Cultural Resources Inventory and Evaluation Report
Orland Recreational Trail Improvement Project
Glenn County, California

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ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, and monitoring and compliance reporting.
MANAGEMENT SUMMARY

In 2018, ECORP Consulting, Inc. was retained to conduct a cultural resources inventory and evaluation for the proposed Orland Recreational Trail Improvement Project. The City of Orland proposes to construct a one-mile linear asphalt trail within Glenn County, California.

The inventory included a records search, literature review, and field survey. The records search results indicated that seven previous cultural resources studies have been conducted within the Project Area. As a result of those studies, no cultural resources have previously been recorded within the Project Area.

As a result of the field survey, two cultural resources were recorded within the Project Area: OT-001, a segment of Lateral 50, a historic-period irrigation canal, and OT-002, a historic-period road segment. OT-001 and OT-002 have been evaluated using NRHP and CRHR eligibility criteria and are not eligible for the NRHP and CRHR. They are not historic properties under Section 106 of the NHPA and are not Historical Resources as defined by CEQA. Recommendations for the management of unanticipated discoveries are also provided.
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Attachment B – Sacred Lands File Coordination
Attachment C – Project Area Photographs
Attachment D – Confidential Cultural Resource Site Locations and Site Records

LIST OF ACRONYMS AND ABBREVIATIONS
AB Assembly Bill
APE Area of Potential Effects
BLM Bureau of Land Management
BP Before present
cal BP Calibrated Before Present
CCR California Code of Regulations
CCTS Central California Taxonomic System
CEQA California Environmental Quality Act
CFR Code of Federal Regulations
CHL California Historical Landmarks
CHRIS California Historical Resources Information System
**LIST OF ACRONYMS AND ABBREVIATIONS**

<table>
<thead>
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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>CRHR</td>
<td>California Register of Historical Resources</td>
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<tr>
<td>GLO</td>
<td>General Land Office</td>
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<td>MLD</td>
<td>Most Likely Descendant</td>
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<td>NAHC</td>
<td>California Native American Heritage Commission</td>
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<td>NEIC</td>
<td>Northeastern Information Center</td>
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<td>NHPA</td>
<td>National Historic Preservation Act</td>
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<td>National Park Service</td>
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<td>NRHP</td>
<td>National Register of Historic Places</td>
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<td>OHP</td>
<td>Office of Historic Preservation’s</td>
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<td>PRC</td>
<td>Public Resources Code</td>
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<td>USC</td>
<td>U.S. Code 5</td>
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<td>U.S. Department of Agriculture’s</td>
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<tr>
<td>USGS</td>
<td>U.S. Geologic Survey</td>
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<td>WPLT</td>
<td>Western Pluvial Lakes Tradition</td>
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1.0 INTRODUCTION

In 2018, ECORP Consulting, Inc. was retained by the City of Orland to conduct a cultural resources inventory and evaluation of the proposed Orland Recreational Trail Improvement Project Area located in the City of Orland, Glenn County, California. A survey of the property was required to identify potentially eligible cultural resources (archaeological sites and historic buildings, structures, and objects) that could be affected by the Project.

1.1 Project Location and Description

The proposed trail is located in the eastern part of the City of Orland, south of East Walker Street (State Route [SR] 32), east of Papst Street, and north of East South Street. The Project Area consists of a one-mile-long proposed trail alignment located in the southern half of Section 23 of Township 22 North, Range 3 West, Mount Diablo Base and Meridian as depicted on the 1958 photorevised 1978 Orland, California U.S. Geologic Survey (USGS) 7.5-minute’ topographic quadrangle map (Figure 1).

The proposed Project is to construct an asphalt trail that will be eight feet wide. The trail route begins at the western terminus of Paigewood Drive and heads south along the west side of the entire length of an apartment complex. The trail route then turns west for approximately 0.1 mile before turning south to run along the east side of an existing concrete ditch known as Lateral 50. The trail route continues south, crosses Road 15, and then crosses Lateral 50 just before reaching former Road 16. A concrete deck will be constructed to carry the trail over the existing concrete canal (Lateral 50). The trail route then runs eastward along the south side of former Road 16 and Lateral 50 for approximately 0.5 mile to the entrance of Lely Aquatic Park at Hambright Avenue. The entire trail route is just under one mile in length (see Figure 2).

1.2 Area of Potential Effects

The Area of Potential Effects (APE) consists of the horizontal and vertical limits of the Project and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the Project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to the California Environmental Quality Act (CEQA), the term Project Area is used rather than APE. For the purpose of this document, the terms Project Area and APE are interchangeable.

The horizontal APE consists of all areas where activities associated with the Project are proposed and includes areas proposed for vegetation removal, grading, and other construction elements. The horizontal APE in the northern part of the trail route is the pedestrian access easement which in most areas is 15 feet in width (Figure 2). The trail will be 8 feet wide within this easement. Between Road 15 and Road 16 the APE is the area between the edge of the existing concrete ditch (Lateral 50) to the west and the field boundary to the east. In the western part of the southern east-west trail segment, there is an existing asphalt path which is the same as the APE. In the eastern part of this segment, the APE is the area between the edge of the existing concrete ditch to the north and the field boundary to the south. For most of the APE Lateral 50 is parallel with, and outside of, the APE. It is in the APE only where the trail will cross the ditch just north of Road 16. The APE is approximately 0.9 mile in length.
Figure 1. Project Location and Vicinity

Approximate Project Alignment

Glenn County, California
§.23, T.22N, R.03W, MDBM
Latitude (NAD83): 39.739814°
Longitude (NAD83): -122.174634°
Watershed: Sacramento-Stone Corral (18020104)

Orland, CA (1958 (P.R. 1978), NAD 27)
CA 7.5-minute Topographic Quadrangle
US Geological Survey.
Figure 2. APE Map

2018-135 Orland Recreational Trail Improvement Project
The vertical APE is described as the maximum depth below the surface to which excavations for Project facilities will extend. Therefore, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the project, depending on where grading will occur. Ground disturbance will be shallow (less than two feet).

The vertical APE also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For the current project, the above-surface vertical APE is up to 10 feet above the surface, which is the maximum height of proposed concrete deck crossing structures.

1.3 Regulatory Context

To meet the regulatory requirements of this Project, this cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within Section 106 of the National Historic Preservation Act (NHPA) and in CEQA (Public Resources Code [PRC] § 21000 et seq.) The goal of NHPA and CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require state or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps. The Section 106 of the NHPA pertains to projects that receive federal funding or need a federal permit.

