

**CULTURAL RESOURCES
MANAGEMENT PLAN**

**PILLAR POINT AIR FORCE STATION
SAN MATEO COUNTY, CALIFORNIA**

**30TH SPACE WING
INSTALLATION COMMANDER APPROVAL**

This Cultural Resources Management Plan (CRMP) has been prepared in accordance with regulations, standards, and procedures of the Department of Defense Instruction 4715.16, *Cultural Resources Management*, September 2008, and Air Force Instruction 32-7065, *Cultural Resources Management Program*, June, 2004.

The CRMP serves as the long-term plan to accomplish the missions of the Cultural Resources Program, provides a forum to examine long-term management goals, serves as delegation of authority and responsibility to the installation Cultural Resources Manager (CRM), and certifies Installation Commander approval of this Plan for Pillar Point Air Force Station, California.



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Colonel, USAF
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Date 9 Jul 09

**Cultural Resources Management Plan
for
Pillar Point Air Force Station
San Mateo County, California**

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Submitted To
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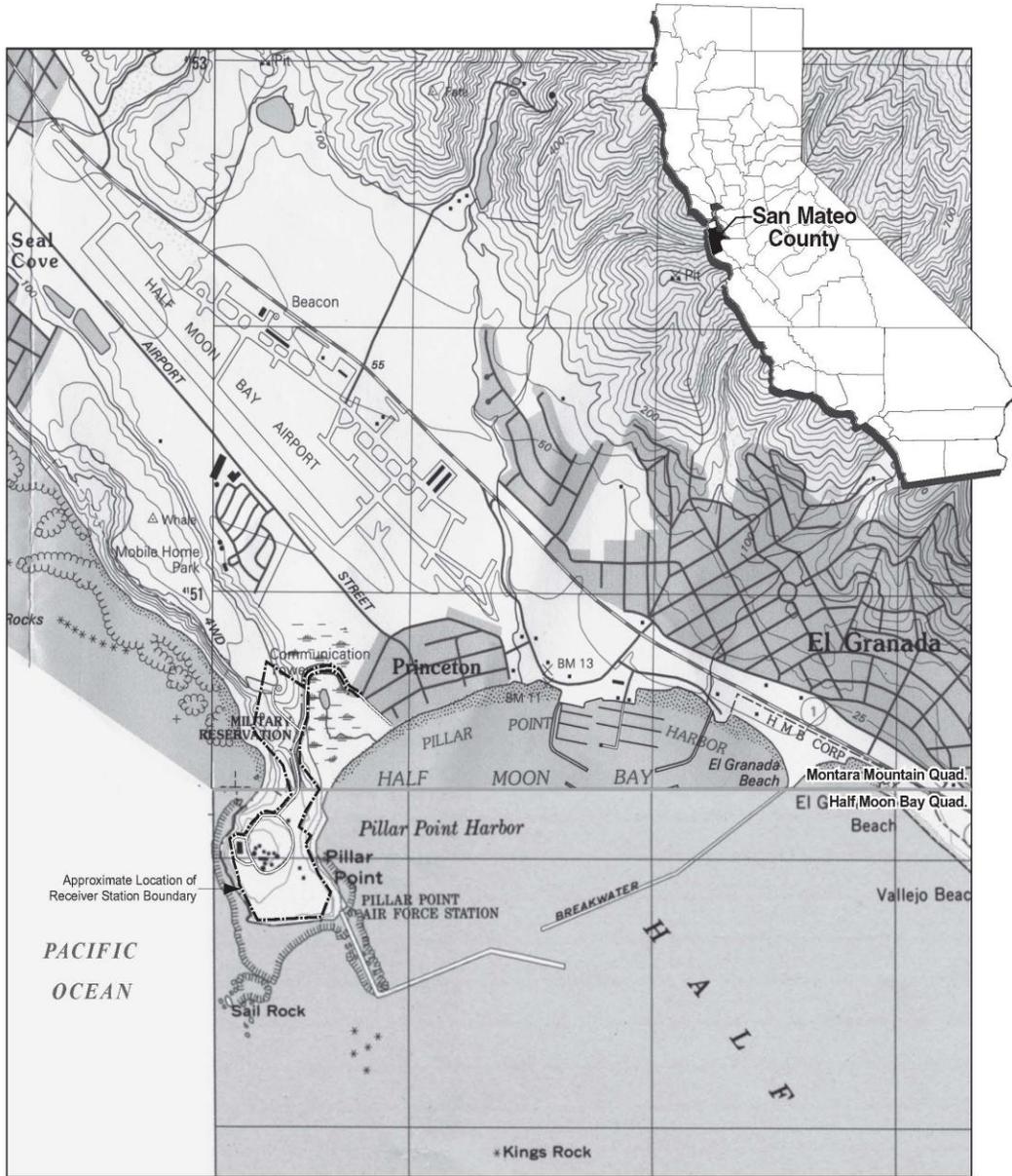
EXECUTIVE SUMMARY

In order to comply with Section 110 of the National Historic Preservation Act of 1966, the Archaeological Resources Protection Act of 1979, and Air Force Instruction (AFI) 32-7065, *Cultural Resources Management Program*, Vandenberg Air Force Base (AFB) requires this cultural resources management plan (CRMP) for the identification and treatment of historic properties on Pillar Point Air Force Station (AFS).

Pillar Point AFS is a radar tracking station that provides support for polar-orbiting space satellite and operational intercontinental ballistic missile launches from Vandenberg AFB. The station houses radar, command control, meteorological, and telemetry systems. It is situated on a peninsula 180 feet above the Pacific Ocean near Half Moon Bay, California (Figures 1-1 and 1-2; also see Appendix A). The geographic location of this instrumentation site provides critical side-look capability for launches from the 30th Space Wing Western Range, facilitating data collection during plume attenuation at Vandenberg AFB sensors (Santa Barbara Museum of Natural History [SBMNH] 2000:5).



Figure 1-1 Pillar Point AFS, view to the north (photographed by J. Carucci, 1998).



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U.S.G.S. 7.5 Minute
Topographic Quadrangles
**Half Moon Bay and
Montara Mountain, CA**
T 5 S - R 6 W
1997

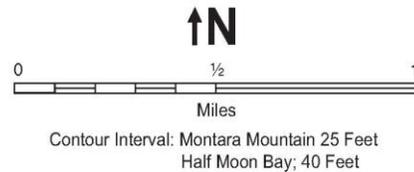


Figure 1-2 Location of Pillar Point AFS near Half Moon Bay, California.



Figure 1-3 Aerial view of Pillar Point AFS.

Pillar Point AFS, and the other Western Range instrumentation sites, are currently operated and maintained by InDyne, Inc. and Northrup Grumman's IT Division. The responsibility for managing cultural resources on Pillar Point AFS lies within the 30th Civil Engineering Squadron, Environmental Flight, Planning Group, Cultural Resource Section (30 CES/CEANN, formerly designated as 30 CES/CEVPC and 30 CES/CEVNC) at Vandenberg AFB.

The Pillar Point CRMP provides guidance for the consideration and protection of cultural resources on the station. It is intended for use in conjunction with the Integrated Cultural Resources Management Plan (ICRMP) for Vandenberg AFB (see Appendix B for a draft overview of this plan). This document's availability to Air Force personnel and external contractors is for official use only (FOUO) in accordance with AFI 32-7065, para 4.10.4. The primary goals of both the Vandenberg ICRMP and the Pillar Point CRMP are to inform Air Force personnel and external contractors about cultural resources management practices on the station; provide a set of specific processes and procedures for managing all classes of cultural resources; lessen or avoid adverse effects on significant cultural resources; streamline and improve the consultation and coordination process with state and federal agencies, tribal governments, and other interested parties; and ensure compliance with all applicable environmental laws, regulations, and guidelines.

1.1 MAJOR POINTS OF THE CULTURAL RESOURCES MANAGEMENT PLAN FOR PILLAR POINT AFS

This plan was prepared following AFI 32-7065, Attachment 2, which outlines requirements for preparing CRMPs, and in accordance with the statement of work (Minas 2002). The major points of the plan are summarized below.

Chapter 2 describes the location and setting of Pillar Point AFS, provides a historical overview, and discusses management of cultural resources on the installation. Chapter 3 summarizes the pertinent federal, state, and local guidelines for cultural resources management.

Chapter 4 addresses the integration of the cultural resources management program at Pillar Point AFS with the installation mission and assigns responsibilities for recognizing and maintaining cultural resources. It describes installation strategies for accomplishing these goals and contains standard operating procedures and action plans. Because 30 CES/CEANN retains the responsibility for managing cultural resources on Pillar Point AFS, staffing and budgeting concerns are addressed by reference to the Vandenberg ICRMP.

Subsequent chapters address the management of prehistoric and historical archaeological resources (Chapter 5); historical buildings, structures, landscapes, trails, and other historical resources (Chapter 6); Cold War resources (Chapter 7); and traditional cultural properties and Native American resources (Chapter 8). These chapters provide an inventory and evaluation of cultural resources on the installation and identify the likely presence of other significant cultural resources. Mission impacts on cultural resources and methods of impact resolution are also discussed.

Chapter 9 provides procedural guidance in the event of the discovery of human remains. Enforcement of the Archaeological Resources Protection Act is discussed in Chapter 10.

Chapter 11 contains information concerning fire protection and the post-fire treatment of cultural resources. Resource interpretation and public access are addressed in Chapter 12.

Abbreviations and acronyms used throughout the CRMP are defined in Chapter 13, and Chapter 14 provides references cited in the text. Pertinent documentation relating to cultural resources management at Pillar Point AFS are provided in the appendices.

1.2 PAST AND FUTURE DIRECTIONS FOR THE CULTURAL RESOURCES MANAGEMENT PROGRAM

1.2.1 Summary of Previous Cultural Resources Management

Inventory and evaluation of cultural resources on Pillar Point AFS was completed in early 2005. Two prehistoric archaeological sites have been recorded on the installation; one of these is listed on the National Register of Historic Places (NRHP). All 39 buildings or structures on the installation have been inventoried and evaluated. As of April 2009, three consultations have been conducted with the California State Historic Preservation Officer (SHPO), all regarding Cold War resources. The first was conducted by 30 CES/CEANN in 1996–1997 for removal/replacement of a radar antenna (Facility 22). The second was conducted in 1999 by 30 CES/CEANN for demolition of the north end of Facility 17 in association with preparation of an Environmental Assessment (EA) for road repair. The third was conducted in 2008 by 30 CES/CEANN to support the Western Range Instrumentation Modernization Project. As necessary, 30 CES/CEANN will consult with SHPO regarding prehistoric or World War II resource. Currently, there has been no SHPO consultation regarding prehistoric or World War II resources on Pillar Point AFS.

1.2.2 Objectives of the Management Program

The Pillar Point CRMP is an integral part of the Base Comprehensive Plan (BCP) for Vandenberg AFB (see AFI 32-7062, *Base Comprehensive Planning*). Installations are required to review and update the cultural resources management plan annually and integrate it into the BCP. Major Command (MAJCOM) approval is to be obtained every 5 years.

Because cultural resources inventory and evaluation on Pillar Point AFS has been completed, efforts over the next five years will be focused primarily toward managing the station's existing resources in accordance with the management guidelines outlined in this document. Actions such as maintenance and repairs of existing buildings or subsurface utility lines, controlled burns, fire suppression, or structure demolition or construction could affect cultural resources. Treatment of existing resources that may be identified in the future should follow the guidelines in this CRMP and in appropriate volumes of the Vandenberg ICRMP. It is also possible that additional resources may be identified, particularly in the undeveloped area of the station. These also will be treated in accordance with the procedures in this CRMP and the Vandenberg ICRMP. It is essential that the appropriate, authorized contractors who operate and maintain the station, as well as 30 CES/CEANN personnel, have access to this CRMP. Equally important to the success of this management program is clear communication between these two groups.

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HISTORICAL OVERVIEW AND GENERAL INFORMATION

This chapter of the Pillar Point CRMP provides background information for managers working with cultural resources on the station. A brief description of the setting and historical context of the installation is provided. The final section of this chapter is primarily addressed to contractors and other personnel who may not be familiar with cultural resources. It contains a discussion of the nature and importance of cultural resources, what kinds of resources are found at the station, and an overview of how they are managed in the context of Pillar Point and the Air Force.

2.1 LOCATION AND SETTING

Pillar Point AFS is a radar tracking station that provides support for polar-orbiting space satellite and operational intercontinental ballistic missile launches from Vandenberg AFB. The station houses radar, command control, meteorological, and telemetry systems. Pillar Point AFS is located in northwestern “coastside” (as opposed to “bayside”) San Mateo County, approximately 40 miles north of Santa Cruz and 20 miles south of San Francisco. It occupies 54.83 acres of Pillar Point, a coastal peninsula near the town of Half Moon Bay (see Figure 1-2). The approximately 0.3-mile-wide by 0.25-mile-long peninsula ranges in elevation from 80 to 180 feet above mean sea level and is connected to the mainland by a narrow isthmus along its northeastern side (SBMNH 2000:11). The top of the peninsula is fairly level, with steep cliffs defining the west and south. The north and east margins slope down into the Princeton Marsh. Sandy beaches are present at the base of the cliffs around the northwest and south sides of the peninsula.

Immediately to the east is Pillar Point Harbor, a commercial fishing port and popular sailing area. The unincorporated community of Princeton-by-the-Sea lies just above the neck of the isthmus. Other nearby communities includes El Granada, Half Moon Bay, and Miramar along the coast below the point as well as Seal Cove, Moss Beach, and Montara to the north (Tetra Tech 1999).

The main or improved portion of Pillar Point AFS is the southern half of the facility (see Figure 1-3). This area is fenced with a guard structure and gate at the northern end. The facilities and improvements on the northern, unfenced portion of the station include a paved access road, a radar transmitter building and tower, and an abandoned wooden antenna support structure (PQ-6 Range Target) (Cole and Cagle 1995). Improved and semi-improved lands at the station encompass about 10 acres, with a total of 39 buildings and related outbuildings. Unimproved lands outside the fenced compound total about 47 acres, including a 40-foot easement along the paved road from the gate to the harbor entrance. The Air Force also maintains water and other utility lines on the unimproved portion of the station.

Pillar Point AFS is located within the Coast Ranges geomorphic province of California and is part of the Salinian Block, whose eastern boundary is the San Andreas fault, located 7 miles to the east. The immediate area is crossed by the San Gregorio fault, also called the Seal Cove fault,



Figure 2-1 Slide area in the western portion of Pillar Point AFS, view to east. This slide threatens Facility 17 at upper right (photographed by J. Carucci, 1998).

as well as other smaller related faults. Bedrock is of the Purisima Formation, a Pliocene-age marine conglomerate with fine-grained sandstone, mudstone, and shale. Soils are of the highly erosive Tierra formation. These clay loams and sandy loams have a high potential for cliff retreat and landslides (Fugro West 1998; Tetra Tech 1999:3-1–3-2). Artificial fill material is also present, primarily within the developed area of the station.

A wide diversity of plant communities is present on Pillar Point AFS. The vegetation on the interior station slopes is coastal terrace prairie, consisting mainly of grasses and other herbaceous species. This plant community is also present on the north-facing slopes behind the main facilities and on the isthmus south and east of West Point Road. Near the center of the station within the fence, Monterey cypress and myoporum have been used for landscaping. On the relatively undisturbed areas around the coastal bluffs, a well-developed coastal scrub community occurs. This community also appears on the top of the coastal terrace and isthmus but has been suppressed here by mowing, and coastal terrace prairie and introduced grasses have taken over. In those areas, as well as along roads and trails, introduced annuals are well established. Coastal swale habitat is present along the upper gully following the spine of the peninsula. Willow scrub thickets occur around the main stream channel feeding Princeton Marsh, including the gully between the marsh and the paved access road to the radar tower and a portion of the isthmus.

Freshwater marsh is present in patches along West Point Road. Finally, introduced grassland has replaced native vegetation within a large section of the cantonment (SBMNH 2000:19–27).

The diverse habitats on and around the station support a correspondingly wide variety of fauna. The Pillar Point AFS Integrated Natural Resources Management Plan (SBMNH 2000, revision in draft) lists 5 species of amphibians, 14 reptiles, 94 bird and 32 mammal species as having been sighted or expected, based on range and habitat availability, in the vicinity of the station. The immediate proximity of the Princeton Marsh and the areas of coastal swale and freshwater marsh undoubtedly contribute to the exceptionally large number of animal species in the vicinity.

2.2 HISTORICAL PERSPECTIVE AND PREVIOUS LAND USE

2.2.1 Pillar Point before the Air Force

The Pillar Point peninsula was originally part of the Rancho Corral de Tierra. This land was granted by Mexico to Francisco Guerrero Polamares. The peninsula was used primarily for farming and grazing until October of 1940, when the U.S. Army bought 12.68 acres on Pillar Point. The main concern was that the Japanese would attack San Francisco, and the Army wanted to use the site as an artillery observation post. One structure and several objects at Pillar Point AFS are related to World War II, including concrete markers and a bunker (Facility 6). The Army's Pillar Point installation was deactivated after the war (SBMNH 2000:4).

The site was re-activated in 1959 when it was transferred from the Army to the Navy and used as a command and control facility for the Regulus missile. The Regulus was a nuclear-armed, surface-to-surface missile launched from cruisers or submarines. The Navy also used the site to support the Minuteman I missile program in 1962 (SBMNH 2000:4).

The control and property title to the Pillar Point installation was transferred to the Air Force in 1964, and construction of tracking operations facilities began. The Air Force has been administering Pillar Point AFS since 1965.

2.2.2 Pillar Point and the Western Range

Pillar Point AFS is a part of the Western Range, which extends from the California coast west to the Indian Ocean. In conjunction with other test ranges, the Western Range provides continuous and complementary instrumentation coverage over a large portion of the Pacific Ocean. It is managed by the U.S. Air Force 30th Space Wing (Federation of American Scientists 1999). From 1959 to 2003, the Western Range instrumentation sites were operated and maintained by ITT Industries, Inc. Beginning in October 2003, the contract was held by InDyne, Inc. and Northrup Grumman's IT Division.

The 30th Space Wing is headquartered at Vandenberg AFB. The Headquarters Air Force Western Test Range (AFWTR) was established at Vandenberg AFB in 1964. In 1965, AFWTR was given responsibility for Intercontinental Ballistic Missile (ICBM) and space support functions that had been previously assigned to the Navy's Pacific Missile Range. This transfer involved taking over fixed and mobile range sites at Point Arguello, California; Pillar Point, California; Kokee Park and South Point, Hawaii; Canton, Midway, and Wake Islands in the mid Pacific; Eniwetok and Bikini Atolls in the Marshall Islands; and six range-instrumented ships.

These and more recently added ships were decommissioned and most of the fixed instrumentation sites were transferred to other agencies by 1975 as land-based tracking and monitoring systems became more accurate and reliable.

Currently, the downrange portions of the Western Range include sites on the Hawaiian Islands and the Kwajalein Atoll in the Marshall Islands. The uprange or California sites are at Santa Ynez Peak (Vandenberg AFB), Anderson Peak (Monterey County), and Pillar Point AFS. Naval facilities at Point Mugu and Laguna Peak (Ventura County) and San Nicholas Island, offshore from Point Mugu, give additional support (Vandenberg AFB 2005).

2.2.3 Air Force Development and Use of Pillar Point to the Present

Between 1967 and 1972, the facility was upgraded to support the Minuteman II missile program and most of Pillar Point's current infrastructure was established. The Air Force acquired an additional 42.15 acres of privately owned land on the Pillar Point peninsula by condemnation in 1979. These were added to the originally purchased 12.68 acres of the station (SBMNH 2000:4). While the site's external physical layout has not changed significantly since 1972, the interior hardware and systems have been constantly upgraded to support subsequent space and ballistic missile testing programs, including space and ballistic missile testing programs at Vandenberg AFB and aeronautical tests conducted at Edwards AFB and the Naval Air Warfare Center at Point Mugu, California (Cole and Cagle 1995:13–19; SBMNH 2000:4; Vandenberg AFB 2005).

2.3 CULTURAL RESOURCES MANAGEMENT AT PILLAR POINT AFS

2.3.1 Definition of Cultural Resources

The Air Force defines cultural resources as “ ‘historic properties’ as defined in the *National Historic Preservation Act (NHPA)*, Title 16, United States Code, section 470, *et seq.*, (16 U.S.C. §470, *et seq.*; ‘cultural items’ as defined in the *Native American Graves Protection and Repatriation Act (NAGPRA)*, 25 U.S.C. §§3001-3013; ‘archaeological resources’ as defined in the *Archaeological Resources Protection Act (ARPA)*, 16 U.S.C. §§470aa-470mm; and ‘sacred sites’ as defined in Executive Order (E.O.) 13007, *Indian Sacred Sites*, May 24, 1996. Cultural resources are often generally referred to as ‘heritage resources.’ ‘Historic properties’ are cultural resources that are eligible for listing to the National Register of Historic Places (National Register)” [AFI 32-7065:4]. The resources rest in or on the ground, and might include the following kinds of sites actually present on or near Pillar Point AFS:

- Prehistoric sites with scatters of stone tools and shellfish remains, or a village site complete with shell beads, ground stone tools, and a cemetery;
- Historical resources, such as the remains of a World War II era bunker, early road or trail, or a trash scatter with metal, ceramics, and glass;
- Native American traditional cultural properties, such as plant collection or ceremonial areas; or
- More recent historical structures or buildings considered significant because of their association with specific persons or events important in history, or because of their

distinctive characteristics or high artistic values, such as highly technical facilities associated with the Cold War era.

