Tribe	BSFB	None at present
Spirit Lake Nation	BSFB	None at present
Standing Rock Sioux Tribe	BSFB	None at present
Three Affiliated Tribes of the Mandan, Hidatsa & Arikara Nation	BSFB	None at present
Ute Indian Tribe of the Uintah & Ouray Reservation	BSFB	None at present
Ute Mountain Ute Tribe	BSFB	None at present
Yankton Sioux Tribe	BSFB	None at present

8.4 Resource Inventories

Cultural resources inventories are key tools in the identification and protection of existing cultural resources. The following resources inventories are maintained, as necessary, by the installation:

- Archaeological sites
- Buildings and structures
- Traditional cultural properties and sacred sites
- Cultural landscapes

The Cultural Resources Inventory Tables are maintained in Microsoft Excel format and are available as an Appendix to this Plan.

Installation Supplement

Archaeological resources may be an important source of information related to the prehistory and history of an area. Because the amount of information that can be gleaned from an archaeological site is relative to its integrity, the protection of archaeological resources is paramount, and includes protecting the location of archaeological sites. Under ARPA and Section 304 of the NHPA, Federal agencies may withhold any information pertaining to the location of archaeological sites from the public if the agency

(including cultural resources that are less than 100 years old and non- cultural resources such as fossils) found on its bases. Consequently, it is illegal to collect any resource from BSFB and collectors can be prosecuted for stealing government property.

Summary of Acres Surveyed at BSFB

Under Section 110 of the NHPA, Federal agencies are required to locate, inventory, and nominate to the NRHP all resources that are recommended eligible for inclusion in the NRHP on their lands. Presented in the "Previous Cultural Resources Studies and Reports Related to BSFB" table (Table 8.3.1) below is a list of all previous cultural resources reports, studies, and management plans conducted at BSFB that were completed for compliance with Sections 106 and 110 of the NRHP.

Records on file at BSFB and the COSHPO indicate that most of Buckley has been surveyed for archaeological resources (Figure 8.3.1). Specifically, 3,107.6 ac, outside of the ADF-C, a high security area with minimal to no access. However, limited surveys of the land and resources within the ADF-C have been conducted in 2004 and 2018 (Beckner and Perrin 2018; Hokanson 2004). The 2004 survey covered the potential impact area for construction of the Denver Securities Operations Center, a project area of less than 160 ac (Hokanson 2004). During this survey it was determined that the potential for intact archaeological resources in the ADF-C is poor because of past construction activities and ongoing bioturbation.

Table 8.3-1: Previous Cultural Resources Studies and Reports Related to BSFB

Report Date	Author(s) and Report Title	Organization/Publisher
Archaeological Studies		
1983	Anderson, Jane. L. Final Report on a Cultural Resources Inventory for the Proposed Military Construction Project, P-060, Navy and	Pioneer Archaeological Consultants, Longmont, CO
	Marine Corps Reserve Training Center at Buckley Air National Guard Base, Aurora Arapahoe County, Colorado.	
1988	Higgins, Howard C. The Buckley Land Exchange Class III Cultural Resources Survey, SW 1/4 Section 9, T4S, R66W, Zone 13, Fitzsimons 7.5' USGS Quadrangle Map, 1965 for SCS-CRS-1988- 019 Arapahoe County, Colorado.	Fourth Satellite Communications Squadron, AFSPACECOM, Holloman Air Force Base, NM
1989	Burney, Michael S. Literature and File search and Archaeological Reconnaissance of the Buckley Air National Guard Base, Located in Aurora Arapahoe County, Colorado.	Burney & Associates, Inc. NM
1990	Tate, Marcia J., Robert J. Mutaw, Cheryl A. Harrison, R. Laurie Simmons and Christine Whitacre. A Cultural Resources Inventory of the Buckley Air National Guard Base, Arapahoe County, Colorado.	Powers Elevation Co., Aurora, CO
1996	Jepson, Daniel An Intensive Cultural Resource Survey Along State Highway 30 Between Buckley and E- 470, Arapahoe County, Colorado (STA 030A- 021).	CDOT, CO.

