

Appendix E

Cultural Resources

HISTORIC STRUCTURE ASSESSMENT FOR THE WEST CAMPUS UPPER PLATEAU PROJECT

MARCH AIR RESERVE BASE RIVERSIDE COUNTY, CALIFORNIA

APNs 297-090-001, -002, -003, and -009

Submitted to:

**March Joint Powers Authority
14205 Meridian Parkway, Suite 140
Riverside, California 92518**

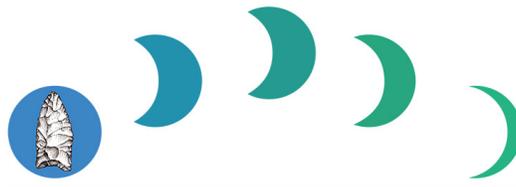
Prepared for:

**Meridian Park, LLC
c/o Lewis Retail Centers
1156 North Mountain Avenue
Upland, California 91785**

Prepared by:

**BFSA Environmental Services,
a Perennial Company
14010 Poway Road, Suite A
Poway, California 92064**

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BFSA Environmental Services
A Perennial Company

Archaeological Database Information

- Author(s):*** Irem Oz, Ph.D., Architectural Historian
- Consulting Firm:*** BFSA Environmental Services, a Perennial Company
14010 Poway Road, Suite A
Poway, California 92064
(858) 679-8218
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c/o Lewis Retail Centers
1156 North Mountain Avenue
Upland, California 91785
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14205 Meridian Parkway, Suite 140
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I. EXECUTIVE SUMMARY

In response to a request from Meridian Park, LLC, courtesy of Lewis Retail Centers, BFSAs Environmental Services, a Perennial Company (BFSAs) conducted a historic structure evaluation of the approximately 400-acre West Campus Upper Plateau Project within the March Air Force Base (March AFB). As currently proposed, the project entails developing the property into a mixed industrial and commercial use area with warehouse buildings, paved parking lots, internal roadways, and park space. The March Joint Powers Authority (MJPA), as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).

Within the project is a Cold War-era March AFB Weapons Storage Area (WSA) with 20 structures including munitions storage igloos (A1 to A14), constructed between 1948 and 1962, and weapons maintenance shops (B, C, D, E, F, and G), constructed between 1953 and 1978. The structures were evaluated individually (Site WSA) and together for historic district designation (Site WSA Historic District). The historic-aged complex has been studied and evaluated as not eligible for inclusion in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) as the WSA is relatively insignificant compared to other Cold War-era bases and storage areas. The historic assessment of these buildings confirms the previous findings of the Historic Building Inventory and Evaluation for March AFB in 1995 (Wessel 1995) and has concluded that they cannot be considered historically or architecturally important, as defined by CEQA and NHPA criteria. Because the buildings cannot be considered architecturally or historically significant, no mitigation measures are recommended prior to their removal or alteration.

II. INTRODUCTION

Report Organization

The purpose of this study is to evaluate the historic potential of the existing buildings located within the West Campus Upper Plateau Project. This study will be required as part of the entitlement process for the proposed development to determine if the buildings can be considered potentially significant and whether or not they are eligible for historic designation. The research conducted by BFSAs related to this project conformed to the NHPA, Section 106, the National Environmental Policy Act (NEPA) of 1969, and CEQA. Because any development would require approval from the MJPA, CEQA and NHPA historic resources eligibility criteria were used for this evaluation. Therefore, criteria for listing on the NRHP and CRHR re the appropriate measures of significance for the resources that will be affected by the proposed project.

Project Area

The historic resources evaluated in this study are within Assessor's Parcel Numbers

(APNs) 297-090-001, -002, -003, and -009. The project is located in the northwestern portion of March ARB between Interstate 215 (I-215) and Trautwein Road, southwest of the intersection of Meridian Parkway and East Alessandro Boulevard in an unincorporated portion of Riverside County. The property is situated within Sections 15, 16, 17, 20, and 21, Township 2 South, Range 4 West, of the San Bernardino Baseline and Meridian on the 7.5-minute USGS *Riverside East, California* topographic quadrangle map. The total area to be impacted covers approximately 380 acres of proposed commercial, industrial, and park development areas, as well as off-site improvements consisting of the extension of Cactus Avenue and Brown Street to provide access to the project. The project includes weapons storage igloos, weapons maintenance shops, hardscape, parking lots, paved driveways, and non-native landscaping.

Project Personnel

This evaluation was conducted by Irem Oz (Appendix C). Word processing, editing, and graphics production services were provided by BFSa staff.

III. PROJECT SETTING

Physical Project Setting

The project is located in the northwestern portion of March ARB within the West March Planning Subarea. The subject property is dominated by a plateau (referred to as the Upper Plateau) surrounded by low rolling hills separated by seasonal drainages. The Upper Plateau area is partially developed since the location previously housed the WSA. The project is just outside of the city of Riverside, southeast of Mission Grove, north of the Orange Crest neighborhood, and southwest of Sycamore Canyon Business Park in unincorporated Riverside County. It primarily consists of open land with residential developments to the northwest, west, and south, while light industrial warehouses occupy the land to the east and northeast.

The subject property lies within the Peninsular Ranges Geologic Province of southern California. The mountain range, which lies in a northwest to southeast trend through the county, extends some 1,000 miles from the Raymond-Malibu Fault Zone in western Los Angeles County to the southern tip of Baja California. Regionally, the project is within the Perris Block, a fault-bounded crustal block bounded on the west by the Elsinore fault zone and on the east by the San Jacinto fault zone (Morton and Cox 2001). The geology mapped at the subject property is mostly underlain by the Cretaceous-aged Val Verde tonalite, a type of crystalline plutonic rock related to granite (Morton and Cox 2001). Scattered, linear outcrops of Cretaceous granitic dikes, Paleozoic biotite schist, and mixed provenance crystalline rocks of pre-Cenozoic age are mapped as being surrounded by the Val Verde tonalite within the subject property. At the far eastern end of the project, lower Pleistocene (approximately 1.8 million- to perhaps 200,000- to 300,000-year-old), sandy, very old alluvial fan deposits are mapped. The specific soil types found at the property are primarily Fallbrook rocky sandy loam, Vista coarse sandy loam, Monserate sandy loam, and

Cieneba rocky sandy loam (NRCS 2019).

Vegetation found within the subject property is dominated by non-native weeds and grasses; however, pockets of sage scrub are found throughout with some limited riparian habitat situated near and within the seasonal drainages. During the prehistoric period, vegetation near the project provided sufficient food resources to support prehistoric human occupants. Animals that inhabited the area during prehistoric times included mammals such as rabbits, squirrels, gophers, mice, rats, deer, and coyotes, in addition to a variety of reptiles and amphibians. The natural setting of the project area during prehistoric occupation offered a rich nutritional resource base. Fresh water was likely obtainable from surrounding drainages and springs.

Historical Overview

Traditionally, the history of the state of California has been divided into three general periods: the Spanish Period (1769 to 1821), the Mexican Period (1822 to 1846), and the American Period (1848 to present) (Caughey 1970). The American Period is often further subdivided into additional phases: the nineteenth century (1848 to 1900), the early twentieth century (1900 to 1950), and the Modern Period (1950 to present). From an archaeological standpoint, all of these phases can be referred to together as the Ethnohistoric Period. This provides a valuable tool for archaeologists, as ethnohistory is directly concerned with the study of indigenous or non-Western peoples from a combined historical/anthropological viewpoint, which employs written documents, oral narrative, material culture, and ethnographic data for analysis.

European exploration along the California coast began in 1542 with the landing of Juan Rodriguez Cabrillo and his men at San Diego Bay. Sixty years after the Cabrillo expeditions, an expedition under Sebastian Viscaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Viscaíno had the most lasting effect upon the nomenclature of the coast. Many of his place names have survived, whereas practically every one of the names created by Cabrillo have faded from use. For instance, Cabrillo named the first (now) United States port he stopped at “San Miguel”; 60 years later, Viscaíno changed it to “San Diego” (Rolle 1969). The early European voyages observed Native Americans living in villages along the coast but did not make any substantial, long-lasting impact. At the time of contact, the Luiseño population was estimated to have ranged from 4,000 to as many as 10,000 individuals (Bean and Shipek 1978; Kroeber 1976).

The historic background of the region begins with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). As a result, by the late eighteenth century, a large portion of southern California was overseen by Mission San Luis Rey (San Diego County), Mission San Juan Capistrano (Orange County), and Mission San Gabriel (Los Angeles County), who began colonization the region and surrounding areas (Chapman 1921).

Up until this time, the only known way to feasibly travel from Sonora to Alta California was by sea. In 1774, Juan Bautista de Anza, an army captain at Tubac, requested and was given permission by the governor of the Mexican State of Sonora to establish an overland route from Sonora to Monterey (Chapman 1921). In doing so, Juan Bautista de Anza passed through Riverside County and described the area in writing for the first time (Caughey 1970; Chapman 1921). In 1797, Father Presidente Lausen (of Mission San Diego de Alcalá), Father Norberto de Santiago, and Corporal Pedro Lisalde (of Mission San Juan Capistrano) led an expedition through southwestern Riverside County in search of a new mission site to establish a presence between San Diego and San Juan Capistrano (Engelhardt 1921). Their efforts ultimately resulted in the establishment of Mission San Luis Rey in Oceanside, California.

Each mission gained power through the support of a large, subjugated Native American workforce. As the missions grew, livestock holdings expanded and became increasingly vulnerable to theft. In order to protect their interests, the southern California missions began to expand inland to try and provide additional security (Beattie and Beattie 1939; Caughey 1970). In order to meet their needs, the Spaniards embarked on a formal expedition in 1806 to find potential locations within what is now the San Bernardino Valley. As a result, by 1810, Father Francisco Dumetz of Mission San Gabriel had succeeded in establishing a religious site, or capilla, at a Cahuilla rancheria called Guachama (Beattie and Beattie 1939). San Bernardino Valley received its name from this site, which was dedicated to San Bernardino de Siena by Father Dumetz. The Guachama rancheria was located in present-day Bryn Mawr in San Bernardino County.

These early colonization efforts were followed by the establishment of estancias at Puente (circa 1816) and San Bernardino (circa 1819) near Guachama (Beattie and Beattie 1939). These efforts were soon mirrored by the Spaniards from Mission San Luis Rey, who in turn established a presence in what is now Lake Elsinore, Temecula, and Murrieta (Chapman 1921). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1961). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook 1976).

Mexico achieved independence from Spain in 1822 and became a federal republic in 1824. As a result, both Baja and Alta California became classified as territories (Rolle 1969). Shortly thereafter, the Mexican Republic sought to grant large tracts of private land to its citizens to begin to encourage immigration to California and to establish its presence in the region. Part of the establishment of power and control included the desecularization of the missions circa 1832. These same missions were also located on some of the most fertile land in California and, as a result, were considered highly valuable. The resulting land grants, known as “ranchos,” covered expansive portions of California and by 1846, more than 600 land grants had been issued by the Mexican government. Rancho Jurupa was the first rancho to be established and was issued to Juan Bandini in 1838. Although Bandini primarily resided in San Diego, Rancho Jurupa was located in what is now Riverside County (Pourade 1963). A review of Riverside County place names

quickly illustrates that many of the ranchos in Riverside County lent their names to present-day locations, including Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo (Gunther 1984). As was typical of many ranchos, these were all located in the valley environments within western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off of their land or put to work on the now privately-owned ranchos, most often as slave labor. In light of the brutal ranchos, the degree to which Native Americans had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from Mission San Luis Rey petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission ... We plead and beseech you ... to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The Mexican and American ranchers did not accept Native Americans into their social order and used them specifically for the extraction of labor, resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

By 1846, tensions between the United States and Mexico had escalated to the point of war (Rolle 1969). In order to reach a peaceful agreement, the Treaty of Guadalupe Hidalgo was put into effect in 1848, which resulted in the annexation of California to the United States. Once California opened to the United States, waves of settlers moved in searching for gold mines, business opportunities, political opportunities, religious freedom, and adventure (Rolle 1969; Caughey 1970). By 1850, California had become a state and was eventually divided into 27 separate counties. While a much larger population was now settling in California, this was primarily in the central valley, San Francisco, and the Gold Rush region of the Sierra Nevada mountain range (Rolle 1969; Caughey 1970). During this time, southern California grew at a much slower pace than northern California and was still dominated by the cattle industry established during the earlier rancho period. However, by 1859, the first United States Post Office in what would eventually become Riverside County was set up at John Magee's store on the Temecula

Rancho (Gunther 1984).

During the same decade, circa 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified these treaties, and the promise of one large reservation was rescinded (Brigandi 1998).

With the completion of the Southern Pacific Railroad in 1869, southern California saw its first major population expansion. The population boom continued circa 1874 with the completion of connections between the Southern Pacific Railroad in Sacramento to the transcontinental Central Pacific Railroad in Los Angeles (Rolle 1969; Caughey 1970). The population influx brought farmers, land speculators, and prospective developers to the region. As the Jurupa area became more and more populated, circa 1870, Judge John Wesley North and a group of associates founded the city of Riverside on part of the former rancho.

Although the first orange trees were planted in Riverside County circa 1871, it was not until a few years later when a small number of Brazilian navel orange trees were established that the citrus industry truly began in the region (Patterson 1971). The Brazilian navel orange was well suited to the Riverside County climate and thrived with assistance from several extensive irrigation projects. At the close of 1882, an estimated half a million citrus trees were present in California. It is estimated that nearly half of that population was in Riverside County. Population growth and 1880s tax revenue from the booming citrus industry prompted the official formation of Riverside County in 1893 out of portions of what was once San Bernardino County (Patterson 1971).

Shortly thereafter, with the start of World War I, the United States began to develop a military presence in Riverside County with the construction of March ARB. During World War II, Camp Haan and Camp Anza were constructed in what is now the current location of the National Veteran's Cemetery. In the decades that followed, populations spread throughout the county into Lake Elsinore, Corona, Norco, Murrieta, and Wildomar. However, a significant portion of the county remained largely agricultural well into the 1970s. Following the 1970s, Riverside saw a period of dramatic population increase as the result of new development, more than doubling the population of the county with a population of over 1.3 million residents (Patterson 1971).

General History of the City of Riverside

The city of Riverside was officially formed in 1870, primarily as a result of the vision of Judge John Wesley North. North and a group of investors formed the Southern California Colony Association in hopes of founding a viable agricultural colony in southern California (Patterson 1971). Although initially focused upon the Los Angeles region, their gaze shifted to the banks of the Santa Ana River in Rancho Jurupa where land was readily available for purchase from the California Silk Association (Stonehouse 1965). North became part of the community, providing the initial survey of the new colony and helping to facilitate its overall development. The

community was originally dubbed “Yurupa,” but the moniker was revised to “Riverside” at the close of 1870 (Stonehouse 1965; Patterson 1971). Although North had originally envisioned a diversified farming community growing a wide range of produce, including “oranges, lemons, figs, English walnuts, olives, almonds, raisin grapes, wine grapes, peanuts, sweet potatoes, sorghum and sugar beets” (Stonehouse 1965), the drive of the citrus industry by the 1880s and the introduction of the navel orange would eventually lead to a more citrus-focused industry in Riverside.

The expansion of the citrus industry in Riverside would have never been possible without the canal system, which was established in stages between 1870 and 1888. In an effort to feed the growing citrus industry, the first of these irrigation projects was initiated by the Southern California Colony Association and the California Silk Association in 1870 (Bailey 1961). This first canal system was followed by additional canals developed by the Riverside Canal Company and the Riverside Water Company in 1886 (Bailey 1961). With the establishment of a third large canal (the Gage Canal) between 1882 and 1888, a constant and reliable water source had been established, feeding some 20,000 acres of navel orange groves by 1885 (Guinn 1907; Brown 1985).

The growth of Riverside was further fueled by the development of the railroad system across the United States, giving the city the ability to ship citrus nationwide. As a result of the success of the navel orange, the establishment of canal systems, the advent of rail transportation, and the subsequent associated packing and cold storage industries, by 1885, Riverside had become the wealthiest city per capita in the United States (Patterson 1971).

After the end of World War II, as with the rest of Riverside County, a significant portion of the city of Riverside remained largely agricultural well into the 1970s. However, the city did enjoy some diversification with the introduction of a sizable manufacturing sector during this period. Following the 1970s, the city of Riverside and Riverside County as a whole saw a period of dramatic population increase as the result of new development, with the city growing to a population of over 300,000 residents by 2010 (United States Census Bureau 2010).

Project Area and Vicinity: March Air Force Base

In early 1917, the United States entered World War I, necessitating the construction of additional military bases across the country to contribute to the war effort. During that time, March AFB operated as a small temporary United States Army Air Corps facility (Mikesell and Wee 1996). However, March AFB only saw limited use, as World War I ended on November 11, 1918, shortly after the base was established (Patterson 1971). The base was subsequently deactivated and dismantled for the construction of what is now called the March Field Historic District in the mid-1920s. The plans for the new base were heavily influenced by emerging principles in the field of city planning that favored a comprehensive approach to urban design, which coordinates diverse aspects of the built environment such as architecture, landscape, transportation, communal areas, etc. The reconstruction of the base was heavily influenced by the work of California architect

Myron Hunt, who established a Mission Revival theme for the base, and New York City planner George B. Ford, who designed the base's triangular plan (Schroth 1998).

After its reconstruction and before World War II, the base was actively used for pilot training and tactical unit repair and activation (March ARB 2010). With the advent of World War II, it grew in size and importance, housing troops from around the United States and further expanding the city of Riverside's economy and population, with many service members choosing to settle in the region. During World War II, a massive construction program was undertaken at March AFB and numerous barracks, warehouses, and supply and utility buildings were constructed using standardized designs provided by the United States military (Schroth 1998). In addition, the runways and airfield facilities were improved due to the increasing importance of the United States Air Force and Camp Haan, a new anti-aircraft artillery cantonment, laid out west of the base in 1940 (Johnson et al. 1991 in Schroth 1998). Construction of Camp Haan led to increased traffic at both March AFB and Camp Haan so much so that realignment of Highway 395 was required. Camp Haan was not part of March AFB at the time of its construction; however, it was still involved in the social and military life of the base and was absorbed by the base following World War II. Although March AFB was significantly expanded during World War II, it remained a training center during the greater part of the war (Johnson et al. 1991).

While defense spending was drastically decreased in the post-World War II period, the United States Air Force continued to be one of the most important components of the United States military following the Cold War. While the United States Air Force used and reorganized the existing March AFB facilities, new facilities with up-to-date technology were added to those bases used by the Air Force (Schroth 1998). Throughout the Cold War, March AFB continued to expand. In 1949, it was placed under Strategic Air Command (SAC), who was responsible for nuclear warfare and its deterrence (Mikesell and Wee 1996). As a result, March AFB became the "deterrent to the perceived Soviet threat and played an integral part of that role in the years to come" (Wessel 1995). In the 1950s and 1960s, March AFB served as the headquarters of the Fifteenth Air Force (15 AF), which played an important role in the development and management of the SAC's Intercontinental Ballistic Missile (ICBM) force (Mikesell and Wee 1996). At that time, AF 15 at March AFB controlled over 10 bases throughout the West, holding jurisdiction over 75.00 percent of SAC's ICBMs throughout the western United States (Wessel 1995).