Cultural resources provide a valuable record of past human activity, much of which cannot be found in any written records. To understand what happened in the past, scientists study the objects left behind. But they also need to know the exact location where the objects were found (their context) in order to piece together the picture of the past. For this reason, it is important that items not be removed from their original locations and that portions of sites not be removed or destroyed. No two sites are alike, and they are nonrenewable: once site materials or their contextual information are destroyed, they can never be recovered and the information they might have provided is gone forever.

2.3.2 Inventory of Cultural Resources

The Air Force has completed its inventory and evaluation of cultural resources on Pillar Point AFS. As a result of previous surveys, three archaeological sites were originally recorded on the station. These are CA-SMA-109/H, -151, and -347. Prehistoric site CA-SMA-151 is listed on the NRHP. Prehistoric site CA-SMA-347 has been evaluated as ineligible for the NRHP. Recent subsurface testing has shown that multicomponent site CA-SMA-109/H is located entirely on private land adjacent to the station.

All 39 buildings or structures on the installation have been inventoried and evaluated. Facility 6 is a World War II bunker that has been evaluated as not eligible for inclusion on the NRHP. The remaining 38 buildings or structures were constructed during the Cold War era. Four of the Cold War era facilities (14, 18, 22, and 40) are considered NRHP-eligible as contributing elements to the proposed Western Range Landbased Instrumentation Support Systems Historic District (WRLISSHD).

2.3.3 Potential of Air Force and Contractor Activities to Affect Cultural Resources on Pillar Point AFS

30 CES/CEANN manages cultural resources on Pillar Point AFS. Many Air Force and contractor actions have the potential to affect cultural resources on the station. These include routine maintenance and repairs of structures, instruments (such as the radar tower), and subsurface utility lines; construction of new facilities and placement of new utility lines such as water and fiber-optic cable (especially in the undeveloped area of the station); placement of fire breaks and fire suppression activities; and utility maintenance along the road easement. All of these actions require that an AF Form 332 and/or AF Form 813 be submitted to 30 CEV/CEANN to ensure that cultural resources are not inadvertently affected and to ensure compliance with federal laws and Air Force directives and guidelines. The InDyne, Inc. Station Manager is responsible for submitting the appropriate environmental documents needed for maintenance and operations activities at Pillar Point AFS. These documents are reviewed by 30 CES/CEANN to ensure the protection and treatment of cultural resources that may be affected by Air Force undertakings. Treatment of resources then proceeds in accordance with the guidelines in the Pillar Point CRMP and the Vandenberg ICRMP.

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3 LEGAL REQUIREMENTS

3.1 FEDERAL

Because it is one of the instrumentation sites that support the Air Force Space Command and is managed by Vandenberg AFB, Pillar Point AFS is subject to the same laws, regulations, and guidelines applicable to environmental and cultural resources at Vandenberg AFB. The 30 CES/CEANN personnel who manage cultural resources at Vandenberg AFB also manage those at Pillar Point AFS.

Cultural resources on federal lands are protected by an array of over 200 complex and interacting federal laws, regulations, and implementing guidelines which, taken together, result in strong legal mandates for historic preservation. For the purpose of this CRMP, the most relevant of these are the National Historic Preservation Act (NHPA) of 1966 as amended, and implementing regulations found at 36 Code of Federal Regulations (CFR) 800; the regulations governing the NRHP (36 CFR 60); the National Environmental Policy Act (NEPA) of 1969; the Archaeological Resources Protection Act (ARPA) of 1979; the regulations governing curation of federal archaeological collections (36 CFR 79); the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 and implementing regulations (43 CFR 10); the American Indian Religious Freedom Act (AIRFA); and AFI 32-7065.

The Department of Defense is committed to protecting America's heritage, and it considers its cultural resources as significant national assets. Section 110 of the NHPA requires that the heads of all federal agencies assume responsibility for the preservation of historic properties owned or controlled by the agency. The intent of Section 110 is to "ensure that historic preservation is fully integrated into the ongoing programs and missions of federal agencies" (National Park Service 1998:20499). The Pillar Point CRMP derives from Vandenberg AFB's need to meet this responsibility.

It is important that Air Force cultural resources managers and contractors alike have a solid working knowledge of all applicable statutes, regulations, directives, and other published authorities. To assist the Air Force in implementing this maze of requirements, Chapter 3 of the ICRMP, *Legal Authorities* (Moratto 2002), is a comprehensive compilation and discussion of the legal authorities most relevant to cultural resources management on Vandenberg AFB and the off-base lands under its jurisdiction. The relevant case law for each authority is summarized, and copies of the various legal authorities are provided in the volume's appendices. A separate chapter is devoted to listing the technical guidance available for the relevant federal authorities, laws and regulations. Taken together, the summaries, discussions, and guidance in Chapter 3 of the ICRMP provides legal reference material and practical direction for anyone involved with cultural resource compliance on Vandenberg AFB or its peripheral installations. This material is directly applicable to all cultural resources management tasks and issues at Pillar Point AFS.

Chapter 4 of this CRMP contains detailed information about how the most relevant of these laws and regulations are implemented during cultural resources management activities on Pillar Point AFS. Specifically, it addresses the NEPA, the NHPA, and the Section 106 process.

For the purposes of this document, one of the most important of the applicable laws is the ARPA and its related regulations. The ARPA and its basic legal ramifications and penalties are summarized in Chapter 10 and addressed in more detail in the Chapters 3 and 12 of the Vandenberg ICRMP.

The confidentiality of archaeological information also is addressed in the ARPA, which states that the nature and location of any resource for which excavation or removal requires a permit under the ARPA may not be made available to the public except in very specific circumstances. These circumstances would include a determination by the Federal Land Manager responsible for the resource that the disclosure of the information would not create a risk of harm to the resource.

In practical terms, the effect of this law is that any person who intentionally disturbs or removes materials from cultural sites on Pillar Point AFS without a permit, or who informs other individuals about the location of such sites, may be prosecuted and fined or jailed.

3.2 STATE

Federal undertakings located entirely on Pillar Point AFS are not subject to compliance with California's environmental and historic preservation laws because the Air Force has not waived sovereign immunity for this installation. However, if Federal undertakings originating on Pillar Point AFS extend onto lands owned by private individuals, local governments, or the State of California, those portions of the Federal undertaking beyond the boundary of Pillar Point AFS may fall under the purview of state laws and guidelines relating to the management of cultural resources in California. While this CRMP acknowledges that these situations are rare, it exercises prudence by recognizing State and local government authority and jurisdiction beyond the borders of Pillar Point AFS. For undertakings that may extend beyond the boundaries of the installation, a joint NEPA/CEQA document may be required. Agencies following the NEPA and/or NHPA compliance process would satisfy both federal and state mandates, as applicable, with respect to cultural resources.

Beyond the CEQA, the California PRC creates and empowers the State Historic Resources Commission, Office of Historic Preservation, California Register of Historical Resources, and SHPO. These entities have assisted in the evaluation of NRHP nominations, negotiation of Programmatic Agreements (PAs), and review and comment on draft cultural resources management plans (such as the ICRMP), and the oversight of work done to satisfy Section 106 and other portions of the NHPA.

The Native American Heritage Commission (NAHC), established and charged by California PRC 5097.91–5097.97, also may exert considerable influence over the treatment of cultural resources at Vandenberg AFB, particularly with respect to the management of Native American sacred sites, burials and cemeteries, and other significant cultural sites.

Lastly, sections of the California PRC, Health and Safety Code (H&SC), and Penal Code (PC) proscribe (absent the authority of law) the removal of Native American artifacts or human remains from a grave; disturbance of a cemetery; damage or destruction of anything of historical or archaeological interest or value; damage to a cave or its contents; or theft of articles from a dead body. Criminal sanctions imposed by the state codes may supplement those provided for in federal law (Moratto 2002:4.10).

3.3 LOCAL

Again, for Federal undertakings originating on Pillar Point AFS and extending onto lands owned by private individuals, local governments, or the State of California, those portions of the Federal undertaking beyond the boundary of Pillar Point AFS may fall under the purview of local regulation. Two documents address cultural resources in San Mateo County at the local level. The first is the San Mateo County General Plan, which cites Section 65303(J) of the California Government Code that permits the inclusion in a general plan of “a historical preservation element for the identification, establishment and protection of sites and structures of architectural, historical, archaeological or cultural significance” and states that a program to implement policies will be part of the element. Chapter 5 of the General Plan, “Historical and Archaeological Resources: Background and Issues,” discusses the purpose and function of preserving cultural resources; examines the benefits of preservation; describes methods for protecting these resources; analyzes preservation issues and provides policies to guide the implementation of resource preservation. It also provides inventories of architectural styles found in San Mateo County and important historical resources that are a product of the county’s heritage (San Mateo County 1986).

The second county document that addresses cultural resources, *Coastside Cultural Resources, An Approach to Developing a Protection Program for the San Mateo County Coastal Zone*, was prepared in 1980 by the Department of Environmental Management, San Mateo Planning Division. This document outlines a coastside cultural resources protection program that was developed to supplement the 1980 San Mateo County Local Coastal Program. This program focused primarily on the protection of agricultural, open space, and scenic resources but did not address the impact of new development on historically or culturally important resources. For this reason, the County Planning Department developed a model program for the preservation of cultural resources in the coastal zone. The preservation plan outlined in this document contains: (1) the identification of the region’s historical function(s); (2) criteria for determining cultural significance; (3) an inventory of cultural resources; and (4) an implementation program for their protection. The program focuses primarily on the designation of scenic corridors that would preserve not just man-made features, but an area “large enough to sustain the qualities of the vast, open landscape that is so essential in maintaining the traditional character of the small towns and villages, farmsteads, and historical and cultural structures” (San Mateo County 1980:80).

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4 BUSINESS PLAN

Pillar Point AFS is operated and maintained by on-site contractors who are responsible for complying with all its applicable environmental and cultural resources laws, regulations and guidelines. However, the cultural resources on Pillar Point AFS are managed by 30 CES/CEANN, the same personnel who manage these resources at Vandenberg AFB. The Vandenberg ICRMP Chapter 2, *Business Plan*, describes staffing requirements, responsibilities, program funding, training requirements, and security of confidential data for the 30 CES/CEANN (Gerber 2002). Important contacts and other useful information for cultural resource managers on Vandenberg AFB are included, as is a bibliography of reference materials cited in the chapter. The *Business Plan* is intended to be useful to new employees within the Vandenberg AFB cultural resources functional group and to provide guidance to current employees and Air Force customers.

The guidance and instructions in the *Business Plan* apply directly to management of cultural resources at Pillar Point AFS. The same project management guidelines are used, records and files are kept at Vandenberg AFB in the same location as those for Vandenberg AFB's cultural resources, and program funding is accomplished through the same procedures. Explicit plans for integration of the management of cultural resources on Pillar Point AFS with the management of natural resources, installation remediation, and operations are not provided. Cultural resources management issues arising from all other activities on the station will be addressed on a case by case basis through the project review process depicted in Figure 4-2.

Because Chapter 2 of the existing ICRMP for Vandenberg AFB provides complete instructions for cultural resource managers, whether the project is at Vandenberg or Pillar Point, those instructions are not duplicated here. However, on-site contractors at Pillar Point AFS must coordinate closely with Vandenberg's environmental personnel. It is important for these contractors to understand the key elements of the Environmental Impact Analysis Process (EIAP), the process by which the Air Force implements the NEPA. For this reason, these procedures are summarized as they relate to projects at Pillar Point. Standard Operating Procedures (SOPs) are included for use by station personnel to ensure compliance with federal cultural resources laws, regulations, and instructions.

In order to ensure that Pillar Point AFS contractors have access to the SOPs regarding cultural resources, copies of the Pillar Point CRMP and Chapter 2 of the Vandenberg ICRMP will be kept on site for reference by both the Pillar Point AFS Station Manager and the station's environmental coordinator. Copies of these documents also will be made available to the contractor's environmental coordinator at Vandenberg AFB.

4.1 CULTURAL RESOURCES, PILLAR POINT, AND THE AIR FORCE MISSION

The Pillar Point facility is a tracking station whose mission is to provide support for polar-orbiting space satellite and operational intercontinental ballistic missile launches from

Vandenberg AFB. The program goals of the Air Force with regard to the Pillar Point AFS are to comply with cultural resources legislation and properly manage known cultural resources. The 30th Civil Engineering Squadron, Natural Assets Management Flight, (30 CES/CEANN), and Program Planning Section (30 CES/CEAOP) , supports the missions of the 14th Air Force (AF) and Headquarters Space Command (HQ AFSPC) by protecting and enhancing the natural and cultural environment on Vandenberg AFB. The 30 CES/CEANN staff strives to be the nation's foremost environmental management team.

Consistent with a nationwide conservation ethic in cultural resources management, preservation of cultural properties is the preferred strategy on Pillar Point AFS. When archaeological studies occur early in the planning stages of an undertaking, it often is possible to design the undertaking to avoid disturbing or damaging cultural properties without the project proponent incurring significant costs. Alternative designs that avoid or minimize effects on such properties are the preferred treatment option. The Air Force consults with the SHPO and local Native American representatives to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties (36 CFR 800.6[a]).

In some cases it is possible to minimize effects through project design or redesign to the point that there is no adverse effect, even though the site is not avoided. When it is not possible to avoid or minimize effects on a historic property, the base supports archaeological or other studies to recover important information that otherwise would be lost.

4.2 TYPES OF UNDERTAKINGS

Pillar Point AFS hosts multiple land uses related to its military mission, proximity to public lands and the Fitzgerald Marine Reserve, and the various support services necessitated by these functions. Typical undertakings related to these uses include building maintenance, repair, demolition, and construction; road maintenance and repair; water and sewer line repairs and replacement; and replacements and upgrades of fiber-optic lines and other utilities and infrastructure. Such activities may be performed by Air Force personnel or by civilians under contract. In either case, they are subject to review under NEPA, Section 106 of the NHPA, and Air Force regulations.

Some undertakings may not be related directly to building, construction, or similar activities. Actions related to wildland fire prevention and suppression, for example, are not directly related to other development work. Similarly, some cultural resource projects conducted in response to various legal requirements may be considered undertakings. Such projects might include determining the condition of sensitive and threatened sites under Section 110 of the NHPA, monitoring vandalism to historic properties under ARPA, or inventorying existing collections and addressing the discovery of human remains under NAGPRA.

4.3 THE NATIONAL ENVIRONMENTAL PROTECTION ACT (NEPA) AND THE ENVIRONMENTAL IMPACT ANALYSIS PROCESS (EIAP)

Federal actions conducted on an Air Force installation are subject to NEPA. The Air Force complies with NEPA under 32 CFR Part 989, *Environmental Impact Analysis Process*. 30 CES/CEANN and 30 CES/CEAOP coordinate the EIAP by reviewing all proposed federal

actions to be conducted on Pillar Point AFS to determine the necessary level of environmental analysis and to assist project proponents with the NEPA compliance process.

Additionally, all federal undertakings, as defined by 36 CFR 800.16(y), are subject to the NHPA. Section 106 of the NHPA directs federal agencies to consider the effects of their undertakings on historic properties—sites, buildings, structures, objects, or districts listed in, or eligible for listing in, the NRHP.

As defined by the Advisory Council on Historic Preservation (ACHP), an undertaking is:

a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval [36 CFR 800.16(y)].

4.4 THE NATIONAL HISTORIC PRESERVATION ACT AND THE SECTION 106 PROCESS

As stated above, federal actions conducted on an Air Force installation are subject to the NEPA and may be required to undergo the EIAP. Additionally, federal undertakings as defined at 36 CFR 800.16(y), are subject to Section 106 of the NHPA. Frequently, cultural resource preservation procedures of the NHPA are combined with NEPA requirements to fully document the environmental impact. The basic steps in the Section 106 process include identification and evaluation of historic properties, assessment of adverse effects, and consultation to resolve adverse effects. These steps are typically accomplished through background research, consultations with various stakeholders, on-the-ground inventories, evaluations of NRHP eligibility, and assessments of project-related effects. A variety of treatment options may be applied to resolve adverse effects.

The steps in the Section 106 process are described in more detail below. Figure 4-1 illustrates the basic Section 106 process in the context of project management on Pillar Point AFS. Additional information about the Section 106 process and cultural resources project review is provided in Vandenberg ICRMP, Chapters 2, 3, 9, 11, and 12.

4.4.1 Identify Historic Properties

If a federal undertaking (as defined in 36 CFR 800.16[y]) could affect historic properties, the federal agency determines the scope of appropriate identification efforts and proceeds to identify historic properties in the project's Area of Potential Effects (APE). If questions arise about the eligibility of a given property, the agency may seek a formal determination of eligibility from the National Park Service (NPS). If the agency finds that no historic properties are present or affected, it provides documentation to the SHPO and, barring any objection in 30 days, proceeds with its undertaking. If the agency finds that historic properties are present, it proceeds to assess possible adverse effects.

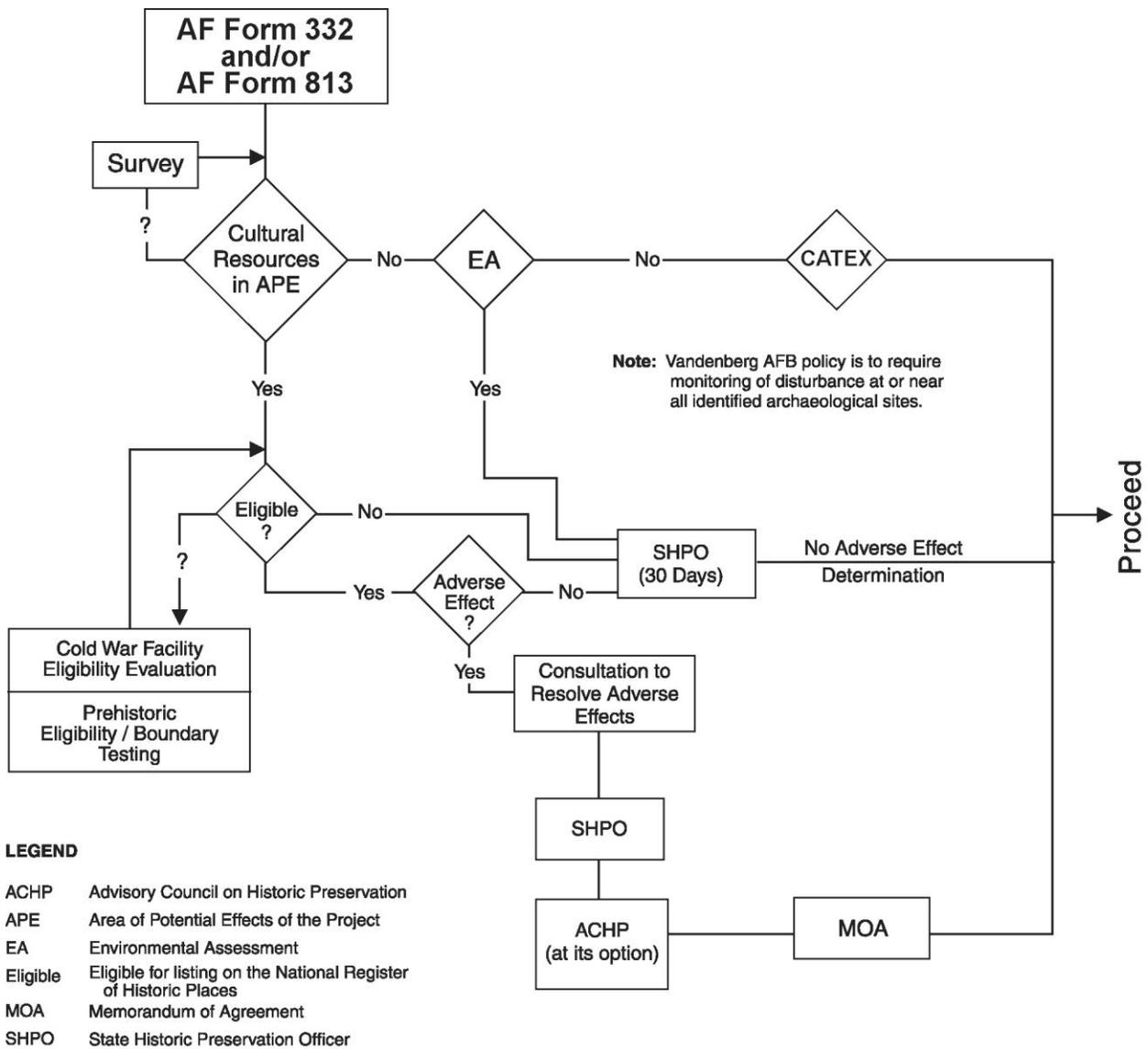


Figure 4-1 Steps in the Section 106 process.

4.4.2 Assess Adverse Effects

The agency, in consultation with the SHPO, assesses the adverse effects on the identified historic properties based on criteria found in the ACHP’s regulations. If SHPO agrees that there will be no adverse effect, the agency proceeds with the undertaking and any agreed-upon conditions. If SHPO finds that there is an adverse effect, or if the parties cannot agree and the ACHP determines within 15 days that there is an adverse effect, the agency begins consultation to seek ways to avoid, minimize, or mitigate the adverse effects.

4.4.3 Resolve Adverse Effects

The agency consults with the SHPO and others, which may include Indian tribes, local governments, permit or license applicants, and members of the public, to resolve adverse effects. The ACHP may participate in consultation when there are substantial impacts to important cultural resources, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes. Consultation usually results in a Memorandum of Agreement (MOA), which outlines agreed-upon measures that the agency will take to resolve the adverse effects. If an MOA is executed, the agency proceeds with its undertaking under the terms of the MOA. If consultation proves unproductive, the agency or the SHPO, or the ACHP itself, may terminate consultation. If the SHPO terminates consultation, the agency and the ACHP may conclude an MOA without SHPO involvement.