The NHPA and CEQA (Title 14, California Code of Regulations [CCR], Article 5, § 15064.5) apply to cultural resources of the historical and pre-contact periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on either the California Register of Historical Resources (CRHR) (PRC § 5024.1, Title 14 CCR, § 4852) or the National Register of Historic Places (NRHP) (36 CFR 60.4). Cultural resources eligible for listing on the NRHP are considered Historic Properties under 36 Code of Federal Regulations (CFR) Part 800 and are automatically eligible for the CRHR. Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

This project qualifies as a federal undertaking because the irrigation canal in the APE, Lateral 52, is managed by the U.S. Bureau of Reclamation and a permit from USBR is necessary for the trail to cross the canal. Regulations (36 CFR 800) implementing Section 106 of the NHPA require that cultural resources be identified and then evaluated using NRHP eligibility criteria. If determined eligible the lead federal agency, USBR, they are Historic Properties for the purposes of Section 106. If the undertaking will adversely affect Historic Properties, treatment to resolve the adverse effects would be required.

1.4 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's (OHP) Archaeological Resource Management Reports: Recommended Contents and Format. Attachment A includes a confirmation of the records search with the
California Historical Resources Information System (CHRIS) and historical society coordination. Attachment B contains documentation of a search of the Sacred Lands File. Attachment C presents photographs of the Project Area, and Attachment D contains confidential cultural resource site locations and site records.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California’s open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 U.S. Code 5 [USC]), because the disclosure of cultural resources location information is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 304 of the NHPA, it is also exempted from disclosure under the Freedom of Information Act. Likewise, the Information Centers of the CHRIS maintained by the OHP prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format.

### 2.0 Setting

#### 2.1 Environmental Setting

The Project Area is located in the rural eastern portion of the City of Orland. The proposed trail alignment is surrounded by orchard crops and farms, rural residences, parks, an irrigation canal, and existing roads. The proposed trail alignment is relatively flat, and elevations range from 235 - 245 feet above mean sea level. The Project Area is located east of the Glenn County Fairgrounds. Stony Creek is located approximately one mile north of the Project Area.

#### 2.2 Geology and Soils

Rosenthal and Willis (2017:2) describe the geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20km] thick) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

Early Holocene (11,600 to 8,200 calibrated Before Present [cal BP]) surfaces lay beneath younger Holocene deposits made by alluvial fans and floodplains. During the Middle Holocene (8200 to 4200 cal BP), landscape instability led to erosion of hillslopes that resulted in alluvial fans and floodplains capping portions of the older land surfaces in the Sacramento Valley (Rosenthal and Willis 2017). From 4200 to
2200 cal BP, the Sacramento-San Joaquin Delta region expanded and stabilized, and multiple cycles of alluvial fans and floodplain deposition and stabilization occurred. The sea level rise during this period caused the lower reaches of many river channels entering the Delta to fill with sediment and spill over the banks; thus, sedimentation kept pace with inundation, which cause the formation of extensive peat marshes in the Delta region. After 4,000 years most of Sacramento Valley had large amounts of alluvium deposited across it, forming a continuous plain extending from southern Glenn County through Yolo County in the west, and from northern Butte County to Sutter County in the east. Along modern streams and rivers in the lower Sacramento Valley, these late Holocene deposits were in part eventually eroded and/or buried by the Latest Holocene and historic period soil deposits. These latest Holocene deposits (2200 to 100 cal BP) often bury older archaeological deposits (Rosenthal and Willis 2017).

The latest Holocene was marked by periods of drought punctuated by periods of increased wetness, which not only caused extensive alluvial floodplain and fan deposition, but changes to the baseline of tributary rivers in the Sacramento Valley as well (Rosenthal and Willis 2017).

According to the U.S. Department of Agriculture’s (USDA) Web Soil Survey website (USDA 2018), two soil types are located within the Project Area: Cortina very gravelly sandy loam (Czt), moderately deep; and Orland loam (Omr), moderately deep over gravel, 0 to 2 percent slopes.

Due to the presence of alluvium along Stony Creek, approximately one mile north of the Project Area, and given the likelihood of pre-contact archaeological sites located along perennial waterways, there exists the potential for buried pre-contact archaeological sites in the Project Area.

2.3 Vegetation and Wildlife

The Project Area consists of mostly gravel and asphalt trails with olive trees lining the eastern side of the canal for much of the length of the canal segment, with various orchards planted in the agricultural space to the east and south of the trail alignment.

Wildlife species that may occur in the Project Area include bird species Eurasian collard-dove (Streptopelia decaocto), Nuttall’s woodpecker (Picoides nuttallii), American kestrel (Falco sparverius), western kingbird (Tyrannus verticalis), California scrub-jay (Aphelocoma californica), yellow-billed magpie (Pica nuttallii), northern mockingbird (Mimus polyglottos), house finch (Haemorhous mexicanus), and lesser goldfinch (Spinus psaltria). California ground squirrels (Otospermophilus beecheyi) may also be present throughout the orchards.

3.0 CULTURAL CONTEXT

3.1 Regional Pre-contact History

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found, but cannot definitely be associated with human artifacts. Although small animal bones and plant grinding tools are rarely found
within archaeological sites of this period, small game and floral foods were probably exploited on a limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 years BP, is sometimes referred to as the Millingstone Horizon (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

In sites dating to after about 5,000 BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. During this period, new peoples from the Great Basin began entering southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1925; McCawley 1996; Moratto 1984). These were most likely the basis for the groups encountered by the first Europeans during the eighteenth century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The introduction of the bow and arrow into the region sometime around 2,000 BP is indicated by the presence of small projectile points (Wallace 1978; Moratto 1984).

3.2 Local Prehistory

This section provides a regional overview with contextual elements drawn from California’s Central Valley Region, and the northern Sierra Nevada foothill zone. There has been more extensive research and study of Central Valley prehistory than the prehistory of the northern Sierra Nevada foothill transition zone, but a fair amount of cultural overlap exists within these regions.

California’s Great Central Valley has long held the attention of archaeologists, and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This chronology identified three archaeological cultures, named Early, Transitional, and Late (Lillard et al. 1939).

Following years of documenting artifact similarities among sites in the San Francisco Bay region and the Delta, Beardsley (1948, 1954) formatted his findings into a cultural model known as the Central California Taxonomic System (CCTS). This system proposed a linear, uniform sequence of cultural succession in Central California, and explicitly defined Early, Middle, and Late horizons for cultural change.
Archaeological researchers have subsequently refined and redefined aspects of the CCTS. For instance, Fredrickson (1973, 1974, and 1994) reviewed general economic, technological, and mortuary traits between archaeological assemblages across the region. He separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000-8,000 BP); Lower, Middle, and Upper Archaic (8,000 BP to AD 500) and Upper and Lower Emergent (AD 500 to 1800).

Fredrickson further defined three cultural patterns: The Windmiller (named after Heizer 1949 and Lillard et al. 1939), the Berkeley, and the Augustine patterns, and assigned them to the Early, Middle, and Late horizons of the CCTS. These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmiller pattern of the Early Horizon included cultural patterns dating from 5,000 to 3,000 BP; the Berkeley Pattern of the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns dating from 3,000 BP to AD 500, and the Augustine Pattern of the Late Horizon included the cultural patterns from AD 500 to the historic period.

