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4.10 CULTURAL RESOURCES AND PALEONTOLOGY

INTRODUCTION

This section discusses the project impacts on cultural resources related to disturbance of archaeological, historical, architectural, and Native American/traditional heritage resources. The section also addresses disturbance of unknown archaeological resources, as well as paleontologic resources (fossils). To provide a basis for this evaluation, the setting section describes broad periods of cultural history in the project area, including the prehistoric period.

IMPACTS EVALUATED IN OTHER SECTIONS

All items pertinent to cultural and paleontological resources are included in this section.

AFFECTED ENVIRONMENT (SETTING)

Prehistory

Linguistic evidence suggests that the Central Valley Delta region has been occupied since the Middle Horizon (approximately 1500 BC to 500 AD) period of California prehistory (Levy 1978:399; Moratto 1984:184). Characteristics of sites from this period in the mid-Central Valley area are: tightly flexed burials of variable orientation, with 5 percent of the dead cremated; nearly all of the cremations, but less than 40 percent of the inhumations have funerary artifacts, while red ocre stains and stone cairns are common in graves; and a diversified subsistence with inferred hunting, fowling, fishing, and seed processing. Objects commonly recovered from sites include *Olivella* beads, circular and subrectangular *Haliotis* beads, *Haliotis* ornaments of varied geometric shapes, perforate canid teeth and bear claws; charmstones, cobble mortars and evidence of wooden mortars in the form of chisel-ended pestles; flakers, bipoints, awls, spatulae, spear tips, and saws manufactured of bone; large heavy projectile points of nonobsidian lithics; and baked clay objects.

More than 100 Indian mounds have been located to date in San Joaquin County (Hoover 1990:348). They are typically located on relatively high ground along the banks of the numerous watercourses of the San Joaquin Delta region, such as the San Joaquin, Cosumnes, Mokelumne, and Calaveras rivers, and the Mormon, French Camp, and other sloughs, which furnished almost inexhaustible hunting grounds for the Indians. During the years 1898 to 1901, James A. Barr, superintendent of Stockton schools and amateur archaeologist, became interested in the archaeology of the region. His field notes and catalogued specimens comprise the main source of information on the archaeology and ethnology of the Stockton area and vicinity. The principal sites explored by Barr were within the area of the Stockton Channel, Walker Slough, Robert's Island, Martin's Ranch,

Brandt's Ferry, Lewis Ranch, and French Camp Slough. The Stockton Channel mound, located approximately five miles south of the project area within the City of Stockton, is probably the site of the *Passasimas* village described in the notes of the 1817 Spanish expedition led by Father Narciso Durán. Two other mounds, the Ott mound (southeast of Stockton and north of French Camp Slough) and the Pool mound (nine miles southwest of Stockton) appear to have been inhabited when Spanish explorations passed through the area in 1805, 1810, and 1811 (Hoover 1990:349).

Ethnography

The project area was occupied by the Plains Miwok, whose territory included the lower reaches of the Mokelumne and Cosumnes rivers and both banks of the Sacramento River from Rio Vista to Freeport (Levy 1978:398). The largest political unit was the tribelet (Moratto 1984:172). Each tribelet acted as an independent nation with a defined and bounded territory. Within each tribelet were several permanently inhabited settlements and seasonally occupied campsites. The large multiple-family villages were situated on elevated landforms along watercourses.

The Plains Miwok subsisted on acorns as the staple food, as well as seeds, nuts, roots, berries, and greens (Moratto 1984:173). Fishing and hunting were practiced on a limited basis. Tule balsas were crafted and utilized for waterborne transportation. A major industry was the production of baked-clay substitutes for items made of stone elsewhere: net weights, cooking "stones," pipes, and crude vessels.

After 1770 AD, Indian populations in the San Joaquin area and specifically the Central Valley Delta were significantly reduced and settlement patterns were disrupted as a result of Spanish exploration, missionization, and disease, specifically the epidemic of 1833 (Moratto 1984:174). The epidemic (thought to have been malaria) had wiped out 75 percent of the Valley inhabitants by 1846. American intrusion into the Valley in 1848 further devastated the population, essentially wiping out the remaining inhabitants and their culture.