4.4.4 Native American Review

Section 106 regulations place major emphasis on consultation with Indian tribes, in keeping with the 1992 amendments to the NHPA. Even if an Indian tribe has not been certified by the NPS to have a Tribal Historic Preservation Officer (THPO) who can act for the SHPO on its lands, the tribe must be consulted about undertakings on or affecting its lands on the same basis and in addition to the SHPO. Currently, there is no appointed THPO for the tribes affiliated with Pillar Point AFS.

Consultation is initiated at various steps along the Section 106 process. At the identification phase, agencies are required to seek information from Native American tribes who may have knowledge of historic properties in the area or who may be concerned about such properties. If historic properties are found within the APE and if it is determined that an adverse effect will occur, tribes are again consulted to find ways to make the undertaking less harmful. The Native American tribes also may be signatories or concurring parties to any MOA executed to resolve the adverse effects of a project.

4.5 PROJECT MANAGEMENT AND REVIEW PROCESS

Various types of project review occur, including early project planning and design review and environmental impact analysis review as well as project review related to Section 106, ARPA, or NAGPRA compliance. Further information on project management and review is provided in Vandenberg ICRMP Chapter 2. Below is a brief summary of the various review processes.

4.5.1 Early Project Planning and Design Reviews—Standard Operating Procedures

Initial project scoping usually begins with the proponent's submittal of a Base Civil Engineer Work Request (AF Form 332). The proponent completes the form and submits it to the 30th Civil Engineer Squadron, Customer Service, Facility Maintenance (30 CES/CEOSC, formerly 30 CES/CEOFB). The form includes a description of the work, a legible map, and basic information about the action that allows for an evaluation of the approximate level of project-related environmental impacts. The work request form is not exclusively an environmental form but is used for any work that is to be conducted on Pillar Point. This includes, but is not limited to, all ground disturbing activities (including archaeological

excavations) as well as any construction or modification of Air Force property; it is not required for archaeological surface surveys. 30 CES/CEOSC first routes the AF Form 332 to the Civil Engineer Planning Office (30 CES/CEAOP, formerly 30 CES/CEVPP).

After receipt of AF Form 332, the 30 CES/CEAOP passes it along to the Chief of Cultural Resources for review and comment. In many cases, the chief can make an immediate decision that the project will not affect cultural resources, and the AF Form 332 is returned to 30 CES/CEAOP with that comment. If, however, the chief determines that the action has the potential to affect cultural resources, then the project is assigned to a staff archaeologist who will manage all cultural resource issues for the project until its completion.

If enough environmental issues are identified during the initial project planning or review of the AF Form 332 and the proponent decides to proceed with the proposed project, the proponent may be required to complete a Request for Environmental Impact Analysis (AF Form 813). For those projects in which environmental issues are known prior to initial scoping, a proponent may skip the early planning review (discussed above) and submit the AF Form 813 in place of AF Form 332. AF Form 813 is circulated to the interdisciplinary technical staff, including 30 CES/CEANN, to solicit comments about the needed level of environmental analysis.

Upon receiving the AF Form 813, the Chief of Cultural Resources routes it to the previously assigned project manager or, if the AF Form 813 is the first form received for the project, assigns the project to a staff person. The project manager conducts a review to assess the level of effort needed to satisfy Section 106 requirements for the proposed project. Based on the project description and maps, the project manager determines the Area of Potential Effects (APE), if possible. Depending upon the nature and complexity of the project, sufficient research is conducted to determine (1) if the project area has been inventoried for cultural resources, (2) whether any previously identified cultural properties are within or near the project's APE, (3) the NRHP status of any potentially affected properties, and (4) what additional work, if any, is required to answer these questions. As with AF Form 332, the information is given to 30 CES/CEAOP in the form of written comments.

When all comments are returned to 30 CES/CEAOP, they are attached to the AF Form 332 or AF Form 813 and a decision is made that the project either (1) qualifies for a *categorical exclusion* (CATEX) from further study, as stipulated under 32 CFR 989, Appendix B, or (2) requires mitigation (i.e., monitoring or testing) or completion of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). 30 CES/CEAOP's decision is documented on the AF Form 332 and/or AF Form 813, a copy of which is then returned to the proponent, who notifies 30 CES/CEAOP staff of whether they choose to proceed with the action.

If the proponent decides to proceed and it has been determined that some form of mitigation is required, including, but not limited to, an EA or EIS, 30 CES/CEANN may assist the proponent in developing a statement of work (SOW) for the project. Depending on the scope of the project, funding for the EA or EIS may be the proponent's responsibility. The SOW for the project is derived from information in the AF Form 332 and/or AF Form 813, with additional input (as needed) from specific functional elements.

4.5.2 Required Documentation

Various environmental documents may be required in support of projects on Pillar Point AFS. To satisfy the NEPA, these may include an EA or EIS, which would require a signed Finding of No Significant Impact (FONSI) or Record of Decision (ROD), respectively, before the project could proceed. A Finding of No Practicable Alternative (FONPA) also may be required for projects at Pillar Point AFS due to the wetland nearby.

During the EIAP, 30 CES/CEAOP provides a draft environmental document to appropriate functional groups (including 30 SW/JA) for review. Cultural resources personnel evaluate their portions of the document for completeness, accuracy, and appropriateness of recommendations. Because the EA and EIS are public documents, the project manager checks to make sure that any maps or other information that indicate the location of cultural resources are in a separately bound appendix that is not made available to the public. The 30 CES/CEANN project manager provides detailed and timely written review comments to 30 CES/CEAOP. These are forwarded to the document's preparers and incorporated into the final document.

The same process of SOW development and implementation described above is used to implement any mitigation measures specified in the final EA or EIS. These measures are documented in the FONSI or Record of Decision (ROD), respectively.

4.5.3 Timelines

The ideal timing and phasing of Section 106 compliance with the NEPA review is outlined in Vandenberg ICRMP, Chapter 3. In summary, the recognition of an undertaking, designation of an APE, and assessment of information should take place during the initial scoping phase of the EIAP—the analysis of AF Form 332 and/or AF Form 813. The draft EA or EIS preparation phase is theoretically when the identification and evaluation of historic properties within the APE and determination of effect are completed. Support for a CATEX or EA and FONSI would be provided by the review of effect determination, consultation to resolve adverse effect, and ACHP comment or execution of an MOA. NEPA review of a draft EIS would be coincident with Section 106 review of an effect determination. Consultation to resolve any adverse effect would be required for both an EA and an EIS.

SHPO consultation might occur at several points within the NEPA and Section 106 review process. At each consultation point, prescribed amounts of time are allowed for the SHPO to respond to the Air Force. The entire time line can extend for months. However, for most projects with relatively straightforward cultural resource issues, this consultation process is compressed, streamlining the compliance process for Air Force proponents and lessening the review burden for the SHPO. In the compressed process (after all the necessary cultural resources studies are complete and documents are finalized), the project manager corresponds with a SHPO staff member via e-mail prior to preparing a single letter to the SHPO. Attachments are included as necessary to completely describe the compliance process, results, and recommendations, and the entire package is reviewed by the Chief of Cultural Resources and Office of the Staff Judge Advocate prior to being signed by the 30 CES/CEA Commander and forwarded to the SHPO.

Vandenberg ICRMP, Chapter 2, Appendix B provides selected guidelines for the Section 106 process. Included is a short list of some of the more common types of projects and the approximate amount of time each requires to complete the Section 106 process. A table of Section 106 actions and proposed time limits at various points of consultation is provided on page 3-40 of the *Department of Defense Management of Cultural and Natural Resources Air Force Module Reference Guide and Workshop Manual*, also included in Appendix B of Vandenberg ICRMP Chapter 2.

4.6 INTEGRATION WITH THE BASE COMPREHENSIVE PLAN GEOGRAPHIC INFORMATION SYSTEM

The Air Force is required to maintain current maps showing locations of all cultural resource assets per Air Force Policy Directive 32-70. The Vandenberg BCP Geographic Information System (GIS) is an electronic database containing archaeological site location information in relation to other natural and cultural features on Pillar Point AFS. These features include topography, hydrological features, electric lines, airfields, roads, railroads, fences, property boundaries, and fire burn footprints. The maps are reviewed and updated as necessary.

THE DATABASE IS ACCESSIBLE VIA THE GRAPHIC USER INTERFACE. HOWEVER, THIS INFORMATION IS CONFIDENTIAL AND NOT FOR GENERAL USE. THE GIS SYSTEM ADMINISTRATOR, A 30TH CIVIL ENGINEER SQUADRON, ENGINEERING FLIGHT, BASE PLANNING (30 CES/CEAOP) STAFF PERSON, RESTRICTS AND CONTROLS ACCESS TO THE BCP GIS.

4.7 ROLES AND RESPONSIBILITIES

4.7.1 Air Force Roles and Responsibilities

The responsibility for managing cultural resources on Pillar Point AFS lies within the 30 CES/CEANN, which is supervised by the TeamLeader of Cultural Resources; additional staff includes two prehistoric and one historical archaeologist. For projects planned on Pillar Point AFS, these individuals review AF Form 332 and/or AF Form 813, provide comments, and as necessary, coordinate and communicate with off-base entities.

The primary duties of 30 CES/CEANN personnel are carried out in the context of four key processes. First, potential project-specific impacts to all types of cultural resources are assessed within the broad framework of the NEPA via the EIAP. Second, cultural resources are considered within the framework of Section 106 of the NHPA. This process is central to cultural resources projects both within and independent of the context of the EIAP. Enforcement of the ARPA and compliance with the terms of the NAGPRA constitute the last two additional processes that further define the duties of 30 CES/CEANN staff.

4.7.2 Contractor Responsibilities and SOPs

Pillar Point AFS is operated and maintained by on-site contractors. For any proposed action to be initiated on the station, the Station Manager must submit an AF Form 332 or AF Form 813 to 30 CES/CEAOP to initiate the EIAP. Once the forms are submitted and it is determined that the

undertaking has the potential to affect cultural resources, then the project is assigned to a staff archaeologist who will manage all cultural resource issues for the project until its completion.

Figure 4-2 shows the process by which a project is reviewed at Pillar Point AFS after the initiation of an AF Form 332 by the Station Manager. The AF Form 332 must be submitted to 30 CES/CEOSC for any project that alters the physical conditions on the station. This includes alterations to any structures or built objects and ground-disturbing activity on any part of the Air Force property, even if the ground has been disturbed previously.

Archaeological contractors may be hired to perform the work necessary to comply with NEPA and/or Section 106. Contractors performing the inventory, evaluation, and treatment work are responsible for ensuring all necessary tasks associated with these activities are executed. For example, it is the contractor's responsibility to submit an AF Form 332 for excavation clearance and arrange for Explosive Ordnance Demolition and underground utilities identification, if necessary. The contractor is also responsible for submitting any reports or site records that they generate to the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University, Rohnert Park, California. If 30 CES/CEANN staff generates such documents, they must submit them to the NWIC. Contractors are responsible for submitting catalogued materials and a report copy on archival-quality paper to an appropriate repository for archaeological collections. These responsibilities are detailed further in Vandenberg ICRMP Chapter 5 and 6 for prehistoric and historical resources, respectively.

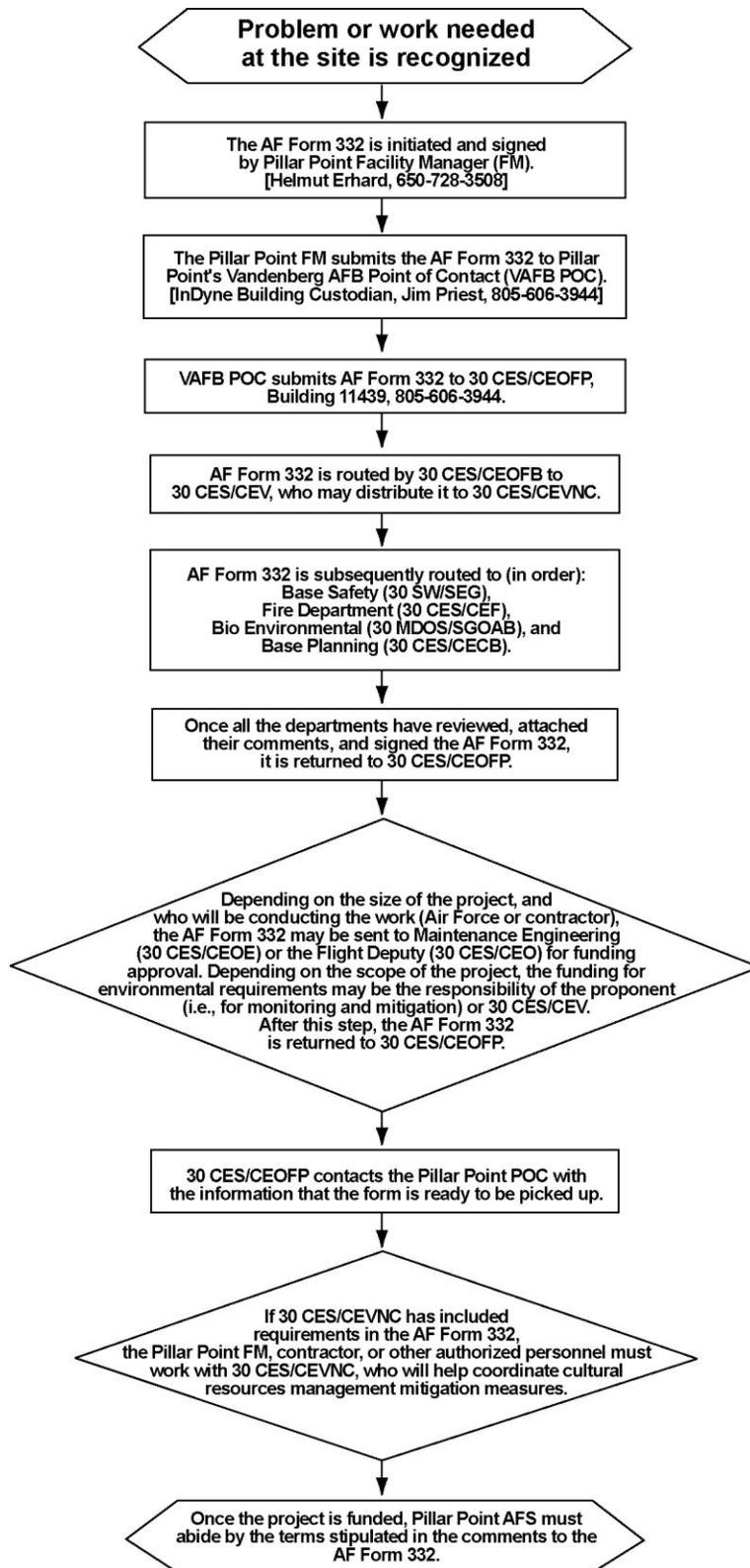
4.8 CONFIDENTIALITY OF CULTURAL RESOURCE INFORMATION

Section 9a of the ARPA and NHPA Section 304 require protection of information on the nature and location of archaeological resources, including disclosure of such information through Freedom of Information Act requests. These requirements are confirmed in Section 4.5 of AFI 32-7065.

The 1992 amendments of the NHPA (in Title XL of the Reclamation Projects Authorization and Adjustment Act) authorize agency officials to withhold from disclosure to the public information about the location, character, or ownership of historic resources, if the disclosure may invade privacy, risk harm to the resources, or impede use of a traditional religious site (Section 4020).

The confidentiality section of the ARPA addresses archaeological resources “for which the excavation or removal requires a permit or other permission under this Act or under any other provision of federal law.” It states that information about these resources may not be made available to the public unless the federal land manager determines that such disclosure would further the purposes of the ARPA, *and* will “not create a risk of harm to such resources or to the site at which such resources are located.”

To implement the EIAP, it is clearly necessary to acquire and evaluate confidential archaeological data. While these data must, at times, be made available to individuals not directly involved in cultural resources management, 30 CES/CEANN personnel must closely control their distribution and use. A short discussion follows on the nature and location of this information, who may access it under specific circumstances, and precautionary measures for its continued security.



Note: Names and phone numbers in brackets identify personnel current as of December 2005.

Figure 4-2 Pillar Point AFS project review process.

Information on archaeological and Native American resources is located within the cultural resources functional group's office area at Vandenberg AFB. Most of this information is filed in the 30 CES/CEANN library and includes annotated topographic maps (U.S. Geological Survey, C-tab, and BCP), site files and site maps, project-specific reports, and computer files (GIS and Access). Filed regulatory correspondence also may have site-specific information as attachments. All of this information is confidential and not for general use.

Information on the location and nature of cultural resources is provided to project planners and engineers only on a need-to-know basis. The materials are to be used in consultation with 30 CES/CEANN staff and are not to be distributed for general use. Contractors specializing in cultural resources, such as persons or companies conducting projects for the Air Force or its tenant organizations, may have less restricted access to resource information but must be careful how the information is presented in NEPA and other project-related documents. Specific information on site location, for example, should not be described within an EA or EIS, as these documents are reviewed by the public and are available in many libraries.

As stated above, information on cultural resource locations will be used by federal project planners in consultation with cultural resources personnel. Contractors must obtain permission from 30 CES/CEANN staff prior to borrowing any materials from the library area. Materials such as reports loaned to cultural resource contractors, as well as materials removed to individual offices for use by 30 CES/CEANN staff, should be noted by the use of AF Form 614, the pink Charge Out Record. Care must be taken to keep the information in the library and staff offices secure. The files for site records and reports are to be kept locked if at all practicable. Staff must be aware of who is using the library area, and contractors will make prior-use arrangements with 30 CES/CEANN personnel. Maps and other materials that clearly indicate the location of cultural resources are not to be left out on desks or tables when not actually in use. Finally, access to the BCP GIS containing site location and other cultural resource information is controlled by the system administrator, a 30 CES/CEANN staff person who issues and removes system passwords.

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5

MANAGEMENT OF PREHISTORIC AND HISTORICAL ARCHAEOLOGICAL RESOURCES

This section of the Pillar Point CRMP is concerned specifically with prehistoric and historical archaeological resources. Prehistoric archaeological sites, by definition, are the material remains associated with preliterate peoples. Historical archaeological sites are defined by the occurrence of physical remains and their association with known historic events, trends, or themes in local history. For the purposes of this document, a distinction is made between these types of sites and historical architecture (buildings, structures, and objects), cultural landscapes, historic transportation corridors (trails, roads, and railroad grades), and other historical sites (e.g., World War II training sites). Guidance for the management of buildings and other structures with standing walls dating specifically from the historic period is provided in Chapter 6. Cold War resources are discussed in Chapter 7.

This chapter of the Pillar Point CRMP provides contextual information and procedural guidance for cultural resource managers working on the AFS. It should be used in conjunction with Chapters 5 and 6 of the Vandenberg ICRMP, *Management of Prehistoric Archaeological Resources* and *Management of Historical Archaeological Resources*, respectively.

Chapter 5 of the Vandenberg ICRMP contains a complete description of the standards for identification, evaluation, and treatment of prehistoric archaeological resources, including guidelines for prefield tasks, fieldwork, laboratory processing, technical analyses, and report preparation. Monitoring of archaeological and construction excavation is addressed, and guidelines are presented for treatment of sites discovered during construction monitoring. Requirements for confidentiality of cultural resources data and qualifications for personnel conducting archaeological studies also are described. Because the standards and procedures for these activities are the same on both Vandenberg AFB and Pillar Point AFS, and the cultural resources management personnel are the same for both facilities, this information is incorporated here primarily by reference.

The remainder of this chapter contains information specific to the archaeology of the Pillar Point region and Pillar Point AFS. Section 5.1.1 provides a synthesis of archaeological research on the San Francisco Peninsula, followed by a synopsis of the prehistory, ethnohistory, and history of Pillar Point AFS and vicinity. Previous archaeological studies are summarized in Section 5.2.1. Section 5.3.1 lists and describes the known archaeological sites on the installation. Suggested archaeological research topics are presented in Section 5.4.1, and guidelines for the treatment of cultural resources on Pillar Point AFS are provided in Section 5.5.1.

5.1 CULTURAL CONTEXT

The peninsula of San Francisco encompasses San Mateo and San Francisco counties. Peninsula archaeology demonstrates strong cultural affiliations with the Bay Area and southern Marin County, at least during late prehistory. Cultural affiliations prior to 2,500 years ago are uncertain,

but may show closer ties to the Central Coast (i.e., the region between Monterey and Point Conception).

5.1.1 History of Research

Shortly after the founding of the University of California at Berkeley (UCB) in 1868, anthropologists began their efforts to salvage what little information remained about the history and lifeways of native Californians. The Department of Anthropology was established at Berkeley in 1901 under the ægis of Phoebe Apperson Hearst, who provided the funding for the earliest research in the archaeology, ethnology, and native languages of California. Alfred Kroeber was UCB's first anthropology instructor.

Under the auspices of the UCB Anthropology Department, Nels Nelson performed the first systematic archaeological surveys and excavations in the San Francisco Bay area during that first decade of the twentieth century. Nelson documented 425 “earth mounds and shell heaps” along the shoreline of San Francisco Bay and the adjacent coast between Half Moon Bay and the Russian River (Nelson 1907, 1909). He recorded some of the most important archaeological sites in central California. Nelson recognized that the Bay Area was a distinct archaeological region, and laid the foundation for the first model of cultural development and change in the region (Moratto 1984:227 et seq.).