1997	Tucker, Gordon C. Jr. and Scott Phillips Jewell Avenue Extension EA, Buckley AFB, Arapahoe County, Colorado.	Golder Associates, Inc. and Powers Elevation for Dames and Moore and City of Aurora, CO
1997	Phillips, Scott and Lucy Bambrey Hackett Cultural Resource Management Report, Plains to Metropolis: A Cultural Resources Inventory of the City of Aurora Undeveloped Lands, Adams and Arapahoe Counties, Phase II (CLG Grant 08-96-11103-13).	Powers Elevation Co., Aurora, CO
2002	Foothills Engineering Consultants, Inc. Archaeological Survey Review for Buckley Air Force Base, Aurora, Colorado.	Foothills Engineering Consultants, Inc. CO
2003	Kohler, Todd Buckley Air Force Base Environmental Constraints Analysis, Arapahoe, County, Colorado.	Matrix Design Group, Inc. CO
2004	Hokanson, Jeffrey Class III Cultural Resources Survey of Three Acres for the Proposed Denver Security Operations Center, Buckley Air Force Base, Arapahoe County, Colorado.	Engineering-Environmental Management, Inc. (E2M), Littleton, CO
2019	Thornton-Barnett S, Todd M. Ahlman, Jodi A. Jacobson, and Jacob Hooge	Texas State University, San Marcos, TX
	2019 Class III Cultural Resources Inventory/Survey at Buckley Air Force Base, Arapaho County, Colorado.	
Architectural Studies		
1990	Simmons, R. Laurie. and Christine Whitacre Historical Survey of World War II Era Buildings, Buckley Air National Guard Base, Aurora, Colorado.	Powers Elevation Co., Inc., Aurora, CO
2001	Associated Cultural Resource Experts Historical Inventory and Evaluation of Ten Buildings and Boresight Alignment Tower at Buckley Air Force Base, Aurora, Colorado.	Foothills Engineering Consultants, Inc. CO
2002	Associated Cultural Resource Experts Historical Inventory and Evaluation of Sixty Buildings at Buckley Air Force Base, Aurora, Colorado. (Draft only)	Associated Cultural Resource Experts
2002	Associated Cultural Resource Experts Historic American Building Survey of Munitions Area Including Buildings 1621, 1622, 1624, 1626, 1627, 1628, and 1629.	Associated Cultural Resource Experts
2004	Peyton, Page Historic Building Inventory and Evaluation, Buckley Air Force Base. Colorado.	Geo-Marine, Inc., San Antonio, TX
2012	Cardno EM-Assist, Inc. Buckley AFB Historic Building Inventory and Evaluation – 2012	Cardno EM-Assist
2018	Beckner, Chrisanne and Natalie K. Perrin, Cultural Resources Report, Buckley Air Force Base, Aurora, Colorado	Historical Research Associates, Inc., Seattle, WA
Cultural Resources Reports		

Cultural Resources Management Plans		
1998	Foothill Engineering, Inc. Draft Final Buckley AFB Cultural Resource Management Plan.	Foothill Engineering, Inc., Lakewood, CO
2012	Cardno EM-Assist, Inc. Integrated Cultural Resources Management Plan (ICRMP)	Cardno EM-Assist
Historic Landscape Studies		
2003	Peyton, Page Historic Landscape/Viewshed Evaluation, Buckley Air Force Base, Colorado.	Geo-Marine, Inc., San Antonio, TX
2020	Harrison, Jeffrey and Mark Owens Report on Archival Research and an Archaeological Survey for the Establishment of a Recreational Vehicle Lot at Buckley Air Force Base, Arapahoe County, Colorado.	Air Force Civil Engineer Center, Colorado Springs, CO
2021	Harrison, J., M. Owens, and B. Shaw Recordation of the Tri-Services Sportsman's Club (Rod and Gun Club) at BSFB, Arapahoe, CO.	Air Force Civil Engineer Center, Colorado Springs, CO / Argonne National Laboratory, Lemont, Il
2022	Harrison, Jeffrey and Mark Owens Historic Landscape Evaluation, Williams Lake and FamCamp	Air Force Civil Engineer Center, Colorado Springs, CO

Archaeological Inventories and Assessments

Figure 8.3-1 shows the locations of previous archaeological surveys on BSFB. The first major study in the BSFB area was conducted prior to the construction of the Naval and Marine Corps Reserve Training Center. In 1983, Pioneer Archaeological Consultants (Anderson 1983) undertook an intensive pedestrian cultural resources inventory of 55.6 ac. This study failed to yield any archaeological resources. A second investigation, conducted 5 years later by Burney and Associates, Inc. (Burney 1989), recorded one prehistoric site (5AH458) after investigating a 40-acre sample. A 1-ac portion of the Anderson survey area was resurveyed in 2003 for a building construction project (Kohler 2003).

In 1988, AFSPACECOM sponsored a survey in Sec. 9 at the west edge of BSFB (Higgins 1988). The next year, between 1989 and 1990, Powers Elevation Co., Inc., conducted a series of cultural resources studies including a pre-field report describing existing data and a review of the archaeological literature available for the surrounding area (Tate and Simmons 1989). This was followed by an intensive survey (Tate et al. 1990) of most of Buckley (approximately 3,052 ac), with the exception of the ADF-C , a lake, paved areas, and the 55.6 ac surveyed by Pioneer Archaeological Consultants in 1983. Thirty-nine sites, including the prehistoric site, 5AH458 first identified by Burney, were recorded. A listing of sites documented by the Powers Elevation Co., Inc. is presented in Appendix A. None of the sites found during the Powers study were found to be eligible for inclusion in the NRHP. As part of a multi-block survey for the City of Aurora in 1997, Powers Elevation Co., Inc. also inventoried land that would eventually become the BSFB Beck Center (Phillips and Bambry Hackett 1997). Near this location, the Colorado Department of Transportation apparently surveyed a small portion of BSFB at its extreme northwest corner and along 6th Ave (Jepson 1996).

In 2002, as part of the development of the BSFB ICRMP, Foothills Engineering Consultants prepared a report summarizing the status of archaeological surveys on base. This report recommended that, based on the surveys conducted by Pioneer Archaeological Consultants (Anderson 1983), Burney and Associates, Inc. (Burney 1989), and Powers Elevation Co., Inc. (Tate et al. 1990), no additional areas outside of the ADF-C high security area remained to be surveyed. The COSHPO concurred with this finding. The Foothills report further recommended that the ADF-C be surveyed when it "becomes available." Such an opportunity

arose in March of 2004. At that time, Engineering- Environmental Management, Inc. (Hokanson 2004) was contracted to perform a small survey in advance of the construction of the proposed Denver Security Operations Center. This survey was conducted as part of an EA. The COSHPO "Limited Results Cultural Resources Survey Form" prepared by Hokanson indicates that the survey area was heavily disturbed and that no archaeological resources were identified following a pedestrian survey of the project area. No other studies have been conducted in the ADF-C area.