Fredrickson’s (1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal, White, and Sutton (2007). Rosenthal et al.’s recalibrated sequence is divided into three broad periods: The Paleoindian Period (11,550 to 8,550 cal. BC); the three-staged Archaic period, consisting of the Lower Archaic (8,550 to 5,550 cal. BC), Middle Archaic (5,550 to 550 cal. BC), and Upper Archaic (550 cal. BC to cal. AD 1100); and the Emergent Period (cal. AD 1100 to Historic) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory. The aforementioned periods are characterized by the following:

**Paleo-Indian Period:** This period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsided on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded (Rosenthal et al. 2007). Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

**Archaic Period:** This period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity (Bennyhoff and Fredrickson 1994). The three divisions that correspond to pre-contact climate change are characterized by the following aspects (Rosenthal et al. 2007):

- **Lower Archaic Period**—this period is characterized by cycles of widespread floodplain and alluvial fan deposition. Artifact assemblages from this period include chipped stone crescents and early wide-stemmed points, marine shell beads, eastern Nevada obsidian, and obsidian from the north Coast Ranges. These types of artifacts found on sites dating to this period indicate trade was occurring in multiple directions. A variety of plant and animal species were also utilized, including acorns, wild cucumber, and manzanita berries.

- **Middle Archaic Period**—this period is characterized by a drier climate period. Rosenthal et al. (2007:153) identified two distinct settlement/subsistence patterns in this period: the Foothill Tradition and the Valley Tradition. Functional artifact assemblages consisting primarily of locally...
sourced flaked-stone and groundstone cobbles characterize the foothills tradition, while the Valley Tradition was generally characterized by diverse subsistence practices and extended periods of sedentism.

- **Upper Archaic Period**—this period is characterized by abrupt change to wetter and cooler environmental climate conditions. Much greater cultural diversity is evident from this period. More specialized artifacts, such as bone tools, ceremonial blades, polished and groundstone plummets, saucer, and saddle *Olivella* shell beads, *Haliotis* shell ornaments, and a variety of groundstone implements are characteristic of this period.

**Emergent Period**: This period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency (Moratto 1984). The Augustine pattern (the distinct cultural pattern of the Emergent Period) is characterized by the appearance of small projectile points (largely obsidian), rimmed display mortars, flanged steatite pipes, flanged pestles, and chevron-designed bird-bone tubes. Large mammals and small seeded resources appear to have made up a larger part of the diet during this period (Fredrickson 1968; Meyer and Rosenthal 1997).

The following discussion summarizes the cultural patterns and the different local developments that are represented in archaeological deposits in the region surrounding the current Project Area.

The Windmiller Pattern of the Early Horizon (as defined by Beardsley 1948), dates to the Middle Archaic (as defined by Rosenthal et al. 2007) and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmiller and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural “blending” of groups in the Central Valley during this period. The temporal span for Windmiller has been updated and reanalyzed several times in the archaeological literature (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). The date originally proposed for the emergence of Windmiller was 4,500 BP (Lillard et al. 1939; Ragir 1972), because the culture at 4,000 years ago appeared to have been fully developed and seemed to have been well-integrated into the regional economic system.

Characteristics to identify the Windmiller pattern have been presented by multiple authors over time (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). Most notable characteristics are:

- large, heavy stemmed and leaf-shaped projectile points commonly made of a variety of materials other than obsidian;
- perforate charmstones;
- *Haliotis* and *Olivella* shell beads and ornaments;
- trident fish spears;
- baked clay balls (presumably for cooking in baskets);
- flat slab milling stones;
- small numbers of mortars; and
ventrally extended burials oriented toward the west.

The subsistence pattern of Windmiller groups probably emphasized hunting and fishing, with supplemental seed collecting (possibly including acorns) (Heizer 1949; Moratto 1984; Ragir 1972).

Windmiller groups acquired obsidian from at least two Coast Ranges and three trans-Sierran sources, *Haliotis* and *Olivella* shells and ornaments from the coast, and quartz crystals from the Sierra Nevada foothills (Heizer 1949; Ragir 1972). It is widely hypothesized that the bulk of these materials were acquired through trade, however some may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills.

The succeeding Middle Horizon, namely the Cosumnes Culture after Ragir (1972), the Berkeley Pattern after Fredrickson (1974), and absorbed into the Middle and Upper Archaic designations by Rosenthal et al. (2007) was first recognized at site CA-SAC-66. Much less published material discusses the patterns defined for this era than does Windmiller, none the less, some of the most notable characteristics are:

- tightly flexed burials with variable orientation;
- red ochre stains in burials;
- distinctive *Olivella* and *Haliotis* beads and ornaments;
- distinctive charmstones;
- cobble mortars and evidence of wooden mortars;
- numerous bone tools and ornaments;
- large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian; and
- objects of baked clay.

Further classification of the Middle Archaic (as defined by Rosenthal et al. 2007) into the Foothill and Valley traditions helped to clarify the different types of cultural sequences which occurred during these time periods. Functional artifact assemblages consisting primarily of locally sourced flaked-stone and groundstone cobbles characterize the Foothills Tradition, with very few trade goods. Sites that represent the Valley Tradition are much fewer in number, and are generally characterized by much more diverse subsistence practices and extended periods of sedentism. Specialized tools, trade goods, and faunal refuse that indicate year-round occupation are evident on sites of the Valley Tradition (Rosenthal et al. 2007). Distinct artifacts attributed to this tradition include one of the oldest dated shell bead lots in central California (4,160 BP) and a particular type of pestle used with a wooden mortar (Meyer and Rosenthal 1997).

The next era in the Central Valley region is identified as the Late Horizon by Beardsley (1948, 1954), the Hotchkiss Culture by Ragir (1972), and the Augustine Pattern by Fredrickson (1974). The culture was formed by populations during the later Upper Archaic and Emergent Periods, as defined by Rosenthal et al. (2007), and ranges in age from around 550 cal. BC to contact (dates vary between the different models
of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. The Emergent Period and Late Horizon are markedly represented by the introduction of bow and arrow technology, as well as more pronounced cultural diversity as reflected in diversity of burial posturing, artifact styles, and material culture. Cultural patterns for this era are represented in the northern Sacramento Valley, namely within the Whiskeytown Pattern, at sites CA-SHA-47, CA-SHA-571/H, CA-SHA-890, CA-SHA-891, and CA-SHA-892 (Sundahl 1982, 1992).

This era primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. The Emergent Occupation (as defined by Rosenthal et al. 2007) coincides with the Sweetwater and Shasta complexes in the northern Sacramento Valley (Fredrickson 1974; Kowta 1988; Sundahl 1982).