UCB archaeologists began excavating at sites on the peninsula almost immediately. In 1910, Nelson directed a major excavation at the Crocker Mound (CA-SFR-7) in San Francisco, and in 1911, Llewellyn Loud excavated more than 350 cubic meters of midden from the Castro Site, CA-SCL-1, in northern Santa Clara County (Beardsley 1954). In San Mateo County, Loud's excavation at the Princeton Mound (CA-SMA-22), which lies on the edge of the lagoon north of Half Moon Bay, yielded materials comparable to those recovered from other peninsula, bayshore, and Marin County sites (Loud 1912, 1915). Subsequent work by UCB at the Princeton Mound and CA-SMA-23 in San Bruno

supported Nelson's concept of a distinctive San Francisco Bay archaeological region and showed that broadly parallel and synchronous changes in artifacts, mortuary practices, and shellfish remains were present throughout the area. Local differences were also apparent, but these seemed less important than the regional commonalities. The aggregate impression was that a series of closely related cultures, perhaps of common ancestry, had occupied the entire margin of the San Francisco Bay system for a long interval of prehistory” [Moratto 1984:234–236].

Although evidence of substantial regional variation through time began to accumulate, Kroeber and others initially dismissed most evidence of cultural change through time as insignificant (Kroeber 1909, 1936). Despite Max Uhle's (1907) discovery of a clear record of cultural change at the Emeryville Shellmound (CA-ALA-309), where he had excavated for UCB in 1902, most archaeologists clung to Kroeber's view that California cultures had been essentially static throughout prehistory. It was not until 1939, 10 years after publication of the first cultural sequences for the Santa Barbara coast and Lovelock Cave, Nevada (Loud and Harrington 1929; Olson 1930; Rogers 1929), that the first cultural sequence for central California appeared (Lillard, Heizer, and Fenenga 1939).

Robert Heizer, Frank Fenenga, and Jeremiah Lillard recognized a sequence of three central California archaeological complexes, each with distinctive artifact assemblages and burial modes, which they termed the Early, Middle, and Late horizons. The sequence, which eventually became known as the Central California Taxonomic System (CCTS), was based on seriation of richly furnished grave lots from single component and stratified sites in the southern Sacramento Valley and Sacramento/San Joaquin Delta. The essential taxonomic divisions of the CCTS were the facies, province, and horizon, which represent progressively broader cultural, spatial, and temporal units spanning some 5,000 years. Recognition of this cultural sequence marked the beginning of a new era in central California archaeology in which simplified cultural classification and description gave way to more detailed taxonomic studies and cross-cultural and intraregional comparisons (cf. Fredrickson 1973:17–25).

In the post–World War II era, archaeologists began to apply the three-horizon sequence beyond the immediate geographic area in which it had been developed. Working at Berkeley under Heizer’s tutelage, Richard Beardsley (1948, 1954) applied the CCTS to materials from the San Francisco Bay region and Marin-Sonoma coast. Beardsley observed that many of the coastal and bayshore sites had two or more components, which he identified as variants of the Middle and Late horizons. He correlated these components with those of the East Bay and Delta regions; fitting them into the CCTS, Beardsley recognized occupations associated with the Ellis Landing facies of the Middle Horizon; Emeryville facies of the Late Horizon, Phase 1; and the protohistoric Fernandez facies (Phase 2 of the Late Horizon). Beardsley concluded that the Princeton Mound at Pillar Point (CA-SMA-22) was a single-component Middle Horizon site and assigned it to the Ellis Landing facies. Beardsley viewed the Ellis Landing-Emeryville-Fernandez sequence as a cultural continuum reflecting the arrival and in situ development of ethnographic Costanoan people.

As more work was done throughout the San Francisco Bay region, several difficulties arose in the application of the CCTS (Fredrickson 1973, 1994a; Gerow 1968; Ragir 1972). Foremost among these was the failure of the CCTS to separate the cultural and temporal dimensions. Additionally, the nature and minimum number of traits necessary for definition of a horizon was never explicated. Sparse assemblages in some areas, and burial customs that left few material goods as grave furniture also complicated the problem. Moreover, it was difficult in practice to distinguish between traits diagnostic of the horizon as a cultural entity and traits that were temporally diagnostic but crosscut cultural boundaries (e.g., shell beads).

Finally, the three-horizon sequence covered only about the last 5,000 years of prehistory and failed to account for earlier cultural assemblages that were coming to light throughout the region. As Ragir pointed out:

Given the present system of naming groups which are typologically and temporally related, one would have to call an earlier culture the ‘Earlier Early Horizon.’ Furthermore, the tripartite system in a local sequence invariably causes confusion when one compares sites from one area to those of another which has either temporarily or permanently classified its local sequence in a similar fashion. Thus, one finds the Early Lovelock culture coeval with the ‘Middle Horizon’ in Central California and the late Phase of the Desert Archaic . . . ‘Early’, ‘Middle’, and ‘Late’ designations limit pre-history to three phases despite the fact that evidence sometimes suggests four or more changes important enough to warrant equivalent classificatory recognition [Ragir 1972:9].

These difficulties were well demonstrated by Bert Gerow in his analysis of the University Village site, CA-SMA-77, located near the Stanford University campus some 15 miles east of Pillar Point. Gerow (1968) discovered a Middle Horizon culture on the San Francisco peninsula contemporaneous with, or perhaps even older than, Early Horizon cultures in the interior. These people, Gerow argued, were more closely related physically and culturally to the early cultures of the southern California coast than they were to people of the Central Valley and Delta.

In 1973, David Fredrickson offered a new interpretation of regional prehistory that abandoned the CCTS and integrated new data from sites throughout the region. Working closely with James Bennyhoff, Fredrickson devised a more flexible taxonomic system capable of integrating the growing interest in processual archaeology with more traditional culture-historical approaches. In arguing for abandonment or significant modification of the CCTS, he adopted the definitions of spatial, cultural, and temporal units developed by Willey and Phillips (1958) and more generally used throughout the New World. However, Fredrickson added two important new concepts—the pattern and aspect—necessary for integrating assemblages within and among different regions.

Fredrickson introduced important theoretical advances that permitted the view of the San Francisco Bay area, Sacramento/San Joaquin Delta, Sacramento Valley, North Coast Ranges, Central Coast, and Northwest Coast as separate but interacting archaeological provinces. The CCTS was based on seriation of richly furnished grave lots from single component and stratified sites. In some regions, however, the mortuary complex is relatively unelaborated and soil conditions militate against preservation of bone, shell, or wooden artifacts. Fredrickson, therefore, concentrated on economic behavior, hypothesizing several different patterns of adaptation with differing economic modes, technologies, and ceremonial complexes. The pattern “is an integrative concept that fulfills the cultural function of the horizon concept, but without the temporal implications” (Fredrickson 1994a:40). He proposed a sequence of such patterns that spanned a period of 12,000 years (Fredrickson 1973; Price 1994) and recognized that transitions between patterns would not occur uniformly throughout the region, but could occur at different times in different districts.

During the cultural resources management era, substantial additional excavation has been accomplished in the southern San Francisco Bay region. While focused primarily around San Jose and Monterey Bay, where most population growth (and hence land development) has occurred, the data are broadly applicable to the entire region. In recent years most researchers sought to apply middle range theory to explain diachronic changes in the archaeological record. Dietz and Jackson (1981) and Dietz et al. (1986) used Binford’s (1980) forager-collector model to interpret a constellation of sites around Monterey Bay, concluding that logistically organized collectors replaced early foraging populations on the peninsula some time before 2000 B.P. Breschini and Haversat (1981, 1991) hypothesized that new technologies and social institutions permitted the replacement population to exploit a wider range of habitats and resources, effectively out-competing the original occupants.

Mark Hylkema (1991, 2002) has compiled much of the cultural resources management data from the area, and has added new information from CA-SMA-134 in the Fitzgerald Marine Reserve at the north end of the Pillar Point peninsula between Moss Beach and Half Moon Bay (Hylkema 1998). Hylkema presents his own reconstruction of San Francisco peninsula prehistory, concluding that the earlier foraging adaptation persisted in the Santa Cruz Mountains and

peninsula coast until about A.D. 1200, several hundred years after the collector populations had settled the bay margins and interior (Hylkema 1998:7).

5.1.2 Prehistory of the San Francisco Peninsula

For the purposes of regional integration, Fredrickson (1973, 1994b) divided California prehistory into six periods independent of specific cultural assemblages. Eschewing the early-middle-late terminology for reasons described above, the periods were named for the stages of cultural evolution discussed by Willey and Phillips (1958) and were linked implicitly to broad-scale environmental changes. They include the following:

**Table 5-1
Periods of California Prehistory**

Period	Years Before Present
Upper Emergent	after 500
Lower Emergent	1000 to 500
Upper Archaic	2500 to 1000
Middle Archaic	5000 to 2500
Lower Archaic	8000 to 5000
Paleoindian	prior to 8,000

Additional details on the timing and characteristics of these cultural periods are found in Fredrickson (1973, 1994a, 1994b). It is emphasized that these periods do not imply cultural uniformity or an implicit evolutionary path.

There is relatively little evidence of late Pleistocene or early Holocene occupation in the area between San Francisco and Monterey bays. This was a time of rising sea water levels caused by post-Pleistocene warming trends in the global environment and the melting of glacial ice. During this time the ocean rose to cover the broad coastal plains, filling the stream channels and creating the San Francisco Bay until the sea level reached its current level about 6,000 years ago and the diversified regional coastal ecology seen today developed (Hylkema 1998:4).

Tantalizing suggestions of occupation during the Paleoindian period occur in the form of fragmentary eccentric crescents from CA-SMA-134 (Hylkema 1998), CA-MNT-229 (Jones 1993), and CA-SCR-177 (Cartier 1993). Crescents are associated with great antiquity at sites in coastal and interior southern California, but their age and associations in the San Francisco Bay region remain to be clarified.

Radiocarbon-dated components at CA-SCL-178 near San Jose (Fitzgerald 1993), CA-SCR-177 in Scotts Valley (Cartier 1989, 1993), and CA-MNT-229 at Moss Landing (Jones 1993) attest to greater cultural activity during the Lower Archaic. Hylkema (2002) considers these components to be expressions of the southern California milling stone culture, although the exact relationships remain to be explained. Lower Archaic sites are still rare, perhaps because coastal inundation has obscured these occupations in some areas. For the period between about 8,000 and 6,500 years ago, better data are available for the region south of San Francisco Bay along the coast. Here

small groups of mobile foragers were processing hard seeds into flour, as evidenced by manos and metates found in association with large leaf-shaped and notched projectile points (Erlandson and Colton 1991). Some Lower Archaic sites also contain fish and terrestrial mammal remains. “The origins of the Sur Pattern are seen in these early Archaic manifestations” (Moratto 1984:277).

Conversely, the Middle Archaic period is represented by numerous radiocarbon-dated components in San Francisco, San Mateo, Santa Clara, Santa Cruz, and Monterey counties, indicating sparse but widespread settlement of the region by semi-sedentary foragers using bayshore, marine, and upland resources. Sites contain large projectile points and milling stones, reflecting a balanced hunting and collecting economy. Sites contain shell but do not reflect intensive shellfish exploitation. Discovering evidence of this Middle Archaic adaptation in the lower components of several sites in coastal and interior Monterey County, Breschini and Haversat (1981) were the first to refer to this generalized adaptation as the Sur Pattern. Present by 5000 B.P. or earlier, the Sur Pattern may represent the Hokan-speaking ancestors of the Esselen/Salinan ethnolinguistic group.

Dietz and Jackson (1981) expanded Breschini and Haversat’s original definition of the Sur Pattern, which featured a generalized foraging economy. Settlements are marked by earth or sand deposits with less shell than is found in later middens. Inferred land use involved seasonal residential moves among resource patches and the gathering of resources on an encounter basis, with little or no food storage. There was considerable variability in the size of forager groups, number of residential moves per year, and redundancy of land use from year to year. Coastal villages reflect a full range of economic activities, with relatively few task-specific sites reflecting only occasional extended resource procurement trips.

Beginning about 4,000 years ago, the San Francisco Bay area began to be settled by a bayshore and marsh-adapted people representing a new and distinctive adaptation. These people are thought to be Utian speakers, identifiable as the ancestors of the Miwok and Costanoans, who ultimately spread throughout the Bay Area. Settling first in the East Bay and Delta region, these bayshore marsh-adapted people occupied numerous locations along the east, north, and southwestern San Francisco Bay shore over the next 1,000 years. The University Village Site, CA-SMA-77, may have been one of these early settlements.

Characteristics of sites of this period include rare milling stones but common, minimally shaped mortars and pestles; nonstemmed projectile point forms and an increasing emphasis through time on bone as opposed to flaked stone tools; and a minimally elaborated mortuary complex with flexed burials and only utilitarian grave goods. It is clear from the archaeological record that settlement differentiation, trade, social ranking, and ascribed status all developed during this period. Fredrickson (1974) includes these sites in his Berkeley Pattern, which reflects the expansion of Miwok and Costanoan people around the shores of the bay at this time.

By the beginning of the Upper Archaic (circa 2500 B.P.), the ancestral Costanoans had colonized lands around the southern end of San Francisco Bay and had established villages along the coast as far south as the Monterey Peninsula. By A.D. 1, Sur Pattern foragers had been replaced by logistically organized collectors throughout most of Costanoan territory. This new adaptation, termed the Monterey Pattern by Breschini and Haversat (1981) and Dietz and Jackson (1981), is

seen archaeologically in dense shell middens reflecting a specialized collecting economy focused on shellfish, fish, birds, and sea mammals. People used the full range of marine, littoral, and upland habitats to obtain food and other materials. If these components truly reflect the arrival of Costanoan speakers in the area between Monterey and San Francisco, then it would more aptly be termed the Monterey Aspect of the Berkeley Pattern, using Fredrickson's taxonomy.

Many Upper Archaic coastal sites are task-specific locations used for collection of mollusks and other marine resources. These tend to be artifact-poor shell heaps—dense deposits of shell dietary refuse containing few tools other than occasional split pebbles and pitted stones. Settlements, containing a wider variety of artifacts, are located away from the exposed coast in more sheltered locations with access to a wider range of resources. A decided shift from the earlier milling stone-hard seed economy to a reliance on acorns as the main vegetal resource is particularly evident in the interior, where oak woodland habitats were well developed.

Hylkema (1998) argues that the earlier foraging economy of the Sur Pattern persisted in the Santa Cruz Mountains and on the San Francisco Peninsula coast, where acorn-producing oak trees were only sparsely distributed, well after the Monterey/Berkeley Pattern had become established on the bayshore, in the southern Santa Clara Valley, and on the Monterey Peninsula.

Archaeological findings from peninsula coast sites show that an earlier, archaic adaptive mode was maintained for a long period of time. Throughout the Early and Middle periods small, mobile communities perpetuated a generalized subsistence economy that emphasized a meat diet supplemented with processed hard seeds, acorns, fish and mollusks. Projectile points and various stages of their production are common constituents of peninsula coastal sites. . . . [The available information suggests] that storage of food resources was not a critical aspect of the coastal lifeway and a foraging economy was the optimal strategy [Hylkema 1998:72].

It was not until about A.D. 1200, during the Lower Emergent period, that new traits appear in the coastal archaeological record, including the bow and arrow, simple harpoon, tubular tobacco pipe, and preinterment grave burning. These traits, consistent with the Augustine Pattern (Bennyhoff 1994), are thought to have diffused into the Bay Area coincident with the southward movement of ancestral Patwin peoples into the lower Sacramento Valley, without the actual replacement of the resident population. This period is marked by a decrease in the contribution of terrestrial game to the diet, while the contribution of marine mammals to the diet stays the same. Additional markers include the increased presence of whole *Olivella biplicata* shells at coastal sites and the appearance of small lanceolate obsidian points (Stockton serrate), well-known Late Period markers for the San Francisco Bay and Delta regions (Hylkema 1998:71).

By Upper Emergent times, additional Augustine Pattern traits had appeared, including increased population density, increasing status differentiation, a greater emphasis on gathering vegetal (as opposed to marine) foods, more intensive trade, and finally the appearance of clamshell disk beads as exchange currency. Moratto (1984:283) writes, "This was the emerging cultural pattern encountered and destroyed by the Spanish mission system and later historic developments."

5.1.3 Prior Archaeological Studies at Half Moon Bay

Hylkema (1998:8-11) summarizes archaeological investigations in the Half Moon Bay locality. These are relatively few, beginning with Nelson's (1909) inventory of coastal and bayshore sites.

Excavation at the Princeton Mound (CA-SMA-22) revealed seven flexed and one semi-extended burial (Loud 1912, 1915). Subsequent work at the site by George Phebus (1973) revealed two additional flexed and one semi-extended burial. Grave associations included spatulate bone artifacts, bone knives and awls, plummet charmstones, abalone pendants, red ochre, and *Olivella* saddle, saucer, and rectangular beads. Other artifacts recovered from the midden included whalebone wedges, antler wedges, split deer cannon bones, deer ulna awls, and numerous small pitted stones. Several projectile points also were recovered, including Año Nuevo long-stemmed and Rossi square-stemmed types. Faunal remains included mussel and abalone shell as well as terrestrial and marine mammals. Beardsley (1954) fit CA-SMA-22 into the Ellis Landing Facies of the Middle Horizon, emphasizing the similarity of the Princeton burials and artifacts to those of the bayshore (20 kilometers east) and Marin County (90 kilometers north). In today's parlance, the site is consistent with a Berkeley Pattern residential base occupied during the Middle and Upper Archaic periods (Hylkema 1998:9–10; Moratto 1984:233).

During the late 1960s, San Francisco State University excavated two sites in the Half Moon Bay locality (Moratto 1971). CA-SMA-110, near the mouth of Pilarcitos Creek, yielded an assemblage comparable in many ways to CA-SMA-22 and also reflecting an Archaic Period residential base. Unlike the Princeton Mound, however, mortars, pestles, and handstones also were recovered and certain shell bead and ornament types suggest that site occupation persisted into the Lower Emergent period (Hylkema 1998).

At CA-SMA-140, about 2 kilometers north of Half Moon Bay on Deniston Creek, Moratto (1971) recovered several complete and fragmentary obsidian projectile points along with polyhedral chert cores, spire-lopped *Olivella* beads, and numerous pitted stones, along with informal flake tools and debitage. The majority of shell was California mussel and turban snail. Ten obsidian specimens originated at the Napa and Annadel sources. Although there was little available information, Hylkema (1991) opined that the site dated to the Middle Period.

On behalf of the State Water Resources Control Board and San Mateo County, Ann S. Peak & Associates conducted limited test excavations along the shoulder of Princeton Road where it passes through CA-SMA-151 (Peak & Associates 1980). With the exception of one flexed burial, the recovered assemblage was not distinctive. It included numerous pitted stones, one shell bead, a limited quantity of flaked stone debitage, and various marine and terrestrial faunal remains. Although no time-sensitive artifacts were found, Peak & Associates (1980:21) attributed the site to the Late Horizon and concluded that it functioned as a seasonally occupied "satellite village."

Under the auspices of San Jose State University, Hylkema and Hall (1985) tested CA-SMA-115 at Montara State Beach. This dense shell midden yielded very few artifacts but substantial amounts of mussel shell and the bones of marine and terrestrial mammals and birds. A shell roasting feature produced a corrected radiocarbon date of A.D. 1420 (705 ± 130 B.P.), "the first radiocarbon dated archaeological sample from the San Mateo County coast" (Hylkema 1998:10).

On behalf of the San Mateo County Department of Parks and Recreation, Hylkema (1998) excavated CA-SMA-134, a shallow shell midden deposit on the edge of the sea cliff some 3 kilometers north of Pillar Point at Seal Cove in the Fitzgerald Marine Reserve. The site yielded three handstones and four milling slabs, seven obsidian bifaces or fragments, two *Olivella* beads, and 152 pitted stones. Bone tools, large chopping tools, obsidian and nonobsidian debitage, a chert eccentric crescent, and abundant faunal remains and fire-altered rock also were recovered from more than 20 cubic meters of excavated soil. Hylkema obtained 10 radiocarbon dates from shell and soil samples, indicating that the site was used during the Lower Emergent between approximately 700 and 900 years ago.

5.1.4 Ethnography

When the Spanish began colonization of the Bay Area in 1769, they referred to the people already living in the region as “Costeños,” meaning coastal people. Anthropologists eventually transformed the name to Costanoan. The Costanoan languages, together with Miwok, compose the Utian language family of the Penutian stock. The population of contact-period Costanoan speakers was estimated at 7,000–10,000 people (Kroeber 1925; Levy 1978), divided into eight linguistic subgroups of contrasting dialect, custom, and subsistence focus. The Ramaytush subgroup (about 1,400 people) occupied the San Francisco peninsula in what is now San Francisco and San Mateo counties (Levy 1978).

Among themselves, the Costanoan people did not recognize these larger linguistic divisions. They lived in village-communities, or tribelets, composed of small groupings of settlements related by language, custom, and kinship. Each tribelet numbered between 100 and 300 people and had its own name, territory, customs, and political and social leadership. Some tribelets were affiliated with neighbors, but only through common boundaries, intermarriage, trade, and general linguistic affinity (Margolin 1978).

Villages were frequently placed at ecotones, the juncture of two or more resources zones. Ethnographic and archaeological studies suggest that the Ramaytush took shellfish from the nearby rocky foreshore zone, fish from the bay and freshwater streams, as well as deer, acorns, seeds and roots from the coastal hills and interior valleys (Kirkish 1993; Kroeber 1925; Levy 1978; Moratto 1984).