During the summer of 2018, TSU surveyed most of the undeveloped land in BSFB (approximately 1,150 ac). Locations within high security areas, locations where built resources now exist, and land with unexploded ordnance (UXO) were excluded from the survey. The TSU survey project inventory included forty-eight (48) sites and isolated finds, twenty-eight (28) previously recorded sites and five (5) previously recorded isolated finds (IFs) and the recordation of eight (8) newly recorded sites and eight (8) newly recorded IFs encountered during the 2018 survey within the 1,150 acre project area.

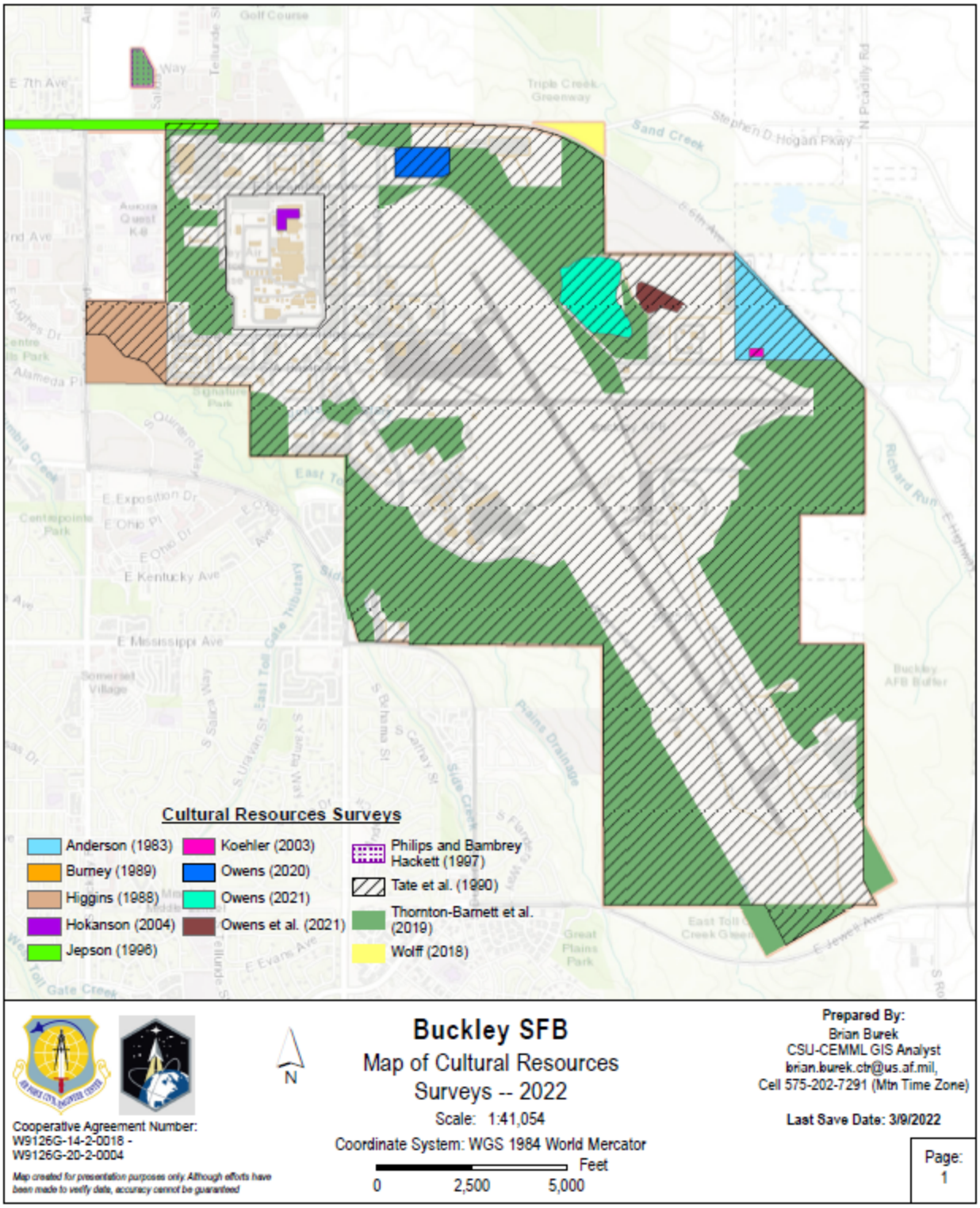


Figure 8.3-1. Map showing previous BSFB surveys.

NRHP Status of Archaeological Resources

The results of the 2018 TSU survey project were concurred by COSHPO on 21 August 2020 (HC #78105), 61 archaeological sites have been recorded at BSFB. None of the sites were recommended as eligible for NRHP-listing and 51 have "official" COSHPO concurrence. The exception is linear site 5AH.1132.1. This cultural resource was recorded outside of BSFB and the original recorders projected its location onto the installation (Tucker and Phillips 1997). Thirty One isolated finds have also been recorded and are have been concurred by COSHPO as not NRHP-eligible (HC #78105) (Appendix A).

The results of the 2020 AFCEC RV Lot survey resulted in five archaeological resources recorded at BSFB. None of the sites were recommended as eligible for NRHP-listing. COSHPO concurred on 4 January 2021 that none of the five sites are NRHP-eligible (HC #79083).