Despite the varying designations, this emergent era is distinguished in the archaeological record by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead. Artifacts associated with the defined patterns (Augustine, Emergent, Hotchkiss) include bow-and-arrow technology (evidenced by small projectile points), mortars and pestles, and fish harpoons with unilaterally or bilaterally placed barbs in opposed or staggered positions (Bennyhoff 1950). Mortuary patterns include flexed burials and cremations, with elaborate material goods found in association with prestigious individuals.

In the Northern Sierra Nevada, the most notable work was compiled by Kowta (1988) and the pre-contact cultural sequence includes a Paleo-Indian period (known as the Western Pluvial Lakes Tradition), an early archaic period (milling stone horizon), while the remainder of pre-contact period is represented by cultural complexes (Martis, Mesilla, and Bidwell), the elements of which, although somewhat specific to the type-sites where the complexes were first identified, are representative of broad changes over the entire region during time periods of cultural transition.

**Western Pluvial Lakes Tradition:** Archaeological investigations in the northern Sierra Nevada began in the mid-twentieth century as a result of increased demand for hydroelectric power and recreation. Some evidence of this early habitation has been found within Plumas and Butte counties. The first sequence in human occupation of the region can be related to the Western Pluvial Lakes Tradition (WPLT) which lasted 9,000 to 6,000 BC. The WPLT occurred during the end of the Pleistocene or “Ice Age”, in which a warming trend occurred, altering the environment, such as, the drying of smaller lake beds, isolation of forests to higher elevations, and low-lying grasslands turning into deserts (Kowta 1988).

Sites found in the Western Pluvial Lakes Tradition were mostly located near pre-contact lakeshores, which was a result of the warming period where humans and animals found refuge near water sources. Artfact assemblages at these sites are sparse and found mostly on the surface, indicating smaller, temporary populations. Artifacts found at the WPLT sites usually consist of flaked stone tools, cores, wide-stemmed projectile points and other easily transportable tools that indicate hunting of larger animals such as bison, and mammoth (Kowta 1988).

**Millingstone Horizon (Early Archaic):** The Milling Stone Horizon proceeded the WPLT spanning from 6,000 to 3,000 BC. The climate in this Horizon was characterized by gradually increased temperatures and
drier environments with a moist spell between 4,500 and 4,000 BC. East of the Project Area throughout the Great Basin, emphasis was placed on hunting smaller game and the processing of seeds, due to a decrease in large game animals. Around 4,000 BC, the archaeological record saw an increase in tool technology associated with the Pinto type projectile point. Believed to have been widely used through the northern Great Basin, Pinto points were also found at sites in the Sierra Nevada and eastern California region, which leads to the possibility that Western Great Basin hunters may have been following a possible mountain sheep migration through the Sierra Nevada (Kowta 1988).

**Martis Complex:** The Martis Complex (2,500 BC to 500 AD) is believed to have been a result of population increases throughout Northern and Central California. The Martis Complex was characterized by an increased reliance on small game hunting and plant material processing. Archaeological evidence of the Martis Complex is shown by sites with large quantities of projectile points and lithic tools, and a small amount of grinding and plant-processing tools. Grinding and plant processing technology (mortar and pestle) was not typically found at sites until the later part of the Martis Complex; however, evidence of milling stones and manos were found at sites dating to the Mesilla and later Complexes (Kowta 1988).

Sites from the Martis period have been found in the coniferous forests in the higher elevations representing summer base camps, with the possibility of winter villages in the lower elevations and foothills. In addition to village and camp sites, smaller isolated lithic scatter sites have been found from the Martis Complex. Sites from the Martis Complex have been found to contain projectile points from the Martis and Elko series, characterized by their wide stems and basalt and metavolcanic material. These points were used with spear throwing rather than arrows for bows. In addition to projectile points, other lithic tools such as scrapers, blades, and milling stones are represented in Martis assemblages (Kowta 1988).

Several sites in Plumas County have been studied such as Site CA-PLU-113, CA-PLU-114, and CA-PLU-115. These three sites are located surrounding Buck’s Lake near the west central portion of the northern Sierra Nevada. These three sites exhibit a wide variation in site function, yet all have an overlapping date range. CA-PLU-113 contained scrapers, drills, knives, choppers, large bifaces, and Martis and Elko projectile points made from local meta-volcanic material. Some milling stones and manos were also found. Based on radiocarbon dates and point typology, it is believed that CA-PLU-113 appears to be the earliest of the three sites, occupied sometime around 3,000 BC, but was occupied mostly from 800 to 300 BC during the Middle Martis period. CA-PLU-114 contained stone tools similar to those found at CA-PLU-113, both made from local meta-volcanic material; however, CA-PLU-114 contained a greater number of mortar and pestles leading to the idea that it may have been utilized heavily in the fall during acorn harvest in the later part of its occupation. CA-PLU-114 was believed to have been heavily occupied after 500 AD. Studies at CA-PLU-115 indicate that the site may have originated as a temporary hunting camp site where basic lithic reduction was the primary function, dating the site back to 2,000 BC. As time went on, the site appears have become a base camp used seasonally with a greater variety of functions occurring onsite such as a wide range of tool manufacturing, techniques, and the importation of different materials like basalt and obsidian (Kowta 1988).

**Mesilla Complex:** The Mesilla Complex was found primarily in the foothill areas of Butte County above Oroville and represents some of the earliest habitation in the region. Sites from the Mesilla Complex most
likely consisted of seasonal occupation sites with a greater emphasis on plant processing, between 1,000 BC to AD 1. Settlement patterns of the Mesilla Complex have not been studied in depth; however, due to the location of the sites being lower in elevation, it is believed that the settlements were year-round semi-permanent village sites. The projectile points found in the Mesilla complex are usually large leaf-shaped points likely used with an atlatl, and large corner and side-notched stemmed points. Manos and milling stones are found within Mesilla sites as well as other later artifacts such as oval Haliotis ornaments, charmstones, beads, and worked bone fragments (Kowta 1988).

Bidwell Complex: The Bidwell Complex (AD 1 to AD 800) is viewed as a continuation of the Mesilla Complex with distinct advancements in technology and evidence of burials in flexed lateral or dorsal positions. The Bidwell Complex introduced steatite cooking vessels and the importation of materials such as basalt for tool making. Projectile point technology was similar to that in the Mesilla Complex with large corner-notched, side-notched, and stemmed point production. The large points indicate that the spear was still used as the primary hunting tool. In addition to flaked stone tools, grooved and notched net and line weights were found in sites indicating a reliance of fish in their diet (Kowta 1988).

3.3 Ethnography

Prior to the arrival of Euro-Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Murdock 1960; Driver 1961), recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about 1/3 of the state’s native population, lived in the Central Valley (Moratto 1984:171). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Central area (as defined by Kroeber 1925) encompasses the current Project Area and includes the Wintu and Nomlaki.