During the Vietnam War, as March AFB served as the 15 AF headquarters, much of the planning and deployment of SAC forces to Southeast Asia took place at the base. With the relocation of the air refueling deployment operation from Castle AFB in northern California to March AFB in 1972, March AFB began to play an increasingly important role in the conduct of the war. In the period after the war, March AFB experience many budget and personnel cuts. The number of employees at the base was reduced by 20.00 percent and some personnel was moved to inland bases. With the end of the Cold War, SAC was disestablished in 1992. March AFB then came under the command of Air Mobility Command and converted from an active-duty base to a reserve base. The 15 AF headquarters were relocated to Travis, California in 1993 (Wessel 1995).

In 1996, the base was officially called March ARB (March Field Air Museum n.d.). Although the official name changed multiple times, residents have continued to refer to it as “March Field” (Gunther 1984). Currently, March AFB consists of eastern and western sides divided by I-215. The eastern side includes family housing, recreational facilities, a base hospital, runways, administrative offices, hangars, and other flight-related operational structures. The western side includes remnants of Camp Haan, residential units, a golf course, a cemetery, and weapons storage facilities. Most of the buildings located on the western side were constructed after World War II (Mikesell and Wee 1996).

Ammunition and Explosives Storage Structures

Ammunition and explosive storage structures, which are also referred to as magazines, are essential elements of any military base. Since these structures are designed to contain highly explosive munitions in an area separate from daily military activities, utilitarian forms are observed in their construction (Murphey et al. 2000).

There was no standardized approach to the storage of ammunition and explosives prior to the mid-1920s. The explosive material was stored in aboveground warehouses built of stone and/or brick, which provided comparably safer storage spaces than timber buildings (Murphey et al. 2000). However, these structures did not completely eliminate the risks, as evidenced by the explosion at Lake Denmark, New Jersey in 1926, where one explosion triggered a chain reaction destroying everything within a one-mile radius and causing 21 fatalities. This explosion resulted in 47 million dollars in damages (Mersereau 2014).

After the Lake Denmark disaster, it became apparent that storage of ammunition and explosives required a different approach. New designs for explosives storage were developed to ameliorate the shortcomings of the previously used structures. This new type of storage building was popularly known as an igloo. While the overall construction of the igloo-type magazines remained the same, some design features were revised over the years, decreasing the use of the construction material and the land area (Murphey et al. 2000). Howdyshell ([1981] in Murphey et al. 2000:1) asserts that the decrease of the land used for these magazines was especially significant in Europe, where land constraints posed a special problem.

These igloos were commonly covered with earth and featured concrete building material. Although the floor of the storage structure was at or above the ground level, because the magazine was covered with earth on three sides, it was considered to be underground. The structure underneath the earth-covered portion was barrel-arched and constructed of reinforced concrete. The use of the barrel-arch design directed the force of a potential explosion upward, rather than outward, decreasing the chance of a chain explosion. The earth on the structure was designed to dampen the force of the explosion. There are also limits to the amount of explosive materiel stored in each igloo magazine. The thermal insulation quality of concrete and earth eliminates the risk of high temperatures, both reducing potential explosions and deterioration of munitions. The earth cover of these structures provided camouflage to these valuable resources (Murphey et al. 2000).

The precedent of the igloo-designed magazines is not clear, as this design started to simultaneously appear in several different geographic locations in the 1930s. Earlier examples were extant in the earlier United States Army and Navy bases. These earlier examples featured flat concrete roofs instead of concrete arches (Fine and Remington 1972; Reed 1995 in Murphey et al. 2000). As mentioned previously, the barrel-vaulted design of the later examples directs the explosion upward, more specifically along the narrow ridge of the arch, therefore reducing the radius of effect. The design of the earlier flat-roofed examples, on the other hand, causes an unpredictable explosion pattern, increasing the risk of nearby sympathetic explosions (Explosives Safety Board 1997).

Most of the ammunition and explosive magazines were constructed during and after World War II. The construction of these storage structures started as a part of the nation's large-scale mobilization during World War II (Murphey et al. 2000). From 1939 to 1945, the United States government spent hundreds of millions of dollars to construct 77 new military industrial facilities and 16 major ordnance depots. After the war, many of the military facilities were either closed or were placed in layaway status in case a future need arises. However, due to the abundance of ordnance and raw materials that were no longer needed, the storage depots remained opened and continued to be used for storing ammunition (Kuranda et al. 2009).

With the invasion of South Korea in June 1950, some of the production plants that were closed at the end of World War II were reopened. At that time, the development of weapons technology allowed for the production of extremely powerful explosives, which required a need for enhanced logistical support. The artillery, anti-aircraft guns, and mortars, which comprise the bulk of the munitions, began to be replaced by guided missiles and rockets. Munitions storage structures constructed before and during World War II continued to be used for the storage of these newer and larger weapons. Specialized lifting devices were developed to safely maneuver these larger missiles (Kuranda et al. 2009).

The design of the earth-covered magazines also changed in the period following the Korean War. Although the general design and the arched-roof structure of the igloos remained the same, wider openings with double-leaf steel doors began to be featured to facilitate the transportation of larger munitions. Older magazines were modified with the installation of access ramps and wider doors to allow the storage of heavier munition. The most radical change in the design of the igloos took place in the mid-1950s. In 1954, the Chief of Ordnance recommended a new igloo design named "Stradley" after its designer. This design, which was also known as the yurt, featured vertical side walls, an elliptical arch for the roof, and large sliding doors. The vertical walls of this design created additional storage space and allowed the munitions to be stacked vertically (Kuranda et al. 2009).

Large-scale construction of munitions storage structures slowed down after the 1960s, but construction of other military-related buildings continued. With the end of the Cold War approaching and following the end of the Vietnam War in 1975, the United States military began to greatly reduce the amount of ordnance-related construction. During this time, the design and

materials used in the construction of the igloo magazines were standardized. These standardized structures lacked ornamentation and the most important construction and design criterion was safety (Kuranda et al. 2009).

IV. METHODS AND RESULTS

Archival Research

Records relating to the ownership and developmental history of the project were sought to identify any associated potential historic or architectural significance. Records located at the BFSA research library and the Riverside County Assessor/Recorder/Clerk were accessed for information regarding the structures. Appendix B contains maps of the project area, including a general location map, historic and current USGS project location maps, and the current Assessor's parcel map (Figures 1 to 8). Sanborn Fire Insurance maps were searched for, but the project is outside the coverage area.

Field Survey

BFSA conducted a photographic documentation survey on June 6 and 7 and December 8, 2022. The survey resulted in the identification of 20 historic buildings associated with March AFB WSA, including munitions storage igloos (A1 to A14) and weapons maintenance shops (B, C, D, E, F, and G) (Plate 1). The structures were evaluated individually (Site WSA) and together for historic district designation (Site WSA Historic District). The historic munitions storage igloos were constructed between 1948 and 1962 and the weapons maintenance shops were constructed between 1953 and 1978. Preparation of architectural descriptions for the buildings was conducted in the field and supplemented using the photographic documentation. Additional information was drawn from supplemental research efforts and incorporated into this report.

History of the Property: Ownership and Development

Aerial photographs from 1938 indicate that prior to construction of the West Campus of March AFB, this area was vacant (Plate 2). Bureau of Land Management records do not show any land grants within the boundaries of the area. The aerial photographs of the area that date back to 1948 are heavily redacted. However, visible portions of the area indicate the presence of an earlier storage complex located southeast of the existing magazines used to store munition (Plate 3). The 1953 aerial photograph shows that the munitions storage complex constructed between 1938 and 1948 consists of 16 likely identical magazines and two additional structures. It also shows that additional underground igloo-style magazines (A1 to A9 in Plate 1) were constructed west of this area between 1948 and 1953 (Plate 4).

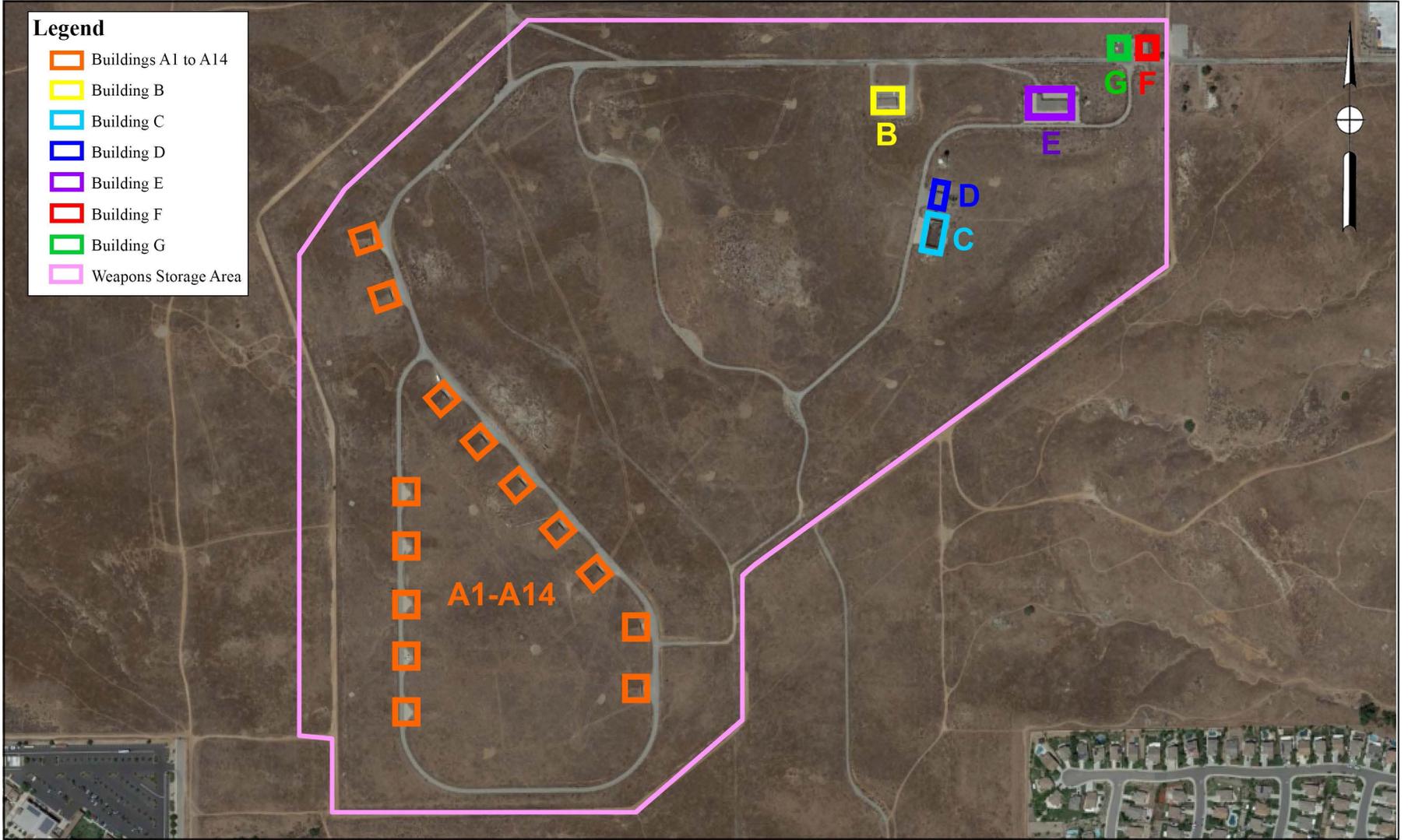
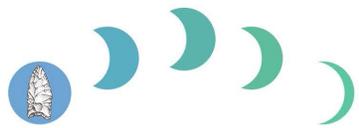
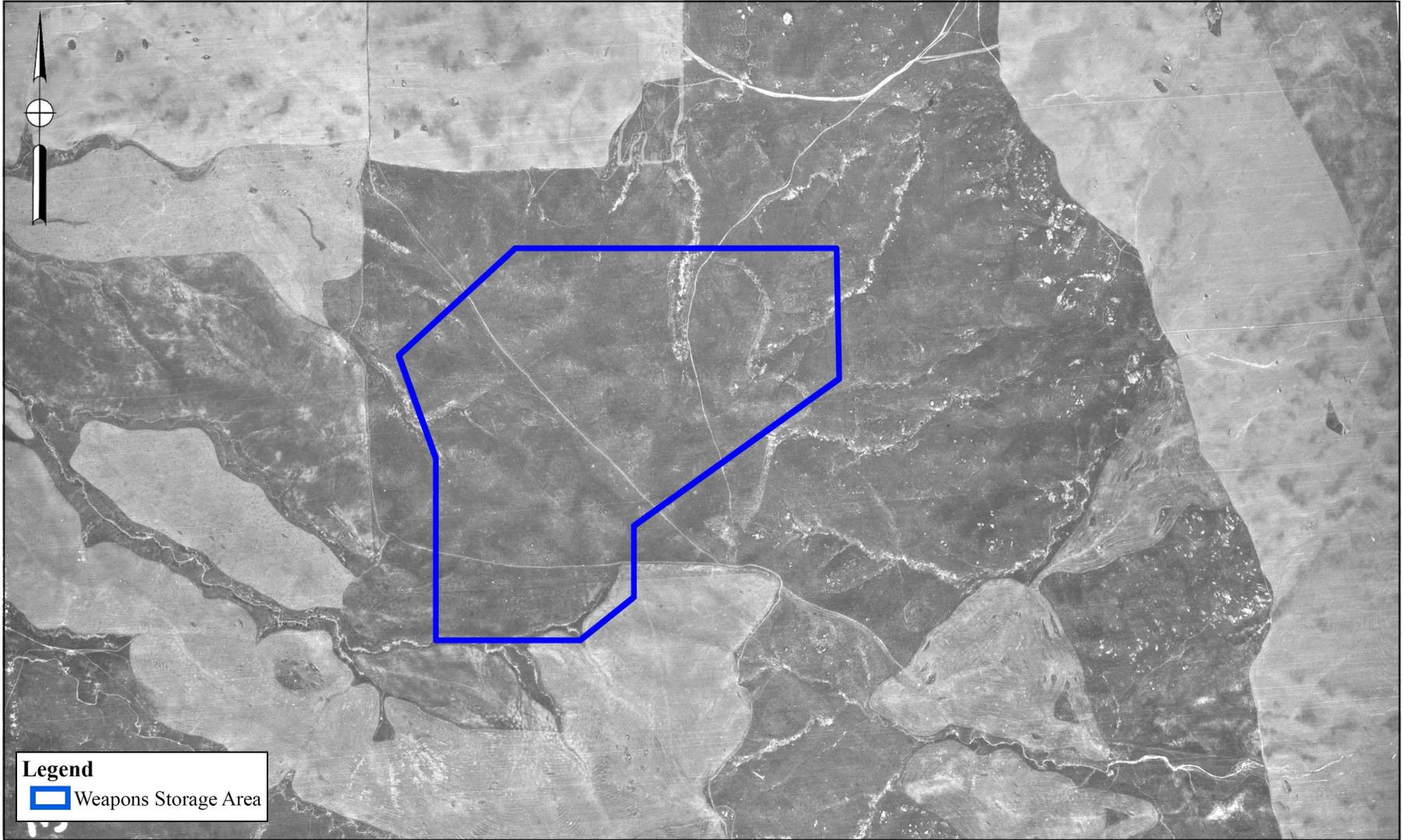
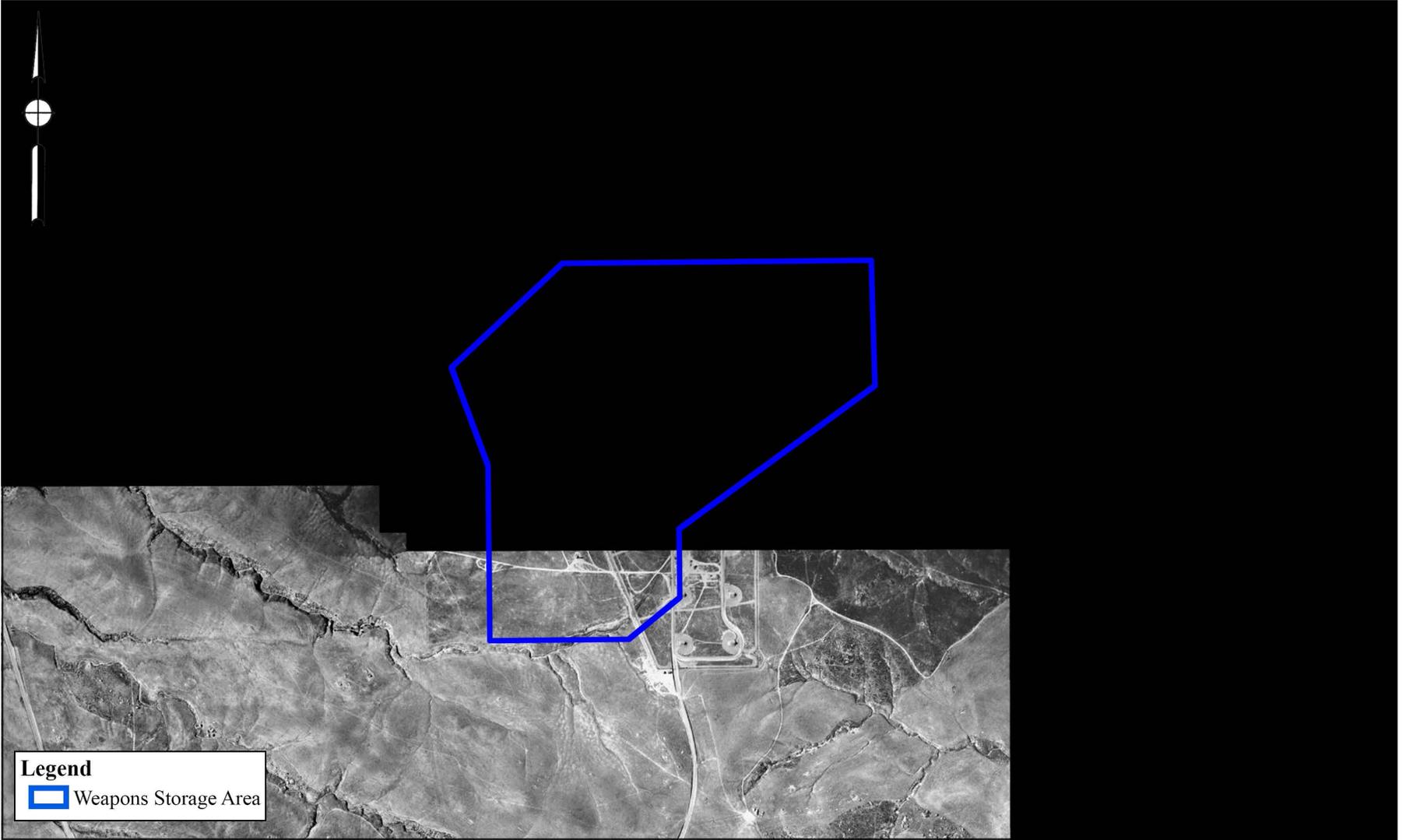


Plate 1
Site Sketch Showing the Building Locations
The West Campus Upper Plateau Project

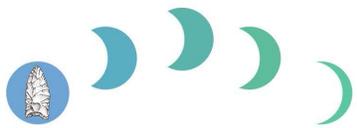


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Plate 2
1938 Aerial Photograph
The West Campus Upper Plateau Project

