

K. CULTURAL AND PALEONTOLOGICAL RESOURCES

This section assesses the potential for project impacts to cultural and paleontological resources, and recommends mitigation measures to avoid or reduce the severity of potentially significant impacts. The section is divided into components that include: 1) a description of the methods used for the cultural and paleontological resources analysis; 2) a summary of the Plan Area's cultural and paleontological setting, which includes a description of recorded resources, archaeological and paleontological sensitivity, and the applicable laws, codes, and regulations; and 3) an analysis of potential impacts and mitigation measures to reduce the significance of such impacts where possible.

1. Methods

This section describes the methods used to conduct this cultural and paleontological resources analysis.

a. Cultural Resources. Background research, consisting of archival research and contacts with potentially interested parties, was undertaken for this analysis. Each is described below.

(1) Archival Research. A records search (#06-1616) for the Plan Area and a ¼-mile radius was done on April 13, 2007, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California. The NWIC is an affiliate of the California Office of Historic Preservation and is the official State repository of cultural resources reports and records for a 16-county area, including Solano County. The purpose of this record search was to identify cultural resources studies that have been prepared for sites in and around the Plan Area, and any identified cultural resources.

LSA also reviewed the following cultural resource inventories:

- *California Inventory of Historic Resources*;¹
- *Five Views: An Ethnic Historic Site Survey for California*;²
- *California Historical Landmarks*;³
- *California Points of Historical Interest*;⁴ and
- *Directory of Properties in the Historic Property Data File for Solano County*.⁵

The Directory of Properties includes the listings in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Historical Landmarks, and California Points of Historical Interest.

¹ California Department of Parks and Recreation, 1976. *California Inventory of Historic Resources*. Sacramento.

² California Department of Parks and Recreation, Office of Historic Preservation, 1988. *Five Views: An Ethnic Historic Site Survey for California*. Sacramento.

³ California Department of Parks and Recreation, Office of Historic Preservation, 1990. *California Historical Landmarks*. Sacramento.

⁴ California Department of Parks and Recreation, Office of Historic Preservation, 1992. *California Points of Historical Interest*. Sacramento.

⁵ California Department of Parks and Recreation, Office of Historic Preservation, 2006. *Directory of Properties in the Historic Property Data File*. Sacramento.

The following Benicia planning documents were also reviewed to identify pertinent local cultural and paleontological resource policies and guidelines:

- City of Benicia General Plan;⁶ and
- Arsenal Historic Conservation Plan⁷

(2) Contacts With Potentially Interested Parties. On April 20, 2007, LSA faxed a letter describing the Draft Specific Plan and maps depicting the Plan Area to the Native American Heritage Commission (NAHC) in Sacramento requesting a review of its sacred land file for any Native American cultural resources that might be affected by the proposed project. Debbie Pilas-Treadway, NAHC Environmental Specialist III, responded in a faxed letter on April 26, 2007, that a review of the sacred land file did not indicate “the presence of Native American cultural resources in the immediate project area.”

On April 20, 2007, LSA sent letters describing the Plan Area and maps depicting the Plan Area to the Benicia Historical Society and to the Benicia Historical Museum and Cultural Foundation requesting information or concerns regarding historical sites in the Specific Plan Area. Benicia Historical Society did not respond to repeated requests for comments. In a phone call, a representative of the Benicia Historical Museum and Cultural foundation did not have any specific environmental concerns about the project.

b. Paleontological Resources. Background research, consisting of a fossil locality search and literature review, was undertaken to determine if paleontological resources (fossils) and geologic units known to contain fossils are within or adjacent to the Plan Area.

(1) Fossil Locality Search. A fossil locality search was conducted by the staff at the University of California, Berkeley, Museum of Paleontology, on May 21, 2007. The search identified 22 fossil localities within a 10-mile radius of the Plan Area. None of these localities are within or adjacent to the Plan Area. Fossils identified in the search included representatives of various Pleistocene mammals, such as mammoth and mastodons, ground sloth, horse, bison, camel, and whale, as well as Cretaceous aged fish, shark, and an unidentified mammal. The Cretaceous-aged localities are located in the Great Valley Sequence, which is present in the Plan Area. However, parts of California underlain by the Great Valley Sequence are large, varied, and very heavily faulted; therefore, it is unclear if the members of the Great Valley Sequence containing the fossil localities and the members present in the Plan Area are significantly related geologically or temporally.

(2) Literature Review. LSA reviewed paleontological and geological literature relevant to the project area and its vicinity. This review identified formations underlying the project area as being known to contain micro fossils as well as marine invertebrate fossils.

2. Cultural and Paleontological Setting

The section provides an overview of the cultural and paleontological settings of the Plan Area, including: 1) a brief overview of Benicia’s prehistory and ethnography; 2) an overview of the historic

⁶ City of Benicia Department of Community Development, 1999. *City of Benicia General Plan*. San Jose, California.

⁷ Cannon Group. 1993. *Arsenal Historic Conservation Plan*. San Francisco, California.

period in Benicia; 3) a detailed description of the Specific Plan Area's history of military and defense-related facilities; 4) a summary description of cultural resources within and adjacent to the Plan Area; 5) a description of the regulatory context for cultural and palontological resources in Benicia; 6) an assessment of the Plan Area's archaeological sensitivity; 7) a brief overview of the paleontological setting of Benicia; and 8) an assessment of the Plan Area's paleontological sensitivity.

a. Prehistory and Ethnography. The Carquinez Strait area, including Benicia, was probably settled by native Californians between 12,000 and 6,000 years ago.⁸ The Paleo-Archaic-Emergent cultural sequence developed by David Fredrickson (1974) is commonly used to interpret the prehistoric settlement of Central California.⁹ The sequence is broken into three broad periods: the Paleoindian period (10,000-6000 B.C.); the three-staged Archaic period, consisting of the Lower Archaic (6000-3000 B.C.), Middle Archaic (3000-1000 B.C.), and Upper Archaic (1000 B.C.-A.D. 500); and the Emergent period (A.D. 500-1800).

The Paleoindian Period began with the first entry of people into California. These people probably subsisted mainly on big game and minimally processed plant foods, and had no trade networks. Current research, however, is indicating more sedentism, plant processing, and trading than previously believed. The Archaic Period is characterized by increased use of plant foods, elaboration of burial and grave goods, and increasingly complex trade networks. The Emergent Period is marked by the introduction of the bow and arrow, the ascendance of wealth-linked social status, and the elaboration and expansion of trade networks, signified in part by the appearance of clam disk bead money.¹⁰

Prior to Euro-American contact, the Plan Area was in the ethnographic territory of the Patwin. The Patwin spoke Southern Wintu, a branch of the Penutian language family. Patwin territory generally consisted of the southern Sacramento Valley, from the town of Princeton south to San Pablo and Suisun bays. Politically, the Patwin were organized as tribelets, which consisted of a primary village and several outlying villages. Settlements were typically established along large watercourses, such as the Sacramento River and Cache and Putah creeks. Patwin structures were semi-subterranean and earth-covered constructions. These structures functioned as dwellings, menstrual huts, sweathouses, and ceremonial dance houses.¹¹

The Patwin exploited a wide variety of terrestrial and marine plant and animal resources within their territory. Fishing was an important Patwin industry, with weirs and nets used to great advantage to harvest such Sacramento River fish as salmon, sturgeon, perch, chub, sucker, pike, trout, and steelhead. Mussels were also harvested from the river. Some of the animals taken for food and craft material included tule elk, bear, antelope, duck, geese, quail, and turtle. As with many other Native American cultures in California, acorns and seeds were harvested in seasonal rounds. Some of the seed crops included sunflower, alfilaria, clover, bunchgrass, and wild oat. Other sources of plant food

⁸ Moratto, Michael J., 1984. *California Archaeology*. Academic Press, Orlando, Florida.