The *Chiguan* tribelet occupied the area around Pillar Point. When first encountered by the Spanish, the *Chiguan* controlled an area of about 8 square miles from Pilarcitos Creek to Point Montara, occupying two villages. One, *Ssatumnumo*, was probably near the town of El Granada. The other, *Chagunte*, was probably located near Pillar Point. The 1769 Portola expedition camped at Pilarcitos Creek and was visited by the villagers of Pillar Point, who gave them food (Milliken 1991, 1995).

Ramaytush social organization was based upon a loose confederation of one or more socially linked settlements guided by a chief and elders council (Harrington 1933). Within the villages, domed dwellings were built with tule, grass, wild alfalfa, ferns, or carrizo (Kroeber 1925). Other social practices included tattooing of men and women, and shell bead manufacture for ornamentation and exchange (Levy 1978). Linguistic evidence suggests that the Costanoans traded with the Miwok and Yokuts (Levy 1978). Ceremonialism included offerings to the gods,

reliance on shamans, dances, and songs. Living descendants have preserved some of these beliefs and practices; however, much has been lost. After death, cremations and burials both occurred; personal property often accompanied individuals in burials (Harrington 1921; Kroeber 1925).

In the 1970s, the term “Ohlone” came to be preferred by the First Nations people to describe the native people of similar language, customs, spiritual beliefs, and cultural traits residing from present day San Francisco (west bay) and Martinez (east bay) south to the Big Sur coast, inland to Soledad, and east to the Central Valley. The term may derive from two possible sources: the name of a small village on the San Mateo coast, or the Costanoan word for abalone. Today, several Ohlone bands are thriving, including the Muwekma Ohlone, the Mutsun Ohlone, the Rumsen Ohlone, the Esselen Ohlone, and the Costanoan Ohlone (Native American Cultural Center 2005).

5.1.5 History

Spanish exploration of the project area first began in 1769, when Gaspar de Portola visited the Costanoan settlement of *Shalaihme*, just south of Half Moon Bay (Morall 1987). Missionization began in this area with the establishment of Mission Dolores in 1782. Many of the first Spaniards settling in this area were associated with the mission. Native populations became associated with the mission as well, resulting in rapid and ultimately tragic changes to native lifeways. Between 1779 and 1791, 44 *Chiguan* people were brought into the Mission Dolores in San Francisco; most died soon after from exposure to disease, maltreatment, and malnutrition (Cook 1976; Milliken 1991, in Hylkema 1995:13). By 1810, no Costanoan tribelets living an aboriginal lifestyle remained.

After California became part of the Republic of Mexico in 1821, secularization resulted in the confiscation of mission lands and subsequent land grants for agriculture and ranching. Most Native Americans left the missions and many worked as manual laborers on the nearby ranchos. The Pillar Point and Fitzgerald Marine Reserve vicinity, termed the “*corral de tierra*,” was used for pasture lands for Mission Dolores and the San Francisco Presidio. The *corral de tierra* was divided into two large ranchos. The one near Pillar Point was granted to Francisco Guerro Palomares, a Sub-Prefect at San Francisco (Gualtieri 1988, in Hylkema 1998:13). Several multiethnic Costanoan communities emerged over subsequent years, with a partial return to aboriginal religious practices and some return to food collection for subsistence; however, these communities gradually declined as old people died and young people moved away.

The Coastside area began to grow in population by the 1870s, as the local economy focused more on agriculture. Whaling was part of the economy in this region for a brief period in the 1870s. The first real road along this part of the coast was built in 1879, along Point Montara down past Fitzgerald Marine Reserve (Hylkema 1998:13). Individual towns remained small. Agricultural use of the land around Pillar Point continued until the World War II era (Morall 1987).

Out of concern that the Japanese would attack San Francisco, the U.S. Army bought 12.68 acres of Corral de Tierra ranch in 1940 to establish an artillery observation post. Several structures at Pillar Point AFS date to the World War II era, including concrete markers used as “datum points” and bunkers. The site was deactivated during the 1950s, but was reactivated in 1962 in support of the Minuteman I program. Currently, Pillar Point AFS houses radar, command control,

meteorological, and telemetry systems to support missile activity at Vandenberg AFB. Facilities at Pillar Point provide data for the evaluation of ballistic missiles (Cole and Cagle 1995).

5.2 PREVIOUS STUDIES

A records search and literature review was completed at the NWIC in December 2002. On behalf of 30 CES/CEANN, Applied EarthWorks, Inc. consulted the information center’s site files and base maps, reviewed historic Government Land Office survey plats, and checked listings on the National Register and California Historic Resources Inventory.

Records searches at the NWIC and the 30 CES/CEANN library indicated that four previous archaeological investigations had been completed on Pillar Point AFS. One additional study was conducted after completion of the records searches (Flint et al. 2005). These are listed in Table 5-2 and summarized below.

**Table 5-2
Previous Archaeological Studies on Pillar Point AFS**

Citation	Type of Investigation	Results
Kirkish (1993)	100 percent pedestrian survey	One new archaeological site recorded; three archaeological sites total, one already NRHP listed; some structures potentially eligible for NRHP noted
Cole and Cagle (1995)	Eligibility evaluation completed for archaeological sites and Cold War facilities	Four Cold War era structures recommended eligible as part of a proposed district
Farquhar (2000)	Archaeological survey and testing for construction of a new gatehouse	No cultural materials found
Tetra Tech (1999)	Environmental Assessment for repair project	No impacts to cultural resources from the project
Flint et al. 2005 (in preparation)	Testing at three archaeological sites	CA-SMA-109/H not within AFS; CA-SMA-347 not NRHP-eligible; CA-SMA-151 results not yet reported

5.2.1 Vandenberg AFB Survey

The records search indicated that the entire installation has been surveyed for cultural resources, most recently by Vandenberg AFB staff (Kirkish 1993). Kirkish’s pedestrian survey confirmed the presence of two previously recorded prehistoric archaeological sites (CA-SMA-109 and -151) and one previously unrecorded prehistoric site (CA-SMA-347). The survey also located one isolated piece of flaked stone debitage (described as a “small waste flake”). Subsequently, confusion about the mapped locations of CA-SMA-109 and -347 was resolved. The survey report noted that the station contained historical structures potentially eligible for inclusion on the NRHP.

5.2.2 Eligibility Evaluation

In May 1995, Science Applications International Corporation completed an NRHP evaluation of prehistoric, historical, Native American, and World War II resources; highly technical and

scientific facilities; and Cold War buildings and structures on Pillar Point AFS (Cole and Cagle 1995). That report found the following:

- The command transmitter (CT) radar and telemetry along with Buildings 14, 18, 22, and 40 were recommended eligible for the NRHP at the national level for their association with the Strategic Air Command (SAC) strategy of nuclear deterrence during the Cold War era. The report concludes that the buildings do not retain enough integrity to be individually eligible for the NRHP, but collectively appear to be eligible for their function as contributing elements to the network of radar, optical, and telemetry sites associated with tracking ballistic launches from the Western Test Range at Vandenberg AFB, that Cole and Cagle (1995) termed “the potential Western Landbased Support Systems Instrumentation District (WRLISSHD).” Additionally, Building 14 was evaluated as eligible for the NRHP as a contributing property to a potentially significant communications district for its function as a missile-destruct transmitter antenna.
- The World War II bunker, Building 6, was evaluated as not eligible for inclusion on the NRHP.
- CA-SMA-151 has been listed on the NRHP. CA-SMA-109/H and CA-SMA-347 had not been evaluated for NRHP eligibility and, therefore, must be considered potentially eligible.
- Letters were sent to 12 individuals belonging to branches of the Ohlone/Costanoan, Esselen, Chumash, and Salinan tribes requesting their input. One recipient responded. The response letter asked that Native American interests continue to be kept in mind; that proper procedures be followed for any future discoveries; and that any human remains discovered be handled as specified by the Esselen Nation’s existing Memorandum of Understanding for Burial.

5.2.3 Gatehouse Construction Project

Archaeological survey and testing were conducted in support of construction of a new gatehouse at the station in 2000. Background research, surface survey of the project area, and shovel test probes in three areas of APE failed to yield any prehistoric or intact historical cultural resources (Farquhar 2000).

5.2.4 EA for Repair Project

An Environmental Assessment was completed for a multicomponent repair project at the station in 1999. Project elements included demolition of the north half of Building 17; realigning Northern Loop Road to the south; and modifying an existing intersection on Southern Loop Road to improved turning radius and drainage. No impacts to prehistoric or historical resources were expected from the project (Tetra Tech 1999). No mitigation measures beyond the standard discovery clause were recommended.

5.2.5 Test Excavations and Evaluation of Archaeological Sites

Applied EarthWorks, Inc. performed test excavation at Pillar Point AFS in 2004 (Flint et al. 2005). The purpose of the project was to test and evaluate CA-SMA-109/H and CA-SMA-347 for

eligibility to the NRHP. Additionally, CA-SMA-109/H was reported to be the location of a historical Portuguese whaling station. Archival research was conducted to identify the location of the whaling station and determine whether it was on the installation.

The 2004 project also included collection of a subsurface sample from CA-SMA-151 to further characterize that site's cultural constituents. This prehistoric shell mound was listed on the NRHP in 1976 based solely on surface evidence (Nissen and Swezey 1976). Limited testing at CA-SMA-151 in the 1980s revealed the presence of human remains and a small sample of flaked, ground, and pecked stone artifacts and faunal materials (Peak & Associates 1980). Only the southern end of CA-SMA-151 lies within the Air Force right-of-way along Princeton Road; the site extends north and south onto lands managed by San Mateo County. The Air Force initially attempted to obtain permission to excavate on the county-owned portions of the site, but subsequently decided to restrict the archaeological investigations to their own lands and right-of-way.

The results of subsurface probes indicate that CA-SMA-109/H is entirely on private property and does not extend across the Air Force property line. In addition, preliminary results of subsurface testing at CA-SMA-347 indicate that the site does not meet NRHP significance criteria (Flint, personal communication 2005). The excavation plan for this project is attached as Appendix D and the Native American consultation correspondence is provided in Appendix E.

5.3 RESOURCE INVENTORY

5.3.1 CA-SMA-109/H (adjacent to Pillar Point AFS)

CA-SMA-109/H was originally mapped at the northwest margin of Pillar Point AFS property, but has since been found to be located entirely on private land. The site was first recorded in 1969 by Schenk and Whelan. It was described briefly as a 10 by 25 meter site of "dirt with some shell and historic material; no real evidence of midden but it is a possibility." The site's depth was estimated as 25 centimeters in dark sandy soil, with surrounding soil of light brown sandy adobe. The site was described as between the road and the sea cliff, and eroding into the ocean. No further work at the site was conducted until an Air Force survey in 1993, when the site was rerecorded by Kirkish (1993). He noted that it "may be the whaling station mentioned in historical records," or that it might simply be a historical dump. Old shoe leather, patinated glass, old china, and highly weathered shellfish remains, mostly mussel, were recorded. The soil was described as dark and slightly oily. Kirkish observed that only part of the site is on Air Force property and, like Schenk and Whelan, recommended additional research to verify the exact nature of the site.

During a field inspection in April 2004 by Vandenberg AFB and Applied EarthWorks, Inc. cultural resources specialists, the AFB property boundaries were delineated using a Global Positioning System unit. As a result, CA-SMA-109/H was found to be outside the Pillar Point AFS property boundaries. Applied EarthWorks, Inc. conducted limited testing along the boundary to determine if CA-SMA-109/H extend onto Air Force land. The results of the testing were negative. CA-SMA-109/H is not located within the Pillar Point AFS. The site form is provided in Appendix F.

5.3.2 CA-SMA-151

CA-SMA-151 is a prehistoric site listed on the NRHP. Because it straddles the road leading from Princeton-by-the-Sea to Pillar Point AFS, the only portions of the site within Air Force jurisdiction are those within the road easement. The site is a large prehistoric shell midden situated on the margin of the Princeton Marsh. It appears today as a low mound of black soil covered by dense willows and other vegetation. It is one of several sites, including CA-SMA-22 (the Princeton Mound), -140, -135, -136, and -137, that are recorded along what would have been, in aboriginal times, a freshwater marsh. It is possible that CA-SMA-151 was first recorded by Nelson (1909) as three separate sites: 412, 413, and 414, later assigned the trinomials CA-SMA-61, -62, and -63. However Nelson's descriptive notes for the Half Moon Bay area have been lost and the landscape has changed since the time of Nelson's work, often making it difficult to correlate his data with modern locations.

When the Half Moon Bay area was surveyed in 1976 prior to wastewater facility upgrades, CA-SMA-151 was one of several sites identified within the impact areas. Because of the uncertainty regarding the location of Nelson's series of sites (or larger site) it was reregistered as CA-SMA-151 (Nissen and Swezey 1976; Peak & Associates 1980).

The site's location within a marsh, and its dense willow cover, has undoubtedly contributed to its preservation, remaining largely intact and undisturbed beyond dry season cattle grazing. West Point Avenue, which connects Princeton to Pillar Point AFS, was constructed through the southeastern portion of the site. With the exception of this disturbance, which affects only a small, peripheral part of the site, "SMA-151 remains as probably the only substantially intact evidence of life in the Half Moon Bay area before the coming of the Spanish" (Nissen and Swezey 1976:4).

Nissen and Swezey (1976) recorded CA-SMA-151 as an approximately 8–10-foot mound marked by willow. The approximately 550 square meter site is crossed by a barbed wire fence and by West Point Avenue. The base of the site was noted as yellow sand at approximately 3 feet 10 inches below the surface. Materials noted on the surface included bipitted stones, ground stone, flaked chert, and abundant shell (abalone, mussel, clam, turban snail, and *Olivella*). On the site form, Nissen and Swezey write that the "site [is] in excellent state of preservation; confusion over site designation and appears to be site noted in Loud ms (363) as 412." Only the portion of the site within West Point Avenue and its easement is under Air Force control. The remainder appears to be the property of San Mateo County.

Subsurface excavations were conducted at CA-SMA-151 in 1980 in association with placement of a sewer line along the northern shoulder of West Point Avenue and through the site. Three 1 by 2 meter test units were planned along the proposed trench centerline: one just north of the site boundary, one centrally located, and one just within the southern boundary of the site. After removal of 18–24 inches of overburden associated with road construction, soil was removed in 10-centimeter levels and wet screened through 1/8-inch mesh to separate artifacts from the sticky black soil. The northernmost unit contained midden to the water table at 110 centimeters below the surface, but it was mixed with modern debris throughout. The excavators concluded that this area contained material graded from the roadbed and pushed into the marsh during road construction. The second excavation unit, in the middle of the midden along the roadway, yielded a human burial with an associated whale bone and a metate. The burial was not removed and no

further excavation was conducted beyond two core samples taken via 5-inch auger in this unit and in the third planned excavation unit. The location of the planned sewer line was moved from the road shoulder to under the pavement along the center of the road, and sewer line trenching was monitored with negative results.

Water screening of the materials from the first unit and the upper portion of the second unit yielded flaked stone, ground stone, bone, and shell. No time-sensitive artifacts were found. The flakes and angular waste were mostly chert, with a few pieces of obsidian and sandstone; two flakes showed retouch. The identifiable ground stone consisted primarily of pitted stones, which may have been used to process shellfish. In addition to the metate associated with the burial, one probable charmstone fragment, one net sinker fragment, and a possible mano were found. Three bone artifacts (two ground mammal canines and an antler tip awl) and two shell bead blanks (one *Haliotis* and one *Olivella biplicata*) also were recovered. Finally, a bifacially flaked glass (possibly window glass) scraper was recorded.

Ecofactual materials from the midden included a small quantity of bone, mostly large and small mammal, with a very small amount of bird and fish. The presence of some saw-cut bone indicates the possibility of historical trash dumping. Ecofactual shell included *Mytilus*, turban snail, and *Tegula*, with smaller amounts of chiton and barnacle.

The excavations at CA-SMA-151 were primarily within the disturbed northernmost unit and no temporally diagnostic materials were recovered. Only limited conclusions could be drawn from the analysis. However, it was possible to contrast the site with CA-SMA-140, another nearby shell midden with similar components. Unlike CA-SMA-140, which appeared to be a specialized site entirely representing shellfish processing, the materials at CA-SMA-151 indicated a wide range of activities and a substantial village (Peak & Associates 1980:20). It appears to have been a heavily used seasonal satellite village, although the season of use is not specified. The materials could not be dated, although if the glass scraper is a Costanoan artifact it would indicate that occupation continued at the site until at least the arrival of the Spanish circa 1840.

Because testing of the site in the 1980s was limited, additional excavation was conducted for Vandenberg AFB in 2004 (Flint et al. 2005) to obtain a subsurface sample by which the site could be further characterized. Nine shovel test pits measuring 50 centimeters in diameter, two 1.0 by 1.0 meter and one 1.0 by 1.5 meter test excavation units were dug within the Vandenberg AFB right-of-way. The right-of-way is a 40-foot-wide corridor along West Point Road, extending 20 feet from the road's centerline to each side of the road. Currently, each lane of the two-lane road measures approximately 10 feet wide, leaving only 10 feet on either side of the road in which excavations occurred. The unpaved 10-foot sections serve as the road's shoulders and are clear of vegetation.

Isolated human remains were encountered in almost every unit. One tightly flexed burial and the majority of a cranium were encountered in two units on the north side of West Point Avenue. The cranial remains were assumed to be part of a burial. Neither discovery was exposed further. All known or suspected human remains were reburied in the units from which they were recovered along with any artifacts or sediments directly associated with the remains.

Results indicate that multiple activities occurred on site, extending from at least the Upper Archaic into the Lower Emergent. Subsistence activities represented include fishing, shellfish and plant gathering, and hunting. A variety of fish and mollusk species were procured from nearshore and protective outer beach areas, and the diet augmented with birds and terrestrial and marine mammals. Shell bead manufacturing on site is evidenced by the recovery of whole and modified *Olivella biplicata* shells and possible bead blanks. The site's occupants utilized Monterey chert as the primary toolstone, with a focus on bipolar reduction of smaller rocks. Some projectile points collected from the site have been reworked, suggesting either the longevity of a tool's use or scavenging from other sites. The site form is provided in Appendix F.

5.3.3 CA-SMA-347

This site is located near the Pillar Point AFS guard station. It was also recorded by Kirkish in 1994 following a survey of AFS property. It is described as a shell scatter on a knoll, with most of the material on a gentle slope. The site is in dark brown sandy clay. Three pieces of debitage were observed; one was green Franciscan chert and two were described as meta volcanic. The shell fragments were too small and highly weathered to speciate. The site was identified by a shell concentration along a dirt trail, and Kirkish speculates that it continues under the dense iceplant along the side of the trail above the site. The site was observed by Kirkish in the mapped location of CA-SMA-109, however subsequent discussion with personnel at the NWIC established that CA-SMA-347 was a new site and that CA-SMA-109 had been incorrectly plotted on NWIC maps. CA-SMA-109 was subsequently re-plotted.

In 2004, excavations were carried out by Applied Earthworks, Inc. at CA-SMA-347. The purpose of the work was to define the horizontal and vertical extent of the cultural deposit, identify the stratigraphy and depositional history, and define the types and densities of cultural materials present to evaluate the site's eligibility for inclusion on the NRHP. The report of that work indicates that this site is not eligible for inclusion on the NRHP. The site form is provided in Appendix F.

5.4 RESEARCH QUESTIONS

While collecting archaeological data is important to address research questions, addressing such research questions will be the result of archaeological projects and other actions as a result of USAF efforts to comply with cultural resource statutes and regulations.

Anthropological and archaeological research on Native American cultures in the San Francisco Bay area has been oriented strongly towards two general themes: culture history and cultural adaptation. Culture history pertains to the sequence, timing, and content of cultural changes and is a research issue with a long tradition in the region. More recently, scholars have focused on the means by which cultures adapt to changing environmental conditions and population pressures. The emergence of the complex social and economic organization has been foremost in the studies of cultural adaptations.

Culture-historical studies investigate the structure and organization of societies, identify local and regional sequences of cultures, and help establish chronological measures useful for future

researchers. Culture historians also seek explanations for the appearance and disappearance (or replacement) of cultures apparent in the archaeological record.

For the Pillar Point region and the San Francisco peninsula, the definition of cultural chronologies at the local and regional level is still of primary concern. At present, certain stone and bone tools provide chronological data, although the resolution is poor. Certain types of shell beads and ornaments are more sensitive temporal indicators. However, greater temporal control is required, and can be accomplished by examination of stratified and single component cultural deposits, cross-dating of time-sensitive features or artifacts in discrete assemblages, radiocarbon dating, or measurement of obsidian hydration rim widths. Precise component definition depends on radiocarbon dating and obsidian hydration measurements to establish a consistent age for material from spatially discrete assemblages.

Studies of cultural adaptation have focused on several general research themes. These include cultural responses to environmental change; changing hunter-gatherer land use, subsistence strategies, and technological organization; functional variability and settlement shifts between bayshore, coastal, and interior sites; stone tool production and material acquisition; subsistence and social intensification; trade and exchange; the emergence of complex political and social organization; the development of craft specialization; and culture-contact and missionization.

Specific questions in these areas include:

- How has the region's environment changed during the late Pleistocene and Holocene? In what ways did local cultures adapt to shifting environmental conditions and, particularly, how and why did technology, subsistence practices, and land use change through time?
- When and by whom was the area first occupied? What was the nature of the earliest occupation? Do isolated crescents and other remains from sites such as CA-SCR-177 indicate Paleoindian settlement of the region?
- What was the nature, timing, and impetus for the shift from the generalized foraging adaptation reflected by Sur Pattern components to the specialized collecting adaptation expressed as the Monterey Aspect of the Berkeley Pattern? Does this shift in the archaeological record reflect a replacement of Hokan speakers by Costanoans, are simply the adoption of cultural traits by an existing resident population?
- To what extent did Archaic adaptations persist in the coastal zone during the Emergent Period?