Archaeological Mitigation Measures

Mitigation measures for archaeological properties at BSFB have not been required to date. If in the future an NRHP-eligible site is identified within a project area (see Section 7.2 process description above), the CRM must first determine if the site can be avoided and protected in the project planning stage. Such measures provide the best alternative for preserving archaeological properties. However, if avoidance is not possible, prior to commencement of fieldwork, the BSFB CRM will evaluate the effects of the undertaking using the criteria of adverse effects (36 CFR § 800.5). For undertakings with a finding of *adverse effect to historic properties*, the CRM will initiate Section 106 consultations to resolve for the adverse effect as required with the COSHPO, Tribes, and other BSFB stakeholders.

Historic Resources at BSFB

Historic resources at BSFB may include buildings, structures, objects, and landscapes. Buildings, however, are the only property-type identified as NRHP-eligible. Most historic resources at Buckley are less than 50 years of age because of the developmental history of the base.

Architectural and Historical Studies

Multiple architectural inventories and assessments have been conducted at BSFB. These studies are summarized in the following text.

The first assessment was carried out by Powers Elevation Co., Inc., as part of its 1989-1990 cultural resources studies. The Powers study documented the history and construction of 58 World War II era temporary or wooden buildings; but was limited to providing basic information about the structures recorded due to its timing with a larger nation-wide investigation of World War II temporary buildings at military facilities (Simmons and Whitacre 1990).

Between 2001 and 2002, Associated Cultural Resource Experts, under contract with Foothill Engineering Consultants, Inc., was responsible for producing two historic building inventory and evaluation studies at BSFB (Associated Cultural Resource Experts 2001; Associated Cultural Resource Experts 2002a). The first documented ten buildings from the World War II and Cold War periods and the Boresight Alignment Tower. The munitions depot area, which was a part of the investigation, was recommended NRHP-eligible as a historic district but was never formerly nominated as such. Buildings 1621, 1622, 1624, 1626, 1627, 1628, and 1629, which were identified as contributing properties to the proposed Munitions Depot historic district, were documented in a Historic American Building Survey (HABS) format by Associated Cultural Resource Experts in 2002. The HABS documentation served as mitigation for the demolition of the potential historic district.

Another Associated Cultural Resource Experts investigation performed in 2002 surveyed and documented 60 World War II- and Cold War- era period buildings. A historic context focusing on both historical periods was included as part of the inventory report (Associated Cultural Resource Experts 2002a). The study was only prepared to the draft stage.

In 2004, Geo-Marine, Inc. conducted the largest of the base's historic resources investigations. All buildings, structures, objects, and other real property features (n=447) at BSFB were inventoried and evaluated (Geo-Marine, Inc., 2004b). This included the 60 resources evaluated by Associated Cultural Resource Experts as part of their 2002 draft report (Associated Cultural Resource Experts 2002a). Potential Cold War significance was taken into account for facilities built between 1946 and 1989. A historic context related to the evolution of the built environment was included as part of the study. Geo-Marine's report recommended two aircraft maintenance hangars, Buildings 801 and 909, as NRHP-eligible. The exteriors of four Satellite Communications Ground Terminals (402, 403. 404, and 405) were determined NRHP- eligible by the COSHPO during the report review process.

Concurrent with the building inventory, Geo-Marine, Inc. also conducted a landscape/viewshed evaluation of the facility (Geo-Marine, Inc., 2004a). Based on the history of BSFB and the installation's current landscape conditions, no broad landscape, or specific landscape features or elements of BSFB were recommended as eligible for inclusion in the NRHP and the COSHPO concurred. As part of their report, Geo- Marine included a brief historic context for the evolution of the manmade landscape prior to its military history through the Cold War period.

In 2012, Cardno EM-Assist, conducted a buildings inventory to re-evaluate the eligibility status of buildings on BSFB. Results of this inventory determined that none of the buildings at Buckley currently justified an NRHP evaluation. A building age reporting

tool (.xls spreadsheet) was designed to track building eligibility, as well as recommend evaluation schedule was also developed.

In 2018, Historical Research Associates, Inc. conducted a buildings inventory to re-evaluate the eligibility status of buildings on Buckley. Results of this inventory determined that six of the buildings at Buckley, Radomes 432 and 434, and building 431, 433, 630, and 814 are NRHP-eligible per the COSHPO concurrence letter HC#75988 (Beckner and Perrin 2018).

In 2019, PaleoWest Archaeology, conducted a literature review evaluation for the Stream Improvement Measures in Multiple Locations along East Toll Gate Creek. No historic properties or cultural sites were located.

In December of 2020, AFCEC surveyed an 11 acre area of undeveloped land in a WWII cantonment area of BSFB for a proposed Recreational Vehicle Lot (RV), *Report on Archival Research and an Archaeological Survey for the Establishment of a Recreational Vehicle Lot at Buckley Air Force Base, Arapahoe County, Colorado*. The survey located five (5) newly recorded archaeological resources, historic roads associated with WWII-era buildings and a running track. None of the cultural resources are eligible for inclusion in the NRHP (HC# 79083)

In June 2021, Brian Shaw, Argonne National Laboratory, Mark Owens, AFCEC, and Jeffrey Harrison, Buckley CRM, surveyed the Tri-service Sportman's Club (TSSC) Skeet Range (aka Rod and Gun Club) which resulted in one (1) previously recorded building, three (3) newly recorded buldings, and one (1) newly recorded Historical Cultural Landscape (TSSC). SHPO concurred that none of the cultural resources are eligible for inclusion in the NRHP (HC# 80025).