Population estimates have been hard to compile due to the early missionization efforts and devastating epidemics. Therefore, historians rely on Baptism records as population indicators, understanding of course that these numbers do not reflect the many Indians not brought into the Mission system. The first Plains Miwok baptisms were recorded in 1811. During the period 1811 to 1834, over 2,100 Plains Miwok baptisms were recorded. The majority of Plains Miwok were taken to Mission San Jose, where they comprised the largest single ethnic group.

History

The area around Stockton was first permanently inhabited by Europeans as early as 1832, when French-Canadian hunters employed by the Hudson's Bay Company settled in the area now known as French Camp (Hoover 1990:349). The location of the present day French Camp (State Historic Landmark No. 668) was the terminus of the Oregon Trail, used by the French-Canadian trappers from 1832 to 1845.

The town of Tuleburg was laid out in 1847 by Captain Charles M. Weber on the south side of the Stockton Channel (Hoover 1990:350) on 49,000 acres of a Mexican land grant he had received in the early 1840s (Stockton General Plan EIR 1990:VIII-28). By 1848, several houses had been built and wheat was being planted. In the spring of 1849, Weber resurveyed the area and renamed the town Stockton in honor of Commodore Robert F. Stockton (Hoover 1990:350). Within 6 months the city's population had grown to nearly 1,000, and on August 15, 1850, Stockton was incorporated. Later that same year it became the county seat of San Joaquin County. By 1854, the city had grown to 7,000 inhabitants, making it the forth largest city in the State (Stockton General Plan EIR 1990:VIII-28). Stockton's early growth spurt was similar to that of other northern California river towns in that it was fueled by its location as a port and supply center for the gold mines. By the mid-1850s however, disillusioned miners began settling in farms in the surrounding countryside. The rich land was well suited for agriculture and soon large acreages were being cultivated.

In 1852, Jeremiah H. Woods and Alexander McQueen established a ferry across the Mokelumne River (Jones & Stokes 1990). As a result, a new road from Stockton to Sacramento was established and was known as Woods Ferry. In 1858, Woods built a bridge at the site of the ferry, and from it, the Town of Woodbridge was laid out in April 1859. The site of Woods' Ferry and Woods' Bridge comprise the components of State Historic Landmark No. 163. The Town of Woodbridge itself is also a State Historic Landmark (No. 358). Woodbridge and other river towns such as Lockeford absorbed the trade from the Mokelumne River while outlying agricultural districts became dependent upon towns like Lodi for rail access.

Lodi began in 1869 as the Town of Mokelumne Station, founded by the Central Pacific Railroad. To avoid confusion with similar names, the name of Lodi was chosen in 1874 (Gudde 1998:213). Having become the heart of a productive agricultural region, the City of Lodi was incorporated in 1906.

Lodi is best known for the Flame Tokay grapes, first planted in the region in 1864. Plantings increased in 1897, with the influx of immigrants coming from North and South Dakota. Irrigation of the vineyards started around 1920, and soon thereafter the Tokay grape brought steep prices in the Eastern markets. Today, 97 percent of the Tokay grapes produced in the world are grown in the Lodi area.

Grapes have played an important part in the development of a community identity. The Tokay Carnival, begun in 1907, evolved into the Lodi Grape Festival and is a tradition created to celebrate the fall grape harvest. The Grape Festival is now a nationally recognized event which attracts visitors from all over the region.

The Lodi Arch, forming the gateway entrance to the downtown area, was built to commemorate the first Grape Festival in 1907.

Kingdon, a small area three-quarters of a mile east of the project area was originally called West Lodi when the Western Pacific reached it in 1909 (Gudde 1998:194). In 1915, the place was renamed by the railroad for Kingdon Gould, a grandson of Jay Gould. The

Kingdon Drag Strip has in recent decades been reutilized as the Kingdon Air Park, providing private air service to local residents.

CULTURAL RESOURCES AND PALEONTOLOGY GOALS, OBJECTIVES, AND POLICIES

Table 4.10-1 identifies goals, objectives, and policies that provide guidance for development in relation to cultural resources in the project area. The table also indicates which evaluation criteria are responsive to each set of policies. There are no goals, objectives, and policies related to paleontology in the project area.