⁹ Fredrickson, David A., 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1(1):41-54.

¹⁰ Moratto, Michael J., op. cit.

¹¹ Johnson, Patti J., 1978. Patwin. In *California*, edited by Robert F. Heizer, pp. 350-360. Handbook of North American Indians, vol. 8, William J. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

included buckeye, pinenuts, juniper berries, manzanita berries, blackberries, wild grapes, and tule roots.¹²

The Patwin were accomplished craftspeople, creating a wide variety of garb and utilitarian items from surrounding plant and animal communities. Hemp was used for cordage; fibrous plants yielded material for coiled or twined baskets; bone, wood, and stone provided toolmaking materials; and tule reeds offered the means to construct boats for river and delta navigation.

The earliest historic records begin around 1800 with the Spanish mission registers of baptisms, marriages, and deaths of Indian neophytes. Spanish emissaries from Missions San Francisco de Asis, San Francisco Solano, and San Jose actively proselytized the Patwin people, who were brought to live and work at the missions. The mission system was dissolved in the early 1830s, and by the 1860s, the few Patwin who had survived almost 100 years of epidemics and conflict with the Spanish, Mexican, and Euro-Americans, were either working as laborers for ranches or were placed on small reservations established by the United States government.¹³

b. Historic Period. Benicia was born from an agreement between Lieutenant Robert Semple, a young Kentucky dentist, and Thomas Larkin, a prominent settler, to purchase a tract of land from General Mariano Vallejo. Completing the purchase in 1847, Semple and Larkin established a settlement on the Carquinez Strait, naming it Benicia in honor of the General's wife. By the end of 1847, fifteen buildings, a wharf, and a hotel had been built.

Benicia's advantageous location on the Carquinez Strait offered a convenient and profitable shipment point for supplies and miners heading to the Sierran gold fields. In 1850, the Pacific Mail and Steamship Company established a facility in Benicia to accommodate the increasing freight and mail traffic between California and the eastern United States. Industrial activity in Benicia increased as wharves were built to handle the ever-increasing flow of maritime commerce. As commerce and industry flourished, residents were drawn to Benicia, and in 1850 there were over 100 houses in the town.

Benicia's prominence is indicated by two governmental distinctions conferred upon it during California's early statehood. Benicia was one of the first two cities incorporated in California, and briefly served as the State capitol in 1853 and 1854. When Sacramento was selected as the permanent capitol, Benicia lost a measure of political influence, but retained a host of prominent citizens active in financial, social, and religious circles. Several religious schools were established in Benicia, and it became known as a refined, relatively quiet community, in contrast to California's rough-and-ready mining and ranching communities.

In the 1860s and 1870s, easy access by water and the railroad were two important precursors to industrial development in Benicia. In 1879, the Southern Pacific extended rail lines to Benicia's waterfront and began operation of the first railcar ferry west of the Mississippi River. The ferry operated from 1879 to 1930, transporting freight from the east destined for San Francisco and shipping finished products from Benicia to market.

¹² Ibid.

¹³ Ibid.

As Benicia's industries and waterfront grew, so did its economic base. The Hume Carquinez Packing Company began canning salmon in 1865, and continued in this capacity until a ban on commercial salmon fishing in inland waters limited the supply in 1955. The tanning industry was even more visible and, due to Benicia's central location, more lucrative. In the late-19th and early-20th centuries, the mass production of leather products in the United States created a huge demand for tanned hides, and Benicia became the principal hide tanning center on the Pacific Coast. The hide tanning industry ceased in Benicia by 1930.

c. Benicia Arsenal. Benicia's mild climate and strategic importance as a trading center led the U.S. Army to establish the Benicia Barracks and a Quartermaster's Supply Depot in 1849. The Benicia Arsenal was later founded in 1852 as the only permanent arsenal on the Pacific Coast, one of five in the country. While numerous wooden buildings were constructed during the early life of the Benicia Arsenal, the first permanent structures consisted of two large storehouses now known as the Camel Barns, a small engine house, and two powder magazines located in what is referred to as the "Upper Arsenal." The Arsenal moved south in 1858 and took over the location of the Quartermaster's Supply depot and soon built the monumental Main Arsenal Storehouse, commonly referred to as the "Clock Tower." The Main Arsenal Storehouse was originally designed as a three story building flanked by four corner towers for defense against uprisings of the local population. Only two towers were eventually incorporated into the design and after an explosion and fire in 1912, the structure was rebuilt as a smaller, two-story building.

The Benicia Arsenal supplied munitions and supplies for all of the troops in the western states during World War I. The Arsenal expanded greatly during World War II from 345 acres to 2,192 acres and reached its peak size during the Korean War. The Arsenal was deactivated in 1963 and the land transferred to City ownership in 1965. The majority of the Arsenal's property was transferred to Benicia Industries in the 1970s, with the exception of such historically significant structures as the Main Arsenal store house, the Commanding Officer's Quarters, the Camel Barns, and the original powder magazines.

d. Cultural Resources Summary. Cultural resources within ¼-mile of the Specific Plan Area consist of prehistoric and historical archaeological sites, and historical architectural properties consisting of buildings, structures, and districts. Known cultural resources within or adjacent to the Specific Plan Area include the Benicia Arsenal, a California State Historic Landmark and a National Register District. Information about this resource was compiled from multiple sources, including national, State, and local inventories.

The Benicia Arsenal National Historic District is comprised of four smaller districts (A-D), two of which (C, D) are within the Plan Area. Districts "A" and "B" are outside of the Plan Area in the Upper Arsenal, and contain the original Benicia Barracks, Military Cemetery, Hospital, and the original Arsenal storehouses and powder magazines. District "C" is within, and extends beyond, the Plan Area to the east and west and includes the Jefferson Ridge/Officers' Row Zone, the Adams Street Zone, and a small portion of the Grant Street Zone. This District contains the "Clock Tower" (Main Arsenal Storehouse), the Commanding Officer's Quarters, the Lieutenants' House, the Officers' Duplex, and several Officers' Quarters. District "D" is entirely within the Plan Area and contains portions of the Grant Street Zone and the South of Grant Street Zone. District "D" contains an 1872 barracks and three machine shops, including the Blacksmith's Shop.