In January 2022, Mark Owens, AFCEC, and Jeffrey Harrison, Buckley CRM, surveyed the Williams Lake and FamCamp on Buckley Garrison. The survey resulted in one (1) newly recorded building and one (1) newly recorded Historical Cultural Landscape (Williams Lake and FamCamp). SHPO concurred that none of the cultural resources are eligible for inclusion in the NRHP (HC# 80878).

Summary of Historic Resources Surveyed at BSFB

To date, all real property features (buildings, structures, etc.) and landscape/viewsheds have been inventoried and evaluated at BSFB under National Register criteria, including Criterion Consideration G, for properties of less than 50 years of age (Geo-Marine, Inc., 2004b). In the early 1980s, the entirety of Buckley was recommended to be a NRHP District under Smithsonian trinomial 5AH.169. However, the whole was recommended not NRHP-eligible in 1990 by Powers Elevation Inc. (Simmons and Whitacre 1990). In 2019, the built environment of the installation was found not to meet the criteria for National Register eligibility as a designed landscape (Steve Turner to Mark S. Laudenslager, letter, History Colorado [HC] #75988, dated 28 May 2019, History Colorado, Colorado). In April 2021, the recordation of the Tri-service Sportsman's Club skeet range, also known as the Rod and Gun Club, resulted in five new cultural resources that were concurred by COSHPO as not eligible for inclusion in the NRHP (HC #80025).

NRHP Status Historic Resources

Of the 447 items listed Real Property Inventory, 12 are NRHP-eligible based on their individual merit (i.e., not as a historic district). These properties are:

- Building 402 - Satellite Communications Ground Terminal (officially eligible
- Building 403 - Satellite Communications Ground Terminal (officially eligible
- Building 404 - Satellite Communications Ground Terminal (officially eligible)
- Building 405 - Satellite Communications Ground Terminal (officially eligible)
- Building 431 – Air communications Relay Center (officially eligible, HC#75988)
- Building 432 - Satellite Communications Ground Terminal (officially eligible, HC#75988)
- Building 433 – Electrical Power Station Building (officially eligible,HC#75988)
- Building 434 - Satellite Communications Ground Terminal (officially eligible, HC#75988)
- Building 630 – Airman Dining Hall (Panther Den) (officially eligible, HC#75988)
- Building 801 - Maintenance Hangar (officially eligible, CHS#42435)
- Building 814 – Shop/Storage Facility (officially eligible, HC#75988)
- Building 909 - Maintenance Hangar (officially eligible, CHS#42435)

In 2004, and based on the work of Geo-Marine, Inc. (Peyton 2003, 2004), the COSHPO concurred with the following: (1)

eligibility determinations for 6 of the 8 properties listed above; (2) the remaining 441 buildings and structures in the Buckley real property inventory are not eligible for listing in the National Register; and, (3) the finding that there are no historic districts or historic landscapes present at Buckley. All other properties recommended as eligible in previous cultural resources studies have either been demolished or reevaluated as ineligible (Beckner and Perrin 2018:i).

Historic Resources Mitigation Measures

Mitigation efforts performed at BSFB for historic resources include HABS/Historic American Engineering Record (HAER) documentation on seven buildings. Mitigation was performed, in some cases, to document buildings that were scheduled for demolition or for alterations that would impact the building's historic character. Stored at the Library of Congress, Washington, District of Columbia (DC), these records consist of Level II documentation on the munitions area (Buildings 1621, 1622, 1624, 1626, 1627, 1628, and 1629) (Associated Cultural Resource Experts 2002b). Two World War II facilities, Buildings 19 and 25 were also the subject of recordation. Buildings 19 and 25 have both been demolished.

Tribal Consultations, TCPs and Sacred Sites

TCPs and sacred sites are a special class of cultural resources that require extra care in their identification and assessment. Because of the sensitive nature of the resources to certain tribes and groups, information related to the location and nature of the TCP or sacred site is afforded some protection under Section 304 of NHPA and Executive Order 13007 when such a resource is identified.

In the early 1990s, the ANG initiated the process of addressing Buckley's AIRFA requirements. A list of potential tribes with an interest in the area was obtained from the CO Commission of Indian Affairs. These tribes included the: Cheyenne-Arapaho, Comanche, Kiowa, Northern Ute, Northern Arapaho, Shoshone, Ute Mountain, Southern Ute, and Northern Cheyenne. No TCPs, sacred sites, or NAGPRA-related locations/items were identified by this effort. Documentation related to the 1993 consultation is sparse.

Native American Tribal Consultations occurred again in May and October of 2010. As with the 1993 consultations, no TCPs, sacred sites, or NAGRPA-related locations/items were identified. Even though no resources were identified, Buckley cannot conclude that they do not exist since site locations are confidential and because tribes may be hesitant to reveal their locations. In the event that TCPs, sacred sites, or NAGPRA-related sites are discovered, Buckley personnel should follow the steps presented in Section 7.4, Cultural Discoveries, of this document.

In April of 2017, BSFB participated in the first bi-annual tribal relations meeting in Colorado Springs, Colorado with 14 affiliated tribes participating in the two-day event (Section 1.1.1).