5.5 TREATMENT OF ARCHAEOLOGICAL RESOURCES

Detailed standards and procedures for identifying, evaluating, and treating archaeological sites on Vandenberg AFB and remote sites under its jurisdiction are detailed in the Vandenberg ICRMP, Chapter 5 (prehistoric archaeological resources [Lebow and Moratto 2001]) and Chapter 6 (historical archaeological resources [Palmer, Moratto et al. 2003]). Although complete inventory and evaluations for historic properties have been completed for Pillar Point AFS, additional work may be needed in the future due to inadvertent discoveries of cultural resources or planned work

that may affect previously identified resources. The following is a summary of the procedures that are provided in detail in Chapters 5 and 6 of the Vandenberg ICRMP.

Prefield work necessary for identification and documentation of archaeological sites includes background research at 30 CES/CEANN and at the NWIC. Native American consultation to elicit concerns or to gather information regarding prehistoric sites, ethnohistoric sites, and traditional cultural properties may also be required. Following background research, fieldwork includes surface surveys and, in some situations, buried site testing. Surface surveys require pedestrian coverage at transect intervals not exceeding 15 meters. In areas with potential for buried sites, subsurface probing may be necessary as part of the identification effort.

Prehistoric archaeological sites are defined as three or more artifacts that are no more than 50 meters apart. Sites also can be defined by the presence of one or more prehistoric features, even if the features lack artifacts. Midden or anthropic sediments also define a site, even if artifacts are absent.

A historical archaeological resource can be a site or an element of a district and may include a building, structure, object, or a combination of these. Historical archaeological sites are defined by the occurrence of physical remains and their association with known historic events, trends, or themes in local history. It is the responsibility of each project's historical archaeologist to develop a local historic context, identify likely historical archaeological site types, and assess historical resources in the field accordingly. Historical archaeological sites are defined on the basis of context, material culture, and data potential, or the ability of a site to contribute to theoretical concepts relating to behavior and specific historic events, trends, and themes. Given the ubiquity of historical debris in some areas, before an isolated find is documented, the material must be related to an identifiable physical context and be representative of a historic event or patterns of national, regional, or local history. If a resource appears to be more than 45 years old (hence historical by California standards) and has a material scatter, a physical context, and an activity area, it should be recorded for further assessment.

All new sites on the station will be documented on the appropriate California Department of Parks and Recreation cultural resource records (DPR 523A–523L). Previously recorded archaeological sites will be reinspected and redocumented if the existing site records lack relevant data. All archaeological surveys must be documented in a report to 30 CES/CEANN.

Tasks associated with evaluation of NRHP eligibility on Pillar Point AFS include prefield preparation, fieldwork, laboratory processing, technical studies, report preparation, and, in some cases, curation. For prehistoric archaeological sites, prefield preparations include background research and development of a research design. A Base Civil Engineering Work Request (AF Form 332) must be obtained, and an appropriate Ohlone tribal representative will be contacted to discuss the purpose of the project, the site(s) that will be tested, and the fieldwork schedule. The contractor also must arrange for Native American monitoring. Finally, there must be a field orientation meeting with the archaeological contractor, 30 CES/CEANN, and representatives of the Ohlone Tribe.

Fieldwork to evaluate NRHP eligibility includes defining site boundaries and intrasite variability as well as gathering information to assess data potentials. Defining site boundaries and intrasite

variability can be accomplished through intensive surface examination and/or subsurface probing with 50-centimeter-diameter shovel test pits or smaller auger borings. In sites with surficial or very shallow deposits, 1 by 1 meter surface transect units may be used. When possible, subsurface probes will be placed in a grid pattern to ensure systematic coverage of the entire site. Spacing between probes will vary with site size but should range between 10 and 30 meters. Small sites should have probes more closely spaced than larger sites.

Gathering information to assess data potentials will include surface collection as well as subsurface excavation. For archaeological sites in known nondepositional contexts and where surface visibility is good, surface collection can be the primary method of retrieving information to assess data potentials. In depositional contexts, surface collection can be used to supplement data gathered during subsurface excavations. Two methods of surface collection are used: individual point-provenienced artifacts and surface collection units. Subsurface excavations include 1 by 1 meter test excavation units, which are the primary means of collecting larger artifact samples and of exposing stratigraphic profiles. Test excavation units will be placed near subsurface probes that have the highest likelihood of yielding data relevant to evaluating eligibility, or that can provide data to assess site integrity, or both. Emphasis will be given to the APE so that data potentials within the APE can be evaluated and potential project effects can be assessed. If multiple artifact concentrations are evident, each concentration will be sampled with at least one test excavation unit as a means of gathering information about intrasite variability.

Laboratory processing will be completed as soon as possible after fieldwork is finished. Cultural remains will be cleaned and sorted into classes for submittal to technical analysts. At a minimum, analyses by qualified specialists will be conducted for flaked and ground stone artifacts, bone, and shell. Other technical analyses also may be necessary to fully evaluate NRHP eligibility. These analyses, typically completed by consulting specialists, might include radiocarbon dating, archaeobotanical studies, zooarchaeology, obsidian sourcing studies, and obsidian hydration measurements.

A final report that evaluates NRHP eligibility and assesses the potential effects of projects must be submitted to 30 CES/CEANN and the NWIC. Most prehistoric archaeological sites are evaluated on the basis of research values and integrity. Specifically, a site may be considered NRHP eligible if it has sufficient integrity and can provide information important to understanding prehistory. The research design prepared prior to fieldwork will be used to gauge when a site contains sufficient data potentials to address important research issues.

For historical archaeological sites, evaluation of significance according to NRHP criteria must consider the site's association with a historic event or individual. While association is imperative for demonstrating site significance, it will not always be readily apparent in the field. Additional archival research may be required to define significance based on temporal and functional placement of artifacts and their historical association.

Project effects must be assessed if a site is considered eligible for the NRHP. If the qualities that make the site eligible for the NRHP are within the APE and the portion of the site within the APE has sufficient integrity, the undertaking may have an adverse effect. Determination of the APE, resource identification, determination of eligibility, and assessment of potential effects all require consultation with the SHPO and, at times, the ACHP.

If a site will be adversely affected by an undertaking, methods to avoid, reduce, or mitigate those effects must be developed in consultation with the SHPO and/or the ACHP. If data recovery is proposed, a plan must be submitted to 30 CES/CEANN. The plan will summarize previous archaeological investigation; provide a research design tailored to the site's particular data potentials; describe methods to be used during fieldwork, laboratory processing, and technical analyses; and propose levels of effort and excavation strategies. Other tasks that will be completed prior to fieldwork include archival research, coordination with the appropriate Ohlone Tribe or family (for prehistoric sites), and acquisition of an AF Form 332. In addition, there must be a prefield meeting with representatives of the Ohlone Tribe (for prehistoric sites), the 30 CES/CEANN Project Manager, and, as necessary, the Base Cultural Resources Manager (BCRM) and the Pillar Point AFS Facility Manager.

Fieldwork during data recovery is more focused than during NRHP evaluations. Typically, investigations are limited to the APE and are directed toward recovering adequate quantities of data as specified in the data recovery plan. Methods used during data recovery fieldwork can include documentation (e.g., recording rock art or other surface features), surface collection and subsurface excavations. For sites in demonstrated nondepositional contexts such as ridgetops, surface collection may suffice to recover data necessary to mitigate project effects. Surface collection to recover data also can be used in conjunction with subsurface excavations. Subsurface investigations may include probing with shovel test pits or augers within the APE to further delineate the extent of the subsurface deposits that are the focus of data recovery, or to help accurately determine where to commit larger, more labor-intensive excavation units.

The most common unit for recovering data during subsurface excavations is the 1.0 by 1.0 meter (or, as appropriate, 0.5 by 1.0 meter) excavation unit. Multiple excavation units can be combined to create block excavations with any configuration. Mesh size associated with data recovery will partly be determined by the site's data potentials and the data requirements developed in the research design; a combination of mesh sizes—with some proportion of the sediments screened through 1/8-inch mesh and the remainder screened through 1/4-inch mesh—is usually the preferred approach. Smaller mesh may be appropriate under certain circumstances. Column samples should be an integral part of data recovery in sites that contain preserved organic remains. Column samples are used to recover a sample of small constituents such as fish bones and archaeobotanical remains. Mechanized equipment may be used to remove overburden and expose buried cultural deposits, or for trenching to reveal stratigraphy. Such equipment also may be used for archaeologically controlled excavation of the cultural deposit prior to construction.

Laboratory processing for data recovery investigations is the same as used to evaluate NRHP eligibility. Technical analyses will be completed as necessary to realize data potentials and to address the relevant research issues discussed in the data recovery plan. The primary difference between technical analyses completed for NRHP evaluations and those completed as part of data recovery is that samples of lithic artifacts, vertebrate fauna, and invertebrate fauna are generally much larger for data recovery investigations and, thus, more detailed interpretations of the data are possible. All data recovery excavations must be detailed in a final report to 30 CES/CEANN. This report also will be filed with the NWIC.

In addition to identification, evaluation, and treatment of archaeological sites, monitoring and treatment of sites discovered during construction is an important part of cultural resources

management on Vandenberg AFB and its remote locations. It is base policy to monitor potentially destructive construction activities within and adjacent to all known archaeological sites. Any earthmoving activity that could potentially impact known archaeological deposits should be monitored. In addition, construction through areas thought likely to contain buried sites should be monitored, even if a survey for the undertaking failed to reveal any sites. Furthermore, any archaeological excavations at Native American sites (whether prehistoric or historical) are to be monitored by one or more representatives of the appropriate Native American group(s).

Treatment of unexpected cultural deposits discovered during monitoring depends upon whether the unexpected deposit represents a previously unknown site or an unexpected deposit within a previously evaluated site. Previously unknown sites will go through an expedited and abbreviated Section 106 process that includes identification and evaluation of NRHP eligibility. Subsequent treatment depends upon the site's NRHP eligibility and the significance of the cultural deposit that has been or will be affected. Investigations of unexpected and potentially significant deposits in sites that have been previously investigated should focus on the newly discovered deposit. For these types of discoveries, the purpose of additional investigations is dictated by the results of the previous investigations. If the site was previously considered NRHP eligible, additional investigations are undertaken to determine if the unexpected deposit contributes to the site's NRHP eligibility. Conversely, if the site was previously considered ineligible for the NRHP, archaeological investigations will focus on reevaluation of the site's eligibility based on data potentials from the newly discovered deposit.

Treatment of human remains on Pillar Point AFS is regulated by several state and federal laws (see Vandenberg ICRMP Chapter 3). Excavation of human remains requires written notification to lineal descendants, tribes likely to be culturally affiliated tribes that aboriginally occupied the area, and other tribes likely to have cultural relationships. These notification requirements also apply to human remains discovered inadvertently. In those situations where human remains are discovered inadvertently, all work in the immediate vicinity must stop, the human remains and associated funerary objects must be protected, and the county coroner must be notified immediately. If the remains are determined to be Native American, written notices must be sent to the tribes and the coroner must notify the NAHC. Unauthorized disturbance, removal, or possession of human remains may be a criminal act (misdemeanor or felony, depending on circumstances), and violators may be subject to fines, imprisonment, or both.

Curation of archaeological collections from Vandenberg AFB and its remote locations is regulated by 36 CFR 79, *Curation of Federally-Owned and Administered Archaeological Collections*, which establishes standards, procedures, and guidelines to be followed by federal agencies for preserving material remains and associated records. The collections from previous excavations at CA-SMA-151 are currently housed at San Francisco State University and UCB. Future archaeological collections from the station will be curated on a project-by-project basis at a facility to be determined.

Some archaeological data, particularly site location information, is confidential under provisions in the NHPA and the ARPA. Pursuant to these mandates, the 30 CES/CEANN restricts access to archaeological site location data. Hard-copy site records, site location maps, and reports of investigations are available only to authorized personnel. Access to site location information on the Vandenberg GIS is password protected.

Archaeological contractors working on Pillar Point AFS must have supervisory personnel that meet professional standards issued by the Department of Interior as well as standards required by the Register of Professional Archaeologists. In addition, principal investigators and field supervisors normally must have archaeological experience on the installation or in the local area or region, including experience conducting excavations and preparing reports.

6

MANAGEMENT OF HISTORICAL BUILDINGS, STRUCTURES, LANDSCAPES, TRAILS AND OTHER HISTORICAL PROPERTIES

This section of the Pillar Point CRMP is concerned specifically with historical architecture (buildings, structures, and objects), cultural landscapes, historical transportation corridors (trails, roads, and railroad grades), and other historical sites (e.g., World War II training sites). Chapters 5 and 7 of the Pillar Point CRMP provide guidance for the management of historical archaeological sites and Cold War resources, respectively. This chapter of the CRMP addresses the treatment of buildings and other structures with standing walls, dating specifically from the historic period. It contains a summary of the station's historical buildings and structures, and guidance for their management. A complete inventory of the 39 buildings or structures on Pillar Point AFS indicates that only one, a World War II bunker, falls into this resource category (Cole and Cagle 1995). No historic landscapes, trails, or other types of historical properties have been identified on Pillar Point AFS.

6.1 HISTORY OF PILLAR POINT AFS

Pillar Point was once part of the Rancho Corral de Tierra, granted by Mexico to Francisco Guerrero Polamares. Agricultural use of the land continued after the United States made California a state, until the World War I era (Cole and Cagle 1995). Whaling was part of the economy in this region for a brief period in the 1870s. The Pillar Point area was primarily used for farming and grazing until the World War II era (Morall 1987).

The following information is based on interviews with Dennis Inch, the Pillar Point Station Manager in 1994.

The Army purchased the Pillar Point site in 1941 as part of a coastal artillery observation system to watch for Japanese attack on the San Francisco area. In 1958 the Navy established the Naval Missile Facility at Point Arguello. Originally, the Pillar Point facility was established as a control site for the Regulus missile, an airbreathing, and surface to surface missile capable of being launched from submarines or cruisers (*Missiles and Rockets* 30 July 1962, p. 79). Initial improvements such as the electric substation and a radar building (#1), were constructed in preparation for this mission, but the Regulus very quickly became obsolete, and the program was cancelled and the site was deactivated.

In 1962 the site was reactivated in support of the Minuteman I missile program being developed at the Eastern Test Range (ETR). The flame attenuation caused by the burning particles from the solid state fuel of the Minuteman made accurate readings difficult for the instrumentation positioned behind the missile being launched. Instruments located at Pillar Point would be able to provide more accurate measurement because of their ability to view missiles from the side, without the distortion from the exhaust experienced at the Vandenberg AFB launch site [Cole and Cagle 1995:13–15].

The remainder of Cole and Cagle's discussion describes the physical changes to the site starting in 1967, when the site was upgraded to support the Minuteman III program. Because of funding

support from the Minuteman III program, the Air Force decided to make Pillar Point a permanent facility. Site improvements after this time included addition of a radar building and dish, boresight tower and equipment shed, telemetry antenna and service tower, telemetry building and associated substation building, electric power station, water system, and a new gate house (Cole and Cagle 1995:15).

The lower portion of the site located downhill and to the east was developed in 1972–1973 for the Operational Base Launch Safety System program. Improvements associated with this program consisted of a series of mobile vans set on concrete pads, antenna trailers with radar dishes, radar vans holding equipment and consoles, a safety van, a supply van, a power van with diesel generator, and an electric substation. After the system was tested at Pillar Point, it was dismantled and moved to Vandenberg AFB. At some later point it was moved back to Pillar Point, adding four radars to the station. It was subsequently re-retired to Vandenberg (Cole and Cagle 1995:16–17).

6.2 PREVIOUS STUDIES

Although several previous surveys and studies have been conducted on Pillar Point AFS (see Table 5-2), only one study on station has addressed historical resources not directly associated with the Cold War era. The *Final Historical Eligibility Evaluation of Pillar Point Air Station* addresses prehistoric, historic, Native American, and World War II resources as well as highly technical and scientific facilities and Cold War resources.

6.3 RESOURCE INVENTORY

The complete inventory of buildings, structures, and other historic resources on Pillar Point AFS resulted in identification of one historical non–Cold War associated structure—a bunker dating from World War II (Building 6). The bunker was originally an observation post. It was one of 81 coastal posts that formed a coastal defense system established to protect San Francisco from potential Japanese attack.

Cole and Cagle evaluated the structure and recommended it as not eligible for inclusion on the NRHP (Cole and Cagle 1995:21). The bunker was analyzed for significance according to NRHP Criterion A (“that are associated with events that have made a significant contribution to the broad patterns of our history”). Because it was one of many coastal posts established for the defense system, the bunker was not considered significant or eligible for the NRHP individually. Next, it was addressed as a part of a larger military thematic nomination that would include structures identified with the defense of the United States coastline from 1941 to 1945. However, the bunker no longer retains its sighting mechanism, new walls were added, and existing walls were cut for entry. For this reason, it does not retain its historic integrity and is not eligible for the NRHP under Criterion A. Finally, it is not eligible under NRHP Criteria B, C or D. It is not associated with significant persons, does not embody distinctive characteristics, and is not able to yield historical information because of its loss of integrity.

6.4 TREATMENT OF HISTORICAL STRUCTURES, BUILDINGS, LANDSCAPES, TRAILS, AND OTHER HISTORICAL PROPERTIES

Standards and procedures for identifying, evaluating, and treating historical architecture, cultural landscapes, transportation corridors, and linear resources on Vandenberg AFB and remote sites under its jurisdiction are detailed in Chapter 7 of the Vandenberg ICRMP. Prefield background research necessary for identifying and evaluating historical buildings, structures, and landscapes includes records and archival searches at the 30 CES/CEANN, local historical repositories, and the NWIC. Fieldwork to evaluate NRHP eligibility includes defining site boundaries and recording the design characteristics of cultural elements. Sites are evaluated using the NRHP criteria set forth in 36 CFR 60.4. Effects on these types of cultural resources must be assessed in accordance with Section 106 of the NHPA. Professional qualifications standards are provided, and information on how these resources have been managed in other locations throughout the United States also is presented as examples of how other federal agencies have undertaken this task. Treatment guidelines from the National Park Service's Preservation Brief series and the Secretary of the Interior's Standards also are referenced (Palmer, Hamilton, and Moratto 2003).

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MANAGEMENT OF COLD WAR RESOURCES

This chapter of the Pillar Point CRMP provides a summary of the station's Cold War resources and guidance for their management. The Cold War era extended from March 1946, when Winston Churchill delivered his renowned "Iron Curtain" speech, to November 1989, when the Berlin Wall came down (Price 2002:1.1). Pillar Point AFS was established in 1959 as a tracking station to provide support for polar-orbiting space satellite and operational intercontinental ballistic missile launches from Vandenberg AFB. It houses radar, command control, meteorological, and telemetry systems. This places the age and activities of the site within the period of the Cold War.

The material remains of Cold War activities include many different kinds of "buildings, structures, sites, objects, and districts built, used, or associated with critical events or persons during this period and that possess exceptional historic importance to the Nation or that are outstanding examples of technological or scientific achievement" (Green 1993:3). The responsibility for managing these resources on Pillar Point AFS lies within the 30 CES/CEANN at Vandenberg AFB.

Public Law 101-511, enacted in November of 1990, requires the Department of Defense to undertake studies of the Cold War and to inventory, protect and conserve the physical and literary property and relics connected with its origins and development. On 29 June 1993 the Department of the Air Force issued interim guidance on how Vandenberg AFB should deal with the Cold War resources under its jurisdiction. The guidance stresses complying with Section 106 of the NHPA (Cole and Cagle 1995:1).

7.1 VANDENBERG AFB, PILLAR POINT AFS, AND THE COLD WAR

The Cold War, and its associated military strategies, was nurtured by the development of the atomic bomb and nuclear power by the United States in the early 1940s. For the first years after the end of World War II, the United States held a monopoly on the production of nuclear power and weapons. In 1948 and 1949, the Soviet Union detonated its first atomic bomb, blockaded Berlin, and acquired growing influence in China. The United States came to believe its former ally in World War II was planning to claim the world for Communism and to eradicate the United States through a surprise nuclear attack. (Clarfield and Wiecek 1984:144). In response to this perceived threat, the Air Force began to develop long-range offensive operations that included the use of ballistic missiles (Cole and Cagle 1995:14).

Cole and Cagle write,

In 1956 Vandenberg AFB, then called Camp Cooke, was chosen as the Air Force's West Coast Missile Center, designed to test-launch ICBMs once they had become operational. Additionally, Cook AFB as it was renamed, was to train "Missileers" in launching procedures. This site was chosen for a missile center because of its size, remoteness, existing buildings, and most importantly, because it was the only site in the continental United States that could launch missiles into polar orbit without traveling over land.

Missile launch and control facilities were built, and the first missile, the Thor, was launched in 1958. That same year Cooke AFB was renamed Vandenberg AFB [Cole and Cagle 1995:14].

That same year the Navy received 20,000 acres of former Camp Cooke land south of the Air Force operations, on which to build the Naval Missile Facility at Point Arguello under the jurisdiction of the Naval Air Missile Test Center at Point Mugu, on the coast south of Oxnard. The Pacific Missile Range (now the Western Range), an area of ocean extending from Vandenberg AFB into the Indian Ocean, was established for tracking and monitoring missile launches (Vandenberg AFB 1992). The Air Force assumed control of the Naval Test Facility and Pacific Missile Range in 1964, renaming the area South Vandenberg. A network of radar, telemetry, and optics systems were installed uprange at Vandenberg AFB, Pillar Point, Anderson Peak, Santa Ynez Peak, and midrange in the Hawaiian Islands to support missile operations conducted on the Western Range (Cole and Cagle 1995:14).