Various architectural properties within the Benicia Arsenal were recorded by the Historic American Buildings Survey¹⁴ (HABS) in the late 1970s. Properties recorded within the Plan Area include the “Clock Tower” (Main Arsenal Storehouse), the Commander’s house, the Lieutenants’ house, the Officers’ duplex, the Blacksmith’s Shop and neighboring machine shops, two office buildings, a barracks, a guard house, and a barracks.

The Benicia Arsenal, California State Historic Landmark 176, was documented in 1936 by John Adam Hussey as part of the W.P.A. Federal Writer’s Project.¹⁵

The City of Benicia’s Arsenal Historic Conservation Plan (Conservation Plan) designates historical resources in the Arsenal as Landmark Buildings, Potentially Contributing Buildings, and Contributing Buildings, and includes a list of the resources within the Benicia Arsenal. The Plan Area contains 17 Landmark Buildings and six Contributing Buildings. The Conservation Plan notes that many of the buildings from World War II and later within the Benicia Arsenal were “utilitarian in both use and design” and “not yet fifty years of age,” and not eligible for inclusion as contributing elements of a district at the time of their assessment.

e. Archaeological Sensitivity. The Specific Plan Area was assessed to determine the likelihood that subsurface archaeological deposits exist below the current built environment. The assessment included research at the NWIC and historical research to identify the property-specific history of subject parcels within the Plan Area. This historical information was used to predict the type and nature of archaeological remains that may be present within the Plan Area.

The sensitivity assessment indicates that the Specific Plan Area has a high likelihood of containing both prehistoric and historic archaeological deposits, as discussed below.

(1) Prehistoric Archaeological Sensitivity. The Plan Area is in an area of high prehistoric archaeological sensitivity. However, there are no existing studies of prehistoric archaeology within the Benicia Arsenal.

N. C. Nelson conducted the first intensive survey of archaeological sites in the San Francisco Bay region between 1906 and 1908, during which he documented 425 “earth mounds and shell heaps” along the San Francisco Bay shoreline.¹⁶ These shellmounds were generally found at locations that allowed the native peoples to utilize the resources of coastal, bay, estuary, or marsh environments. A series of such shellmounds has been identified in coves and inlets along the northern Carquinez Strait shoreline. According to archaeologist Kent Lightfoot, “Most shell mounds are distributed along the bayshore where freshwater streams empty into the bay.”¹⁷ Because the Lower Arsenal is located near

¹⁴ The Historic American Buildings Survey (HABS) is the nation’s first federal preservation program, begun in 1933 to document America’s architectural heritage. HABS recording combines drawings, historical documentation and photography to produce a comprehensive, interdisciplinary record. Documents are available online at the Library of Congress: http://memory.loc.gov/ammem/collections/habs_haer/

¹⁵ Online Archive of California. 2007. Website: content-backend-a.cdlib.org. April 25.

¹⁶ Nels C. Nelson, 1909. *Shellmounds of the San Francisco Bay Region* (University of California Publications in American Archaeology and Ethnology 7, No. 4).

¹⁷ Lightfoot, Kent, 1997. “Cultural Construction of Coastal Landscapes: A Middle Holocene Perspective from San Francisco Bay,” in *Archaeology of the California Coast During the Middle Holocene*, Jon M. Erlandson and Michael A. Glassow, Editors. (Institute of Archaeology, University of California, Los Angeles, 1997).

the shoreline of Carquinez Strait, near the outlets of freshwater streams, it may contain prehistoric resources. Before siltation associated with 19th century hydraulic mining in the Sierra Nevada, the shoreline extended much farther north than it does today, to the southern edge of the Plan Area.

The proximity of the historical bay margins and the nearby diversity of rich ecological communities from which early inhabitants could obtain necessary plant and animal resources indicates that the Plan Area is sensitive for prehistoric archaeological sites. No formal or informal archaeological surveys have documented prehistoric archaeological sites in the Lower Arsenal, possibly due to security issues when in the ownership of the U.S. Army and a lack of visibility of native soils due to modern development. However, despite the lack of identifiable prehistoric resources, the area is highly sensitive for unrecorded and possibly buried prehistoric archaeological sites.

(2) Historical Archaeological Sensitivity. The Specific Plan Area is also in an area of high historical archaeological sensitivity. While there have been numerous studies of historical architecture in the Benicia Arsenal, no studies have been conducted of historical archaeology in the Plan Area.

As one of the first American military establishments in California, the landscape of the Benicia Arsenal has a rich history of use and re-use over the last 150 years. Historic maps indicate that the entire Plan Area has been intensively utilized throughout its history. This intensive historical use has undoubtedly resulted in a variety of historical deposits and remains throughout the Plan Area.

A HABS survey map,¹⁸ prepared in 1976, indicates the location of existing buildings and their date of construction. Using this map as a baseline, earlier maps were examined to determine whether the development zones in the Plan Area could contain the remains of historic structures. As the U.S. Army produced numerous maps of the Plan Area throughout its tenure at Benicia Arsenal, each showing changing street alignments, the addition or destruction of buildings, and the changing natural landscape, it is possible to determine whether certain locations are archaeologically sensitive for historical deposits. The majority of the Plan Area has previously contained structures, buildings, and objects of possible significance. Only on the areas on the slopes of Jefferson Ridge did documentary evidence indicate little possibility of historical development.

f. Paleontological Setting. The geology of this area of California has been heavily affected by faulting and uplift and the Plan Area is located on three differently-aged geologic units. These units become progressively younger as one goes from north to south. The youngest unit is Holocene aged alluvial fan deposits. Underlying these sedimentary deposits is the Paleocene aged Vine Hill Sandstone, which is also exposed to the north of the alluvial fan deposits. The oldest unit, the Great Valley Sequence, is in the northern section of the Plan Area.

The Plan Area consists of the historic deposits and geologic formations described below:

(1) Artificial Fill (Historic). Artificial fill is loose to very well-consolidated gravel, sand, silt, clay, rock fragments, organic matter, and manmade debris in various combinations. The thickness is variable and may exceed 90 feet in places. Some is compacted and quite firm, but fill made before

¹⁸ White, John. and Ken Peyson. 1976. *Benicia Arsenal* Historic American Building Survey. Office of Archaeology and Historic Preservation, National Parks Service.

1965 is usually not compacted and consists simply of dumped materials.¹⁹ Artificial fill does not contain paleontological resources.

(2) Bay Mud (Holocene [present to 10,000 years ago]). Bay mud is a series of water-saturated estuarine deposits. It is dark, silty clay that is rich in organic material and locally contains beds of peat and gastropod and pelecypod shells. Bay mud may be as much as 120 feet thick beneath the bay, but thins to less than 1-foot-thick around the margins of the bay. It may be less than 10 feet thick in estuaries. Bay mud contains no significant paleontological resources.²⁰

(3) Alluvial Fan and Fluvial Deposits (Holocene [present to 10,000 years ago]). Alluvial fan deposits are brown or tan and are composed of gravelly sand or sandy gravel. They grade upwards to sandy or silty clay. These deposits are too young to contain significant paleontological resources.