The next year, April 23-27 of 2018, BSFB participated in the Second-Annual Front Range Air Force Tribal Relations Meeting hosted by the 21st Space Wing, Peterson Space Force Base in Colorado Springs, Colorado (Stell and Texas A&M Natural Resources Institute 2019). In accordance with DAFI 90-2002, the meeting objective was to continue the development of sustainable government-to-government relationships with Tribes identified as having a history of land use in areas managed by Air Force Installations along the Front Range of the Rocky Mountains in Colorado and Wyoming. Representatives from 17 culturally-affiliated Tribes attended and topics of discussion included the use of TCSs in cultural resources inventories, NAGPRA inadvertent discovery procedures, the incorporation of natural resources into the term cultural resources for compliance purposes, Air Force leadership continuity, consultation protocols, environmental stewardship, and cultural sensitivity training. Colonel Shawn Thompson, Commander of the 460th Space Wing, presented the BSFB mission brief on day one of the meetings and led a site tour of BSFB on April 26, 2018.

The following year, September 10-11 of 2019, BSFB participated in the Third-Annual Front Range Air Force Tribal Relations Meeting hosted by the United States Air Force Academy (USAFA) in Colorado Springs, Colorado (Texas State University and Stell 2018). The focus of the continued development of sustainable government-to-government relationships with Tribes identifying with BSFB included, topics of natural and cultural resource management techniques, installation Programmatic Agreements, the roles of Native American tribal representatives in resource management.

Additional consultation is required to determine if any resources of potential interest to Native American tribes are located at BSFB. BSFB will continue to provide tribes an opportunity to review proposed undertakings and provide comments to address any potential impacts to cultural resources to include sacred sites and TCPs.

The results of the Texas State University (TSU) archaeological survey of the installation in 2018 and concurrence with COSHPO (HC #78105), researchers recommended further Tribal consultation for three sites holding potentially significant plants (Thornton-Barnett et al. 2019), which will require consultation with tribes in the near future.

8.5 Installation Areas of Concern

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Areas of Concern related to Archaeological Resources, TCPs, and Sacred Sites

As most of the installation has been surveyed at least twice in the past, the majority of the surficial archaeological sites have likely been discovered. Site densities are quite high in the areas of Sand Creek and East Toll Gate Creek and these are good locations for previously unknown cultural materials to expose on the modern ground surface through time and they are certainly areas where previously unknown historic properties might exist in subsurface context. Because of this, all ground-disturbing activities such as grading, excavating, digging, trenching, or ripping have the potential to impact subsurface archaeological sites. To alleviate this concern, the CRM must review all projects related to these types of activities. In the event that buried cultural materials are exposed during any subsurface work, the provisions of Section 7.4 SOP will be followed.

However, as discussed during the 2018 consultation meetings (Stell and Texas A&M Natural Resources Institute 2019), many of Buckley's culturally-affiliated Tribes feel that past archaeological surveys have lacked Tribal knowledge and involvement and are biased by a Western perspective. Future BSFB surveys should consider the addition of TCSs and Tribal monitors.

Areas of Concern Related to Historic Resources

In 2018, Historical Research Associates, Inc. (Beckner and Perrin 2018) conducted an inventory to re-evaluate the eligibility status of buildings on BSFB. Based on the results of field and archival research, HRA recommended two resources, the radomes known as structures 432 and 434, as eligible for listing in the NRHP under Criteria A and C, both for the role they play in the nation's defense system and for their innovative design. HRA recommended no other surveyed resources qualify for listing. Furthermore, HRA recommended that no historic landscapes or potential districts were present. SHPO concurred on 28 May 2019 that buildings 432 and 434 are eligible for inclusion in the NRHP (HC #75988). SHPO also concurred that buildings 431, 433, 630, 814 are also eligible for inclusion in the NRHP under criterion A (HC #75988).

Buckley requested clarification from SHPO on 8 June 2020 to better understand why SHPO believes the aforementioned buildings meet criterion A as the Secretary of the Interior-qualified HRA contractors explained that the buildings supported the military efforts but they did not display any association with important trends in history or prehistory (Beckner and Perrin 2018). SHPO responded on 25 June 2020 that the buildings are eligible under criterion A for the role they played in the operation, support, and development of the mission at Buckley Air Force Base during the Cold War.

The determination to make the buildings eligible in the NRHP has caused project delays and many man hours spent conducting Section 106 reviews. BSFB will likely be faced with mitigation efforts and costs as mission needs expand and the eligible buildings we need to be replaced.

Areas of Concern Related to Compliance Activities

- Complete, and/or document as completed, mitigation actions required in the MOA for Build 909.
- Modify, amend, and re-consult on the Radomes PA to be included in the amended 106 PA.
- In accordance with AFMAN 32-7003, Section 2.14.7.2 and SOP 7.7 of this ICRMP, conduct inspection of the artifacts collected on BSFB that are curated at F.E. Warren AFB.
- Afford Traditional Cultural Specialists (TCS) from BSFB culturally-affiliated Tribes the opportunity to walk/survey open land in order to complete a true base-wide PA to streamline the Section 106 compliance process.
- Along with other Front Range installations, begin work to develop a Comprehensive Agreement (CA) with culturally-affiliated Tribes in accordance with NAGPRA.

8.6 Other Cultural Resources

9 GOALS AND OBJECTIVES

The installation establishes long term, expansive goals and objectives to protect historic properties and other cultural resources while accomplishing mission objectives. These goals and objectives may serve as drivers for implementation of this ICRMP and for funding of related projects and activities. The Goals and Objectives table below summarizes key goals and objectives for the Cultural Resources Management Program.