7.2 PREVIOUS STUDIES

Two previous studies have addressed Cold War resources on Pillar Point AFS. These are summarized below. Section 7.5 presents a timeline of Cold War-related documentation relating to the station.

7.2.1 NRHP Eligibility Evaluation, Pillar Point Air Force Station

In 1995, Science Applications International Corporation completed an NRHP eligibility evaluation of Pillar Point AFS. This report contains a particularly thorough section on the historic setting of Pillar Point AFS, including the history of the installation in general and the history of the radar, telemetry, and command destruct systems in particular. Based on an analysis of the facility's significance and integrity, the study concluded that the CT radar and telemetry as well as Buildings 14, 18, 22, and 40 collectively appear to be eligible for the NRHP as contributing elements to the network of radar, optical, and telemetry sites associated with tracking ballistic launches from the Western Test Range at Vandenberg AFB (Cole and Cagle 1995). Additionally, Building 14 was evaluated as eligible for the NRHP as a contributing property to a potentially significant communications district for its function as a missile-destruct transmitter antenna.

7.2.2 Construction Engineering Research Laboratories (CERL) Studies

A comprehensive study of Cold War properties administered by Vandenberg AFB was completed between 1994 and 1997 by Tri-Services Cultural Resources Research Center at the U.S. Army Construction Engineering Research Laboratories (CERL). CERL inventoried and evaluated Vandenberg AFB and associated facility's Cold War properties under the Legacy Resource Management Program to assist the Air Force in complying with Section 106 of the NHPA. The first volume of the three-phase document (Nowlan et al. 1996) covered space launch complexes and related radar, optical tracking, telemetry, command and control, weather support, and housing facilities. Pillar Point's Cold War resources were included in this document, which is attached as Appendix G.

The CERL studies began with research on the history of Vandenberg AFB, the background of the Cold War, and the development of long-range missile programs. From this research they

formulated a historical context statement with which the significance of Vandenberg AFB’s Cold War–era sites could be evaluated. Next, CERL identified Cold War programs at Vandenberg AFB that they judged to be exceptionally important. Individual properties that were directly associated with the operational missions of those programs also were identified. Specific properties that supported operational missions were then evaluated for significance using the National Register criteria for evaluation (36 CFR 60.4), the National Historic Landmark criteria for evaluation (36 CFR 65), and criteria developed by the Air Combat Command and tailored for Cold War properties (Green 1993). Finally, the integrity of individual properties was considered. Recognizing that highly technical and scientific facilities such as tracking stations are regularly modified and upgraded as technology advances and mission requirements change, CERL employed the concept of “integrity of function” developed by the ACHP (1991).

CERL identified numerous sites on Vandenberg AFB that were exceptionally important because of their direct contributions to operational missions of the U.S. military or civilian programs carried out during the Cold War, and thus qualifying for inclusion on the NRHP. In addition, and most importantly for this document, the CERL reports identified three potential NRHP-eligible historic districts related to the Cold War (Price 2002:2.1–2.3). One of these, the proposed Western Range Landbased Instrumentation Support Systems Historic District (WRLISSHD), encompasses a network of instrumentation sites at Vandenberg AFB, Pillar Point AFS, Anderson Peak, Santa Ynez Peak, Laguna Peak (all in California), and Kaena Point and Wheeler Air Force Base, both in the Hawaiian Islands (Nowlan et al. 1996:58).

7.3 RESOURCE INVENTORY

All 39 buildings or structures on Pillar Point AFS have been inventoried and evaluated. As described in Section 6, Building 6 is a World War II bunker. The remaining 38 buildings or structures were constructed during the Cold War era. Four of the Cold War era structures (Buildings 14, 18, 22, and 40) are considered NRHP eligible as contributing elements to the proposed WRLISSHD (Table 7-1).

**Table 7-1
Summary of Cold War Historic Properties on Pillar Point AFB**

Evaluation	Building			
	14	18	22	40
Structures eligible for the NRHP at national level under Criterion A for their association with the SAC strategy of deterrence; period of significance from 1962–1991; not individually eligible but eligible for their function as contributing properties of the potentially significant WRLISSHD	X	X	X	X
Structure eligible for the NRHP as a contributing property to the potentially significant communications district for its function as a missile-destruct transmitter antenna	X			

As of June 2005, two SHPO consultations have been conducted for Pillar Point AFS, both regarding Cold War concerns. The first was conducted by 30 CES/CEANN in 1996–1997 for removal/replacement of a radar antenna (Building 22). The second was conducted in 1999 by

30 CES/CEANN for demolition of the north end of Facility 17 in association with the road repair EA.

7.4 TREATMENT OF COLD WAR ERA CULTURAL RESOURCES AT PILLAR POINT AFS

In July 2002, Vandenberg AFB and the California SHPO executed the *Programmatic Agreement among Vandenberg Air Force Base, California, and the California State Historic Preservation Officer Regarding the Management of Exceptionally Important Cold War Historic Properties under the Jurisdiction of Vandenberg Air Force Base, California*. This PA specifies how the base will take into account the effects of its undertakings on Cold War resources as required under Sections 106 and 110 of the NHPA (see Appendix H). In particular, the PA is geared toward addressing ongoing maintenance and other activities at these installations. This PA applies as well to Cold War era properties at remote locations under Vandenberg AFB's jurisdiction.

The essence of the PA is embodied in a *Historic Preservation Plan for the Management and Treatment of Cold War Properties at Vandenberg Air Force Base, California* (Appendix I). The Historic Preservation Plan (HPP) is divided into eight sections, including a brief historic context statement, procedures for identifying and evaluating exceptionally important Cold War properties, a listing of NRHP-eligible Cold War properties, procedures for managing and treating the effects of undertakings on exceptionally important Cold War properties on the base, a discussion of related historic districts, approaches to treatment of redundant or repetitive resources, and the effect of declassification of Cold War-era records on historic properties at Vandenberg AFB.

The PA and HPP permit routine maintenance, repairs, and upgrades that do not affect the historic character, appearance, design, or function of eligible properties without SHPO consultation. The Air Force will prepare documentation of substantial upgrades and modifications, including engineering documents, design plans, descriptive narratives, and before and after photographs. Such documentation will be kept on file at the 30 CES/CEANN. Formal consultation according to the standard Section 106 process is required for more substantial undertakings that affect the ability of a site to convey its historic character and function, such as demolition, replacement, or removal of features that contribute to a site's significance.

The PA also requires that any work performed under its auspices be performed by individuals meeting the Secretary of Interior's Profession Qualification Standards (48 FR 44738–44739). Any such work must be performed to contemporary professional standards, including the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716–44740). Additionally, the PA requires Vandenberg AFB to submit annual activity reports to the SHPO describing actions occurring at significant Cold War properties, explaining how the PA and HPP were applied to these actions, and assessing the effectiveness of the PA and HPP in meeting the Air Force's historic preservation goals and mission requirements (Price 2002:3.1–3.2).

7.5 TIMELINE OF COLD WAR STUDIES AND RELATED DOCUMENTATION FOR PILLAR POINT AFS

The following sections summarize the studies and other related documents pertaining to Cold War–related cultural resources at Pillar Point AFS.

7.5.1 Eligibility Evaluation of Pillar Point Air Force Station (1995)

Cole and Cagle (1995) evaluated the NRHP eligibility of the cultural resources on Pillar Point AFS, although there is a particular focus on its Cold War resources. This report contains a particularly thorough section on the historic setting of the station, which was established in by the Air Force in 1959, placing the age and activities of the site within the period of the Cold War. This document complies with Air Force interim guidance (Green 1993) on how Vandenberg AFB should deal with its Cold War resources. Based on an analysis of the facility’s significance and integrity, this study concluded that the CT radar and telemetry as well as Buildings 14, 18, 22, and 40 do not retain enough integrity to be individually eligible for the NRHP but collectively appear to be eligible. Additionally, Building 14 was evaluated as eligible for the NRHP as a contributing element to a potentially significant historic district (WRLISSHD).

7.5.2 Cold War Properties Evaluation (1996)

During 1993–1995, the Tri-Services Cultural Resources Research Center conducted a Legacy-funded inventory and evaluation of all Vandenberg AFB Cold War properties. This study found Pillar Point AFS Facilities 18 (AN/FPQ-6 Radar Facility), 22 (Telemetry Antenna), and 40 (Telemetry Antenna) eligible for the NRHP as contributing elements of the CERL-proposed WRLISSHD.

7.5.3 Memorandum of Agreement Regarding Pillar Point Air Force Station (1997)

This MOA is between the Air Force and the SHPO regarding the replacement of the 80 foot telemetry antenna on Facility 22 with a 25-foot diameter antenna (Appendix J). Because of the disparity in size between the replacement dish and the original, it was determined that the undertaking would have an effect on the antenna structure, a contributing element to the proposed WRLISSHD. As mitigation, the memorandum stipulated that the Air Force record the existing antenna in accordance with Historic American Engineering Record (HAER) unit direction and to make this photographic record available to the SHPO. It was agreed for the purpose of this project to assume eligibility for the antenna although at the time no final determination had been made regarding the NRHP eligibility of the proposed WRLISSHD.

It should be noted that after the execution of the MOA, the original antenna was removed but no replacement was erected (Carucci, personal communication 2003).

7.5.4 Final Environmental Assessment for the Pillar Point Repair Project (1999)

This document analyzed potential impacts associated with repairs to restore storm damaged facilities and infrastructure at the stations (Tetra Tech 1999). The undertaking involved abandonment and relocation of a portion of the Northern Loop Road, and modification of the Southern Loop Road/Building 212 access road intersection. Demolition of the northern half of

Building 17 was also proposed because of its proximity to the landslide. The EA noted that Building 17 is neither eligible for inclusion on the NRHP as an individual structure, nor is it a contributing element of the proposed WRLISSHD. The EA concluded that no impacts to prehistoric or historic resources were expected from the proposed project and no mitigation measures were recommended.

7.5.5 Consultation with the State Historic Preservation Officer (1999)

In this letter from the SHPO to Scott W. Westfall, Lieutenant Colonel, Vandenberg AFB, dated 13 September 1999, re.: Pillar Point Repair Project, San Mateo County, concurred with the Air Force's determination that Building 17 is not eligible for inclusion on the NRHP as an individual structure or as contributor to a potential WRLISSHD. SHPO concluded that the proposed project (road repairs and demolition of the north half of Building 17) would have no effect on historic properties.

7.5.6 Programmatic Agreement and Historic Preservation Plan for the Management and Treatment of Cold War Properties (2002)

These documents were initiated in 1999 and executed by Vandenberg AFB and the SHPO in 2002. They were developed as a result of, and supported by, the findings of the CERL study and evaluations. The PA specifies that the HPP be used by Vandenberg AFB to manage historic properties. It also requires that any work conducted under its auspices be done by individuals meeting the Secretary of Interior's Professional Qualification Standards (48 FR 44738–44739) and performed to contemporary standards including the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716–44740).

The HPP contains a list of Cold War historic properties under Vandenberg AFB jurisdiction and covered by the PA at the time of execution. It also outlines specific management and treatment measures for each of these historic properties (or classes of historic properties). Regarding the WRLISSHD, it states:

The WRLISSHD is composed of a number of sites (both on VAFB, and also at three remote locations in other parts of California) that are significant based on their historic function. Each site is comprised of a number of contributing elements that together convey a sense of that site's historic function. Preventative maintenance, repairs, and normal upgrades that do not modify a site's contributing elements will not require VAFB to complete the standard Section 106 process.

Undertakings that modify contributing elements of the historic sites in the WRLISSHD, but do not compromise the functional integrity of these sites (e.g., as a telemetry site or as an optical site), still constitute incremental and cumulative changes. While these evolutionary upgrades are common at highly technical and scientific installations, some documentation to preserve a record of these changes is necessary. In such cases, VAFB will prepare a documentation packet consisting of photographic prints, design plans, and a description of the undertaking. Normally, color, 5" x 7" photographic prints from 35-mm film negatives will be produced. Digital camera images, and video film (magnetic tape media) may also be used to record "before and after" images of the affected facility. This packet will be archived at 30 CES/CEVPC at VAFB.

Undertakings that adversely affect the ability of a site's contributing elements to convey a sense of the site's historic function will require VAFB to complete the statutory Section 106 process. This would occur, for example, when contributing elements are completely removed or replaced, when an entire site is demolished, or when a site is altered to perform a function wholly unrelated to its historic function [HPP:9].

Another area addressed by the HPP concerns Vandenberg AFB intentions concerning proposed and potential discontinuous historic districts containing noncontributing elements. Specifically, it states, "In sum, VAFB will assume that the contributing elements of the discontinuous WRLISSHD are eligible for the National Register, and will manage them in accord with this PA and HPP" (HPP:11).

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8 MANAGEMENT OF TRADITIONAL CULTURAL PROPERTIES AND NATIVE AMERICAN RESOURCES

8.1 MANAGEMENT GUIDELINES

Traditional Cultural Properties (TCPs) are defined in National Register Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (Parker and King 1998) as locations with traditional religious or cultural significance “derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices.” TCPs are a unique resource type for which early and continuing consultation may be required pursuant to applicable statutes and executive orders when a federal agency takes an action that will have substantial direct effects on a federally recognized tribe. The prehistoric archaeological sites on or near Pillar Point AFS are of ideological importance to federally recognized Ohlone tribal members as well as non-federally recognized persons and groups claiming Ohlone cultural affiliation. These sites may range from places with cosmological meaning and ritual activity to small resource-gathering or processing locales that mark where people ancestral to the Ohlone lived. It is difficult to overestimate just how important these resources are to maintaining the cultural identity of the living Ohlone community.

Chapter 9 of the Vandenberg ICRMP (Dick Bissonnette 2001) focuses on general management issues related to TCPs and Native American Resources (NARs) on Vandenberg AFB. No specific research has been conducted for Pillar Point AFS to identify these resources. However, additional research by qualified anthropologists in consultation will guide management of resources and places of concern to Native Americans and other ethnic groups.

As part of a federal agency, Vandenberg AFB must comply with environmental and historic preservation laws such as the NEPA and NHPA (see Vandenberg ICRMP Chapter 3). Especially relevant are Sections 106 and 110 of the NHPA. If a federal action qualifies as an “undertaking,” then the Agency Official must follow the procedures set forth at 36 CFR 800 to ascertain whether the action has the potential to affect historic properties. The BCRM must determine whether the undertaking will adversely affect historic properties, and, if so, implement measures to resolve those effects (36 CFR 800.5–800.6). Early in the process, the Agency Official must define an APE (36 CFR 800.16[d]). Section 106 is not the only requirement, however. Even places or values that do not appear to meet the NRHP eligibility criteria must be considered under the NEPA, the AIRFA, Executive Order (EO) 13007, EO 12898, and other authorities.

The natural/cultural setting of important TCPs and natural resources that are still important to local Native Americans should be considered. The NEPA and EO 12898 on environmental justice are relevant to these concerns. As Thomas L. King writes in his 1998 publication, *Cultural Resource Laws and Practice: An Introductory Guide*, federal agencies must give special attention to impacts on low-income or minority groups that are disproportionately affected relative to other groups, including whether the proposed action will “alter the sociocultural character of such a group’s community or neighborhood, or its religious practices; or alter such a group’s use of land

or other resources” (King 1998:42). Base consultations with the appropriate band(s) of the Ohlone Tribe, particularly concerning access agreements and natural and cultural resource protection, take precedence; but culturally sensitive dialogue is called for with other affiliated groups as well.

Honoring confidentiality agreements regarding the most sensitive locations and beliefs is necessary to avoid adverse effects on traditional religious and cultural values. Federal agencies are obligated to respect the secret/sacred nature of oral history and ethnographic information regarding places of traditional religious and cultural importance. Ethnographers contracted to identify and assess TCPs are directed to gather the minimum amount of data needed to make good management decisions and to leave sensitive information under the control of appropriate tribal representatives.

Both TCP and NAR resource types include geomorphological features such as caves, mountains, promontories, and waterfalls; human activity areas such as former Indian villages and cemeteries; resource-gathering areas and natural resources such as wetlands and juncus patches; sites with multiple resource values such as a former village site with human burials, associated petroglyphs, and adjacent gathering areas; and concentrations of any of these types of resources in an area that may be eligible as an NRHP district or defined and managed as a traditional cultural landscape.

The draft Historic Preservation Professional Qualification Standards proposed by the Secretary of the Interior in 1994 for (1) Cultural Anthropology and (2) Traditional Cultural Property Expertise are minimum requirements for Air Force personnel and contractors dealing with TCPs and NARs. Vandenberg AFB requires additional experience and qualifications (see Vandenberg ICRMP Volume 9, Chapter 11).

8.2 NATIVE AMERICAN CONSULTATION FOR THE PILLAR POINT CRMP

Prior to beginning work on this CRMP, Applied Earth Works, Inc. contacted the NAHC regarding specific Native American concerns for Pillar Point and appropriate Native American contacts for San Mateo County. Their sacred lands file did not indicate any areas of concern in the immediate vicinity. They also provided a list of 10 Native American contacts for San Mateo County.

Letters were sent to these contacts asking for their input. No responses to letters were received. Applied EarthWorks, Inc. made follow-up telephone calls to elicit concerns and information regarding the area. Two meetings were held with a representative from the Amah Mutsun Tribe.

The letters to the NAHC and individual Native Americans as well as a summary of telephone calls and responses are included in Appendix E.

9

DISCOVERY AND TREATMENT OF HUMAN REMAINS, INCLUDING CORONER CONTACT INFORMATION

This chapter considers the proper treatment of human remains found on Pillar Point AFS. It is summarized from Chapter 5 of the Vandenberg ICRMP (Lebow and Moratto 2001:8-1–8-12).

Human remains of prehistoric Native Americans have been exposed on Pillar Point AFS property. If any human remains are identified on the station in the future, they may be recent or of earlier prehistoric age; they repose in marked or unmarked graves, alone or in cemeteries; and they may represent the victim(s) of accident or foul play as well as those who died of natural causes. A major objective, therefore, is to properly identify and date any human remains encountered on the installation.

It is anticipated that most of the human remains found at Pillar Point AFS will be those of Native Americans. These remains are the subject of the present chapter. As defined in the regulations for the NAGPRA,

Human remains means the physical remains of a human body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony . . . must be considered as part of that item [43 CFR 10.2(d)(1)].

Selecting an appropriate course of action when human remains come to light can be a complex decision-making process. Compliance with several federal and state laws is likely required, and may involve coordination of such varied entities as the San Mateo County Coroner; NAHC (a state entity); local Native Americans or members of other ethnic, religious, and/or familial groups; archaeological contractors; biological anthropologists; the 30 CES/CEANN (most notably, the BCRM); and in some case the SHPO as well, must be coordinated. 30 CES/CEANN will contact 30 SW/JA to ensure the appropriate agencies are notified and will be involved to ensure the proper laws are applied. Moreover, human remains and associated funerary objects, if any, often are viewed as sacred or otherwise important and must be treated with respect. Sensitivity toward all interested parties is also essential whenever human remains are concerned.

This chapter consists of four sections. The first of these presents a summary of state and federal laws protecting human remains, whether on public or private lands, in California. Section 9.2 examines the procedures legally required to be implemented whenever human remains are discovered. Covered in Section 9.3 are measures for the treatment of any funerary objects that may occur with the human remains. Finally, Section 9.4 summarizes, for the benefit of archaeological contractors and others, the required procedures for treatment of human remains in various planning and resource management contexts.

9.1 STATE LEGAL PROTECTION FOR HUMAN REMAINS

Again, for Federal undertakings originating on Pillar Point AFS and extending onto lands owned by private individuals, local governments, or the State of California, those portions of the Federal undertaking beyond the boundary of Pillar Point AFS would fall under the purview of State and local regulation. Human remains, graves, and cemeteries are protected by both state and federal law. If applicable, 30 CES/CEANN will consult 30 SW/JA to ensure the appropriate agencies are notified and will be involved to ensure the proper laws are applied. These state statutes and regulations may include the California Health and Safety Code (C&HSC) and California Public Resources Code (PRC).

9.2 DISCOVERY OF HUMAN REMAINS

In the domain of federal law, the NAGPRA (see Appendix R in Vandenberg ICRMP Chapter 3) draws a distinction between intentional and inadvertent discoveries of Native American human remains. The intentional excavation or removal of such remains, as well as cultural objects, from federal or tribal lands is permitted only if:

such items are excavated or removed pursuant to a permit issued under section 4 of the Archaeological Resources Protection Act of 1979 (93 Stat. 721; 16 U.S.C. 70aa *et seq.*) which shall be consistent with this Act;

such items are excavated or removed after consultation with or, in the case of tribal lands, consent of the appropriate (if any) Indian tribe . . . ;

the ownership and right of control of the disposition of such items shall be as provided in subsections (a) and (b); and

proof of consultation or consent under paragraph (2) is shown [25 USC 3002(c)].

Section 3(d) of the NAGPRA governs inadvertent discoveries. This section requires that:

- (1) Any person who knows, or has reason to know, that such person has discovered Native American human remains or cultural items on federal or tribal lands shall notify, in writing, the secretary of the department or head of the agency having primary management authority with respect to federal lands and the appropriate Indian tribe with respect to tribal lands [25 USC 3002(d)].

Further,

if the discovery occurred in connection with an activity, including (but not limited to) construction, mining, logging, and agriculture, the person shall cease the activity in the area of the discovery, make a reasonable effort to protect the items discovered before resuming such activity, and provide notice under this subsection. Following the notification under this subsection, and upon certification by the Secretary of the department or the head of any agency or instrumentality of the United States or the appropriate Indian tribe . . . that notification has been received, the activity may resume after 30 days of such certification.