(4) Vine Hill Sandstone (Paleocene [58 to 65 million years ago]). The Vine Hill sandstone is a member of the Martinez Assemblage. It is made up of glauconitic sandstone and shale. It may contain such paleontological resources as nanoplankton²¹ and gastropods.²²

(5) Great Valley Sequence (Early and Late Cretaceous [65 to 144 million years ago]). The Great Valley Sequence is composed of inter-bedded sandstones and shales that were deposited during the Cretaceous when the Pacific Ocean extended to the western edge of the Sierra Nevada. It is in places several thousand meters deep, and has been known to contain such age diagnostic microfossils as dinoflagellates²³ and marine fossils such as mollusks.²⁴

g. Paleontological Sensitivity. The alluvial fan deposits, which underlie the southern third of the Plan Area, are Holocene in age (present to 10,000 years old) and are not paleontologically significant. The Vine Hill Sandstone, which underlies the center of the Specific Plan Area has been known to

¹⁹ Ibid.

²⁰ Helley, E.J., K.R. La Joie, W.E. Spangle, and M.L. Blair, 1979. *Flatland Deposits of the San Francisco Bay Region, California-Their Geology and Engineering Properties, and their Importance to Comprehensive Planning*. Geological Survey Professional Paper 943. U.S. Geological Survey and Department of Housing and Urban Development, Washington, D.C.

²¹ Campbell, Kathleen A., 1996. Gastropods of Mesozoic cold-seep carbonates, California. *Abstracts with Programs – Geological Society of America*, vol. 28, no. 7. pp. 298.; Harden, Deborah R., 2004, *California Geology, Second Edition*, pp 271-274. Prentice Hall, New Jersey.; Klosterman, Susan L., Michael R. Sandy, Kathleen A. Campbell, 2001. A new occurrence of the Late Jurassic rhynchonellid *Cooperrhynchia* (Brachiopoda) from the Great Valley Group, California, confirming a cold-seep community association. *Abstracts with Programs – Geological Society of America*, vol. 33, no. 4, pp. 24.

²² Squires, Richard L., 1997. Taxonomy and Distribution of the Buccinid Gastropod *Brachyshingus* from Uppermost Cretaceous and Lower Cenozoic Marine Strata of the Pacific Slope of North America. *Journal of Paleontology*, vol. 71, no. 5, pp. 847-861; Watson, Elizabeth A., 1942, Age of the Martinez Formation of Pacheco Syncline, Contra Costa County, California. *American Midland Naturalist*, vol. 28, no. 2, pp. 451-456

²³ Squires, Richard L., 1997. Taxonomy and Distribution of the Buccinid Gastropod *Brachyshingus* from Uppermost Cretaceous and Lower Cenozoic Marine Strata of the Pacific Slope of North America. *Journal of Paleontology*, vol. 71, no. 5, pp. 847-861; Watson, Elizabeth A., 1942, Age of the Martinez Formation of Pacheco Syncline, Contra Costa County, California. *American Midland Naturalist*, vol. 28, no. 2, pp. 451-456

²⁴ Harden, Deborah R., 2004. *California Geology, Second Edition*, pp 271-274. Prentice Hall, New Jersey.

contain microfossils²⁵ as well as marine invertebrates.²⁶ The Great Valley Sequence, which underlies the northern third of the Specific Plan Area, is marine in origin²⁷ and has been known to contain marine fossils²⁸ and microfossils.²⁹

3. Regulatory Context

The section below briefly discusses laws, codes, and regulations applicable to cultural and paleontological resources within the City of Benicia.

a. California Environmental Quality Act. Historical and paleontological resources as they relate to CEQA are discussed below.

(1) Historical Resources. Under the provisions of the California Environmental Quality Act (CEQA), “a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment” (§15064.5(b)). CEQA defines a “historical resource” as a resource that is eligible for listing on the California Register (California Register), listed in a local register of historical resources (as defined at PRC 5020.1(k)), identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, or determined to be a historical resource by a project’s lead agency (§15064.5(a)).

A historical resource consists of: “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. Generally, a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (§15064.5(a)(3)).

(2) Paleontological Resources. Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils and their immediate environmental context as significant nonrenewable paleontological

²⁵ Sullivan, Frank R., 1964. Lower Tertiary nannoplankton from the California Coast Ranges; Part 1, Paleocene. *University of California Publications in Geological Sciences*, vol. 44, no. 3, pp. 163-228.

²⁶ Squires, Richard L., 1997. Taxonomy and Distribution of the Buccinid Gastropod *Brachyshingus* from Uppermost Cretaceous and Lower Cenozoic Marine Strata of the Pacific Slope of North America. *Journal of Paleontology*, vol. 71, no. 5, pp. 847-861; Watson, Elizabeth A., 1942, Age of the Martinez Formation of Pacheco Syncline, Contra Costa County, California. *American Midland Naturalist*, vol. 28, no. 2, pp. 451-456

²⁷ Ibid.

²⁸ Campbell, Kathleen A., 1996. Gastropods of Mesozoic cold-seep carbonates, California. *Abstracts with Programs – Geological Society of America*, vol. 28, no. 7. pp. 298.; Harden, Deborah R., 2004, *California Geology, Second Edition*, pp 271-274. Prentice Hall, New Jersey.; Klosterman, Susan L., Michael R. Sandy, Kathleen A. Campbell, 2001. A new occurrence of the Late Jurassic rhynchonellid *Cooperrhynchia* (Brachiopoda) from the Great Valley Group, California, confirming a cold-seep community association. *Abstracts with Programs – Geological Society of America*, vol. 33, no. 4, pp. 24.

²⁹ Harden, Deborah R., 2004. *California Geology, Second Edition*, pp 271-274. Prentice Hall, New Jersey; Kariminia, Seyed Mohsen, 2004. Dinoflagellate cysts from Great Valley Supergroup. *Abstracts with Programs Geological Society of America*, vol. 36, no. 5, pp. 363.

resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.³⁰

CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 also applies to paleontological resources (see above).

(3) City of Benicia General Plan. The City of Benicia General Plan contains goals, policies, and programs for the identification, preservation, and management of cultural resources. Most of the goals, policies, and programs pertinent to cultural resources as addressed in this section (buildings, sites, structures, objects, and districts) are contained in the Historic Resources section of the Community Identity element (Chapter 3). These goals, policies, and programs are listed below.

- *Historic Preservation Goal 3.1:* Maintain and enhance Benicia's historic character;
 - *Historic Preservation Policy 3.1.1:* Encourage reuse of historic buildings; if feasible, encourage relocation rather than demolition;
 - *Historic Preservation Policy 3.1.2:* Enhance the economic potential of historic and architectural assets;
 - *Historic Preservation Policy 3.1.3:* Preserve historic trees and landscapes;
 - *Historic Preservation Policy 3.1.6:* Promote restoration of public and privately-owned historic and architecturally significant properties;
- *Historic and Archeological Resources Goal 3.2:* Protect archaeological (including underwater) sites and resources;
 - *Historic and Archeological Resources Policy 3.2.1:* Ensure the protection and preservation of artifacts in known, and as yet unidentified, areas;
 - *Historic and Archeological Resources Program 3.2.B:* Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory;³¹
 - *Historic and Archeological Resources Program 3.2.D:* Require that all sites with archaeological resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist and an appropriate program developed to mitigate any impacts from the project.