Ethnographically, the Project Area is located in a region known to have been occupied by the Nomlaki Indians who speak a Wintuan language that was closely related to Wintu and Patwin. Nomlaki territory encompassed portions of present day Tehama and Glenn counties. The territory is bounded in the north by Cottonwood Creek and occupied the foothill land extending from the Coast Range in western Glenn and Tehama counties. There are two distinct Nomlaki Indian groups: Hill Nomlaki and River Nomlaki. The Wintuan language is in the Penutian Language family and is part of the Wintuan language group that includes the Wintu, the Nomlaki, and the Patwin Indians (Goldschmidt 1978). The Nomlaki hunted deer, grizzly bears, fish, quails, rabbits, rats, squirrels and birds. family units would collect acorns, roots, wild seeds, and fruit.

Village structures included headman houses, dance houses, and menstrual huts. Chief’s houses were faced toward the stream where men would plunge into after sweating ceremonials. Dance houses were a post-contact addition to the village structure and were placed away from the village. Houses were built near
Menstrual huts were built at the opposite end of the village away from the water supply (Goldschmidt 1978).

The Nomlaki population prior to contact with Europeans is estimated to have been over 2,000 (Goldschmidt 1978). A malaria epidemic swept through the Central and Upper Sacramento Valley in 1830-1833, killing off 75 percent of the indigenous population and severely hampering the ability of the Nomlaki to resist incursions into their territory by settlers. As settlers moved into the region, the Nomlaki faced the destruction of vital resources by livestock, the pollution of fishing areas by gold miners, and violent conflict with settlers. These factors further diminished the Nomlaki population, and by 1910 the Wintu population is estimated to have been 1,000.

3.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake’s Bay or Bodega Bay in 1579. Sebastian Vizcaino explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978).

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterey Bay Area in 1769. As a result of this expedition, Spanish missions to convert the native population, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California) beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. No missions were established in the Central Valley. The nearest missions were in the vicinity of San Francisco Bay and included Mission San Francisco de Asís (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asís at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an asistencia in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823 (Castillo 1978; California Spanish Missions 2011). Presidios were established at San Francisco and Monterey. The Spanish took little interest in the area and did not establish any missions or settlements in the Central Valley.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. In 1827, American trapper Jedediah Smith traveled along the Sacramento River and into the San Joaquin Valley to meet other trappers of his company who were camped there, but no permanent settlements were established by the fur trappers (Thompson and West 1880).

The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or “ranchos” (Robinson 1948). During the Mexican period there were small towns at San Francisco (then
known as Yerba Buena) and Monterey. The rancho owners lived in one of the towns or in an adobe house on the rancho. The Mexican Period includes the years 1821-1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort (Bidwell 1971). Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848 (Marshall 1971). The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, Alta California became part of the United States as the territory of California. Rapid population increase occasioned by the Gold Rush of 1849 allowed California to become a state in 1850. Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries, which were surveyed by the U.S. Surveyor General's office. Land outside the land grants became federal public land which was surveyed into sections, quarter-sections, and quarter-quarter sections. The federal public land could be purchased at a low fixed price per acre or could be obtained through homesteading (after 1862) (Robinson 1948).

3.5 Project Area History

The Project Area is located in the northeastern portion of Glenn County. The Sacramento River creates the eastern border of Glenn County. The County was organized in 1891 and is named after Dr. Hugh James Glenn (Kyle 2002). One mile north of Orland on Hambright Creek was the Granville Perry Swift adobe house. Swift was a pioneer settler who crossed the plains in 1843. Swift's adobe, built in 1847, was located at the confluence of Hambright and Stony creeks and was the headquarters for cattle operations as far south as Woodland. The site of the Swift Adobe is recognized as California Historical Landmark (CHL) #345 and is the first known structure built in Glenn County. Swift made a fortune during the Gold Rush by placer mining along the Feather River and then relocated to Sonoma County in 1854 (Kyle 2002).

The City of Orland was founded in 1878 as a supply and shipping center for grain (Kyle 2002). The Northern Railway Company, a subsidiary of the Central Pacific Railroad, completed its route from Oakland to Tehama via Willows and Orland in 1882 (Robertson 1998). The city was named after one of the first settler's home town in England. The town site for Orland was surveyed in 1878. Orland College was opened in the 1880s, but was closed in 1890 when the Northern Branch State Normal School opened in Chico (now California State University, Chico). After 1910, when irrigation water for farming became available, wooden buildings in Orland were replaced with reinforced concrete structures and over 100 new homes were built (Russell 2008). In 1910, the population of Orland was 600 and by 1912 the population had reached 2,000.

After the passage of the Wright Act in 1887, which authorized the formation of local irrigation districts, the Stony Creek Irrigation Company was formed and a few miles of canals were dug to bring water from Stony Creek to provide irrigation for 150 acres of land south of the creek near Orland. The Lemon Home Water Company provided water to land north of the creek. These two companies built 15 miles of ditches and irrigated almost 500 acres of land around Orland. However, the water provided by these companies
was insufficient and the Orland area in the late nineteenth century was mostly used for wheat farming and ranching on large tracts owned by a few individuals (Autobee 1993).

After the formation of the U.S. Reclamation Service in 1902, Orland farmers began to ask the Reclamation Service to initiate an irrigation project for the Orland area. In February 1906, local farmers formed a water association and petitioned the Secretary of the Interior to complete surveys to find a suitable location for a reservoir. The Orland Project was authorized by the Reclamation Service in 1907 and the East Park Dam was completed in 1910. The East Park Dam and Reservoir were located 33 miles southwest of Orland on upper Stony Creek in Colusa County. The reservoir provided a stable supply of water for irrigation of farmland around Orland. Two canal systems provided water to Orland area farms. The North Side Canal provided water for land on the north side of Stony Creek while the South Side Canal provided water for land on the south side of Stony Creek. Small diversion dams near Black Butte diverted water from Stony Creek into the canals. The South Side Canal, completed in 1916, travels 9.6 miles along Stony Creek southeast to Orland. The system delivered water directly to every 40-acre parcel of farmland (totaling over 8,000 acres) through 139 miles of canals and laterals and approximately 2,000 concrete control structures of various kinds. Lateral 50 in the Project Area is one of the many laterals that distribute water from the South Side Canal (Autobee 1993).

The irrigation system greatly increased the value of the land it supplied. Prior to the completion of the Orland project the value of the land around Orland totaled $605,000. In 1921 the land value had risen to $6.1 million. This led to a significant economic growth for the town of Orland which served as a supply center for the surrounding agricultural area. During the 1920s Orland farmers suffered from a series of drought years which led to the depletion of the East Park Reservoir in 1924. As a result, Stony Gorge Dam and Reservoir were constructed on Stony Creek below East Park Reservoir by the U.S. Bureau of Reclamation (USBR) at the request of the Orland Water Users’ Association. In the decades that followed the Orland Project fell into disrepair due to the lack of funding for maintenance during the Great Depression and Second World War. However, in 1951 a three-year rehabilitation project was completed by USBR which restored the lining of the canal system (Autobee 1993).