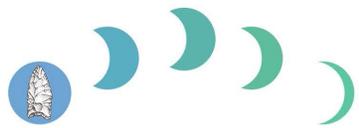
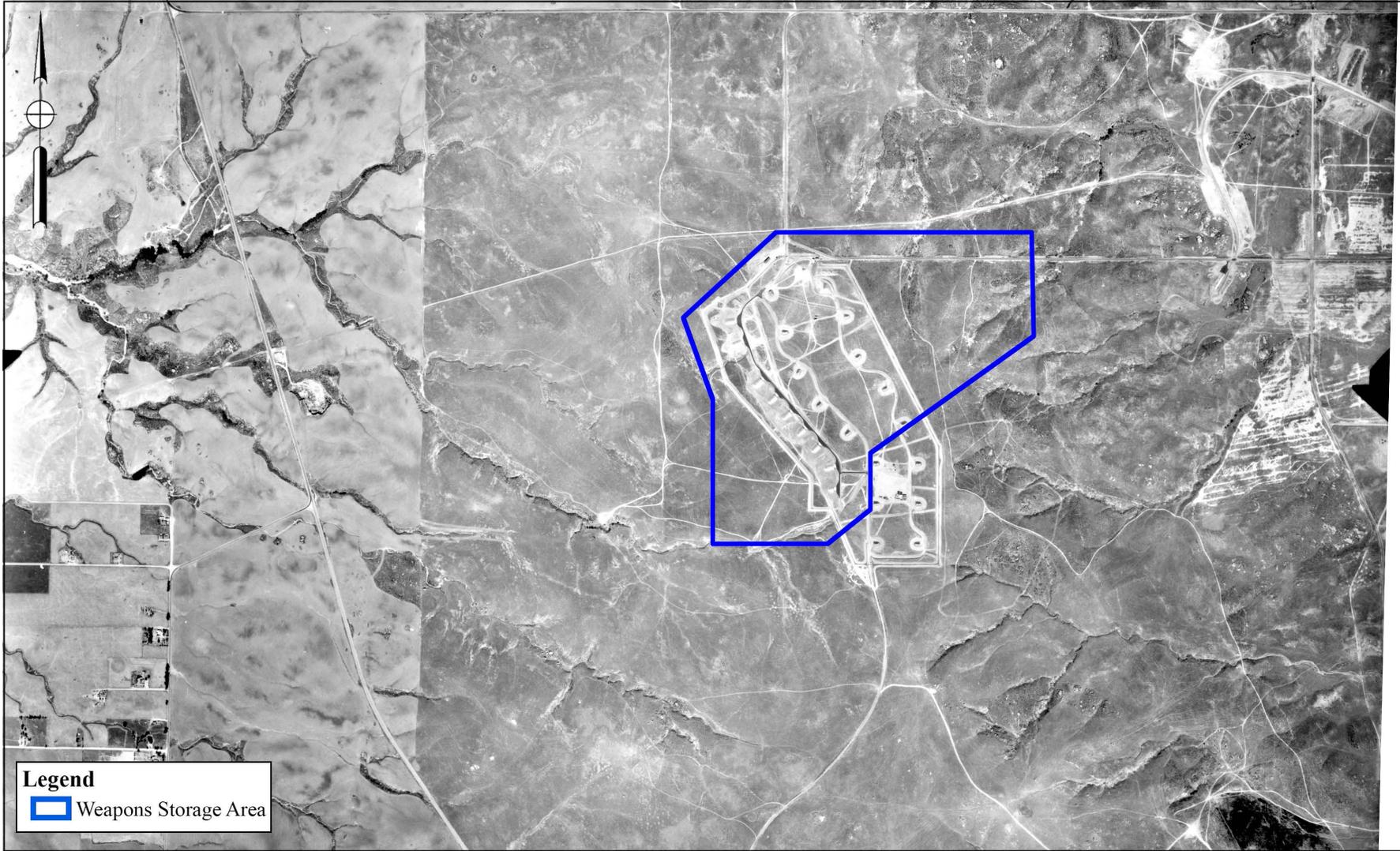


Legend
[Blue Outline] Weapons Storage Area



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Plate 3
1948 Aerial Photograph
The West Campus Upper Plateau Project



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Plate 4
1953 Aerial Photograph
The West Campus Upper Plateau Project

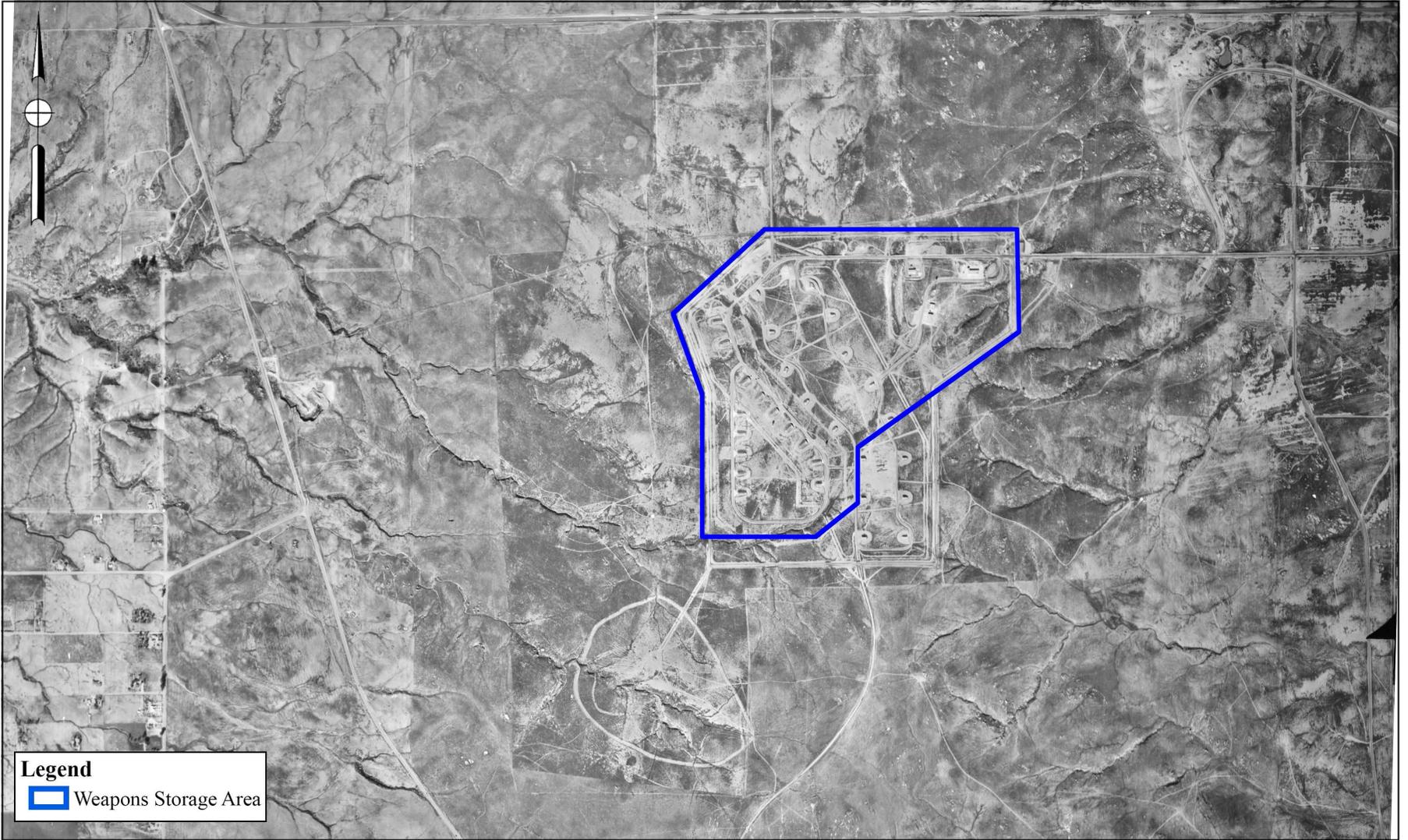
A 1951 article in *The Beacon* mentions that March AFB acquired over \$15 million from the Marshall Appropriation in Congress and that money was used to build a new hospital, administration buildings, and a munition storage area (Wessel 1995:367). Based upon this information, it is likely that the munition storage magazines east of Cactus Circle East were constructed between 1951 and 1953. By 1962, five more igloo-style magazines were constructed west of the ones constructed between 1948 and 1953 (A10 to A14 in Plate 1), forming the current weapons storage complex around Cactus Circle East (Plate 5). Wessel (1995) mentions that the earlier magazines (A1 to A9 in Plate 1) were constructed in 1953 and the later magazines were constructed in 1955; however, no sources for this information are cited. In addition to the igloo-style magazines, the structures located northeast of the weapons storage area (Buildings B, C, D, E, and F in Plate 1) were constructed between 1953 and 1962. Building G, located west of Building F, was constructed between 1967 and 1978 (Plates 6 and 7). Wessel (1995) notes that these buildings were used as maintenance shops. The weapons storage structures constructed between 1938 and 1948 were removed between 1967 and 1978.

Description of Surveyed Resources

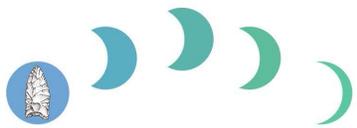
Buildings A1 to A14

The munitions storage igloos are also referred to as “the bomb dump” and “munitions storage area.” According to historic aerial photographs, the underground igloo-style magazines located east of Cactus Circle East (A1 to A9) were constructed between 1948 and 1953, and the ones located west of Cactus Circle East (A10 to A14) were constructed between 1953 and 1962 (Plate 8). This weapons storage complex consists of 14 structures. The builders of these structures are unknown. Archival research and field investigations suggest that these structures were constructed according to military standard designs as approximately 25 feet in width by 80 feet long (Plate 9).

These igloos are barrel-shaped structures featuring reinforced concrete foundations and constructions. The wing walls of the igloos feature Huntsville-type primary façades truncated a few feet from the ground (Plates 10 and 11). These designs were typical of the period. The west (primary) façades of these igloos also feature heavy steel double-leaf swing doors (Plates 12 and 13). A variety of mechanical and security equipment is mounted on the west façade (Plate 14). Extending from an access road in front of each igloo is a paved unloading area. The earlier igloos (A1 to A9) feature a slight projection around the entrance of the structure (Plates 15 and 16). The later igloos (A10 to A14) feature a horizontal concrete cornice above the entry (Plate 17). The sloping sides of the west façade project beyond the vaulted concrete walls. The exterior surface of the vault is earth-covered. Intake vents, exhaust vents, and lightning rods are located on the crown of the arch at the exterior. While the earlier igloos feature square-shaped, multi-tier vents (Plate 18), the later igloos feature basic circular vents (Plate 19).

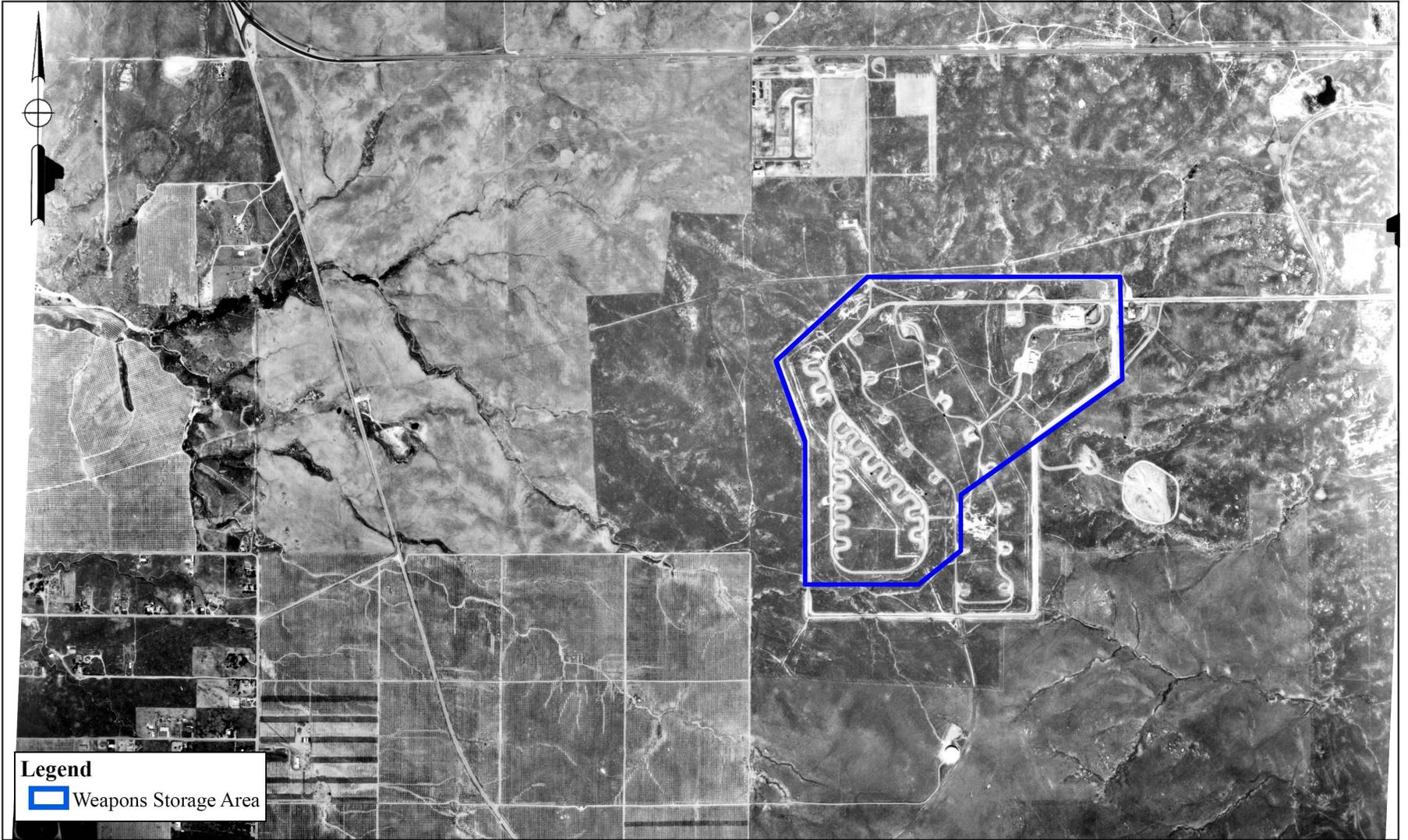


Legend
[Blue outline] Weapons Storage Area

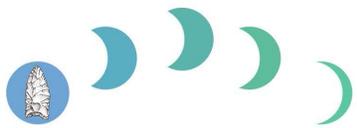


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Plate 5
1962 Aerial Photograph
The West Campus Upper Plateau Project

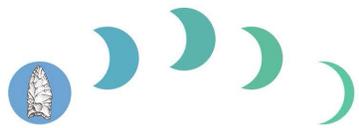


Legend
[Blue Outline] Weapons Storage Area



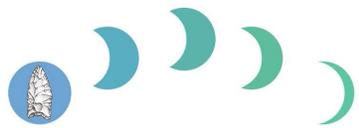
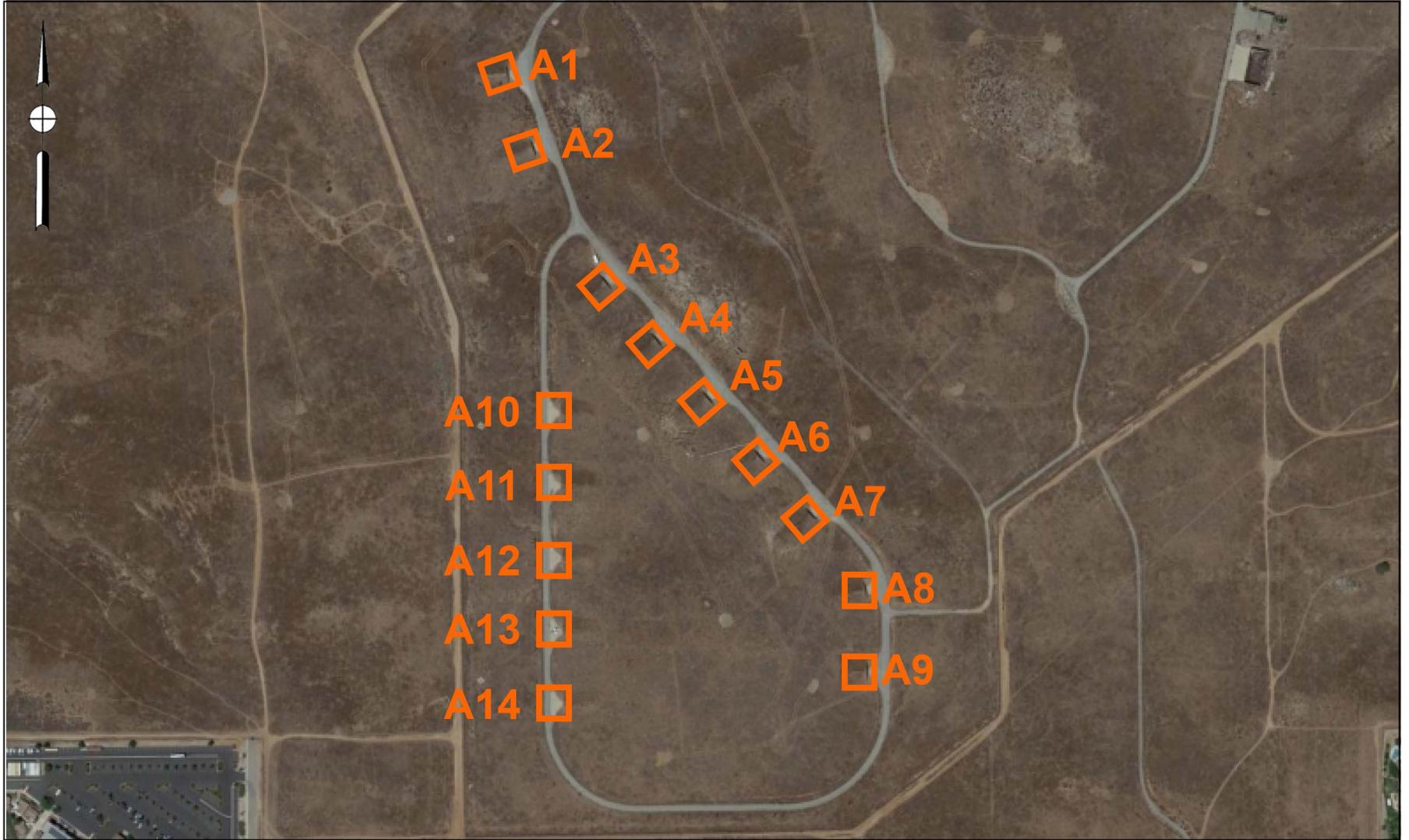
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Plate 6
1967 Aerial Photograph
The West Campus Upper Plateau Project



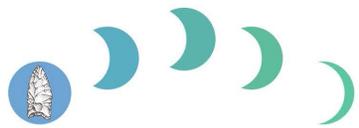
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Plate 7
1978 Aerial Photograph
The West Campus Upper Plateau Project



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Plate 8
Location Map for Buildings A1 to A14
The West Campus Upper Plateau Project

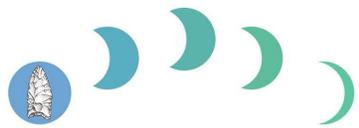


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Plate 9
Munitions Storage Igloos, Buildings A11 to A14, Facing Northeast
The West Campus Upper Plateau Project



Plate 10
East Façade of Building A1, Facing Northwest
The West Campus Upper Plateau Project



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Plate 11
West Façade of Building A10, Facing Southeast
The West Campus Upper Plateau Project



Plate 12
West Façade of Building A12, Facing East
The West Campus Upper Plateau Project



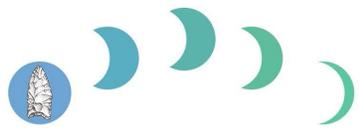
Plate 13
Interior View of the Double Doors on the
West Façade of Building A12, Facing Northwest
The West Campus Upper Plateau Project



Plate 14
West Façade of Building A14, Facing East
The West Campus Upper Plateau Project

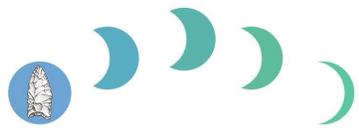


Plate 15
East Façade of Building A9, Facing West
The West Campus Upper Plateau Project



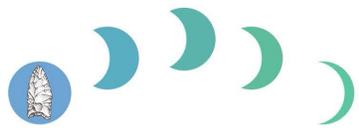
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Plate 16
East Façade of Building A5, Facing Southwest
The West Campus Upper Plateau Project



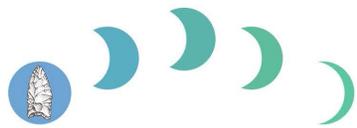
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Plate 17
West Façade of Building A13, Facing Northeast
The West Campus Upper Plateau Project



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Plate 18
North (Left) and West (Right) Façades of Building A10, Facing Southeast
The West Campus Upper Plateau Project



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Plate 19
West (Left) and South (Right) Façades of Building A14, Facing Northeast
The West Campus Upper Plateau Project

The interiors of these structures are bare, and feature vaulted concrete walls (Plate 20). Lights and security equipment have been installed along the crown of the arch. Mechanical equipment has been installed on the wall at the entrance end of the igloo. Some of the later igloos feature a secondary interior concrete structure. These secondary structures have rectangular plans and feature thick reinforced concrete walls (Plates 21 and 22).