(4) Benicia Arsenal Historic Conservation Plan. In October of 1987, the City enacted an "historic overlay district" provision as part of its zoning ordinance. The purpose of this provision was to allow the City or members of the public to designate historic districts and/or landmark buildings within existing zoning districts. The ordinance requires that a conservation plan be prepared for areas zoned as historic districts. To this end, the Arsenal Historic Conservation Plan (1993) was published to set forth policies and guidelines for development, alterations to properties and the landscape within, and management of, the Benicia Arsenal and its four designated sub-districts. The purpose of the Conservation Plan is to ensure that modifications within the Benicia Arsenal plan area are undertaken in such a manner so as to maintain the historic integrity of the district.

³⁰ Conformable Impact Mitigation Guidelines Committee, 1995. Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines. *Society of Vertebrate Paleontology News Bulletin* 163:22-27.

³¹ The California Archaeology inventory has been renamed the California Historical Resources Information System (CHRIS). The CHRIS office serving Solano County is the Northwest Information Center, housed at Sonoma State University.

The seven overarching objectives of the Conservation Plan—all of which aim to maintain the Benicia Arsenal’s historic character—are to:

- 1) Establish and reinforce the distinct qualities of individual sub-districts;
- 2) Preserve, maintain, and promote appropriate adaptive reuse of historic buildings, especially those recognized as being of landmark quality;
- 3) Preserve important natural features, including hillsides, slopes, and vegetation which have been identified as integral to the district’s character or to a particular building’s setting;
- 4) Maintain established plantings which are an integral feature of a building’s historic setting;
- 5) Maintain key views of historic structures and the water;
- 6) Maintain the character of existing site improvements and features such as retaining walls, timber guard rails, and so on, which are appropriate to the scale and design of nearby buildings; and
- 7) Encourage public and private site and urban design improvements which harmonize with each sub-district’s character and clarify key access points and circulation route.

4. Draft Specific Plan

Numerous goals, actions, and policies in the Draft Specific Plan apply to historic resources. In particular, the policies and actions listed under Goal 4 (“Preserve, enhance, and promote Benicia’s Arsenal Historic Conservation District as an important remnant of one of the Nation’s most prominent military arsenals.”) are applicable to historic resources in the Plan Area. The following actions relate to archaeological resources:

- *Historic Preservation Action 4.6.3.* Require the services of an archaeologist to conduct archival and field studies on sites with potential archaeological resources on a project specific basis.
- *Historic Preservation Action 4.6.3.* Where cultural resources are encountered during grading, require developers to avoid altering the materials and their context until a qualified cultural resource expert has evaluated the situation and recorded identified cultural resources.

5. Impacts and Mitigation Measures

Implementation of the proposed project has the potential to adversely affect cultural and paleontological resources. Significance criteria, the potential impacts of several components of the proposed project, and recommended mitigation measures are described below.

a. Criteria of Significance. Significance thresholds based on the CEQA Guidelines are presented below for cultural resources, followed by a description of the significance criteria used to identify a resource’s eligibility for listing in the California Register of Historical Resources (California Register).

(1) Cultural Resources Significance Thresholds. The proposed project would have a significant effect on cultural resources if it would:

- Result in the physical demolition, destruction, relocation, or alteration of a historical resource as defined in *CEQA Guidelines* Section 15064.5 (i.e., a historical resource is one that is eligible for listing on the California Register, listed in a local register of historical resources (as defined at

PRC 5020.1(k)), identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, or determined to be a historical resource by the City of San Jose (§15064.5(a));

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

(2) California Register of Historical Resources Significance Criteria. Under CEQA, the historical significance of properties in Benicia is considered under the criteria of the California Register. The California Register criteria are parallel to those used by the National Register of Historic Places, but are oriented to document the unique history of California. The California Register consists of resources that are listed automatically (those listed in or eligible for the National Register of Historic Places, or State Historical Landmarks numbered 770 or greater), under the provisions of Public Resources Code §5024.1, and those that may be listed by application to and acceptance by the California State Historical Resources Commission.

In order for a resource to be eligible for listing in the California Register, a building, site, or object must be significant at the local, State, or national level, under one or more of the following criteria:

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
- It is associated with the lives of persons important to the nation or California's past; or
- It 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
- It has yielded, or may be likely to yield, information important to the prehistory or history of the State or the nation.

Beyond possessing historical significance, a resource must also possess historical integrity, which is the ability of the resource to convey its significance. California Office of Historic Preservation guidance states that: "All resources nominated for listing must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for nomination."³²

b. Significant Impacts. This section analyzes potentially significant impacts that could occur as a result of policy-level actions implemented as part of the Draft Specific Plan. Accordingly, further project-specific environmental review may be necessary for specific development activities. Policy actions proposed by the Draft Specific Plan are only generally defined; specific plans for their implementation have not been finalized. Detailed project descriptions for each specific action do not yet exist, but careful development planning can achieve project goals and objectives without

³² California Office of Historic Preservation, 1999. *California Register of Historical Resources: The Listing Process*. Technical Assistance Series #5, Sacramento.

significant adverse impacts to cultural resources. Impact avoidance is the first and most desirable option, but this is not always feasible in a densely-built and history-rich area such as the Lower Arsenal.

The vision presented in the Draft Specific Plan calls for the “preservation, enhancement, and promotion of the Benicia Arsenal National Historic District” through “the restoration of the Specific Plan Area into a unified ensemble of high-quality, 19th and 20th-century architecture through major restoration and rehabilitation of existing historic buildings and sites, and the careful placement and integration of new structures” in order to “enhance the distinct and historic characteristics of the Arsenal and to create a finely integrated mixed-use district with a cluster of high-quality, interconnected and compatible places.”

The Draft Specific Plan focuses on the inclusion of new structures and a re-organization of space within the Lower Arsenal area. The earlier Arsenal Historic Conservation Plan (Conservation Plan) would “continue to be the primary review document for the remaining portions of the Arsenal Historic District not covered by this specific plan as well as for any alterations or additions to existing historic buildings.”

The following impact analysis is organized to parallel the subsections within the Draft Specific Plan. Area-wide impacts are discussed first, followed by zone-specific impacts.

(1) Area-Wide Impacts. The goals set forth in the Draft Specific Plan and the earlier Conservation Plan serve almost exclusively to protect the historic architectural fabric of the Benicia Arsenal. However, these goals and associated policies and actions do not adequately address historical resources of an archaeological nature (i.e., prehistoric and historic-period archaeological deposits).

The Lower Arsenal is a highly valued historical resource that is listed on national and State registers. Since its founding in 1849, the landscape of the Lower Arsenal has become an icon of historical use and re-use. The intensity of historical land use and a favorable prehistoric environment suggest that the area has a high sensitivity for buried archaeological deposits, which may include prehistoric archaeological deposits, historical archaeological deposits, and, possibly, associated human remains. The lack of recorded archaeological deposits is not due to their absence, but rather due to the fact that very little archaeological survey of the Lower Arsenal has been done. While the Draft Specific Plan provides for the protection of built environment resources and sensitive new development in historical areas, its implementation may impact unrecorded archaeological deposits and, possibly, human remains.