An additional storage facility closer to Orland, the Black Butte Dam and Reservoir, was completed in 1963 by the Corps of Engineers. The Corps operates and maintains the reservoir and the diversion dam that delivers water into the South Side Canal (Autobee 1993).

Prior to the completion of the irrigation project, alfalfa was the primary crop in the area around Orland. The consistent supply of water from the Orland Project allowed for cultivation of tree crops. In 1923 the region was home to 1,100 acres of almond trees. The 1930s saw the peak production for citrus in the region with 900 acres dedicated to the cultivation of oranges. The construction of an olive-oil processing plant in 1939 was a response to the increasing acreage of farms dedicated to olive production. In 1991 over 1,000 acres were dedicated to olives, with nearly all of them being grown for table consumption (Autobee 1993).

The Orland Project canal system still supplies the region with irrigation water. The segment of the system in the Project Area (Lateral 50) is not in active use, but remains in good condition.
### 3.5.1 Historic Context of Road Development

Following is a brief context of the theme of road development. The context is included to better understand the social and economic factors associated with road development and how the historic period road identified in the APE (OT-002) relates to this context.

Road development in the United States primarily consisted of expanding local urban streets, utilitarian in design and function, in the eastern United States and moving westward across the nation. California roadways in particular, largely consisted of dirt utilitarian roads from the period of the Gold Rush through the turn of the twentieth century. From 1890 to 1926, the groundwork was laid for the modern road network, largely due to a number of factors including the advent of the pneumatic tire and the expansion of production of the affordable personal automobile (the Ford Model T being the industry leader). These new convenient modes of transportation, began the slow decline in the use of the railroad, consisting of several hundred thousand miles of track in the United States and previously considered the most efficient and reliable mode of transportation and shipping. This decline led automobile and automobile accessory manufacturers to usher in the “Good Roads Movement” (Marriott 2010).

The Good Roads Movement was first advocated by bicycle organizations seeking hard-surfaced roads. Automobile industry advocates, however, quickly found the development of a better planned road network a greater concern. Despite national efforts to develop hard-surface roads, the prohibitive cost caused a priority shift in the Good Roads Movement from hard-surface roads to a well-planned road network. In California, many of these road networks began to be constructed during the late part of the nineteenth and into the early part of the twentieth century, particularly in rural areas. Rural road development was crucial for the expansion of agricultural lands since farmers and ranchers needed a better network of roads to transport their crops or goods from the farms and fields to train stations for transport. Prior to the Good Roads Movement, rural farmers depended on extremely underdeveloped roads, consisting mostly of known paths or routes to get to those stations while access to urban or other rural areas was limited because existing road networks often did not connect simply with each other. The agricultural industry began to flourish with use of the new road networks as a result of the Good Roads Movement. Light-duty developed roads, such as OT-002, were constructed and used by rural farmers and ranchers to transport their goods not only to local railroad stations but, through the new networks of decent roads, to other urban areas or even other rural towns (Marriott 2010).

Eventually, by the end of the Good Roads Movement (1910 to 1926), large intrastate and interstate highways, even transcontinental highways such as the Lincoln Highway, were constructed. These large networks of roads were primarily in response to the advent of World War I and the nation’s realization that if the war was ever fought on United States soil, the existing road networks could not support the necessary military mobilization for the war effort. Therefore, better connectivity in large roads and urban centers became a top priority toward the end of the Good Roads Movement. In addition, pavement became the new medium for these larger roads and was also used extensively in these larger highways and roads (Hokanson 1999).

The network of roads in the United States, and California, was beginning to come together toward the end of the Good Roads Movement. One of the last stages of the Movement was the development of
scenic roads. Scenic road development was largely advocated by the National Park Service to allow automobile access within their parks. Prior to road development, access to National Parks was reliant on railroads and simple carriage rides within parks. At the end of the Good Roads Movement, however, automobile safe routes were constructed within National Parks and other scenic roads were built to attract travelers away from the urban areas (Marriott 2010).

4.0 METHODS

4.1 Personnel Qualifications

All phases of the cultural resources investigation were conducted or supervised by Registered Professional Archaeologist Theadora Fuerstenberg, who meets the Secretary of the Interior’s Professional Qualifications Standards for pre-contact and historical archaeologist. Fieldwork was conducted by Associate Archaeologist Shane Meston. Megan Webb prepared the report. Dr. Roger Mason, RPA and Senior Architectural Historian Jeremy Adams contributed to the report and provided technical report review and quality assurance.

Ms. Fuerstenberg, the Principal Investigator, is a Registered Professional Archaeologist who meets the Secretary of the Interior’s Professional Qualifications Standards for pre-contact and historical archaeologist with 14 years of experience. She holds a BA degree in Anthropology and an MA degree in Cultural Resource Management. She has participated in or supervised numerous survey, testing, and data recovery excavations, has recorded and mapped dozens of pre-contact and historical sites, and has cataloged, identified, and curated hundreds of artifacts. She has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR as well as drafted impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects.

Dr. Mason has been professionally involved with cultural resources management in California since 1983 and is the author of more than 200 reports dealing with cultural resource surveys, evaluations, and mitigation programs in California. He has extensive project experience with the cultural resources requirements of CEQA and Section 106 of the NHPA.

Megan Webb is an Associate Archaeologist for ECORP and has more than three years of experience in cultural resources management, primarily in California. She holds a BA degree in Anthropology and has participated in all aspects of archaeological fieldwork, including survey, test excavation, and data recovery, in addition to months of archaeological lab experience.

Mr. Meston is an Associate Archaeologist for ECORP with more than four years of experience in cultural resource management in California. He holds a BA in Anthropology and has participated in all aspects of archaeological fieldwork and lab work; including survey, test excavation, data recovery, monitoring, records searches, report writing, collections management, catalogue creation and curation procedures.

Jeremy Adams meets the SOI Standards for an Architectural Historian by holding an MA degree in History (Public History) and a BA degree in History, with nine years’ experience specializing in historic resources of the built environment. He is skilled in carrying out historical research at repositories such as city, state, and private archives, libraries, CHRIS information centers, and historical societies. He has experience
conducting field reconnaissance and intensive surveys. Mr. Adams has conducted evaluations of cultural resources of all types for eligibility to the CRHR and NRHP, as well as local eligibility criteria for numerous City’s.