Building B

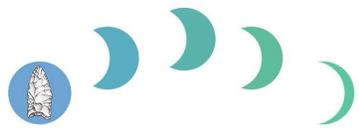
Building B is located south of Cactus Avenue. According to the aerial photographs, Building B was constructed between 1953 and 1962. Wessel (1995) states that Building B was used as a weapons maintenance shop. Building B is a single-story, rectangular-planned structure that features a reinforced concrete foundation, concrete walls, and a flat roof (Plate 23). The building features a concrete platform along the north and south façades (Plates 24 and 25). The platform along the north façade is accessed via a ramp on its east side (Plate 26) and a small metal staircase on its west side (Plate 27). The platform along the south façade exhibits two concrete staircases on either side (Plates 28 and 29). The north and south façades of the building feature double metal doors, single metal doors, and single-hung windows (Plates 30 to 32). The east façade of the building does not feature any elements (Plate 33) and the west façade features two single-hung windows (Plate 34).

Buildings C and D

Buildings C and D are located south of Building B. According to aerial photographs, Buildings C and D were constructed between 1953 and 1962. Wessel (1995) notes that Buildings C and D were used as weapons maintenance shops. Building C (Plate 35) is located south of Building D (Plate 36). They are both single-story, rectangular-planned structures that feature reinforced concrete foundations, masonry walls, and flat roofs (Plate 37). The roof of Building C is currently collapsed. Both buildings feature loading doors on their west façades (Plate 38). A small power distribution unit is attached to Building D on its east façade (Plate 39).

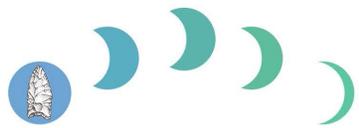
Building E

Building E is located south of Cactus Avenue and east of Building B (Plate 40). According to aerial photographs, Building E was constructed between 1953 and 1962. Wessel (1995) notes that Building E was used as a weapons maintenance shop. Building E is a single-story, rectangular-planned structure with a projection on its north façade. The building features a reinforced concrete foundation, masonry walls, and a flat roof. The north and south façades feature loading doors (Plates 41 to 43) and the east and west façades do not feature any elements (Plates 44 and 45).



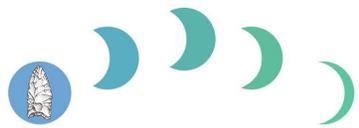
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Plate 20
Interior View of Building A9, Facing West
The West Campus Upper Plateau Project



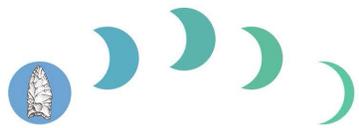
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Plate 21
Interior View of Building A12, Facing East
The West Campus Upper Plateau Project



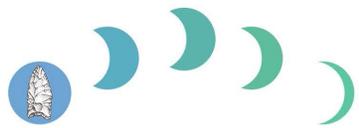
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Plate 22
Interior View of Building A12, Facing East
The West Campus Upper Plateau Project



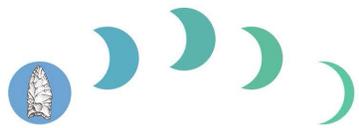
BFSA Environmental Services
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Plate 23
North Façade of Building B, Facing Southeast
The West Campus Upper Plateau Project



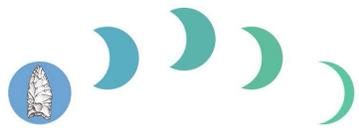
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Plate 24
North Façade of Building B, Facing Southeast
The West Campus Upper Plateau Project



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Plate 25
South Façade of Building B, Facing Northeast
The West Campus Upper Plateau Project



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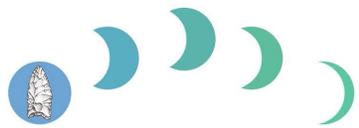
Plate 26
East Façade of Building B, Facing Northwest
The West Campus Upper Plateau Project



Plate 27
North Façade of Building B, Facing South
The West Campus Upper Plateau Project



Plate 28
West Façade of Building B, Facing Northeast
The West Campus Upper Plateau Project



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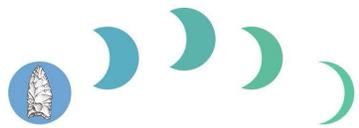
Plate 29
East Façade of Building B, Facing Northwest
The West Campus Upper Plateau Project



Plate 30
North Façade of Building B, Facing South
The West Campus Upper Plateau Project

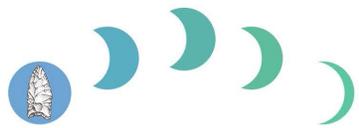


Plate 31
North Façade of Building B, Facing South
The West Campus Upper Plateau Project



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Plate 32
South Façade of Building B, Facing Northeast
The West Campus Upper Plateau Project

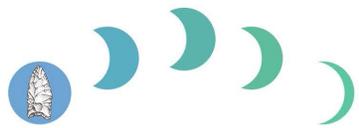


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Plate 33
East Façade of Building B, Facing West
The West Campus Upper Plateau Project



Plate 34
West (Left) and South (Right) Façades of Building B, Facing Northeast
The West Campus Upper Plateau Project

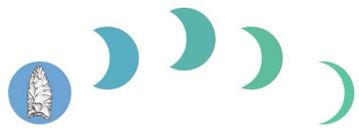


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Plate 35
Southwest Corner of Building C, Facing Northeast
The West Campus Upper Plateau Project

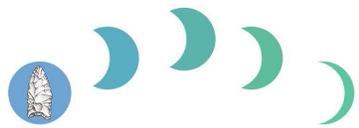


Plate 36
West Façade of Building D, Facing East
The West Campus Upper Plateau Project



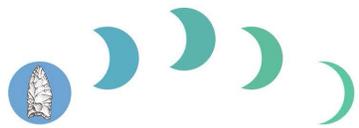
BFSA Environmental Services
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Plate 37
West (Left) and South (Right) Façades of Buildings C and D, Facing Northeast
The West Campus Upper Plateau Project



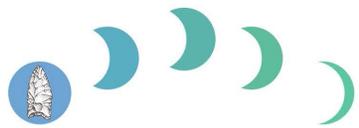
BFSA Environmental Services
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Plate 38
West Façades of Buildings C (Right) and D (Left), Facing Northeast
The West Campus Upper Plateau Project



BFSA Environmental Services
A Perennial Company

Plate 39
East Façades of Buildings C (Left) and D (Right), Facing Northwest
The West Campus Upper Plateau Project

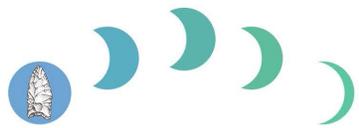


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Plate 40
North Façade of Building E, Facing Southwest
The West Campus Upper Plateau Project

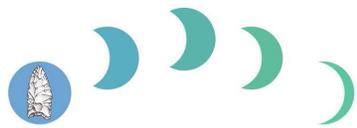


Plate 41
North Façade of Building E, Facing Southwest
The West Campus Upper Plateau Project



BFSA Environmental Services
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Plate 42
North Façade of Building E, Facing Southeast
The West Campus Upper Plateau Project

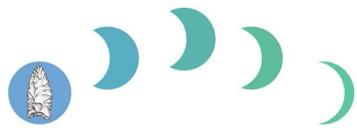


BFSA Environmental Services
A Perennial Company

Plate 43
South (Left) and East (Right) Façades of Building E, Facing Northwest
The West Campus Upper Plateau Project



Plate 44
East (Left) Façade of Building E, Facing Southwest
The West Campus Upper Plateau Project



BFS Environmental Services
A Perennial Company

Plate 45
West (Left) Façade of Building E, Facing Northeast
The West Campus Upper Plateau Project

Buildings F and G

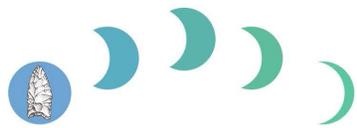
Buildings F and G are located north of Cactus Avenue. According to aerial photographs, Building F was constructed between 1953 and 1962 (Plate 46) and Building G was constructed between 1967 and 1978 (Plate 47). Wessel (1995) notes that Building F was used as a weapons maintenance shop but does not mention Building G. Both buildings are single-story structures with irregular rectangular plans. Both feature flat roofs, reinforced concrete foundations, and masonry walls (Plate 48). Wood-framed doors, windows, and loading doors are featured in both buildings (Plates 49 and 50). Building G also exhibits aluminum vents attached on its west façade (Plate 51).

V. SIGNIFICANCE EVALUATIONS

Because any development of this property would require approval from MJPA, CEQA and NHPA historic resources eligibility criteria were used to evaluate the structures as potentially historic buildings. Therefore, criteria for listing on the CRHR and NRHP were used to measure the significance of the resources. When evaluating a historic resource, integrity is the authenticity of the resource's physical identity clearly indicated by the retention of characteristics that existed during its period of construction. It is important to note that integrity is not the same as condition. Integrity directly relates to the presence or absence of historic materials and character-defining features, while condition relates to the relative state of the physical deterioration of a resource. In most instances, integrity is more relevant to the significance of a resource than condition; however, if a resource is in such poor condition that original materials and features may no longer be salvageable, then the resource's integrity may be adversely impacted.

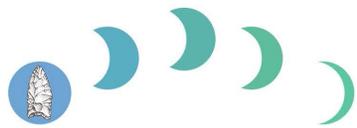
In order to determine whether or not the buildings are eligible for listing on the NRHP or the CRHR, both registers' eligibility criteria were used. Furthermore, BFSAs based the review upon the recommended criteria listed in the *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Andrus and Shrimpton 2002). The review below is based upon the evaluation of integrity of the buildings followed by the assessment of distinctive characteristics:

5. **Integrity of Location** [*refers to*] the place where the historic property was constructed or the place where the historic event occurred (Andrus and Shrimpton 2002). Integrity of location was assessed by reviewing historical records and aerial photographs in order to determine if the buildings had always existed at their present locations or if they had been moved, rebuilt, or their footprints significantly altered. Historical research revealed that the buildings located within the West Campus Upper Plateau WSA were constructed in their current locations between 1948 and 1978. Therefore, the buildings retain integrity of location.



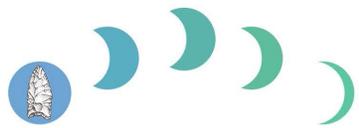
BFSA Environmental Services
A Perennial Company

Plate 46
West (Left) and South (Right) Façades of Building F, Facing Northeast
The West Campus Upper Plateau Project



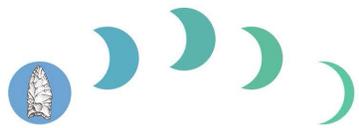
BFS Environmental Services
A Perennial Company

Plate 47
South (Left) and East (Right) Façades of Building G, Facing Northwest
The West Campus Upper Plateau Project



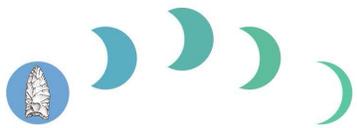
BFS Environmental Services
A Perennial Company

Plate 48
West Façade of Building F, Facing Northeast
The West Campus Upper Plateau Project



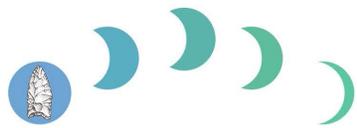
BFSA Environmental Services
A Perennial Company

Plate 49
East Façade of Building G, Facing West
The West Campus Upper Plateau Project



BFSA Environmental Services
A Perennial Company

Plate 50
East Façade of Building G, Facing Northwest
The West Campus Upper Plateau Project



BFSA Environmental Services
A Perennial Company

Plate 51
North (Left) and West (Right) Façades of Building G, Facing Southeast
The West Campus Upper Plateau Project

6. **Integrity of Design** [refers to] the combination of elements that create the form, plan, space, structure, and style of a property (Andrus and Shrimpton 2002). Integrity of design was assessed by evaluating the spatial arrangement of the buildings and any architectural features present.
- a. Buildings A1 to A14: Buildings A1 to A9 were designed and constructed by an unknown architect and builder between 1948 and 1953 in the Utilitarian style as munitions storage igloos. Buildings A10 to A14 were designed and constructed by an unknown architect and builder between 1953 and 1962 in the Utilitarian style as munitions storage igloos. These structures feature a barrel-shaped construction covered with earth. This barrel-shaped igloo design was extensively used by the United States military in the construction of munitions storage facilities before it was replaced by “Stanley”-style magazines. Historical research concludes that the storage structures have not undergone any modifications since their initial construction. Therefore, the overall form, plan, space, and structure of the original buildings have been preserved and they retain integrity of design.
 - b. Buildings B, D, E, and F: Buildings B, D, E, and F were constructed between 1953 and 1962 in the Utilitarian style as weapons maintenance shops supporting the WSA. The designer, architect, and builder of these buildings are unknown. Historical research concludes that Buildings B, D, E, and F have not undergone any modifications since their initial construction. Therefore, the overall form, plan, space, and structure of the original buildings have been preserved and they retain integrity of design.
 - c. Building C: Building C was constructed between 1953 and 1962 in the Utilitarian style as a weapons maintenance shop supporting the WSA. The designer, architect, and builder of the building are unknown. Historical research concludes that Building C has not undergone any modifications since its initial construction, but the roof of the building has collapsed. While the overall plan and space of the original building remain unchanged, the absence of the roof causes the loss of the original form and structure. Therefore, Building C does not retain integrity of design.
 - d. Building G: Building G was constructed between 1967 and 1978 in the Utilitarian style as a weapons maintenance shop supporting the WSA. The designer, architect, and builder of the builder are unknown. Historical research concludes that Building G has not undergone any modifications since its initial construction. Therefore, the overall form, plan, space, and structure of the original building have been preserved and it retains integrity of design.
 - e. West Campus Upper Plateau WSA Historic District: The WSA Historic District includes Buildings A1 to A14, B, C, D, E, F, and G. Most of the buildings within

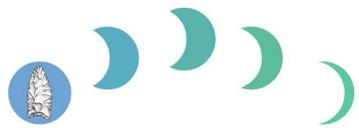
the boundaries of the historic district retain integrity of design, and therefore, the WSA Historic District retains integrity of design.

3. **Integrity of Setting** *[refers to] the physical environment of a historic property. Setting includes elements such as topographic features, open space, viewshed, landscape, vegetation, and artificial features* (Andrus and Shrimpton 2002). Integrity of setting was assessed by inspecting the elements of the property, which include topographic features, open space, views, landscape, vegetation, man-made features, and relationships between the buildings and other features. According to aerial photographs, most of the buildings located within the West Campus Upper Plateau WSA were constructed between 1948 and 1962 (see Plates 3 and Plate 5). Building G, located northeast of the other buildings, was constructed between 1967 and 1978 (see Plates 6 and 7). The 1938 aerial photograph indicates that prior to the construction of the West Campus, this area was vacant. The aerial photographs of the area that date back to 1948 are heavily redacted, but the visible parts indicate the area south of the project started to develop between 1938 and 1948 (see Plates 2 and 3). While the 1953 aerial photograph shows some developments in the areas west and east of the West Campus Upper Plateau WSA, the immediate surroundings of the project remained undeveloped (see Plate 4). Aerial imagery from 1967 indicates that the residential development surrounding the WSA on the north, south, and west started between 1962 and 1967 (see Plates 5 and 6). By 1978, weapons storage structures constructed between 1938 and 1948 and located east of the extant igloo structures were removed (see Plate 7). The residential development surrounding the WSA continued through the mid-1990s and took its current form by 2002 (see Plates 52 to 54). Currently, the surrounding area is a moderate-density residential area and is no longer recognizable as a vacant and rural community (Plate 55). Since the property no longer retains the same open space, viewshed, landscape, vegetation, or general built environment, none of the buildings or historic district retain integrity of setting.

4. **Integrity of Materials** *[refers to] the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property* (Andrus and Shrimpton 2002). Integrity of materials was assessed by determining the presence or absence of original building materials, as well as the possible introduction of materials that may have altered the architectural design of the buildings.