Draft General Plan Actions 4.6.3 and 4.6.4 would require that archaeologists conduct archival research and field studies on sites with potential archaeological resources, and that identified archaeological resources be evaluated. These actions would reduce impacts to archaeological resources, but the actions are not adequately detailed to reduce impacts to a less-than-significant level.

Impact CULT-1: Ground disturbance in the form of building construction parking lot construction, street construction, street tree planting, building demolition, the redevelopment of

open spaces, or other ground disturbance may result in a significant impact to unrecorded cultural resources, including human remains. (S)

Implementation of the following three-part mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-1a: Prior to implementation of individual development projects, a qualified archaeologist³³ shall: (1) assess the potential for subsurface archaeological remains that may meet the definition of historical or archaeological resources³⁴ and may be adversely affected by project activities; and (2) make project-specific recommendations, as warranted, about the treatment of such resources such that the eligibility of significant resources is maintained, or, if this is not feasible, the resource's loss of eligibility is offset by appropriate mitigation (e.g., data recovery excavation). The City shall ensure that the treatment recommendations of the consulting archaeologist are implemented prior to project construction, or any actions that could adversely affect the resource in question. A report of the results of this archaeological assessment shall be submitted to the project proponent, the City and the Northwest Information Center (NWIC).

Mitigation Measure CULT-1b: If unidentified archaeological deposits are discovered during construction activities associated with individual development projects, all work within 25 feet of the find shall be redirected. A qualified archaeologist shall: 1) evaluate the finds to determine if they meet the definition of a historical or archaeological resource³⁵; and 2) make recommendations regarding the treatment of such finds. If the finds do not meet the definition of a historical or archaeological resource, then no further study or protection is necessary prior to project implementation. If the finds do meet the definition of a historical or archaeological resource, then they shall be avoided by project activities. If avoidance is not feasible, impacts to such resources shall be mitigated in accordance with the recommendations of the evaluating archaeologist. The City shall ensure that the treatment recommendations of the consulting archaeologist are implemented prior to project construction or actions that could adversely affect the resource in question.

Project personnel shall not collect or move any cultural material. Fill soils that may be used for construction purposes shall not contain archaeological materials. Upon completion of the archaeological evaluation, a report documenting the methods, results, and recommendations of the archaeologist shall be prepared and submitted to the project proponent, the City and the NWIC.

Mitigation Measure CULT-1c: If human remains are encountered by project activities, construction activities shall be halted and the County Coroner shall be notified immediately. If the remains are of Native American origin, the Coroner shall notify the NAHC within 24 hours of this identification, and a qualified archaeologist shall be contacted to assess the situation. The NAHC shall identify a Native American Most Likely Descendent (MLD) to inspect the site and

³³ "Qualified" is defined as meeting the Professional Qualifications Standards of the *Secretary of the Interior's Standards and Guidelines*. These standards are found online at www.cr.nps.gov/local-law/arch_stnds_9.html.

³⁴ Prehistoric archaeological materials can include flaked-stone tools (e.g. projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat affected rock, ash and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials can include wood, stone, concrete, or adobe footings, walls and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse.

³⁵ As defined in CEQA Guidelines §15064.5(a) and PRC §21083.2(g).

provide recommendations for the proper treatment of the remains and associated grave goods. The City shall ensure that the treatment recommendations of the consulting archaeologist and MLD are implemented prior to project construction or actions that could adversely affect the remains in question.

Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations regarding the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. This report shall be submitted to the project proponent, the City, and the NWIC. (LTS)

Impact CULT-2: Individual development projects may adversely affect historic architectural resources. (S)

There are several buildings built between 1920 and the base closure in the 1960s located within the Plan Area that were originally classified by the Conservation Plan as “strictly utilitarian in both use and design, and in many cases were intended as temporary structures. Furthermore, a number of these structures are not yet fifty years of age.” While these resources may not have been considered significant resources in 1993 by the Conservation Plan, they may now be eligible for the California or National Register as properties in their own right or as contributors to the Benicia Arsenal National Historic District.

Utilitarian and/or temporary military buildings are often considered to have significance.³⁶ To properly represent the historic landscape and importance of the Benicia Arsenal, portions of the landscape should: 1) reflect the time when the San Francisco Bay Area, and in particular the Benicia Arsenal, played a great part in America’s “Arsenal of Democracy”³⁷ and 2) the Arsenal’s importance as a military establishment during the beginnings of the Cold War.

Implementation of the following two-part mitigation measure would reduce impacts to potentially historic buildings that were not classified as such in the Conservation Plan:

Mitigation Measure CULT-2a: The list of buildings or structures recognized as historic resources or contributors to historic districts within the Benicia Arsenal shall be reviewed and updated prior to demolition of any building constructed prior to base closure in 1963. This information shall be added as addenda to the Arsenal Historic Conservation Plan and the Lower Arsenal Mixed Use Specific Plan.

Mitigation Measure CULT-2b: If specific development project plans call for the demolition of existing buildings and structures over 45 years old, a historian or architectural historian shall review such buildings or structures to determine if they have the potential to meet the definition of a historical resource under CEQA.

³⁶ For instance: Buhler, Michael, 2007. “Honorable Discharge: New Life for World War II Sites in the San Francisco Bay Area.” Website: www.cr.nps.gov/nr/travel/wwIIbayarea/preservation.

³⁷ National Park Service, 2007. “World War II in the San Francisco Bay Area: A National Register of Historic Places Travel Itinerary.” National Park Service Website: www.cr.nps.gov/nr/travel/wwIIbayarea.

If the buildings or structures do not have the potential to meet the definition of a historical resource, no further review is necessary prior to project implementation.

If the buildings or structures do have the potential to qualify as historical resources, a historian or architectural historian shall formally evaluate the California Register eligibility of such structures and, if they are eligible, recommend mitigation to avoid reduce the severity of impacts to the resources' integrity. Appropriate mitigation may include impact avoidance, reuse of the building elements, relocation of the building, HABS-like photo documentation, a written historical description of the resource and/or public outreach in the form of informational brochures and exhibits at such venues as schools, libraries or museums. The City shall ensure that the recommendations of the historian or architectural historian are integrated into the design phase to determine, through feasibility consultation with the proponent and the City, what design changes can be made or what mitigation can be implemented to avoid or lessen the potential impact.

Implementation of this mitigation measure would reduce this potential Specific Plan impact to a less-than-significant level. (LTS)

Impact CULT-3: Architectural Standards for new buildings may conflict with the Secretary of Interior's Guidelines for Rehabilitation. (S)

The architectural standards in the Draft Specific Plan detail specific building types and architectural styles for each development zone within the Specific Plan Area. Precedents for these building types come from the Presidio of San Francisco, Mare Island, and the Benicia Arsenal itself, with aesthetic elements of new industrial buildings of the Bay Area added, where appropriate.