4.2 Records Search Methods

A records search for the property was completed at the Northeastern Information Center (NEIC) of the CHRIS at California State University, Chico, on July 26, 2018 (NEIC search #W18-137; see Attachment A). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the proposed project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Glenn County, the following historic references were also reviewed: Historic Property Data File for Glenn County (OHP 2012); The National Register Information System website (National Park Service [NPS] 2018); Office of Historic Preservation, California Historical Landmarks website (OHP 2018); California Historical Landmarks (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (Caltrans 2018a); Caltrans State Bridge Survey (Caltrans 2018b); and Historic Spots in California (Kyle 2002).

Other references examined include a RealQuest Property Search and historic General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2018). Historic maps reviewed include:

- 1855 BLM GLO Plat map for Township 22 North Range 3 West
- 1914 USGS Orland, California (1:31,680)
- 1951 USGS Orland, California (7.5-minute scale)
- 1951 photorevised 1969 USGS Orland, California (7.5-minute scale)
- 1951 photorevised 1978 USGS Orland, California (7.5-minute scale)

Historic aerial photos taken in 1947, 1969 and 1998 to present were also reviewed for any indications of property usage and built environment.

4.3 Sacred Lands File Coordination Methods

In addition to the record search, ECORP contacted the California Native American Heritage Commission (NAHC) on July 19, 2018 to request a search of the Sacred Lands File for the APE (Attachment B). This search will determine whether or not Sacred Lands have been recorded by California Native American tribes within the APE, because the Sacred Lands File is populated by members of the Native American community who have knowledge about the locations of tribal resources. In requesting a search of the Sacred Lands File, ECORP solicited information from the Native American community regarding tribal cultural resources, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal law.
4.4 Other Interested Party Consultation Methods

ECORP mailed letters to the Orland Historical & Cultural Society on July 19, 2018 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area (Attachment A).

4.5 Field Methods

On July 26, 2018 ECORP subjected the APE to an intensive pedestrian survey under the guidance of the Secretary of the Interior’s Standards for the Identification of Historic Properties (NPS 1983) using transects spaced 15-meters apart (Figure 3). ECORP expended 0.25 person-day in the field. At that time, the ground surface was examined for indications of surface or subsurface cultural resources.

The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

All cultural resources encountered during the survey were recorded using Department of Parks and Recreation 523-series forms approved by the California OHP. The resources were photographed, mapped using a handheld Global Positioning System receiver, and sketched as necessary to document their presence. Isolates were recorded with a Primary Record and Location Map, while sites were recorded with a Primary Record, Archaeological Site Record, Location Map, Sketch Map, and any other pertinent forms.

5.0 EVALUATION CRITERIA

5.1 Federal Evaluation Criteria

Under federal regulations implementing Section 106 of the NHPA (36 CFR 800), cultural resources identified in the Project APE must be evaluated using NRHP and eligibility criteria. The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

"The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

a) is associated with events that have made a significant contribution to the broad patterns of our history;

b) is associated with the lives of a person or persons significance in our past;

c) embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
Figure 3. Survey Coverage Map
2018-135 Orland Recreational Trail Improvement Project
d) has yielded or may be likely to yield information important in prehistory or history.

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.

5.2 State Evaluation Criteria

Under state law (CEQA) cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied.

An Historical Resource is a resource that 1) is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission; 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k); 3) has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or 4) is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)]. In making this determination, the CEQA lead agency usually applies the CRHR eligibility criteria.

For cultural resources within the current Project Area, only the fourth definition of an Historical Resource is applicable because there are no resources previously determined eligible or listed on the CRHR, there are no resources included in a local register of historical resources, and no resources identified as significant in a qualified historical resources survey.

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history.

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)].

Impacts to an Historical Resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].
6.0 RESULTS

6.1 Records Search

The records search consisted of a review of previous research and literature, records on file with the NEIC for previously recorded resources, and historical aerial photographs and maps of the vicinity.

6.1.1 Previous Research

Seven previous cultural resources investigations have been conducted within 0.5 mile of the APE, covering approximately 30 percent of the total area surrounding the APE within the record search radius (Table 1). These studies revealed the presence of historical sites, including sites associated with water conveyance and irrigation. The previous studies were conducted between 1990 and 2011 and vary in size from 4 to 22 acres.

Table 1. Previous Cultural Studies In or Within 0.5 Mile of the APE

<table>
<thead>
<tr>
<th>Report Number</th>
<th>Author(s)</th>
<th>Report Title</th>
<th>Year</th>
<th>Includes Portion of the APE?</th>
</tr>
</thead>
<tbody>
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<td>1994</td>
<td>Jensen &amp; Associates</td>
<td>Archaeological Survey, c. 10-acre John Fitzgerald Kennedy Subdivision, Unit No. 2, Orland, Glenn County, California</td>
<td>1998</td>
<td>No</td>
</tr>
<tr>
<td>4732</td>
<td>Jensen &amp; Associates</td>
<td>Proposed Orland Terrace Development, Project, City of Orland, Glenn County, California</td>
<td>2000</td>
<td>No</td>
</tr>
<tr>
<td>6932</td>
<td>Janis Offermann</td>
<td>Negative Archaeological Survey Report</td>
<td>1990</td>
<td>No</td>
</tr>
<tr>
<td>6937</td>
<td>Eco-Analysts</td>
<td>Records Search and Literature review for the Proposed Olive Leaf Estates Development</td>
<td>2006</td>
<td>No</td>
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<tr>
<td>10043</td>
<td>Bureau of Reclamation</td>
<td>National Historic Preservation Act, Section 106 Consultation for the Pipe Enclosure of Portions of Lateral 51</td>
<td>2007</td>
<td>No</td>
</tr>
<tr>
<td>10558</td>
<td>PAR Environmental</td>
<td>Cultural Resources Constraints Study for the Replacement of the Wood Poles of PG&amp;E High Voltage Lines</td>
<td>2008</td>
<td>No</td>
</tr>
<tr>
<td>11962</td>
<td>Bureau of Reclamation</td>
<td>Placement of a Portion of Lateral 40 in Underground Pipeline and Construction of a Road Over the Buried Lateral Segment in the City of Orland</td>
<td>2011</td>
<td>No</td>
</tr>
</tbody>
</table>

There are no previously recorded resources in the APE. Two previously recorded historic-period cultural resources associated with early water conveyance systems are located within 0.5 mile of the APE (Table 2). There are no pre-contact period cultural resources within 0.5 mile of the APE.
The results of the records search indicate that the APE has not been previously surveyed for cultural resources, and therefore, a pedestrian survey of the APE was conducted.

6.1.2 Records

The Office of Historic Preservation’s Directory of Properties, Historic Property Data File (dated April 5, 2012) did not include any resources within 0.5 mile of the APE (OHP 2012).

The National Register Information System (NPS 2018) failed to reveal any significant properties within the APE. There are only two significant properties listed for Glenn County and the closest significant property listed is the Gianella Bridge (ID #8224614). The bridge was a swing highway bridge that was constructed in the early 1900s. The bridge was located 10 miles east of the Project location near Hamilton City, California. The bridge provided travel over the Sacramento River to Butte and Glenn counties. The bridge was documented by a Historic American Engineering Record in 1984. The bridge was then demolished in 1987 and was replaced with a concrete slab highway bridge.