Table 4.10-1

General Plan Goals, Objectives, and Policies - Cultural Resources

Adopted Plan Document	Document Section	Document Numeric Reference	Policy	Relevant Evaluation Criteria[1]
San Joaquin County General Plan	Resources	Heritage Resources Objective 1 Policies 1 - 5	To protect San Joaquin County's valuable architectural, historical, archaeological and cultural resources.	1, 2, 3, & 4
Lodi General Plan	Urban Design and Cultural Resources Element	Cultural Resources Goal J, Policy 4	To preserve and enhance Lodi's historical heritage. The City shall consult with the CCIC on any project that could have an impact on cultural resources and implement the center's recommended mitigation measures.	1, 2, 3, & 4
Stockton General Plan	Natural and Cultural Resource Goals and Policies	Open Space Goal 1, Policy 6	Preserve and enhance open space areas for the preservation of natural resources including historic and cultural resources. Continue to recognize and preserve Stockton's historical and cultural resources.	1, 2, 3, & 4

Source: Parsons, 2001; San Joaquin County Draft General Plan, 1991; Lodi Draft General Plan, 1990.

1 The evaluation criteria can be found in Table 4.10-2.

EVALUATION CRITERIA WITH POINTS OF SIGNIFICANCE

Cultural Resources

The California Environmental Quality Act (CEQA) Section 15064.5 includes provisions for significance criteria related to archaeological and historical resources. A significant archaeological or historical resource is defined as one that meets the criteria of the California Register of Historical Resources. A significant impact is characterized as a "substantial adverse change in the significance of a historical resource."

Public Resource Code Section 5024.1 authorizes the establishment of the California Register of Historical Resources. Any identified cultural resources must be evaluated against the California Register criteria. In order to be determined eligible to the California Register, a property must be significant at the local, state, or national level under one or more of the following four criteria, modeled after the National Register criteria:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States;
2. It is associated with the lives of persons important to the nation or to California's past;
3. 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
4. It has yielded, or may be likely to yield, information important to the prehistory or history of the state and the nation.

In addition to meeting one of the above criteria, a significant property must exhibit a measure of integrity. Properties eligible for listing in the California Register must retain enough of their historic character or appearance to be recognizable as historic properties and to convey the reasons for their significance. Integrity is judged in relation to location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a property is thought to be eligible.

An impact is considered to be significant if it meets any of the following criteria:

- the project may disturb historical architectural resources;
- the project may disturb known prehistoric or historic cultural resources; or
- the project may disturb buried, unknown prehistoric or historic archaeological resources.

Further, Public Resources Code Section 5031 identifies a historical property as being the first, last, only, or most significant historical property of its type in the region.

Paleontology

The significance of paleontologic resources is evaluated using state and federal guidelines. CEQA guidelines indicate that a project could have a significant effect on the environment if project activities disrupt or adversely affect a paleontologic site (CEQA Checklist, Appendix G).

The California Public Resources Code, Section 5097.5, prohibits the excavation or removal of any "vertebrate paleontological site, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." Public lands are defined as lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation. Any unauthorized disturbance or removal of archaeological, historic, or paleontologic materials or sites located on public lands is considered a misdemeanor.

According to standard procedures published by the Society of Vertebrate Paleontology (1991), sedimentary rock units with a high potential for containing significant nonrenewable paleontologic resources are those within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present (Society of Vertebrate Paleontology 1991). Significant paleontologic resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (Reynolds 1988).

Table 4.10-2

Evaluation Criteria with Points of Significance - Cultural Resources and Paleontology

Evaluation Criteria	As Measured by	Point of Significance	Justification
1. Will the project cause a substantial adverse change in the significance of historical resources as defined in Section 15064.5?	Number of sites affected by project facilities	Greater than 0 sites	CEQA Section 15064.5; PRC Section 5020-5024, 21084.1
2. Will the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Sensitivity analysis	Greater than 0 anticipated locations	CEQA Section 15064.5; PRC Section 5020-5024, 21084.1

Table 4.10-2

Evaluation Criteria with Points of Significance - Cultural Resources and Paleontology

Evaluation Criteria	As Measured by	Point of Significance	Justification
3. Will the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	Underground construction within geologic units with the potential to contain important fossils	Greater than 0 occurrences	CEQA, Appendix G; PRC Section 5097.5
4. Will the project disturb any human remains, including those interred outside of formal cemeteries?	Number of sites affected by project facilities	Greater than 0 sites	CEQA Section 15064.5; PRC Section 5020-5024, 21084.1

Source: Parsons, 2001.