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Goals and Objectives

Goal	Associated Objectives	Status
With the COSHPO Section 110 concurrence on the TSU building and archaeological sites, amend the 106 PA	1. Streamline the Section 106 process and other culturally related projects for CRM project reviews.	In Planning
Amend the current 106 PA to include new concurrences and radomes	1. Streamline the Section 106 Process for CRM project review. 2. Allows for expedited project approval	In Planning
Conduct surveys to complete a current 100 percent base wide survey	1. Current surveys are needed to develop future PAs (if needed) 2. Surveys are an ongoing process to stay up to date with cultural and historic properties	In Progress
Complete Buildings 402, 403, 404, 405, 432, and 434 PA requirements	1. CRMP will review all projects associated with the radomes. 2. Amend the 106 PA to include the radomes	In progress
Complete Section 106 PA requirements	1. CRMP should review all projects to determine if they are exempted activities per the Section 106 PA. 2. Hold annual meeting for PA NLT July 15 of each year the PA is in effect. 3. Send annual report to the COSHPO NLT 60 days from new FY. 4. Update list and maps of historic properties annually. 5. Amend the 106 PA to be move comprehensive	In progress
Execute terms of Buildings 909 MOA	1. CRMP coordinates with signatories to complete stipulations.	Ongoing
IAW AFMAN 32-7003 and DAFI 90-2002, sustain the tribal relations program.	1. Facilitate continued government-to-government contact with culturally affiliated tribes. 2. Maintain distribution lists. 3. Establish and maintain staff-to-staff channels between BSFB and tribal POCs 4. Complete and execute an ITRP 5. Develop NAGPRA agreement documents with affiliated tribes.	In progress
Review all BSFB projects with potential to adversely impact historic properties.	1. CRM reviews all projects early in the process to facilitate the protection of historic properties. 2. CRM reviews all AF forms 813 and work orders to assess whether projects are exempted per PAs and/or have the potential to adversely impact historic properties.	In progress

Utilize the ethnographic study to develop Cultural agreement documents.	1. Utilize data to inform the ITRP 2. Utilize data to inform the ICRMP 3. Utilize data to inform/review treaty rights 4. Utilitze data to inform/development of NAGPRA agreement document.	In progress
Continue to support a cultural resources staff position and fund cultural resources management training.	1. Guarantee Section 106 review of all undertakings whether exempted or not in a PA are reviewed and to ensure stipulations in agreement documents are met.	In planning
Design and implement a cultural resources awareness, outreach, and training program	1. Create and conduct public awareness and education programs and incorporate basic information on cultural resources into installation orientation briefings.	On going
Curate artifacts collected by TSU IAW SOP 7.7	1. Fulfill requirements of 36 CFR Part 79. 2. Partially fulfill AFMAN 32-7003 2.14.7.3 requirement for regularly inspect collection in repositories.	In planning

NOTE: Refer to the Cultural Resources Environmental Action Plan (EAP) when setting goals. Document installation objectives and supporting tasks in the ICRMP as well as into the EAP tool.

10 PROGRAMMING AND PLANNING

10.1 USAF and Installation Actions

USAF and installation mission-related activities have the potential to adversely affect cultural resources and historic properties. Federal regulations and USAF policy require that cultural resources are protected or effects to said resources are minimized or mitigated. Activities or projects that could pose an adverse effect to cultural resources include, but are not limited to:

- Continued use, repair, modernization, adaptation/reuse, preservation, and/or demolition of existing facilities, including historic buildings
- New construction of facilities
- Land use (e.g., training exercises, flight operations, off-road vehicular traffic, forest management, threatened and endangered species management, wildland fire suppression, erosion control, prescribed burning, and live ordnance use)
- Ground disturbance

The installation eliminates and/or resolves conflicts by assuring that undertakings with the potential to adversely affect cultural resources are properly planned and executed. The CRM and installation project managers and planners work together to identify and manage potential conflicts. Adverse effects to cultural resources resulting from standard or routine activities may be avoided or mitigated by following established environmental and cultural resources management procedures (i.e., completing AF Form 332).

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The 'Mission Activities and Solution' table below identifies mission-related activities that will adversely affect cultural resources and proposed solutions and mitigating activities to address the identified effect.

Mission Activities and Solutions

USAF/Installation Activity and Cultural Resources Affected	Solutions and Mitigating Activities	Status

A program of construction, demolition, and maintenance is required for 12 historic properties and for other built-environment resources on BSFB.	1. Continued review of all projects with the potential to impact historic properties IAW SOP 7.2, the stipulations in the 2. CRM consults with COSHPO, Tribes, and Other stakeholders as required. 3. Modern building and archaeological inventories performed to determine types and number of historic properties on the installation.	1. PA executed in 2016 and will be updated/amended with TSU eligibility concurrences from SHPO.
All ground-disturbing activities have the potential to adversely impact previously unknown subsurface cultural deposits.	1. CRM reviews all projects with a ground disturbing activity and consults with Tribes, other stakeholders, and COSHPO. 2. CRM drafts project clearance MFR that outlines SOP 7.4 stipulations for project proponent to distribute to workers.	In Progress

10.2 Cultural Resources Project Programming and Execution

USAF Planning, Programming, Budgeting, and Execution (PPBE) is the process of acquiring funding for activities. Acquisition of cultural resources-related work follows standard USAF PPBE processes. The Environmental Quality PPBE Playbook and Activity Management Plan Playbooks contain detailed information on funding and contracting.

The CRM, with support from the AFCEC Section, ensures that cultural resource management activities are planned and programmed to receive funding. Cultural resource projects and actions may be required by: agreement documents, results of gap analyses, audit/assessment findings, on-going program requirements (e.g., Section 110 surveys and evaluations), urgent installation needs (e.g., changes to military training requirements), and other drivers. Cultural resources activities are executed according to fund eligibility guidelines.