Legend
[Blue Outline] Weapons Storage Area

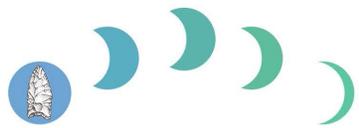


BFS Environmental Services
A Perennial Company

Plate 52
1985 Aerial Photograph
The West Campus Upper Plateau Project



Legend
[Blue Outline] Weapons Storage Area

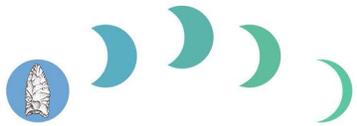


BFS Environmental Services
A Perennial Company

Plate 53
1994 Aerial Photograph
The West Campus Upper Plateau Project

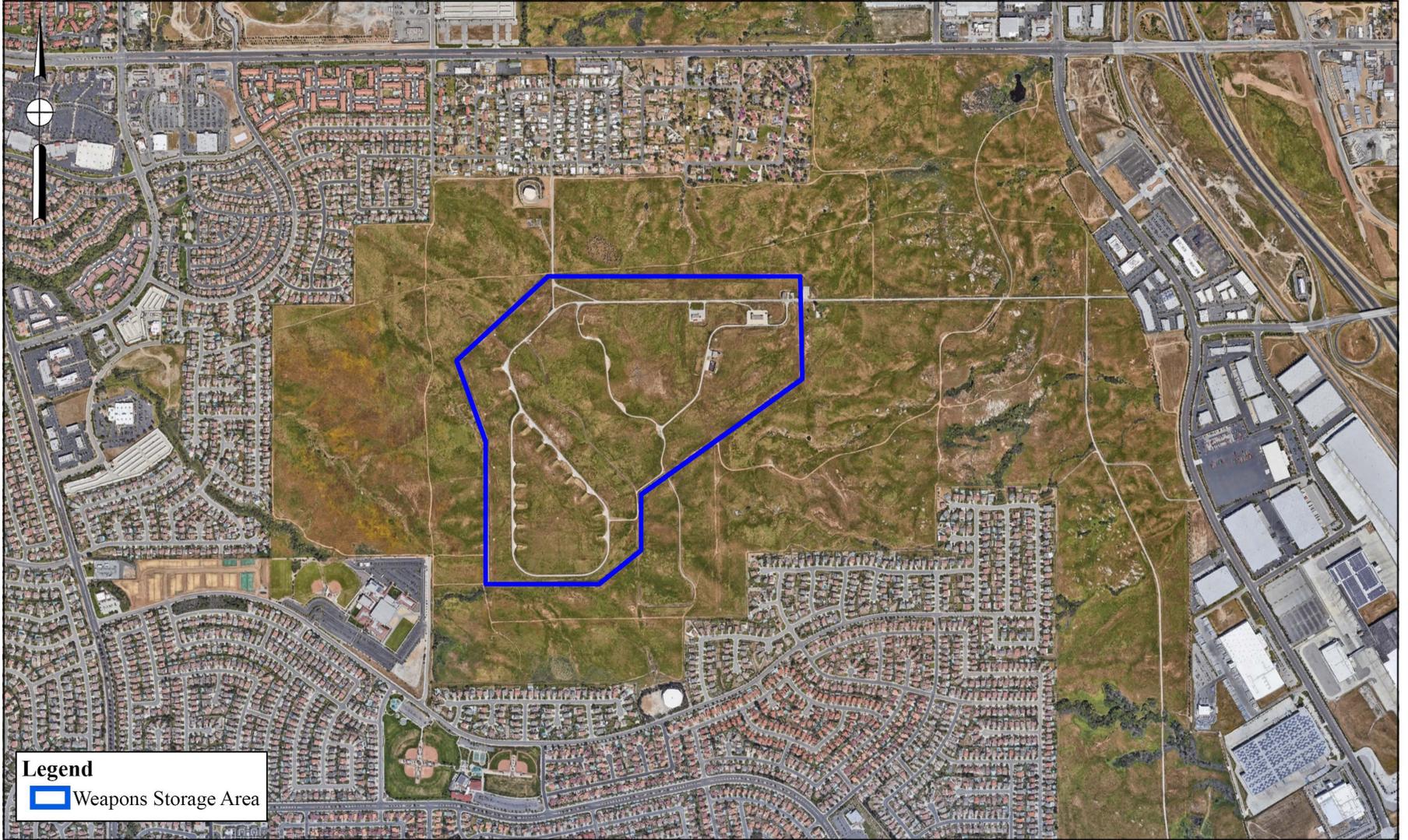


Legend
[Blue Polygon] Weapons Storage Area



BFS Environmental Services
A Perennial Company

Plate 54
2002 Aerial Photograph
The West Campus Upper Plateau Project



BFS Environmental Services
A Perennial Company

Plate 55
Current Aerial Photograph
The West Campus Upper Plateau Project

- a. Buildings A1 to A14: Buildings A1 to A9 were designed and constructed by an unknown architect and builder between 1948 and 1953 in the Utilitarian style as munitions storage igloos. Buildings A10 to A14 were designed and constructed by an unknown architect and builder between 1953 and 1962 in the Utilitarian style as munitions storage igloos. These structures feature a barrel-shaped construction covered with earth. This barrel-shaped igloo design was extensively used by the United States military in the construction of munitions storage facilities before it was replaced by “Stanley”-style magazines. Historical research concludes that the storage structures have not undergone any modifications since their initial construction that would have introduced new materials or modified the original form, plan, space, and structure of the buildings. Therefore, Buildings A1 to A14 retain integrity of materials.
- b. Buildings B, D, E, and F: Buildings B, D, E, and F were constructed between 1953 and 1962 in the Utilitarian style as weapons maintenance shops supporting the WSA. The designer, architect, and builder of these buildings are unknown. Historical research concludes that Buildings B, D, E, and F have not undergone any modifications since their initial construction that would have introduced new materials or modified the original form, plan, space, and structure of the buildings. Therefore, Buildings B, D, E, and F retain integrity of materials.
- c. Building C: Building C was constructed between 1953 and 1962 in the Utilitarian style as a weapons maintenance shop supporting the WSA. The designer, architect, and builder of the building are unknown. Historical research concludes that Building C has not undergone any modifications since its initial construction, but the roof of the building has collapsed. While the overall plan and space of the original structure remain unchanged, the absence of the roof causes the loss of the original materials used in the construction of the building. Therefore, Building C does not retain integrity of materials.
- d. Building G: Building G was constructed between 1967 and 1978 in the Utilitarian style as a weapons maintenance shop supporting the WSA. The designer, architect, and builder of the builder are unknown. Historical research concludes that Building G has not undergone any modifications since its initial construction. Because the building has not undergone major alterations that introduced new materials or modified the original form, plan, space, and structure of the building, it retains integrity of materials.
- e. West Campus Upper Plateau WSA Historic District: The WSA Historic District includes Buildings A1 to A14, B, C, D, E, F, and G. Most of the buildings within the boundaries of the historic district retain integrity of materials, and therefore, the WSA Historic District retains integrity of materials.

5. **Integrity of Workmanship** *[refers to] the physical evidence of the labor and skill of a particular culture or people during any given period in history* (Andrus and Shrimpton 2002). Integrity of workmanship was assessed by evaluating the quality of the architectural features present. The original workmanship demonstrated in the construction of the buildings has been well maintained. The buildings, however, do not reflect the labor or skill of a particular culture or people. Therefore, the buildings and the historic district have never possessed integrity of workmanship.
6. **Integrity of Feeling** *[refers to] a property's expression of the aesthetic or historic sense of a particular period of time* (Andrus and Shrimpton 2002). Integrity of feeling was assessed by evaluating whether or not the resources' features, in combination with their setting, conveyed a historic sense of the property during the period of significance. As noted previously, the integrity of setting for the buildings has been lost. Therefore, the buildings the historic district do not retain integrity of feeling.
7. **Integrity of Association** *[refers to] the direct link between an important historic event or person and a historic property* (Andrus and Shrimpton 2002). Integrity of association was assessed by evaluating the resources' data or information and their ability to answer any research questions relevant to the history of the March AFB area or the state of California. Historical research indicates that while March AFB played an important role during both world wars and the Cold War, the buildings within the WSA are not associated with any significant persons or events. None of the individuals who worked in the buildings were found to be significant and no known specific important events occurred at the property. While the buildings were used to store munitions, they were never used to store nuclear weapons. Therefore, the buildings and the historic district have never possessed integrity of association.

Of the seven aspects of integrity, Buildings A1 to A14, B, D, E, F, and G, as well as the West Campus Upper Plateau WSA Historic District, were determined to retain integrity of location, design, and materials. These buildings do not retain integrity of setting and feeling, and they have never possessed integrity of workmanship and association. Building C was determined to only retain integrity of location.

CRHR/NRHP Criteria

According to CEQA (§15064.5a), the term “historical resource” includes the following:

- 1) A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (Public Resources Code [PRC] SS5024.1, Title 14 CCR. Section 4850 et seq.).

- 2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- 3) Any object, building, structure, site, area, place, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC SS5024.1, Title 14, Section 4852) including the following:
 - a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - b) Is associated with the lives of persons important in our past;
 - c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - d) Has yielded, or may be likely to yield, information important in prehistory or history.
- 4) The fact that a resource is not listed in, or determined eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the PRC), or identified in an historical resources survey (meeting the criteria in Section 5024.1[g] of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

The four primary evaluation criteria to determine a resource's eligibility for the NRHP, in accordance with the regulations outlined in 36 CFR 800, are identified by 36 CFR 60.4. These criteria (listed below) are used to facilitate the determination of which properties should be considered for protection from destruction or impairment resulting from project-related impacts (36 CFR 60.2). These include impacts to the quality of significance in American history, architecture, archaeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. Resources that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Resources that are associated with the lives of persons significant in our past; or
- C. Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Resources that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

“For a property to qualify for the National Register it must meet one of the National Register Criteria for Evaluation by:

- **Being associated with an important historic context *and***
- **Retaining historic integrity of those features necessary to convey its significance.”** (Andrus and Shrimpton 2002)

CRHR/NRHP Evaluation

- **CRHR/NRHP Criterion 1/Criterion A:**

It is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage/our history.

Historical research revealed that most of the buildings located within the WSA were constructed after World War II, between 1948 and 1978. As mentioned previously, while the area west of the highway was not initially part of March AFB, it was absorbed into the base after World War II. Therefore, while the eastern base was previously found eligible for listing on both the NRHP and CRHR due to its significance during World War I and World War II, the same cannot be said for the western base as it did not exist during these periods. The West Campus Upper Plateau Project started to be used during the Cold War under the jurisdiction of SAC. March AFB remained a SAC base for 44 years, serving as the headquarters of the 15 AF (Wessel 1995).

Wessel (1995) evaluated March AFB with respect to its importance during the Cold War and included the 20 buildings located within the WSA at the West Campus Upper Plateau Project. This evaluation considered the buildings potentially significant due to their serving mission-critical roles during the Cold War. However, at that time, none of the buildings were over 50 years old, so the report utilized criteria defined by “Interim Guidance: Treatment of Cold War Historic Properties for U.S. Air Force Installations” prepared by the United States Air Force in 1993 (Wessel 1995:2-2). The

detailed evaluation only found one of the buildings located on the eastern base, the Combat Operations Center, which served as the command center for 10 SAC bases, as eligible for the National Register due to its engineering qualities and exceptional historical significance. The rest of the buildings consist of secondary structures such as nose docks, maintenance shops, and storage areas; however, these structures were evaluated as not significant due to the relatively insignificant role they played during the Cold War within the national context (Wessel 1995).

Wessel (1995) hypothesizes that due to the national significance of the Cold War, the buildings that were constructed in this period should be evaluated within a national geographic boundary. The comparative framework used for the evaluation claims that SAC bomber bases consisted of virtually identical components, comparing the potentially significant structures at March AFB to the Cold War-era buildings at Loring AFB in Maine and Castle AFB in California. When compared to Loring AFB and Castle AFB, the buildings at March AFB do not best represent the historical, architectural, and engineering qualities associated with SAC bomber bases. Castle AFB served as a training center for all B-52 and KC-135 pilots and crews and included a Christmas-tree-shaped runway designed by the United States Air Force for the SAC. Loring AFB was the first newly designed base to support SAC operations, which had been using existing bases until the construction of the Loring AFB. Wessel (1995) also mentions that these two AFBs feature better overall design unity. Wessel (1995) concludes that while March AFB is unquestionably important to the nation's involvement in the Cold War, due to the many changes in its mission and related built environment, it remains relatively insignificant within the national context and does not qualify for nomination for the National Register.

As the 20 WSA buildings at the West Campus Upper Plateau Project were constructed after World War II, they are evaluated with respect to the theme "Cold War" with a period of significance between 1948 and 1978. The geographical boundary for Cold War facilities that Wessel (1995) defines, which is nationwide, is still applicable and the historic buildings should be evaluated not only in terms of their local and statewide significance but based upon their associations with events and people that made a significant contribution to patterns of national history. In addition to Loring AFB and Castle AFB, the comparative framework was expanded for this evaluation to include bases with weapons storage areas evaluated as eligible for listing on the National Register, including: Barksdale AFB in Louisiana; Ellsworth AFB in South Dakota; Fairchild AFB in Washington; and Fort McClellan Ammunition Storage Historic District in Alabama. The storage igloos at Barksdale AFB and Ellsworth AFB that were found eligible for listing in the NRHP are overground magazines constructed at

the beginning of the Cold War used to store nuclear weapons components (Lowe et al. 1997a, 1997b). While the Fairchild AFB storage igloo is an underground bunker, it features a false fenestration on the upper level to simulate a building, concealing its true function (Lowe et al. 1997c). The weapons storage magazines at Fort McClellan feature two different styles, showing how the storage igloos evolved over time (Schneider and Anderson 2005).

Based upon the comparative framework provided above, the buildings located within the West Campus Upper Plateau WSA cannot be considered significant within the context of the Cold War. Historical research could not locate any evidence that the igloo magazines were ever used to store nuclear weapons or nuclear weapon components. While Buildings A1 to A14 are the only United States Air Force-associated munitions storage igloos in California, they are not unique, military-related munitions storage structures in California. Concord Naval Weapons Station in San Francisco includes a larger WSA that features various underground and overground bunkers constructed in different periods, which allows for observation of the evolution of the different styles and techniques used in the construction of the WSAs. Although the WSA at West Campus Upper Plateau Project includes two different groups of bunkers constructed during different periods, they were constructed by using the same style and technique, not showing any evidence of stylistic or technical evolution.

Therefore, the buildings and historic are not eligible for listing on the CRHR under Criterion 1 or the NRHP under Criterion A.

- **CRHR Criterion 2/NRHP Criterion B:**

It is associated with the lives of persons important/significant in our past.

Historical research revealed that the buildings and historic district are not associated with the lives of any persons important to local, California, or national history. Therefore, the buildings and historic district are not eligible for listing on the CRHR under Criterion 2 or the NRHP under Criterion B.

- **CRHR Criterion 3:**

It embodies the distinctive characteristics of a type, period, region, or method of construction, or that represents the work of an important creative individual/represent a significant and distinguishable entity whose components may lack individual distinction, or possesses high artistic values.

Buildings A1 to A9 were constructed between 1948 and 1953 and Buildings A10 to

A14 were constructed between 1953 and 1962 in the Utilitarian style as munitions storage igloos. Buildings B, C, D, E, and F were constructed between 1953 and 1962 and Building G was constructed between 1967 and 1978 in the Utilitarian style as weapons maintenance shops supporting the WSA. The designers, architects, and builders of the buildings are unknown.

Buildings A1 to A14 feature a barrel-shaped construction covered with earth. This barrel-shaped igloo design was extensively used by the United States military in the construction of the weapons storage facilities before it was replaced by “Stanley”-style magazines. The munitions storage igloos are not early, unique, or significant examples of barrel-shaped igloos. The project does not include any “Stanley”-style magazines and fails to show the stylistic and technical transition between the barrel-shaped igloos and “Stanley”-style igloos.

All of the buildings were constructed in the Utilitarian style. As neither the MJPA, County of Riverside, or City of Riverside have a historic context statement that addresses the Utilitarian style, the most relevant context statement can be found in the Barrio Logan Historical Resources Survey (Smith et al. 2011):

Utilitarian style refers to buildings whose architecture is significantly determined by the use of the building. For instance, a utilitarian-style manufacturing facility may have a particular roof built to accommodate the interior crane. Utilitarian-style structures are of various sizes, roof styles and clad in different materials (often corrugated metal or masonry), but what distinguishes them is that the builder has made no attempt to impose any detailing or ornamentation besides those that are deemed necessary for the business of the building (Bradley 1999).

While the buildings can best be defined as having been constructed in the Utilitarian style, they do not embody distinctive characteristics of a style, type, or method of construction and are not a valuable example of the use of indigenous materials or craftsmanship. In addition, as the builders are unknown, the buildings cannot be identified as representing the work of any important creative individuals. Finally, none of the buildings retain high degree of integrity. Therefore, the buildings and historic are not eligible for listing on the CRHR under Criterion 3 or the NRHP under Criterion C.

- **CRHR Criterion 4:**

It has yielded, or may be likely to yield, information important in prehistory or history.

The buildings and historic district are not associated with any significant individuals or events, and it is unlikely that the buildings would yield additional information about the history of the Riverside area, state of California, or the nation. Therefore, the buildings and historic district are not eligible for listing on the CRHR under Criterion 4 or the NRHP under Criterion D.

VI. FINDINGS AND CONCLUSIONS

The historic structure assessment for the West Campus Upper Plateau Project has concluded that neither the historic district nor the buildings are historically or architecturally important. The buildings and historic district only retain low levels of integrity, are not distinctive examples of the Utilitarian style, and are not associated with any important persons. While the buildings and historic district are associated with the Cold War, they remain relatively insignificant when compared to other WSAs or AFBs. As a result, the property was evaluated as not eligible for listing on either the CRHR or the NRHP.

VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this historic structure assessment. This assessment is based upon the professional opinion of Architectural Historian Irem Oz. Any conclusions or recommendations included herein may be changed or challenged by MJPA during the environmental review process.



Irem Oz, Ph.D.
Architectural Historian

December 20, 2022

Date

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IX. APPENDICES

Appendix A – Site Record Forms

Appendix B – Maps

Appendix C – Preparer’s Qualifications

APPENDIX A

Site Record Forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 5S3, 3CB, 5D3

Other Listings
Review Code Reviewer Date

Page 1 of 3

*Resource Name or #: Site WSA

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted

*a. County: San Diego

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: *Riverside East, California* Date: 1974 T 2 S; R 4 W of Sec 15, 16, 17, 20, and 21; M.D. B.M.

c. Address: March Field Air Reserve Base, West Campus City: Riverside Zip: 92518

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): The project is located within Assessor's Parcel Numbers (APNs) 297-090-001, -002, -003, and -009. The project is located in the northwestern portion of March ARB between Interstate 215 (I-215) and Trautwein Road, southwest of the intersection of Meridian Parkway and East Alessandro Boulevard in an unincorporated portion of Riverside County.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

Site WSA includes weapons storage igloos (Buildings A1-A14), weapons maintenance shops (Buildings B, C, D, E, F and G), hardscape, parking lots, paved driveways, and non-native landscaping.

Buildings A1 to A14: The munitions storage igloos are also referred to as "the bomb dump" and "munitions storage area." According to historic aerial photographs, the underground igloo-style magazines located east of Cactus Circle East (A1 to A9) were constructed between 1948 and 1953, and the ones located west of Cactus Circle East (A10 to A14) were constructed between 1953 and 1962. This weapons storage complex consists of 14 structures. The builders of these structures are unknown. Archival research and field investigations suggest that these structures were constructed according to military standard designs as approximately 25 feet in width by 80 feet long.

These igloos are barrel-shaped structures featuring reinforced concrete foundations and constructions. The wing walls of the igloos feature Huntsville-type primary façades truncated a few feet from the ground. These designs were typical of the period. The west (primary) façades of these igloos also feature heavy steel double-leaf swing doors. A variety of mechanical and security equipment is mounted on the west façade. Extending from an access road in front of each igloo is a paved unloading area. The earlier igloos (A1 to A9) feature a slight projection around the entrance of the structure. The later igloos (A10 to A14) feature a horizontal concrete cornice above the entry. The sloping sides of the west façade project beyond the vaulted concrete walls. The exterior surface of the vault is earth-covered. Intake vents, exhaust vents, and lightning rods are located on the crown of the arch at the exterior. While the earlier igloos feature square-shaped, multi-tier vents, the later igloos feature basic circular vents.

The interiors of these structures are bare and feature vaulted concrete walls. Lights and security equipment have been installed along the crown of the arch. Mechanical equipment has been installed on the wall at the entrance end of the igloo. Some of the later igloos feature a secondary interior concrete structure. These secondary structures have rectangular plans and feature thick reinforced concrete walls.