METHODOLOGY

Cultural Resources

The goal of the cultural resources study for this project was to identify prehistoric and historic archaeological sites, architectural and historical sites, historic landscapes, and traditional cultural properties (including Native American heritage resources) that might be affected by implementation of the project.

The study used the definitions for prehistoric and historic archaeological sites in National Register Bulletin 15 (*How to Apply the National Register Criteria for Evaluation*, National Park Service 1991), for historic landscapes in Preservation Briefs 36 (*Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes*, Birnbaum 1994), and for traditional cultural properties in Bulletin 38 (*Guidelines for Evaluating and Documenting Traditional Cultural Properties*) and CRM 16 (*Traditional Cultural Properties: What You Do and How We Think*, Parker 1993).

Records and literature searches of the project area were conducted in December of 1999 by CCIC staff. In addition, the following local, state, and federal cultural resource inventories were reviewed: *National Register of Historic Places Index* (December 1999); *Directory of Properties in the Historic Property Data File for San Joaquin County* (updated quarterly by the State Historic Preservation Office); *California Inventory of Historic Resources* (1976); *Five Views: An Ethnic Sites Survey for California* (1988); and *California Historical Landmarks* (1990). Historical maps (including General Land Office Plat Maps) were reviewed in order to identify architectural and historical archaeological properties.

Interested parties were contacted by letter for any comments that they might have concerning cultural resources that might be affected by the project. Interested parties included historical societies, local Native American individuals and recognized groups, local agencies, and the State Native American Heritage Commission. One response was received (See Appendix D).

Paleontology

Existing paleontologic and geological sources were reviewed (Society for Vertebrate Paleontology 1991; California Div. of Mines and Geology pers com. December 20, 1999).

RESULTS

Cultural Resources

A record search of the Project area was conducted in December 1999 at the Central California Information Center (CCIC) of the California Historical Resources Information System. The area reviewed for the record search encompassed a one mile radius surrounding the project area.

No cultural resources have previously been recorded within the project area or within one-mile of the project area. Two cultural resource studies have previously been conducted. In 1990, Far Western Anthropological Research Group, Inc. conducted a Cultural Resources Inventory of Four Alternative Power Plant Locations for the Northern California Power Agency Stand Alone Combined Cycle Project, Placer and San Joaquin Counties, California. Far Western's study covered 0.25 percent of the project area. No cultural resources were recorded as a result of that study. In 1997, Cultural Resources Unlimited (CRU) performed a survey as part of a Pacific Bell Mobile Services antenna installation project. CRU surveyed an area approximately one mile northeast of the project area. No cultural resources were recorded as a result of that study.

In 1995, Quad Consultants completed a cultural resources assessment as part of the California Youth Soccer Association Draft EIR (SCH# 95042019). The results of their assessment have not as yet been filed with the CCIC and therefore do not show up on any record search for this project area. Typically, if the results of a record search indicate the likelihood of a negative archaeological finding, and no field survey is conducted of the project area, then a cultural resources technical report is not forwarded to the regional Information Center.

Paleontology

Paleontologic resources include fossil specimens, fossil sites, and fossil-bearing rock units. Vertebrate fossils are generally considered to be significant because their occurrence is relatively rare. Invertebrate and plant fossils and microfossils tend to occur in much greater abundance than vertebrate fossils. Non-vertebrate fossils are generally ranked with low significance unless they are in short supply, they are age-diagnostic, or the paleoenvironmental framework is unique (EIP 1990). Generally, fossils are not considered

to be significant if they are found in large numbers and/or over a large geographic area (Reynolds 1988).