The Secretary of the Interior has issued Standards for the Treatment of Historic Properties with Guidelines for the Preservation, Rehabilitation, Restoration, and Reconstruction of Historic Buildings. These standards are considered under CEQA to reduce effects to historical resources to a less-than-significant level (§15126.4(b)(3)). These standards were promulgated to promote preservation practices that help protect the qualities of historical resources so that their significance is maintained. The guidelines state that for modifications to historical buildings, or new construction adjacent to such buildings, "The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."

The Draft Specific Plan's architectural standards seek to emulate the architectural styles and features that are typical for San Francisco Bay Area historic military and industrial areas and share proportion, size, and scale with existing buildings, in accordance with the Secretary of Interior's standards.

The early historical buildings were produced from materials sent from the eastern U.S. and from material quarried locally. The Conservation Plan permits limited quarrying of sandstone for restoration material for historic buildings structures only. The use of similar building materials and the design of buildings in a style consistent with the Arsenal's various settings will result in new construction that is consistent with the Secretary's Standards. However, they should be reviewed by a qualified historic architect or architectural historian to ensure that project-specific designs do not

violate the intent of the Secretary's Standards by diminishing the integrity of existing historical resources.

Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-3: Plans for individual development projects shall be reviewed and evaluated by a historian or architectural historian prior to implementation as part of the permitting process to determine if the plans conform to the Secretary of Interior's Standards and the Draft Specific Plan. If the plans do not substantially conform to the Standards, the consulting historian or architectural historian shall recommend changes to the proposed design to avoid or reduce such inconsistency. The recommendations shall be developed in consultation with the project proponent and the City so that all parties can provide input on what constitutes feasible changes that can still achieve project objectives. The City shall ensure that the recommendations developed through the feasibility consultation are implemented in the design and construction of the project. (LTS)

Impact PALEO-1: Project ground disturbance could result in significant impacts to paleontological resources. (S)

Paleontological resources include fossil plants and animals, and evidence of past life such as trace fossils and tracks. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Terrestrial sediments may contain fossil representing mammoth, camel, saber tooth cat, horse, and bison. Paleontological resources also include plant imprints, petrified wood, and animal tracks.

The strata present in the Plan Area do not contain recorded, or otherwise known, significant paleontological resources. However, because geological formations in the Plan Area may contain paleontological resources, there is the possibility that fossils could be discovered during ground disturbing activities. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure PALEO-1: If paleontological resources are discovered during activities associated with individual development projects, all work within 25 feet of the discovery shall be redirected and a qualified paleontologist contacted to assess the finds. The paleontologist shall make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any paleontological resources. It is recommended that adverse impacts to such paleontological resources be avoided by project activities. If such resources cannot be avoided, they shall be assessed to determine their paleontological significance. If the paleontological resources are not significant, then avoidance is not necessary. If the paleontological resources are significant, they shall be avoided or adverse impacts shall be mitigated. Upon completion of the assessment, the paleontologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the paleontological resources. The City shall ensure that the recommendations of the consulting paleontologist are implemented prior to actions that could adversely affect the resource in question. (LTS)

(2) Zone-Specific Impacts. The Draft Specific Plan includes four distinct geographical zones: (A) Jefferson's Ridge/Officers' Row; (B) Adams Street; (C) Grant Street; and (D) South of Grant Street. Actions have been developed to implement Draft Specific Plan policies in the four regulatory zones identified above. Development associated with these actions could result in significant impacts to cultural resources in the vicinity.

(A) Jefferson Ridge/Officers' Row Regulatory Zone. The Draft Specific Plan provides two options for this area. Option 2 is considered the proposed project, and is discussed below. Option 1 is an alternative to the project and is discussed in Chapter V.

Option 2 includes the rehabilitation of historic buildings, the construction of new buildings, the renovation of the Jefferson Ridge open spaces, and the creation of new streets.

Impact CULT-4: Rehabilitation of the historic buildings could diminish their historical integrity and result in significant impacts to cultural resources. (S)

Several buildings in the Jefferson Ridge/Officer's Row are listed on the National Register, California Register, and/or the Benicia Historical Resources Survey. Rehabilitation of these buildings could adversely affect their historic integrity. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-4: The rehabilitation of historic buildings in the Lower Arsenal is subject to the pre-existing Arsenal Historic Conservation Plan rather than the Draft Specific Plan. The City shall ensure that the project plans follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Secretary's Standards). Pursuant to CEQA Guidelines §15064.5(b)(3), if the project plans conform to the Secretary's Standards, then potential impacts to historical resources will be considered mitigated to a less-than-significant level. (LTS).

Impact CULT-5: The construction of new buildings and roads could adversely affect the setting of Historic District C. (S)

The Jefferson Ridge/Officers' Row Zone is part of National Register District C, and contains historical buildings that are listed in the National Register, California Register, and/or the Benicia Historical Resources Survey. The setting of the District is an important aspect of its historical integrity, and the preservation of such integrity is addressed in the Conservation Plan under "Urban Design Issues."

Altering the "natural setting" of Jefferson Ridge would impact National Register District C. As there is no evidence of previous structures along the northern and western boundaries of "Officers' Square," the proposed development could adversely affect the District's integrity of feeling and setting. This new construction is also contrary to the ACHP's Urban Design Issue 10, which acknowledges that "some of these [natural features] are intrinsically linked to the historic architecture." Alterations to the landscape may have positive affects as well as adverse impacts. Proposed new construction such as the "architecturally distinguished building" on the northern edge of Officer's Square that would block the view of Highway 780, and two new buildings that would

flank a publicly-accessible viewing terrace to the south of Officer's Square demonstrate a desire to both retain the visual historic character of the ridge while expanding its function.

Implementation of the following two-part mitigation measure would reduce impacts associated with changes to the landscape of Jefferson Ridge/Officers' Row Zone to a less-than-significant level:

Mitigation Measure CULT-5a: The Draft Specific Plan contains several policies and design approaches that would avoid or lessen the severity of impact CULT-5. The form, materials, and massing of new construction shall be designed to complement the architectural style and setting of the zone, as well as provide sight lines and view corridors to retain the visual character of the Arsenal as a whole. The City shall ensure that the guidance provided in the Draft Specific Plan is followed with respect to new construction. In addition, the pre-project conditions of the new construction locations shall be documented through landscape photography and historical reports to document the setting prior to alteration. The photographs may vary in format and perspective, but shall at a minimum document important sight lines and visual axes that may be impaired by the introduction of new buildings. The photographic documentation shall supplement the existing Historic American Building Survey documentation of the Arsenal, and shall be included in an update of the DPR 523 record of National Register District C.