The disposition of and control over any cultural items excavated or removed under this subsection shall be determined as provided for in this section.

If the Secretary of the Interior consents, the responsibilities (in whole or in part) under paragraphs (1) and (2) of the Secretary of any department (other than the Department of the Interior) or the head of any other agency or instrumentality may be delegated to the Secretary with respect to any land managed by such other Secretary or agency head.

Specific procedures for implementing these requirements are detailed in the NAGPRA regulations (43 CFR 10)), reiterated in AFI 32-7065, §3.9, and summarized as follows in A. L. Schneider's (1996) handbook, *NAGPRA and Federal Land Management*:

- A. Section 3(d) of the Act requires that potential Native American claimants be notified if human remains or *cultural items* are inadvertently discovered on federal or tribal land after November 16, 1990. 25 U.S.C. 3002(d). Section 10.4 of the Regulations [43 CFR 10] implements this statutory requirement.
 1. Federal officials are responsible for giving notice of discoveries on federal land . . . [see 43 CFR 10.4(d)(1)].
 2. Discoveries on tribal land are the responsibility of tribal officials [see 43 CFR 10.4(e)]. As with intentional excavations, they are not required to follow the procedures set out in the Regulations.
 3. Under the Regulations, the responsibilities of federal officials commence upon their receipt of written confirmation of an inadvertent discovery [43 CFR 10.4(d)].
 - (a) The Regulations require that all federal authorizations for land use activities on federal or tribal land must include a requirement that the holder of the authorization will notify the appropriate federal or tribal official if human remains or *cultural items* are discovered . . . [see 43 CFR 10.4(g)].
 - (b) The discoverer must give immediate telephone notification to the responsible agency official, followed by written confirmation [43 CFR 10.4(b)].
 - (c) Federal agency officials should also take appropriate steps to ensure that their employees are familiar with the notification procedures required by the Regulations **Comment:** This should include procedures to be followed by employees for reporting discoveries made on federal or tribal land.
- B. Notice of an inadvertent discovery on federal land must be sent to potential claimants within 3 working days after the responsible agency official has received written confirmation of the discovery [43 CFR 10.4(d)(1)].
 1. Initial notification must be given to potential claimants by telephone [43 CFR 10.4(d)(iii)]. This must be followed by written confirmation. See preceding citation.
 2. The Regulations do not require that the written confirmation be sent by certified mail. As previously noted . . . use of certified mail could be offensive to some parties.
 3. Note that these notice requirements begin upon receipt of the written confirmation of a discovery, not upon receipt of the discoverer's telephone notification. This start date was selected so that federal officials would have additional time in which to identify the parties to be notified [see 43 CFR 10.4].

- (a) The Act only requires a 30 day stop work period . . . [25 U.S.C. 3002(d)].
 - (b) Under the Regulations, it may be slightly longer since it is calculated not from the date of discovery but rather from the date of certification of receipt of the written discovery confirmation.
- C. The parties to whom notice must be sent are listed in 43 CFR 10.4(d)(1)(iii).
- 1. These parties are:
 - (a) those Indian tribes . . . that are “likely” to be culturally affiliated with the discovered remains or *cultural items*;
 - (b) any Indian tribe . . . that aboriginally occupied the area;
 - (c) any other Indian tribe . . . that is “reasonably known” to have a cultural relationship to the discovered remains or *cultural items*.
 - 2. Note that categories (b) and (c) differ slightly from the corresponding categories for intentional excavations [43 CFR 10.3(c)(1)]. Also note that other provisions of the Regulations require that notice be given to lineal descendants . . . [43 CFR 10.5(b)(1)(i)].
- D. In addition to giving notice of a discovery, the responsible agency official is required to take the following actions when he or she receives written confirmation of the discovery.
- 1. The official must certify receipt of the confirmation [43 CFR 10.4 (d)(1)(i)].
 - 2. The official must take immediate steps, if necessary, to further secure and protect the discovered remains or cultural items [43 CFR 10.4(d)(1)(ii)]. What is required in this regard will depend upon the circumstances [see 43 CFR 10.4].
 - 3. The official must initiate the consultation process . . . [43 CFR 10.4 (d)(1)(iv)].
- E. All activity “in the area of” the discovery must stop when the discovery is made [43 CFR 10.4(c)].
- 1. Activity may not resume in the area until the earlier of: (i) 30 days after the federal agency official certifies receipt of the written confirmation of the discovery; or (ii) a binding recovery plan is signed between the agency and the affiliated Indian tribes . . . [43 CFR 10.4(d)(2)] . . . [Schneider 1996:7-4–7-6].

All relevant legal requirements regarding the discovery and treatment of human remains must be included (summarized) in construction and maintenance contracts.

9.3 TREATMENT OF FUNERARY OBJECTS

The NAGPRA requires that funerary objects, whether discovered intentionally or inadvertently, be treated in accordance with the procedures summarized above (see Section 9.2). In addition, such objects are protected as artifacts under the ARPA [16 U.S.C. 470AA–470MM] and its implementing regulations (49 FR 1027 and 52 FR 9168ff) (also see Section 3.11 and Appendix O of Vandenberg ICRMP Volume 3).

Funerary objects means items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains. Funerary objects must be identified by a preponderance of the evidence as having been removed from a specific burial site of an individual affiliated with a particular Indian Tribe or as being related to specific individuals or families or to known human remains. The term *burial site* means any natural or prepared physical location, whether originally

below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual human remains were deposited, and includes rock cairns or pyres which do not fall within the ordinary definition of grave site (43 CFR 10.2[d][2]).

Section 5097.99 of the PRC forbids the acquisition of human remains or artifacts from a Native American grave and declares that anyone who violates this proscription is guilty of a felony.

- (a) No person shall obtain or possess any Native American artifacts or human remains which are taken from a Native American grave or cairn on or after January 1, 1984, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (1) of Section 5097.94 or pursuant to Section 5097.98.
- (b) Any person who knowingly or willfully obtains or possesses any Native American artifacts or human remains which are taken from a Native American grave or cairn after January 1, 1988, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (1) of Section 5097.94, or pursuant to Section 5097.98, is guilty of a felony which is punishable by imprisonment in the state prison.
- (c) Any person who removes, without authority of law, any Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness is guilty of a felony which is punishable by imprisonment in the state prison [PRC 5097.99].

9.4 SUMMARY OF PROCEDURES FOR TREATMENT OF HUMAN REMAINS

For the benefit of cultural resources managers, project administrators, archaeological contractors, and others whose activities may result in the discovery of human remains at any location on Pillar Point AFS, the following procedures are required to comply with the state and federal laws discussed above.

9.4.1 Intentional Excavations

As required by NAGPRA:

- 1. Before excavation, written notice must be sent to:
 - (a) tribes . . . likely to be culturally affiliated
 - (b) aboriginally occupying tribes
 - (c) other tribes . . . likely to have cultural relationship
 - (d) lineal descendants
- 2. Telephone contact if no response within 15 days [Schneider 1996:7-7].

9.4.2 Inadvertent Discoveries

As required by NAGPRA:

- Telephone and written notice must be sent to:
- (a) tribes . . . likely to be culturally affiliated
 - (b) aboriginally occupying tribes
 - (c) other tribes . . . reasonably known to have a cultural relationship

(d) lineal descendants [Schneider 1996:7-7].

Table 9-1 (from Schneider 1996:8-7) lists the steps required for NAGPRA compliance whenever human remains are discovered inadvertently on federal or tribal lands.

Table 9-1
NAGPRA Compliance—Inadvertent Discovery of Human Remains

Event/Action	Required (or Recommended) Response
A	
Discovery*	<ol style="list-style-type: none"> 1. Cease work in area (<i>required</i>) 2. Protect site (<i>required</i>) 3. Give telephone notice to responsible agency (<i>required</i>) 4. Send written confirmation to agency (<i>required</i>)
B	
Receipt of telephone notice**	<ol style="list-style-type: none"> 1. Visit site (<i>recommended</i>) 2. Order (or take) other necessary protective measure (<i>recommended</i>) 3. Make initial determination of likely affiliated tribes (<i>recommended</i>)
C	
Receipt of written confirmation**	<ol style="list-style-type: none"> 1. Certify receipt of written confirmation (<i>required</i>)
D	
3 days after C**	<ol style="list-style-type: none"> 1. Give telephone notice to affiliated tribes (<i>required</i>) 2. Mail written confirmation to the above parties (<i>required</i>) 3. Order (or take) other necessary protective measures (<i>required</i>) 4. Initiate consultation (<i>required</i>)
E	
As soon as practical after C**	<ol style="list-style-type: none"> 1. Obtain data about possible lineal descendants (if applicable) and traditional religious leaders who should be consulted (<i>required</i>) Begin preparation of written plan of action (<i>required</i>)
F	
Any time after D**	<ol style="list-style-type: none"> 1. Record efforts to find and contact all potential claimants (<i>recommended</i>) 2. Continue site monitoring (<i>required</i>)
G	
30 days after C**	<ol style="list-style-type: none"> 1. Activity can resume in the area of discovery
H	
Any time after C**	<ol style="list-style-type: none"> 1. Sign written plan of action and provide copies to potential custody claimants 2. (<i>required</i>) 3. Resolve status of remains and objects (<i>required</i>) Resolve custody claims (<i>required</i>)
I	
After custody claims are resolved**	<ol style="list-style-type: none"> 1. Make arrangements for transfer of custody (<i>required</i>) 2. Publish newspaper notices of proposed repatriation (<i>required</i>)
J	
30 days after 2nd newspaper publication**	<ol style="list-style-type: none"> 1. Transfer custody if no other claims are asserted (<i>required</i>)

*Applies to discoverer.

**Applies to agency.

9.4.3 For All Discoveries of Human Remains

1. Cease work in the immediate vicinity of the discovery and make an initial determination as to whether the remains are human, potentially human, or clearly

nonhuman. This determination will be made by 30 CES/CEANN personnel (in conjunction with a cultural resources contractor, if one is involved with the discovery). In some instances, it will be clear if the remains are human or nonhuman. If they are clearly nonhuman, no further notification and action are necessary but additional archaeological assessment may be necessary. If the remains are human or potentially human, the following steps apply.

2. Take appropriate steps to secure and protect the human remains and any funerary objects from further disturbance. It is preferable to leave remains in place.
3. The 30 CES/CEANN project manager will contact the county coroner immediately to report the discovery. As of December 2008, the San Mateo County Coronor's office contact information is:

Coroner's Office Telephone: (650) 312-5562

4. Consult with a physical anthropologist, human osteologist, or other qualified specialist to verify that the remains are human and, if so, whether or not they appear to be those of a Native American. It is essential that this aspect of the work be coordinated very closely with the coroner, as required by law, to ensure that any potential evidence of a crime is not disturbed.
5. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, then: (a) ensure that notices are timely sent to tribes (see 9.4.2, above), and (b) the coroner notifies the NAHC. Follow the procedures outlined in Table 9-1 to comply with NAGPRA, and work closely with the coroner and the Most Likely Descendant identified by the NAHC to satisfy California H&SC Section 7050.5 and PRC Section 5097.98.
6. If the human remains are not those of a Native American, then the BCRM should consult with the coroner, biological anthropologist or human osteologist, and a qualified historical archaeologist to develop an appropriate plan for treatment. Historical research, further archaeological excavations, and/or other studies may be needed before a treatment plan can be finalized. Also, if the remains are those of an identifiable individual, next of kin must be notified; such kin may wish to influence or control the subsequent disposition of the remains.
7. If the next of kin (for non-Indian remains), Most Likely Descendant, or other appropriate entity (e.g., culturally affiliated tribe, aboriginally occupying tribe, other tribe likely to have a cultural relationship, or lineal descendants) so requests, Vandenberg AFB will assist in arranging for reburial at a location not subject to further disturbance at or near the original discovery site. Additional assistance, not required by law but customary in many areas, might include provision of burial containers, excavation equipment, and/or financial support for the travel, expenses, and time of those participating in the reburial.

ARCHAEOLOGICAL RESOURCES PROTECTION ACT ENFORCEMENT

The purpose of the ARPA is to safeguard irreplaceable cultural resources on federal and Indian lands from private interests and to promote the professional collection of information for study and public benefit. The ARPA requires a permit for any excavation or removal of archaeological resources from public or Indian lands, and stipulates civil and criminal penalties for the removal or excavation of protected resources without a permit. Without an ARPA permit, it is illegal to “excavate, remove, damage, or otherwise alter” any archaeological resource located on Pillar Point AFS (93 Statute [Stat.] 72:Sec. 6[a]). It is also illegal to sell, purchase, exchange, transport, receive, or offer to sell, purchase, or exchange any archaeological resource removed from public lands in violation of the ARPA or any other federal, state, or local law (93 Stat. 72:Sec. 6[b–c]).

A report of vandalism from Pillar Point AFS Security Forces or others begins a process that may include some or all the following steps: investigation, damage assessment, evidence gathering and preparation of an investigative report, and prosecution. These procedures are conducted with assistance and guidance from Station Security Forces and the Vandenberg AFB Staff Judge Advocate. In addition, commanders must report potential violations of ARPA within 48 hours to appropriate authorities and to MAJCOM, as mandated by AFI 32-7065. AFI 32-7065 also stipulates that responses to violations of the ARPA must be coordinated with the Air Force Center for Environmental Excellence, MAJCOM, SHPO, and NPS. A full description of this process is provided in the Vandenberg ICRMP Chapter 12.

The penalties for breaking this law are clear and include fines of up to \$20,000 and imprisonment of up to 2 years for the first violation, and up to \$100,000 in fines and up to 5 years in prison for the second violation (93 Stat. 72:Sec. 5[a–d]). The ARPA also allows for civil penalties to be assessed against violators and for vehicles and equipment used in connection with violations to be forfeited (93 Stat. 72:Sec. 5[a–d]).

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FIRE PROTECTION AND POST-FIRE TREATMENT OF RESOURCES

This chapter of the Pillar Point CRMP provides guidelines to help Pillar Point AFS administrative personnel, 30 CES/CEANN, and the Half Moon Bay Fire Department work together to protect cultural resources on the station. It discusses how fire department actions, or actions required by the fire department, may affect these resources. The importance of teamwork between AFS personnel and the fire department is emphasized. This chapter should be made available to any fire department administrative personnel working on the station, as well as to administrative contractors who manage and operate Pillar Point AFS under subcontract to the Air Force.

More than many other activities that occur on Pillar Point AFS, the fire department's actions have potential to harm, albeit unintentionally, the station's nonrenewable cultural resources. Impacts to archaeological sites can occur from ground disturbance associated with both presuppression and fire suppression activities.

Presuppression actions may include controlled or prescribed burns and training fires as well as mechanical maintenance or clearing of fire control lines or firebreaks, staging areas, and helicopter pads. Contingency firebreaks are regularly cleared to bare mineral soil, typically by bulldozer, although they may sometimes be disked or hand cleared. Access roads, which also serve as fuel breaks, receive no regular clearance but are mowed or otherwise cleared of vegetation as needed to allow vehicle access. Staging areas, fallback areas, and helispots usually utilize previously paved areas to reduce both ground disturbance and the need for site preparation but also may be bladed or mowed as needed.

Fire suppression activities have potentially the most impact on archaeological sites, particularly when the equipment turns for another pass and the blade cuts deepest. Fire control lines, which are not cleared until they are needed during fire suppression, are usually bladed to remove vegetation and are two to three bulldozer blades wide.

The potentially destructive nature of these activities creates the need for fire personnel to actively team with cultural resources staff. The remainder of this chapter provides direction for both Half Moon Bay Fire Department and 30 CES/CEANN staff in their joint effort to protect the station's archaeological sites.

Pillar Point AFS has an existing Fire Plan (ITT Systems 2000). The Station Manager is the person responsible for Fire Prevention at Pillar Point AFS, and appoints a Fire Marshall to implement the Fire Plan. The plan describes existing fire extinguishing and control systems, emergency procedures, post-fire procedures, and fire incident reporting procedures. Procedures for fire inspections and fire prevention/protection training are also included.

Buildings 1, 10, 13, and 17 at Pillar Point AFS have automatic sprinkler systems. Fire hydrants are located around the station, and all buildings are equipped with portable dry chemical or water type fire extinguishers. Any fires that occur in NRHP-eligible Buildings 14, 18, 22, or 40 will be

reported by the Station Manager to the 30 CES/CEANN in addition to other appropriate Air Force organizations.

About three-quarters of the Pillar Point AFS property is undeveloped. It is within this area that unrecorded cultural resources may be located. Presuppression and fire suppression activities have the potential to unearth previously undiscovered resources or disturb recorded resources. The Station Manager and the Fire Marshall will coordinate with the 30 CES/CEANN and the Half Moon Bay Fire Department to ensure that presuppression activities do not occur within or near previously recorded resources. In addition, newly bladed or disturbed areas resulting from suppression or presuppression activities should be examined by a qualified archaeologist as soon as possible and prior to the regrowth of vegetation.

RESOURCE INTERPRETATION AND PUBLIC AWARENESS

12.1 PUBLIC AWARENESS AND INVOLVEMENT

As part of the cultural resources management plan and according to the ARPA (16 USC 470ii(c)), MAJCOMs are directed to establish programs to increase public awareness of archeological resources on Air Force lands. The topic of public awareness and information is discussed in Volume 4 of the Vandenberg ICRMP, *Resource Interpretation and Public Awareness Plan* (Price and Denardo 2003). Subtopics such as tours, signage, trails, videos, exhibits, press releases, and lectures are discussed in Sections 3.2–3.7 of that volume. Further, new personnel and contractor briefings are discussed in Vandenberg ICRMP, Chapter 5.

12.2 PUBLIC RELATIONS ON PILLAR POINT AFS AND BEYOND THE STATION

The Pillar Point AFS vicinity hosts many visitors drawn primarily by the area's many recreational opportunities and natural resources. Existing interpretive exhibits associated with the nearby Fitzgerald Marine Reserve could be augmented to include information about the area's prehistory and history, including the unique contribution of Pillar Point AFS. Signs could be placed below the station to alert visitors to the presence of cultural resources and remind them of site protective laws. Other activities involving the public could include lectures, public tours, slide shows, exhibits, and museums as discussed at length in Vandenberg ICRMP, Chapter 4.

With regard to the electronic resources on the Internet, a Web page could be created summarizing cultural and natural resources in and around Pillar Point AFS, and links could be added to the Vandenberg AFS home page to access a number of archaeological pages. These might include links to legislation, universities and historical societies, Native American Web sites, flyers, and videos about cultural resources and other related information. For resource protection in this type of information exchange, care must be taken not to provide the public with specific site locations. Properly done, however, this type of approach can be an informative, interactive, yet safe activity that poses no threat to the resources. Another direction to pursue that does not pose a threat to the cultural resources is to establish connections with other facilities and installations to exchange information about their approaches to site management and maintenance of site integrity.

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13

ABBREVIATIONS AND ACRONYMS

AC	(California) Administrative Code
ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AFI	Air Force Instruction
AFS	Air Force Station
AFWTR	Air Force Western Test Range
AIRFA	American Indian Religious Freedom Act
ARPA	Archaeological Resources Protection Act
BCP	Base Comprehensive Plan
BCRM	Base Cultural Resources Manager
CATEX	Categorical Exclusion
CCTS	Central California Taxonomic System
CEQA	California Environmental Quality Act
CERL	(U.S. Army) Construction Engineering Research Laboratories
CFR	Code of Federal Regulations
CRMP	Cultural Resources Management Plan
CT	command transmitter
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
HAER	Historic American Engineering Record
H&SC	(California) Health and Safety Code
HPP	Historic Preservation Plan
HQ AFSPC	14th Air Force Headquarters Space Command
ICBM	Intercontinental Ballistic Missile
ICRMP	Integrated Cultural Resources Management Plan
MAJCOM	Major Command
NAGPRA	Native American Graves Protection and Repatriation Act

NAHC	Native American Heritage Commission
NAR	Native American Resource
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center of the California Historical Resources Information System, Sonoma State University
PA	Programmatic Agreement
PC	(California) Penal Code
PRC	(California) Public Resources Code
ROD	Record of Decision
SAC	Strategic Air Command
SHPO	State Historic Preservation Officer
SOP	Standard Operating Procedure
SOW	Statement of Work
Stat.	Statute
TCP	Traditional Cultural Property
UCB	University of California at Berkeley
WRLISSHD	Western Range Landbased Instrumentation Support Systems Historic District
30 CES/CECB	30th Civil Engineer Squadron, Engineering Flight, Base Planning
30 CES/CEF	30th Civil Engineer Squadron, Fire Protection Chief
30 CES/CEO	30th Civil Engineer Squadron, Operations Flight
30 CES/CEOE	30th Civil Engineer Squadron, Operations Flight, Maintenance Engineering
30 CES/CEOSC	30th Civil Engineer Squadron, Customer Service, Facility Maintenance
30 CES/CEAO	30th Civil Engineer Squadron, Environmental Flight, Planning Group (Formerly 30 CES/CEVP)
30 CES/CEANN	30th Civil Engineer Squadron, Environmental Flight, Planning Group, Cultural Resource Section (Formerly 30 CES/CEVNC and 30 CES/CEVPC)
30 CES/CEAOP	30th Civil Engineer Squadron, Environmental Flight, Program Planning Section (Formerly 30 CES/CEVP)
30 MDOS/SGOAB	30th Medical Operations Squadron, Bioenvironmental
30 SW/SEG	30th Space Wing, Base Safety Chief

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