A geotechnical investigation was prepared for the Water Pollution Control Plant (WPCP) site in 1988 by Kleinfelder (Quad 1995:3-2). The findings of that investigation are presented below:

> The project area is located in the western part of the Great Valley geomorphic province of California. The Valley is situated between the Sierra Nevada on the east, and the Coast ranges on the west. These mountain ranges were formed by uplifts which occurred during the late Tertiary and Quaternary periods. The structural trough or depression in bedrock formations between the ranges has been filled with alluvial, lacustrine, and some marine sediments that attain a maximum thickness of over 30,000 feet near the western margin. The bedrock complex is composed of metamorphosed marine sediments similar to those found in the foothills of the western Sierra Nevada and the core of the Coast Ranges.
>
> The portion of the valley in the Lodi area exhibits a fairly complete stratigraphic section of Cretaceous, Tertiary and Quaternary deposits. The sediments deposited prior to mid-Tertiary time were in a marine environment. Changes in sea level, valley filling, and uplift, resulted in deposition of sediments in a continental environment after mid-Tertiary time. These continental sediments are exposed at the surface in the site area. Near-surface sediments at the WPCP facility have been deposited primarily during flood stages of the Calaveras, Mokelumne, and San Joaquin Rivers, prior to the present-day flood-control systems.

Based on available information, no fossil bearing rock formations are located within the project area above the mid-Tertiary horizon, and potentially not above bedrock.

ENVIRONMENTAL CONSEQUENCES (IMPACTS) AND RECOMMENDED MITIGATION

Table 4.10-3

Cultural Resources and Paleontology Impacts

Evaluation Criteria	Point of Significance	Impact	Type of Impact[1]	Level of Significance[2]
1. Will the project cause a substantial adverse change in the significance of historical resources as defined in Section 15064.5?	Greater than 0 sites	None	None	==
2. Will the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Greater than 0 anticipated locations	Greater than 0 sites	C	⊙
3. Will the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	Greater than 0 occurrences	None	None	==
4. Will the project disturb any human remains, including those interred outside of formal cemeteries?	Greater than 0 sites	Greater than 0 burials	C	⊙

Source: Parsons, 2001.

Notes: 1. Type of Impact:
C Construction
O&M Operation & Maintenance

2. Level of Significance codes:
== No Impact
⊙ Significant impact before mitigation; less than significant impact after mitigation

Impact: **4.10-1 Will the project cause a substantial adverse change in the significance of historical resources as defined in Section 15064.5?**

Analysis: *No Impact; All Alternatives*

No known historical resources are located within the project area.

Mitigation: No mitigation is needed.

Impact: **4.10-2 Will the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

Analysis: *Significant; All Alternatives*

No archaeological resources have previously been recorded within or immediately adjacent to the project area.

There is the possibility that surface or subsurface cultural resources not identified from the review of records at the Central California Information Center will be encountered during construction of the project. This impact is considered significant.

Mitigation: **4.10-2 Protection of Archaeological Resources**

In the event that buried cultural resources are discovered during the course of project activities, construction operations shall immediately stop in the vicinity of the find and the City shall consult with the appropriate local, state, or federal entities and a qualified archaeologist to determine whether the resource requires further study. Cultural resources could consist of, but not be limited to, artifacts of stone, bone, wood, shell, or other materials, or features, including hearths, structural remains, or dumps.

After Mitigation: *Less than Significant; All Alternatives*

Impact: 4.10-3 Will the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Analysis: *No Impact; All Alternatives*

Based on available information, it has been determined that no known paleontological or unique geological feature is located within the project area.

Mitigation: No mitigation is needed.

Impact: 4.10-4 Will the project disturb any human remains, including those interred outside of formal cemeteries?

Analysis: *Significant; All Alternatives*

No human remains have previously been recorded within or immediately adjacent to the project area.

There is the possibility that human remains and associated artifacts not identified from the review of records at the Central California Information Center will be encountered during construction of the project. This impact is considered significant.

Mitigation: **4.10-4 Protection of Undiscovered Human Remains**

If human burials are encountered, all work in the area will stop immediately and the San Joaquin County coroner's office shall be notified. If the remains are determined to be Native American in origin, both the Native American Heritage Commission and any identified descendants must be

notified and recommendations for treatment solicited (CEQA Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and 5097.98).

After Mitigation: *Less than Significant; All Alternatives*

CUMULATIVE IMPACTS

Cultural resources, and potential impacts to those resources, are site-specific and have been fully mitigated at the project level. No cumulative impacts are therefore anticipated.