Mitigation Measure CULT-5b: Historical photographs and/or maps, accompanied by text, shall be presented as part of an interpretative display describing the original configuration of Jefferson Ridge. This interpretative display shall be developed in consultation with the Benicia Historical Museum and the Benicia Historical Society. (LTS)

Impact CULT-6: The creation of open spaces such as the Clocktower Green and Cork Oak Ridge Park could result in significant impacts to cultural resources. (S)

The development of these open spaces may affect sites or objects that are cultural resources. Sites could include archaeological deposits, such as the remains of historic privies or foundations, or prehistoric deposits; objects could include natural features such as the remains of formal historic gardens. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-6: Implement Mitigation Measures CULT-1a, -1b, and -1c. Implementation of this mitigation measure will reduce impact CULT-6 to a less-than-significant level. (LTS)

Impact CULT-7: The creation of new roads and the extension of existing roads could result in a significant impact to cultural resources. (S)

The development of new roads and extending existing roads would involve ground disturbance, which could adversely affect unrecorded archaeological deposits. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-7: Implement Mitigation Measures CULT-1a, -1b, and -1c. (LTS)

(B) *Adams Street Zone.* The Adams Street Zone showcases the area's signature historic buildings: the 1942 Administration Building and the 1872 Guard House. A formal entry into the Arsenal and a renovated and improved green open space in front of the 1942 Administration building would be developed. A new open space would be developed directly north of the Guard House. Uniformly-constructed buildings would flank the eastern and western sides of the 1872 Guard House.

Impact CULT-8: The demolition of existing buildings as part of development of the Adams Street Zone could result in a significant impact to cultural resources. (S)

There are several buildings built between 1920 and the base closure in the 1960s in this regulatory area. The Draft Specific Plan indicates the intention to create new buildings and structures where buildings currently exist. While these resources may not have been considered significant resources in 1993 by the Conservation Plan, they may now be eligible for the California or National Register individually as properties or as contributors to the California and National Register Districts. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure CULT-8: Implement Mitigation Measures CULT-2a and CULT-2b. (LTS)

However, if buildings proposed for demolition are historical resources under CEQA and if avoidance is not feasible, the impact would remain significant and unavoidable even with the implementation of the mitigation measures.

Impact CULT-9: The development of the Adams Street Zone could adversely affect cultural resources. (S)

Historic maps indicate that the Adams Street Zone has been intensively used and may contain deposits of historic-period artifacts or the remains of structures. For example, the Guardhouse Green may contain deposits or remains associated with two barracks and a company mess shed located north of the 1872 Guard house, as depicted on a U.S. Army 1918 map.³⁸ While this area of the proposed Guardhouse Green is currently an asphalt parking surface, it is unknown if this area was extensively disturbed or if remains of the structures or other archaeological deposits remain intact beneath the surface. Because this zone was heavily utilized from the beginning of the military presence in Benicia to the Arsenal's closure over 40 years ago, the Adams Street area has a high sensitivity for unrecorded archaeological deposits. Implementation of the following mitigation measure would reduce impacts to archaeological resources in the Adams Street Zone to a less-than-significant level:

Mitigation Measure CULT-9: Implement Mitigation Measures CULT-1a, -1b, and -1c. (LTS)

(C) *Grant Street Regulatory Zone:* Grant Street is an eclectic area and is planned to continue that way, with a variety of land uses. Grant Street would be a pedestrian-friendly area with street adjustments and improvements to move traffic to the north. Historical buildings identified in the Draft Specific Plan include the 1872 Barracks building and the 1870 office building.

³⁸ U.S. Army, 1893 (revised 1918). *Map of the Benicia Arsenal Reservation*. Ordinance Department, U.S. Army. On file in the Benicia Arsenal HABS survey, Library of Congress. Website: memory.loc.gov/ammem/collections/habs_haer/index. Accessed April 20.

Impact CULT-10: The demolition of existing buildings as part of development of the Grant Street Zone could result in a significant impact to cultural resources. (S)

Similar to the situation at Adams Street, there are a number of buildings located in the Grant Street Zone that were constructed between 1920 and the facility closure in the 1960s. These resources include a 1919 garage, a 1920s storehouse, a 1942 cafeteria, and a 1945 warehouse. While these resources may not have been considered significant resources in 1993 by the Conservation Plan, they may now be eligible for the California or National Register individually as properties or as contributors to the California and National Register Districts. Implementation of the following mitigation measure would reduce impacts to these potential resources to a less-than-significant level:

Mitigation Measure CULT-10: Implement Mitigation Measures CULT-2a and CULT-2b. (LTS)

However, if buildings proposed for demolition are historical resources under CEQA and if avoidance is not feasible, the impact would remain significant and unavoidable even with the implementation of the mitigation measures.

Impact CULT-11: The development of the Grant Street Zone could disturb intact archaeological deposits. (S)

Because the Grant Street Zone was intensively used from the beginning of the military presence in Benicia to the Arsenal's closure over 40 years ago, this area has a high sensitivity for unrecorded archaeological deposits. Implementation of the following mitigation measure would reduce impacts to archaeological resources to a less-than-significant level:

Mitigation Measure CULT-11: Implement Mitigation Measures CULT-1a, -1b, and -1c. (LTS).

(D) South of Grant Street Regulatory Zone: South of Grant Street is primarily an industrial area that currently is home to an eclectic mix of industrial and artisan uses. The streets follow old rail lines and the majority of buildings were constructed as large utilitarian forms set on high plinths to facilitate loading and unloading. The area includes numerous historical structures, including the 1876 blacksmith's shop complex and the 1919 Storehouses. The Draft Specific Plan envisions an area that continues to provide an informal and flexible environment for industry and artisans.

Impact CULT-12: The demolition of buildings as part of development of the South of Grant Street Regulatory Zone could result in a significant impact to cultural resources. (S)

Similar to the situation at Adams and Grant streets, there are a number of buildings located in this Regulatory Zone that were constructed between 1920 and the 1960s. These resources include a 1919 powerhouse, a 1945 auto parts building, 1943 boiler building, and a 1945 warehouse. While these resources may not have been considered significant resources in 1993 by the Conservation Plan, they may now be eligible for the California or National Register individually as properties or as contributors to the California and National Register Districts.

Mitigation Measure CULT-12: Implement Mitigation Measures CULT-2a and CULT-2b. (LTS)

However, if buildings proposed for demolition are historical resources under CEQA and if avoidance is not feasible, the impact would remain significant and unavoidable even with the implementation of the mitigation measures.

Impact CULT-13: The development of the South of Grant Street Regulatory Zone could disturb intact archaeological deposits. (S)

As this Regulatory Zone was intensively used from the beginnings of the military presence in Benicia to the Arsenal's closure over 40 years ago, this area has a high sensitivity for unrecorded archaeological deposits. The historical proximity to the shoreline and piers of the Carquinez Strait, before siltation from 19th century hydraulic mining in the Sierra Nevada, indicates that this area was likely used for a variety of purposes relating to water access, such as a dumping ground, as shown on the 1918 map.³⁹ As this was the natural shoreline during historic times, there is also a probability that the area may contain prehistoric archaeological deposits. Implementation of the following mitigation measure would reduce impacts to archaeological resources to a less-than-significant level:

Mitigation Measure CULT-13: Implement Mitigation Measures CULT-1a, -1b, and -1c. (LTS).

³⁹ U.S. Army, 1893 (revised 1918). *Map of the Benicia Arsenal Reservation*. Ordinance Department, U.S. Army. On file in the Benicia Arsenal HABS survey, Library of Congress . Website: memory.loc.gov/ammem/collections/-habs_haer/index.html. Accessed April 20.