*P3b. Resource Attributes: (List attributes and codes) HP8. Industrial building

P5a. Photo or Drawing



*P4. Resources Present:

Building Structure Object Site District
 Element of District Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) General view of the weapons storage igloos, facing southwest, December 2022

*P6. Date Constructed/Age and Sources: 1948 to 1978 (Aerial photographs)

Historic Prehistoric Both

*P7. Owner and Address:

March Joint Powers Authority
14205 Meridian Parkway #140,
Riverside, California, 92518

*P8. Recorded by: (Name, affiliation, and address)

Jennifer R.K. Stropes and Irem Oz
BFSA Environmental Services, a Perennial Company
14010 Poway Road, Suite A
Poway, California 92064

*P9. Date Recorded: 12/19/22

*P10. Survey Type: (Describe)

Cultural Resources Survey

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Historic Structure Assessment for the West Campus Upper Plateau Project, Oz et al. 2022

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

*Recorded by: Jennifer R.K. Stropes and Irem Oz

*Date: 12/19/22

Continuation Update

Building B

Building B is located south of Cactus Avenue. According to the aerial photographs, Building B was constructed between 1953 and 1962. Manley (1995) states that Building B was used as a weapons maintenance shop. Building B is a single-story, rectangular-planned structure that features a reinforced concrete foundation, concrete walls, and a flat roof. The building features a concrete platform along the north and south façades. The platform along the north façade is accessed via a ramp on its east side and a small metal staircase on its west side. The platform along the south façade exhibits two concrete staircases on either side. The north and south façades of the building feature double metal doors, single metal doors, and single-hung windows. The east façade of the building does not feature any elements and the west façade features two single-hung windows.

Buildings C and D

Buildings C and D are located south of Building B. According to aerial photographs, Buildings C and D were constructed between 1953 and 1962. Manley (1995) notes that Buildings C and D were used as weapons maintenance shops. Building C is located south of Building D. They are both single-story, rectangular-planned structures that feature reinforced concrete foundations, masonry walls, and flat roofs. The roof of Building C is currently collapsed. Both buildings feature loading doors on their west façades. A small power distribution unit is attached to Building D on its east façade.

Building E

Building E is located south of Cactus Avenue and east of Building B. According to aerial photographs, Building E was constructed between 1953 and 1962. Manley (1995) notes that Building E was used as a weapons maintenance shop. Building E is a single-story, rectangular-planned structure with a projection on its north façade. The building features a reinforced concrete foundation, masonry walls, and a flat roof. The north and south façades feature loading doors and the east and west façades do not feature any elements.

Buildings F and G

Buildings F and G are located north of Cactus Avenue. According to aerial photographs, Building F was constructed between 1953 and 1962 and Building G was constructed between 1967 and 1978. Manley (1995) notes that Building F was used as a weapons maintenance shop. Both buildings are single-story structures with irregular rectangular plans. Both feature flat roofs, reinforced concrete foundations, and masonry walls. Wood-framed doors, windows, and loading doors are featured in both buildings. Building G also exhibits aluminum vents attached on its west façade.

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or #: Site WSA

B1. Historic Name: March Air Force Base West Campus

B2. Common Name:

B3. Original Use: Weapons Storage

B4. Present Use: Fireworks Storage

*B5. Architectural Style: Utilitarian

*B6. Construction History: (Construction date, alterations, and date of alterations) Buildings A1-A9 constructed between 1948 and 1953; Buildings A10-A14, B, C, D, E and F constructed between 1953 and 1962; Building G constructed between 1967 and 1978.

*B7. Moved? No Yes Unknown Date: N/A Original Location: Same

*B8. Related Features: None

B9a. Architect: Unknown

b. Builder: Unknown

*B10. Significance

Theme: Military

Area: Riverside

Period of Significance: 1948-1978 Property Type: Military Applicable Criteria: None

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The buildings within Site WSA were not determined to be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Places (CRHR) under Criterion A/1 as they were not associated with World War I and World War II like the east base was and while the weapons storage area was constructed during the Cold War, historical research showed that due to the many changes in its mission and related built environment, Site WSA remains relatively insignificant within the national context and does not qualify for nomination for the National Register.

The buildings within Site WSA were also not determined eligible for listing on the NRHP and the CRHR under Criterion B/2 because they were not associated with the lives of any persons important to local, California, or national history.

The buildings within Site WSA were not determined eligible for listing on the NRHP or CRHR under Criterion C/3 due to an overall lack of integrity. While the buildings can best be defined as having been constructed in the Utilitarian style, they do not embody distinctive characteristics of a style, type, or method of construction and are not a valuable example of the use of indigenous materials or craftsmanship. In addition, as the builders are unknown, the buildings cannot be identified as representing the work of any important creative individuals.

The buildings within Site WSA were not determined eligible for listing on the NRHP and the CRHR under Criterion D/4 as further research would not provide any additional information pertinent to the history of the city of the area or the state of California not already discovered during the current or previous research efforts.

The buildings within Site WSA were also determined to be within the boundaries of potential historic district (Site WSA Historic District). The area was evaluated under CRHR criteria and was not found eligible.

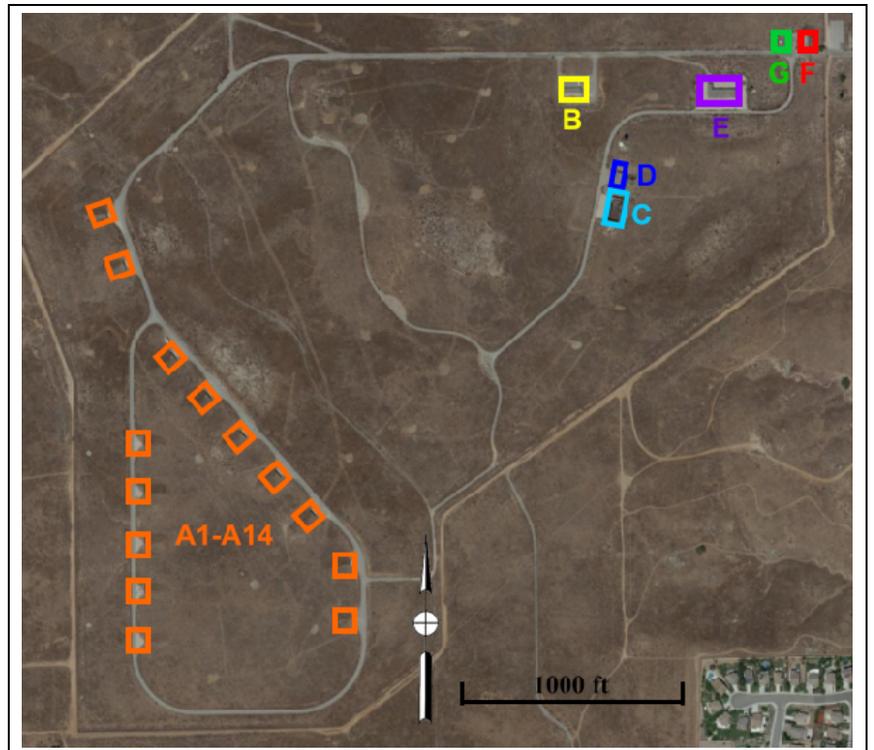
B11. Additional Resource Attributes (List attributes and codes): None

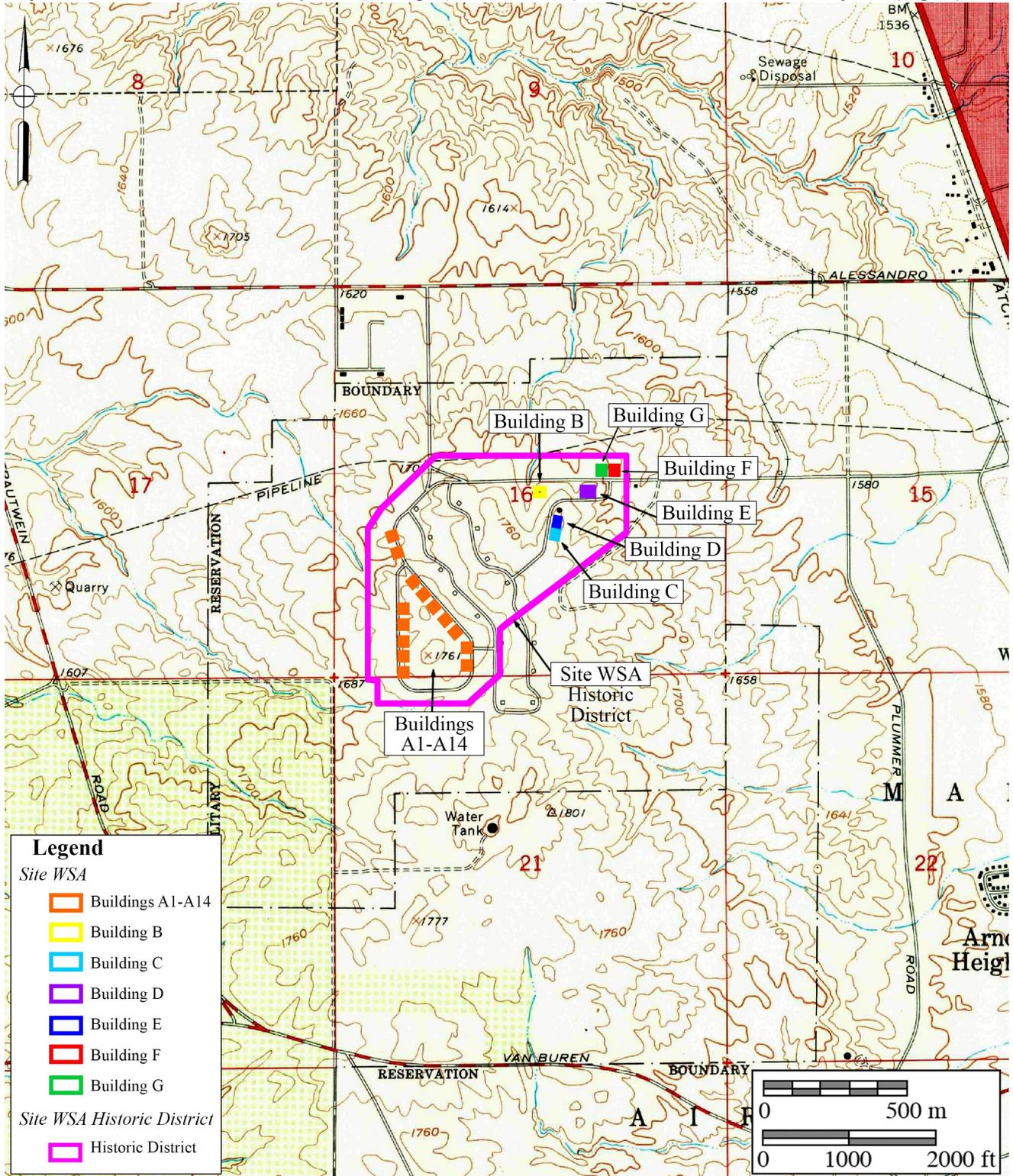
*B12. References: Oz et al. (2022)

B13. Remarks: None

*B14. Evaluator: Irem Oz and Jennifer K. Stropes

*Date of Evaluation: 12/19/22





State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code

Reviewer

Date

Page 1 of 4

*Resource Name or #: Site WSA Historic District

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted

*a. County: San Diego

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: *Riverside East, California* Date: 1974 T 2 S; R 4 W of Sec 15, 16, 17, 20, and 21; M.D. B.M.

c. Address: March Field Air Reserve Base, West Campus City: Riverside Zip: 92518

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): The project is located within Assessor's Parcel Numbers (APNs) 297-090-001, -002, -003, and -009. The project is located in the northwestern portion of March ARB between Interstate 215 (I-215) and Trautwein Road, southwest of the intersection of Meridian Parkway and East Alessandro Boulevard in an unincorporated portion of Riverside County.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The historic district area (Site WSA Historic District) includes buildings within Site WSA: Buildings A1-A14 (weapons storage igloos), B, C, D, E, F, and G (weapons maintenance and storage shops). These 20 buildings are related to one another within the context of the Cold War. The buildings located within the historic district area were constructed between 1948 and 1978. The boundaries of the site were determined by the location of the buildings.

The buildings within Site WSA Historic District were not determined to be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Places (CRHR) under Criterion A/1 as they were not associated with World War I and World War II like the east base was. Although the weapons storage area was constructed during the Cold War, historical research showed that due to the many changes in its mission and related built environment, Site WSA Historic District remains relatively insignificant within the national context and does not qualify for nomination for the NRHP or the CRHR.

*P3b. Resource Attributes: (List attributes and codes) HP8. Industrial building

P5a. Photo or Drawing



*P4. Resources Present:

Building Structure Object Site District
 Element of District Other (Isolates, etc.)

*P5b. Description of Photo: (View, date, accession #) General view of the weapons storage igloos, facing southwest, December 2022

*P6. Date Constructed/Age and Sources: 1948 to 1978 (Aerial photographs)

Historic Prehistoric Both

*P7. Owner and Address:

March Joint Powers Authority
14205 Meridian Parkway #140,
Riverside, California, 92518

*P8. Recorded by: (Name, affiliation, and address)

Irem Oz and Jennifer R.K. Stropes
BFSA Environmental Services, a Perennial Company
14010 Poway Road, Suite A
Poway, California 92064

*P9. Date Recorded: 12/19/22

*P10. Survey Type: (Describe)
Cultural Resources Survey

*P11. Report Citation: (Cite survey report and other sources or enter "none.") Historic Structure Assessment for the West Campus Upper Plateau Project, Oz et al. 2022

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

***D3. Detailed Description** (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.):

Site WSA includes weapons storage igloos (Buildings A1-A14), weapons maintenance shops (Buildings B, C, D, E, F and G), hardscape, parking lots, paved driveways, and non-native landscaping. All of the buildings were constructed in the Utilitarian style.

Buildings A1 to A14: The munitions storage igloos are also referred to as “the bomb dump” and “munitions storage area.” According to historic aerial photographs, the underground igloo-style magazines located east of Cactus Circle East (A1 to A9) were constructed between 1948 and 1953, and the ones located west of Cactus Circle East (A10 to A14) were constructed between 1953 and 1962. This weapons storage complex consists of 14 structures. The builders of these structures are unknown. Archival research and field investigations suggest that these structures were constructed according to military standard designs as approximately 25 feet in width by 80 feet long.

These igloos are barrel-shaped structures featuring reinforced concrete foundations and constructions. The wing walls of the igloos feature Huntsville-type primary façades truncated a few feet from the ground. These designs were typical of the period. The west (primary) façades of these igloos also feature heavy steel double-leaf swing doors. A variety of mechanical and security equipment is mounted on the west façade. Extending from an access road in front of each igloo is a paved unloading area. The earlier igloos (A1 to A9) feature a slight projection around the entrance of the structure. The later igloos (A10 to A14) feature a horizontal concrete cornice above the entry. The sloping sides of the west façade project beyond the vaulted concrete walls. The exterior surface of the vault is earth-covered. Intake vents, exhaust vents, and lightning rods are located on the crown of the arch at the exterior. While the earlier igloos feature square-shaped, multi-tier vents, the later igloos feature basic circular vents.

The interiors of these structures are bare and feature vaulted concrete walls. Lights and security equipment have been installed along the crown of the arch. Mechanical equipment has been installed on the wall at the entrance end of the igloo. Some of the later igloos feature a secondary interior concrete structure. These secondary structures have rectangular plans and feature thick reinforced concrete walls.

Building B

Building B is located south of Cactus Avenue. According to the aerial photographs, Building B was constructed between 1953 and 1962. Manley (1995) states that Building B was used as a weapons maintenance shop. Building B is a single-story, rectangular-planned structure that features a reinforced concrete foundation, concrete walls, and a flat roof. The building features a concrete platform along the north and south façades. The platform along the north façade is accessed via a ramp on its east side and a small metal staircase on its west side. The platform along the south façade exhibits two concrete staircases on either side. The north and south façades of the building feature double metal doors, single metal doors, and single-hung windows. The east façade of the building does not feature any elements and the west façade features two single-hung windows.

Buildings C and D

Buildings C and D are located south of Building B. According to aerial photographs, Buildings C and D were constructed between 1953 and 1962. Manley (1995) notes that Buildings C and D were used as weapons maintenance shops. Building C is located south of Building D. They are both single-story, rectangular-planned structures that feature reinforced concrete foundations, masonry walls, and flat roofs. The roof of Building C is currently collapsed. Both buildings feature loading doors on their west façades. A small power distribution unit is attached to Building D on its east façade.

Building E

Building E is located south of Cactus Avenue and east of Building B. According to aerial photographs, Building E was constructed between 1953 and 1962. Manley (1995) notes that Building E was used as a weapons maintenance shop. Building E is a single-story, rectangular-planned structure with a projection on its north façade. The building features a reinforced concrete foundation, masonry walls, and a flat roof. The north and south façades feature loading doors and the east and west façades do not feature any elements.

Buildings F and G

Buildings F and G are located north of Cactus Avenue. According to aerial photographs, Building F was constructed between 1953 and 1962 and Building G was constructed between 1967 and 1978. Manley (1995) notes that Building F was used as a weapons maintenance shop. Both buildings are single-story structures with irregular rectangular plans. Both feature flat roofs, reinforced concrete foundations, and masonry walls. Wood-framed doors, windows, and loading doors are featured in both buildings. Building G also exhibits aluminum vents attached on its west façade.

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

The boundaries of the historic district area are defined according to the location of the buildings within the historic district. The potential historic district extends south and west of Cactus Circle East and north and West of the access roads located around the Weapons Storage Area.

***D5. Boundary Justification:**

The boundaries of the historic district area are defined according to the location of the buildings within the historic district. The weapons storage areas within the military bases are usually located away from the majority of the other buildings. Following this, the WSA Historic District in March AFB is located northwest of the base, away from the other buildings. The buildings located within the potential historic district form a natural boundary.

D6. Significance Theme: Military

Area: Riverside

Period of Significance: 1948-1978

Applicable Criteria: None

(Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The buildings within Site WSA Historic District were not determined to be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Places (CRHR) under Criterion A/1 as they were not associated with World War I and World War II like the east base was and while the weapons storage area was constructed during the Cold War, historical research showed that due to the many changes in its mission and related built environment, Site WSA Historic District remains relatively insignificant within the national context and does not qualify for nomination for the National Register.

The buildings within Site WSA Historic District were also not determined eligible for listing on the NRHP and the CRHR under Criterion B/2 because they were not associated with the lives of any persons important to local, California, or national history.

The buildings within Site WSA Historic District were not determined eligible for listing on the NRHP or CRHR under Criterion C/3 due to an overall lack of integrity. While the buildings can best be defined as having been constructed in the Utilitarian style, they do not embody distinctive characteristics of a style, type, or method of construction and are not a valuable example of the use of indigenous materials or craftsmanship. In addition, as the builders are unknown, the buildings cannot be identified as representing the work of any important creative individuals.

The buildings within Site WSA Historic District were not determined eligible for listing on the NRHP and the CRHR under Criterion D/4 as further research would not provide any additional information pertinent to the history of the city of the area or the state of California not already discovered during the current or previous research efforts.

Following this, as the buildings within Site WSA Historic District are not eligible for listing on the NRHP or CRHR under any criteria, coupled with the overall lack of integrity of the district, the potential historic district also is not eligible for listing on the NRHP or the CRHR.