The 'Project Programming and Execution Work Plan' table found in Appendix L outlines cultural resources management requirements for the five years of this ICRMP cycle. Projects entered into this Work Plan should match Resource Allocation Model (RAM) entries, which contains a detailed list of all installation cultural resources requirements over the five-year period of the ICRMP. The installation and Section must update this Work Plan at least once per year.

11 REFERENCES

Standard References *(Applicable to all USAF Installations)*

- AFI 32-7001, *Environmental Management* (Includes UEC Role)
- AFMAN 32-7003, Environmental Conservation
- AFI 90-2002, *Air Force Interactions with Federally Recognized Tribes*
- Cultural Resources Environmental Action Plan (EAP)
- Cultural Resources Management Playbook
- eDASH AFLOA Legal and Other Requirements List
- eDASH Cultural Resources Home Page
- eDASH Training Matrix
- Environmental Management System Playbook
- Environmental Quality PPBE Playbook
- ISO 14001, *Environmental Management Systems–Requirements with Guidance for Use*
- Activity Management Plan Playbooks

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  2002a Historical Inventory and Evaluation of Sixty Buildings at Buckley Air Force Base, Aurora, Colorado. (Draft only).

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  - 2002 Vision 2020 Brochure, September.
- Buckley Air Force Base, Public Affairs Office
  - 2003 Mission Statement.
- Buckley Air National Guard Base (BANGB)
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12 ACRONYMS

Standard Acronyms *(Applicable to all USAF Installations)*

- eDASH Acronym Library
- Cultural Resources Management Playbook – Acronym Section
- U.S. EPA Terms & Acronyms

13 DEFINITIONS

Standard Definitions *(Applicable to all USAF Installations)*

- Cultural Resources Management Playbook – Definitions Section

14 INSTALLATION-SPECIFIC CONTENT

A ARCHAEOLOGICAL RESOURCES INVENTORY TABLES

Installation Supplement

BSFB Appen A 2022.xlsx

B BUILT RESOURCES INVENTORY TABLES

Installation Supplement

BSFB Appendix B 2022.xlsx

C TRADITIONAL CULTURAL RESOURCES INVENTORY TABLES
Installation Supplement

Located electronically with 460 CES/CEIE at \\csud-fs-001p\460CES\CEI\CEIE\Working File - Cultural Resources\ICRMP\2021 ICRMP Annual Update

D NHPA SECTION 106 MEMORANDA OF AGREEMENT
Installation Supplement

Buckley AFB Building 909 MOA final signed version 8-23-2016.pdf Buckley_SFB_B429_and_431_MOA_Final.pdf

E NHPA SECTION 106 PROGRAMMATIC AGREEMENTS
Installation Supplement

Final Signed Basewide PA (2016).pdf

F INSTALLATION TRIBAL RELATIONS PLAN
Installation Supplement

The Buckley SFB Installation Tribal Relations Plan (ITRP) remains in draft. The final will be included in this document when completed.

G TRIBAL AGREEMENTS
Installation Supplement

Buckley SFB has no specific Tribal agreements at this time.

H WING INSTRUCTIONS OR POLICY DOCUMENTS
Installation Supplement

AFMAN 32-7003 can be located at https://cs2.eis.af.mil/sites/10624/Buckley/WPP/ProgramPage/Cultural%20Resources.aspx and \\csud-fs-5550p\460CES\CEI\CEIE\Working File - Cultural Resources\ICRMP\2021 ICRMP Annual Update

I ARCHAEOLOGICAL SURVEY AND SITE FORMS
Installation Supplement

Stored with 460 CES/CEIE and electronically

J HISTORIC PROPERTY SURVEY AND SITE FORMS
Installation Supplement

Stored with 460 CES/CEIE and electronically

K HISTORIC BUILDING MAINTENANCE PLANS

Installation Supplement

Buckley SFB does not any specific historic building maintenance plans at the present.

L PROJECT PROGRAMMING AND EXECUTION WORK PLAN

Installation Supplement

Programming and Planning Work Plan

FY	Project Title and Description	Timeline	Status
FY 22	Consultation, Native American - To follow-on Ethno/Treaty Rights Study – Combined effort with other Front Range bases	Programmed	In Planning
FY 22	Survey/Inventory Update, Hist Bldgs - HABS level documentation under Section 110 identification	Programmed	Funded
FY 22	Survey/Inventory Update, Arch - 1350 ACRE ARCHEAOLOGY SURVEY, HISTORIC BUILDING INVENTORY OF REMAINING RADOMES, PA UPDATE, Follow on to Ethnographic Study	Programmed	Funded
FY 22	Survey/Inventory Update, Hist Bldgs - Radomes and Assoc'd Resources/Compliance PA update	Programmed	In Planning
FY 22	Consultation, Native American - Continue to assist base with Tribal aspects of a CA and consultation protocols	Programmed	In Planning
FY 22	Survey/Inventory Update, Hist Bldgs - Up to 30 bldgs and cultural landscape analysis of all built environment	Programmed	In Planning
FY 23	Survey/Inventory Update, Arch - Re-evaluation of 5AH.528 and other needs data sites	Programmed	In Planning
FY 23	Consultation, Native American - To facilitate recurring Section 106 consultation projects; does not fund for DAFI 90-2002 activities	Programmed	In Planning

M ANNUAL PA REPORTS

Can be located at \\csud-fs-5550p\460CES\CEI\CEIE\Working File - Cultural Resources\Annual Meetings