***D7. References** (Give full citations including the names and addresses of any informants, where possible.):

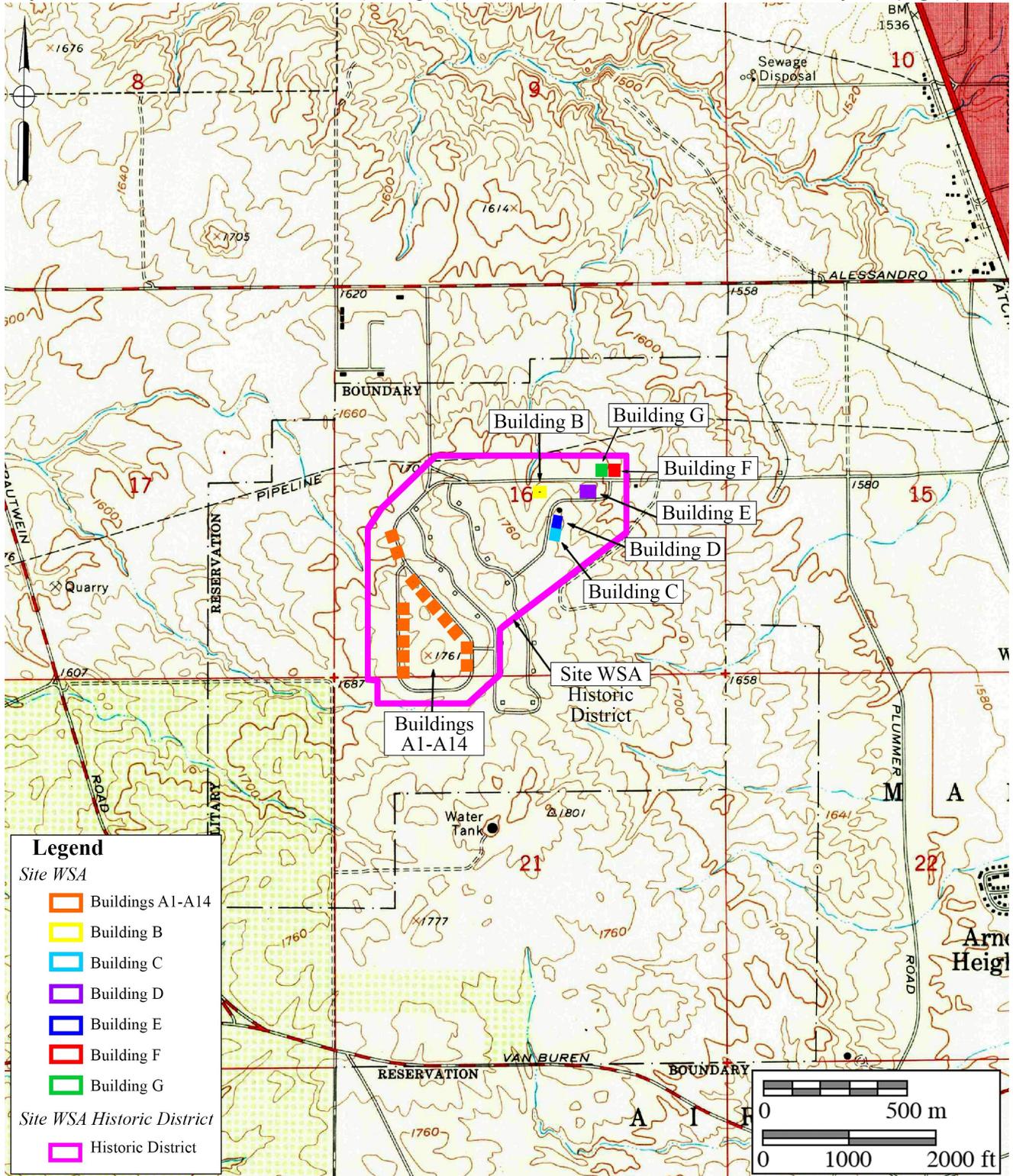
See Oz (2022)

***D8. Evaluator:** Irem Oz and Jennifer R.K. Stropes

Date: 12/19/22

Affiliation and Address:

BFSA Environmental Services, a Perennial Company
14010 Poway Road, Suite A
Poway, California 92064



APPENDIX B

Maps

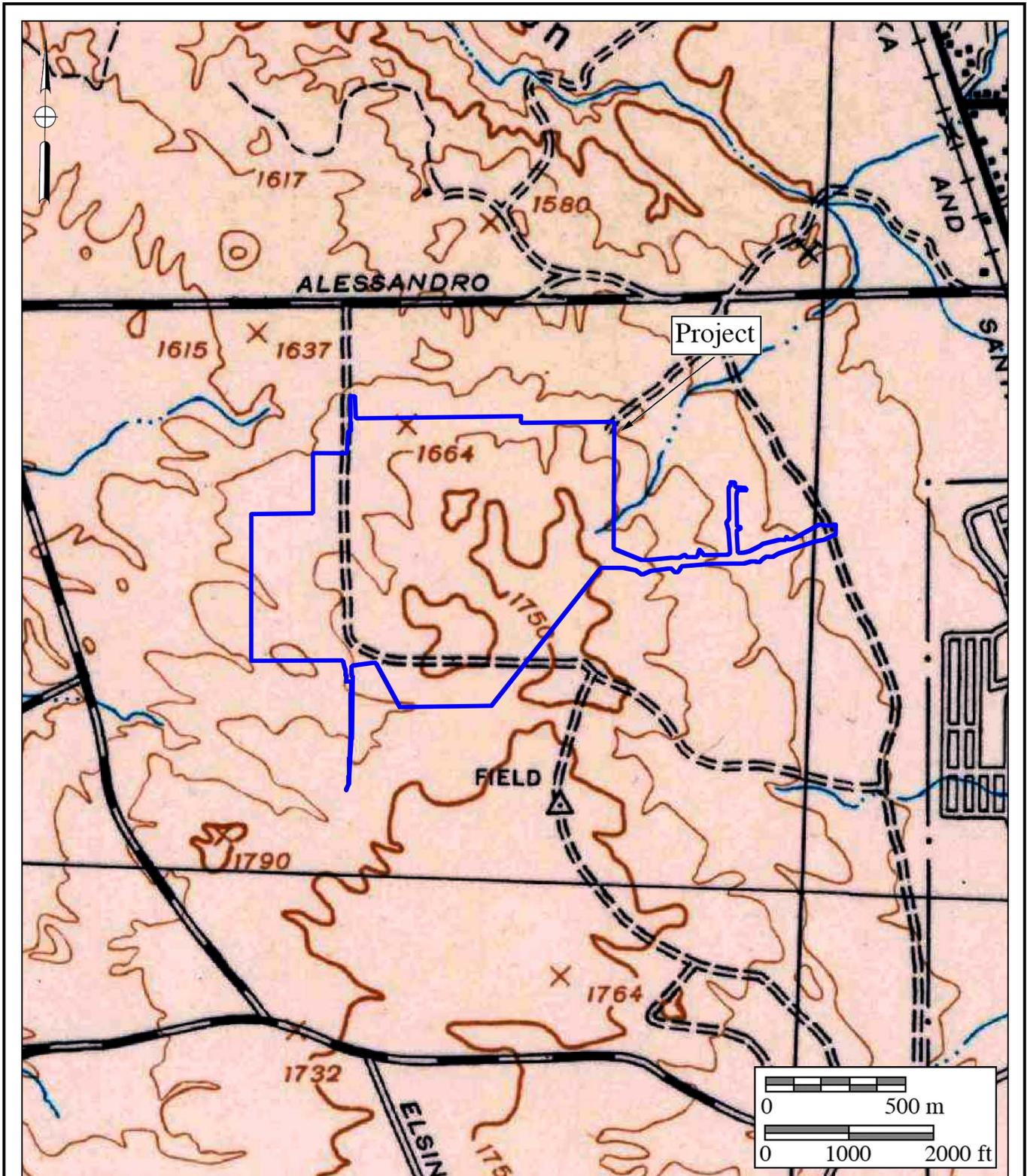
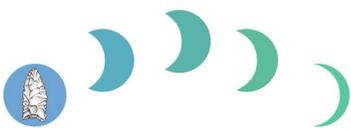


Figure 2

1943 USGS Map

The West Campus Upper Plateau Project

USGS *Riverside* Quadrangle (15-minute series)



BFS Environmental Services
A Perennial Company

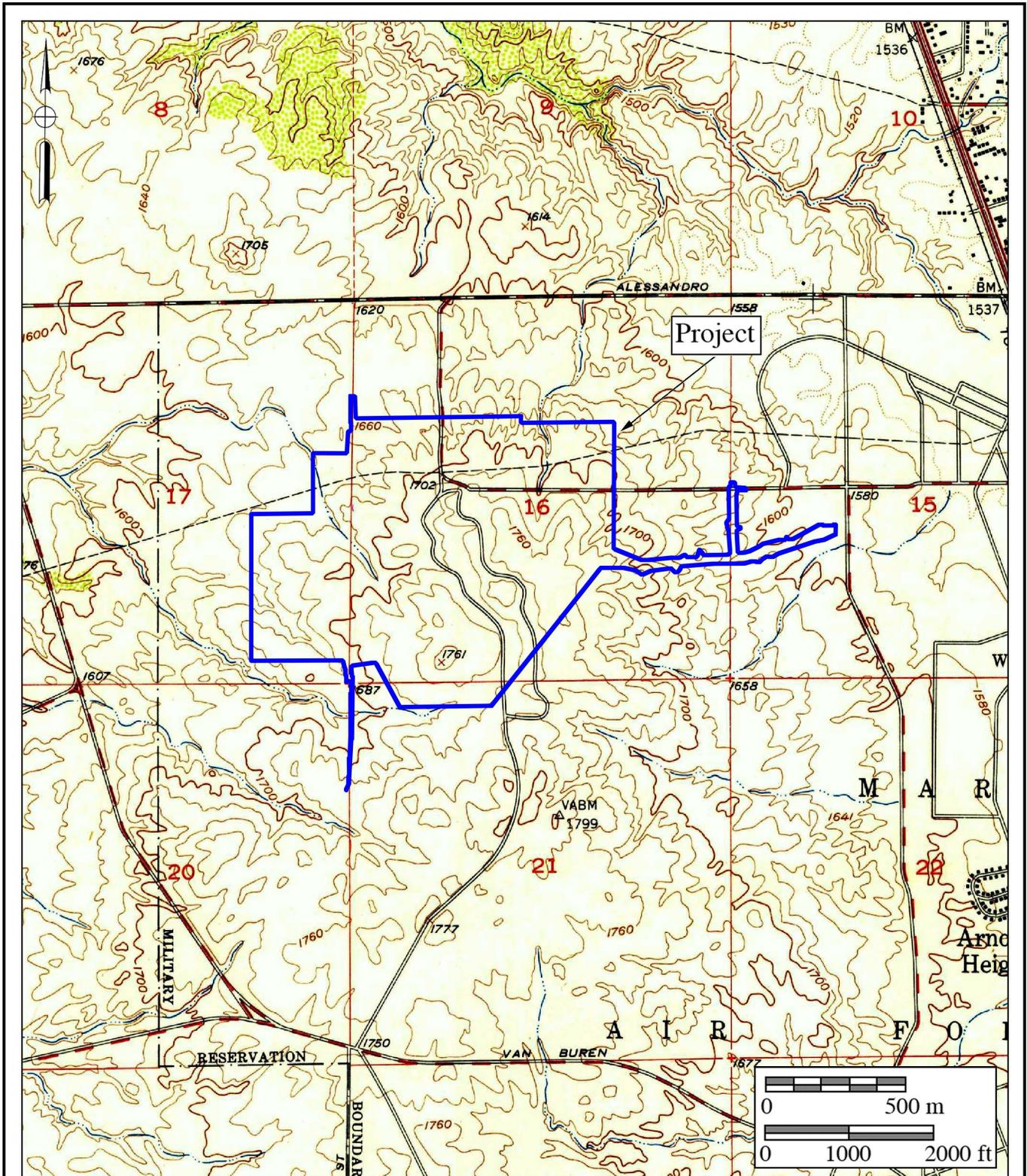


Figure 3

1953 USGS Map

The West Campus Upper Plateau Project

USGS Riverside East Quadrangle (15-minute series)



BFSFA Environmental Services
A Perennial Company

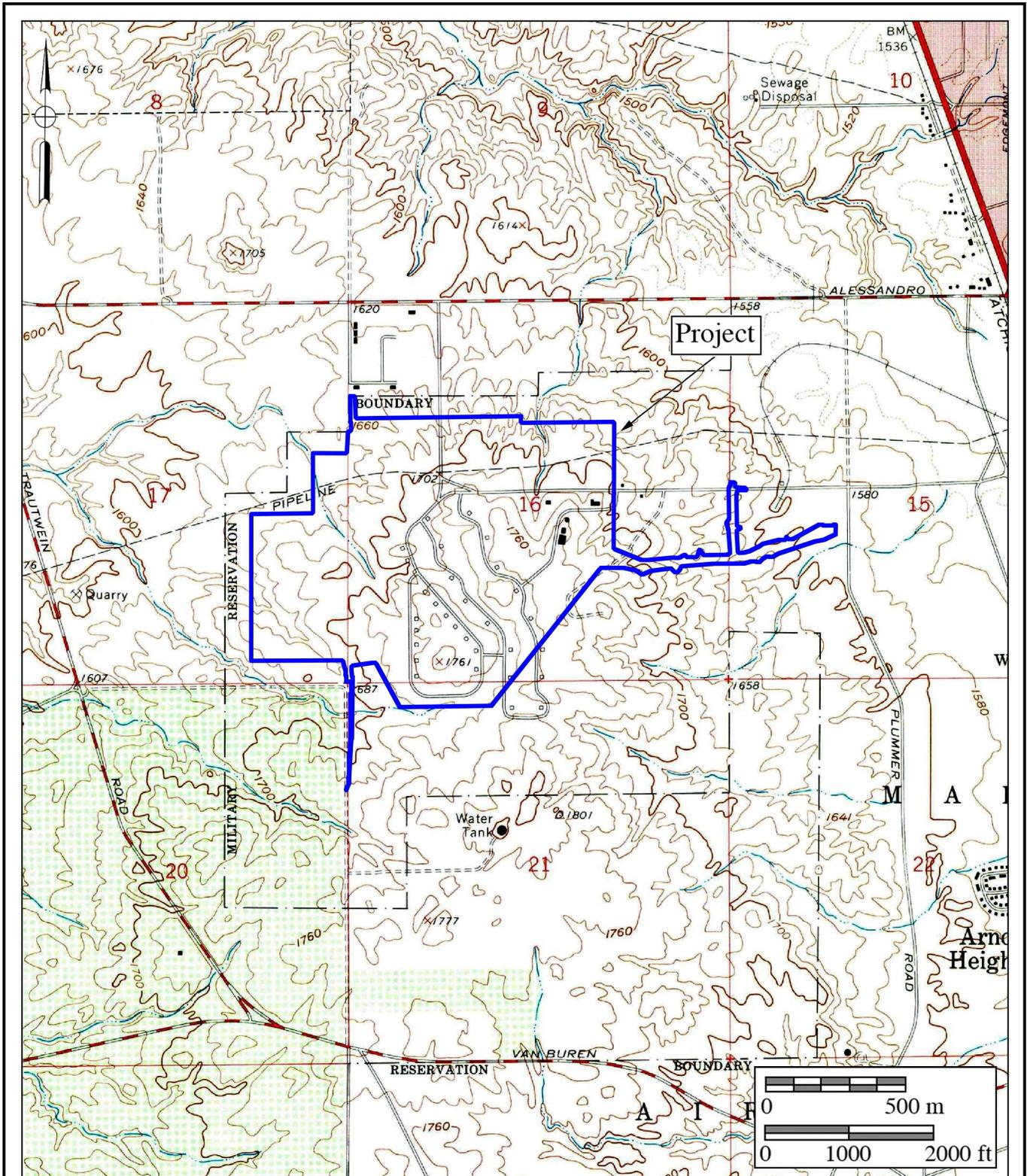


Figure 4

1967 USGS Map

The West Campus Upper Plateau Project

USGS Riverside East Quadrangle (15-minute series)



BFS Environmental Services
A Perennial Company

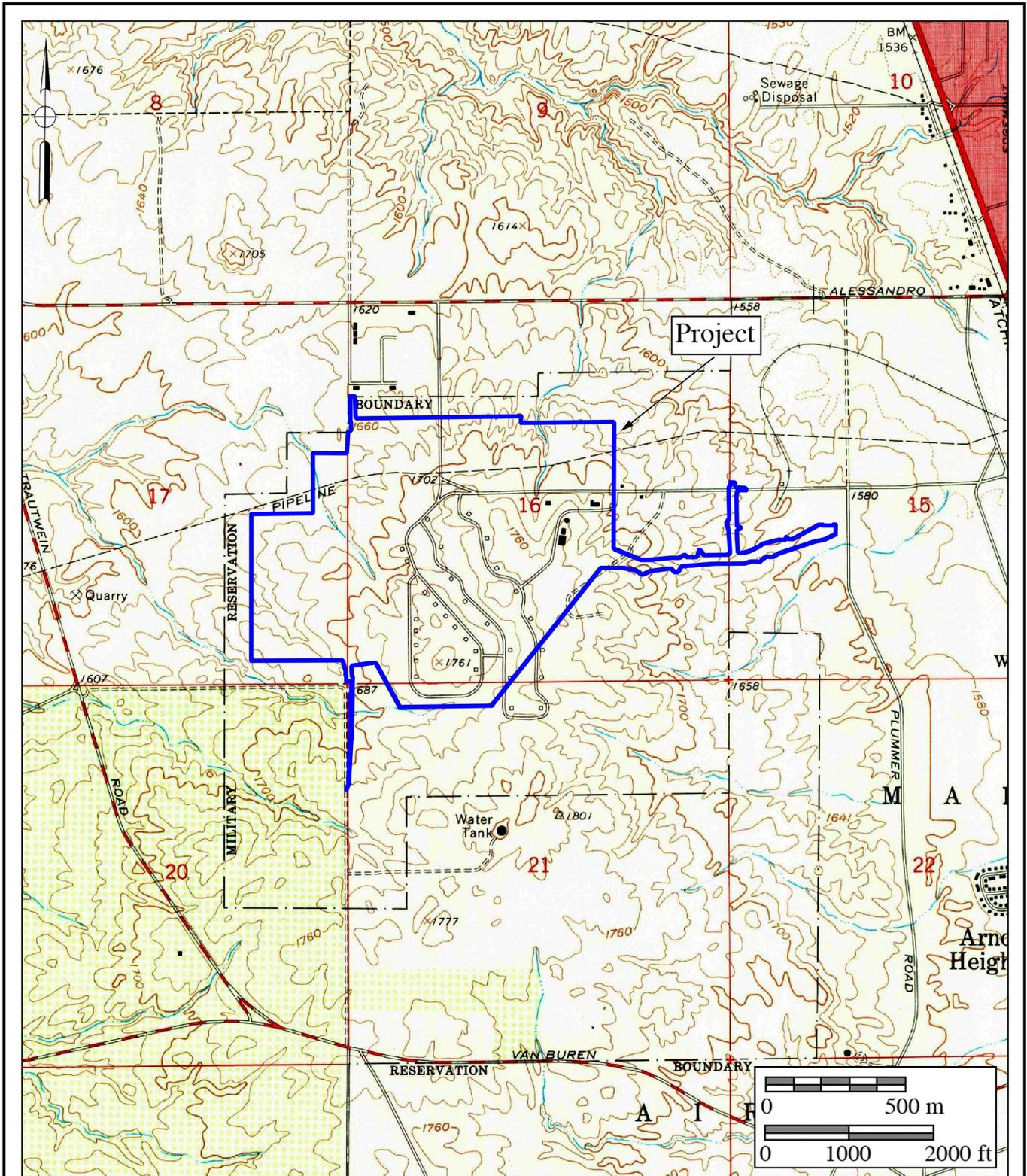


Figure 5

1974 Edition of the 1967 USGS Map

The West Campus Upper Plateau Project

USGS Riverside East Quadrangle (15-minute series)



BFS Environmental Services
A Perennial Company

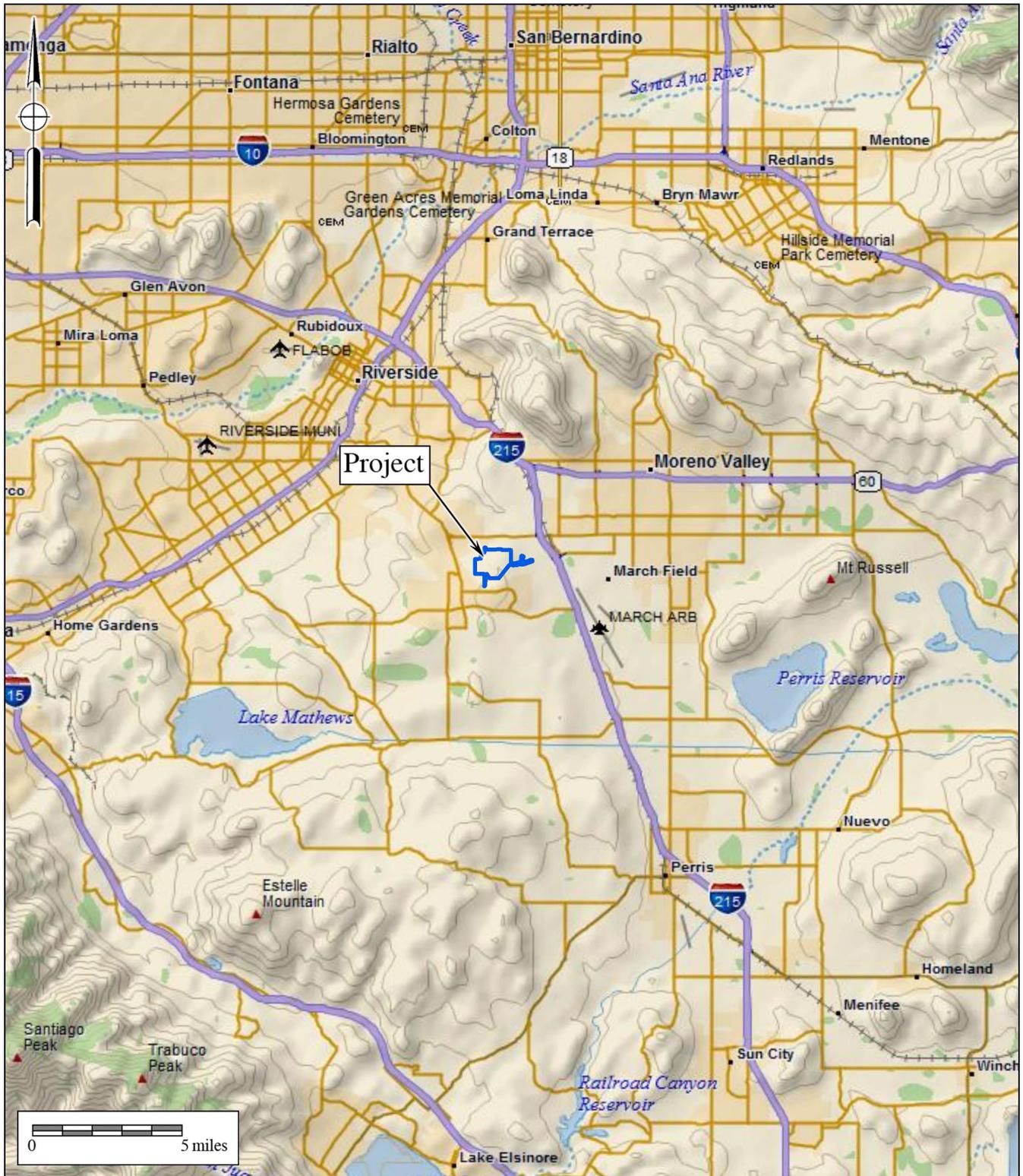


Figure 1
General Location Map
 The West Campus Upper Plateau Project
 DeLorme (1:250,000)

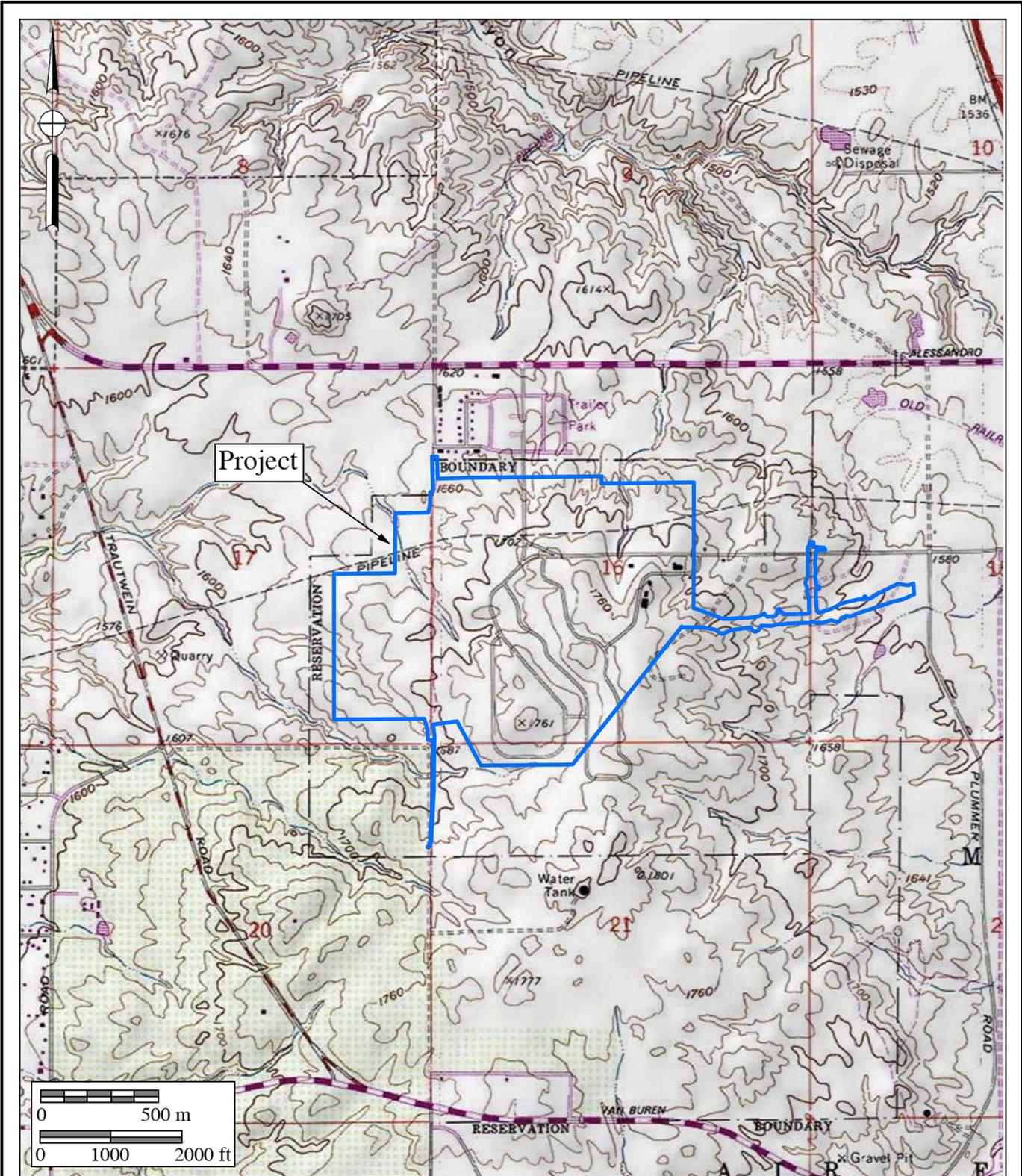


Figure 6
Current USGS Map

The West Campus Upper Plateau Project
 USGS *Riverside East* Quadrangle (7.5-minute series)

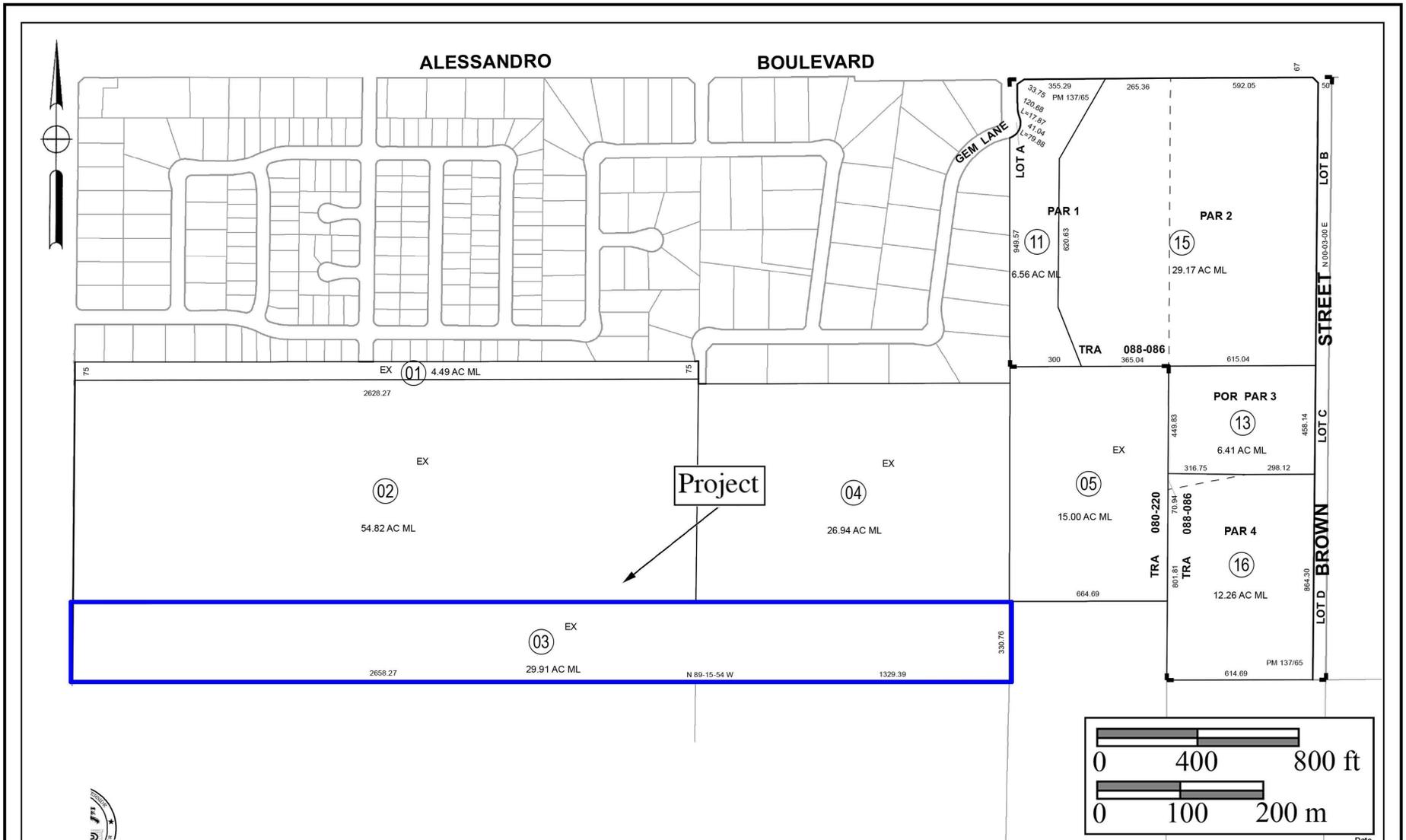
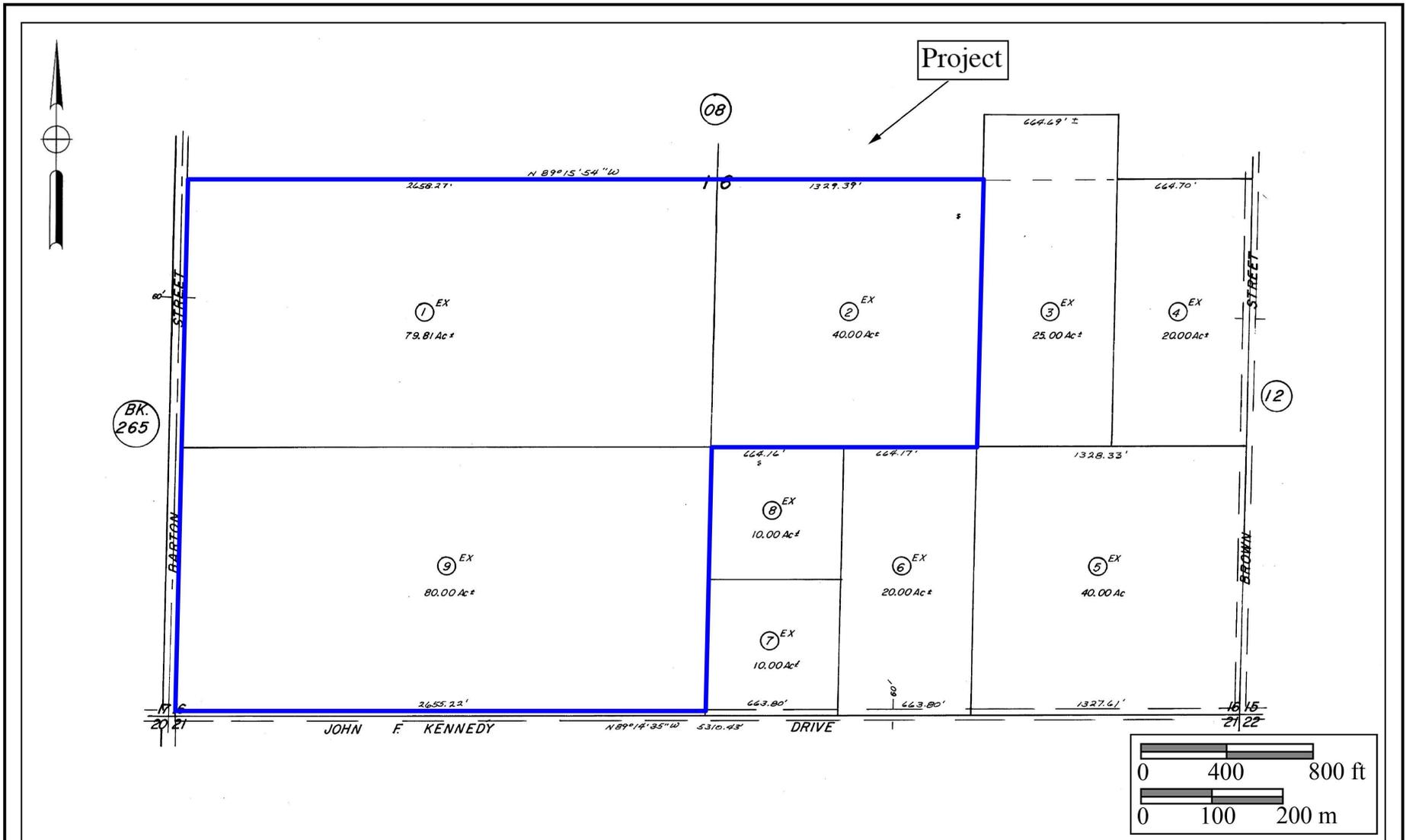


Figure 8
Current Assessor's Parcel Map
 The West Campus Upper Plateau Project



BFS Environmental Services
A Perennial Company

Figure 7
Current Assessor's Parcel Map
The West Campus Upper Plateau Project

APPENDIX C

Preparer's Qualifications

Irem Oz, Ph.D.

Architectural Historian
BFSA Environmental Services, A Perennial Company
14010 Poway Road • Suite A •
Phone: (858) 484-0915 • Fax: (858) 679-9896 • E-Mail: ioz@bfsa.perennialenv.com



Education

Doctor of Philosophy, Architecture	2022
The Pennsylvania State University, University Park, Pennsylvania	
Master of Arts, Archaeology and Art History	2014
Koc University, Istanbul, Turkey	
Bachelor of Science, City and Regional Planning	2010
Middle East Technical University, Ankara, Turkey	

Research Interests

History of Architecture	Archival Research
Historic Structure Significance Eligibility	Ethnography
Cultural Heritage Management	Qualitative Research

Experience

Architectural Historian BFSA Environmental, a Perennial Company	March 2022–Present
Writing, editing, and producing cultural resource reports for both California Environmental Quality Act and National Environmental Policy Act compliance; recording and evaluating historic resources, including historic structure significance eligibility evaluations, Historical Resource Research Reports, Historical Resource Technical Reports, and Historic American Buildings Survey/Historic American Engineering Record preparation.	
On-Call Architectural Historian Stell Environmental Enterprises, Inc.	September 2021–March 2022
Writing, editing, and producing cultural resource reports; recording and evaluating historic resources, including historic structure significance eligibility evaluations, Historical Resource Research Reports, Historical Resource Technical Reports, and Historic American Buildings Survey/Historic American Engineering Record preparation.	

**Research and Teaching Assistant/Ph.D. Candidate
The Pennsylvania State University**

August 2015–December 2021

Conducting literature reviews and research on various large-scale urban planning projects; teaching history of architecture and urban planning (ARCH 100) to non-specialist groups of 150+ students per semester; acting as a jury in architectural design studios; developing and conducting comprehensive qualitative research projects with clearly stated scope of work, cultural and scientific significance, and expected outcomes; analyzing and synthesizing spatial and socio-cultural data; producing 3-D models, site plans, section drawings and synthesis plans; preparing interview and focus group protocols, conducting expert, in-depth and walkalong interviews and moderating focus groups; writing grant applications.

**Research Assistant
UNESCO Mudurnu Cultural Heritage Management Plan Project**

March 2013–November 2014

Conducting literature reviews and archival research on the history of the town of Mudurnu in Turkey; conducting field surveys and interviews to identify local tangible and intangible cultural heritage; developing a conservation action plan; preparing and digitizing conservation implementation plan proposals

**Project Supervisor
Taksim Yapi, Istanbul**

January 2000–December 2001

Conducting literature reviews and archival research on the architectural heritage in Istanbul; developing conservation projects for the Molla Çelebi and Hüseyin Ağa Mosques in Istanbul through rigorous archival research and interviews; managing a team of 50 workers and contractors during the implementation of conservation projects; preparing and submitted fiscal reports and memos on project progress.

Scholarly Works

Oz, I. and Staub, A.

2020 The Performance of Gender and Ethnic Identity in the Diaspora Mosque in The Architect and the City. *Proceedings of the ARCC 15th International Conference.*

Oz, I. and Staub, A.

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