There are only two California Historical Landmarks (CHL) listed in Glenn County (OHP 2018). The nearest CHL is #345 – the Granville P. Swift Adobe, located approximately 1.5 miles northwest of the APE. Granville P. Swift built the first house in Glenn County, an adobe constructed of clay that served as the center of a large cattle ranch with Native American ranch hands (OHP 2018).

A review of Historic Spots in California (Kyle 2002) mentions that Orland developed as a railroad shipping point for grain. Kyle (2002) also notes the Granville P. Swift adobe and mentions that a regional irrigation system was developed around Orland and that it was the pilot project for the extensive Central Valley Irrigation Project.

Historic GLO land patent records from the BLM’s patent information database (BLM 2018) revealed that the Central Pacific Railroad received a patent for the southern half of Section 23 on July 25, 1866. The federal government granted public land to the railroads, which the railroad could then sell to finance railroad construction. The APE was part of almost 34,000 acres in California granted to the Central Pacific Railroad, which later became part of the Southern Pacific Railroad.

Table 2. Previously Recorded Cultural Resources In or Within 0.5 Mile of the APE

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Primary Number</th>
<th>Recorder and Year</th>
<th>Age/ Period</th>
<th>Site Description</th>
<th>Within APE?</th>
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</thead>
<tbody>
<tr>
<td>n/a</td>
<td>11-711</td>
<td>PAR Environmental 2008</td>
<td>Historic</td>
<td>Canal</td>
<td>No</td>
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<tr>
<td>734H</td>
<td>11-734</td>
<td>Bureau of Reclamation 2011</td>
<td>Historic</td>
<td>Canal</td>
<td>No</td>
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</tbody>
</table>

Table 3. GLO Land Patent Records

<table>
<thead>
<tr>
<th>Patente</th>
<th>Patent Date</th>
<th>Serial Number</th>
<th>Patent Type/Authority</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Pacific Railroad Co.</td>
<td>3/17/1875</td>
<td>CACAAA 000073</td>
<td>July 25, 1866; Grant-RR O and C (14 Stat. 239)</td>
<td>S ½ of Section 23</td>
</tr>
</tbody>
</table>
The Caltrans Bridge Local and State Inventories (Caltrans 2018a, 2018b) did not list any historic bridges in or within 0.5 mile of the Project Area.

The Project Area falls within the ethnographic territory of the Nomlaki (Goldschmidt 1978). The *Handbook of North American Indians, Volume 8*, lists the closest Native American Village as Sômpon. The village is located approximately ten miles northwest of the Project Area, near Grindstone Creek and present-day Black Butte Lake.

### 6.1.3 Map Review and Aerial Photographs

The review of historical aerial photographs and maps of the Project Area provide information on the past land uses of the property. Based on this information, the property was initially used for agriculture. Following is a summary of the review of historical maps and photographs.

- The 1855 GLO Plat map for Township 22 North, Range 3 West indicates Stony Creek north of the Project Area. The GLO Plat map reveals that the area that makes up the City of Orland today as undeveloped.

- The 1914 USGS Orland, CA (1:31,680) shows the town grid of Orland west of the APE. County Road 16 and Walker Street (now SR 32) are both shown on the 1914 map. An irrigation canal (Lateral 50) runs adjacent to the majority of the proposed trail alignment.

- The 1951 USGS Orland, CA (7.5-minute) map shows the APE east of the Orland town grid. County Road 15 (not shown on the 1914 map) and Walker Street are shown on the 1951 map. The segment of County Road 16 between Papst Avenue and County Road N is not shown as a road on the 1951 map. Orchards are depicted within the area surrounding the proposed trail alignment. The adjacent irrigation canal (Lateral 50) is still present on the quad map.

- A review of aerial photographs from 1947 and 1969 show the APE surrounded by orchards with an irrigation canal along the proposed trail alignment.

- The 1951 (photorevised 1969) and the 1951 (photorevised 1978) USGS Orland, CA (7.5-minute) maps are similar to the 1951 map and do not indicate changes to the APE.

- The aerial photographs from 2005 to present reveal the development of modern residential subdivisions near the proposed beginning and end of the trail alignment. Tree crops are still present near the APE. The proposed alignment travels along the edge of agricultural fields.

In summary, the irrigation canals were constructed prior to 1914 and run adjacent to the majority of proposed trail alignment. The land surrounding the Project Area consists of orchards with the town of Orland to the west.

### 6.2 Sacred Lands File Results

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources in the Project Area. A record of all correspondence is provided in Attachment B. If any additional
comments are received after the submission of this report, they will be forwarded to the lead agencies for further consideration and appropriate action.

6.3 Other Interested Party Consultation Results

No responses to the letters sent to the Orland Historical & Cultural Society have been received as the preparation of this document.

6.4 Field Survey Results

ECORP surveyed the APE for archaeological and historic-era resources on July 26, 2018. ECORP walked the area surrounding the proposed trail alignment. The majority of the APE consists of bare dirt along the margins of orchards (mostly olives) and agricultural fields. The southern east-west segment of the APE consists of the former right-of-way of County Road 16 which is now a six-foot wide asphalt path. Overall, the surface visibility throughout the Project Area was good to excellent (80 to 90 percent ground surface visibility) with little ground cover. Rodent burrows and back dirt piles throughout the APE were inspected.

6.4.1 Cultural Resources

No archaeological material was identified in the APE. Two resources from the historic period, a canal and a former road, were identified in the APE.

OT-001 is an historic-period concrete irrigation canal (Lateral 50) which distributes water from the South Side Canal. Lateral 50 appears on the 1914 USGS 7.5-minute Orland topographic map. Because the South Side Canal and its distribution system were completed in 1916 (Autobee 1993), Lateral 50 must have been completed just before the map was made in 1914. Lateral 50 is concrete-lined and measures approximately 10 feet wide at the top, approximately five feet wide at the base, and is 3.5 - 4.5 feet deep. A short segment of Lateral 50 (OT-001) is in the APE where the proposed trail route crosses Lateral 50 just north of the former right-of-way of County Road 16.

OT-002 is the route of a historic-period road that runs, south of, and parallel with, OT-001 (Lateral 50) along the southern segment of the APE. OT-002 is the former right-of-way of County Road 16 which is now a six-foot wide asphalt path. County Road 16 is shown as a road in the APE on the 1914 USGS 7.5-minute Orland topographic map. However, on the 1951 and subsequent USGS Orland quads, this segment of County Road 16 is not shown as a road and appears to have been abandoned. OT-002 is in the APE and the existing asphalt trail will be used as part of the proposed trail for this Project. OT-002 in the APE extends from 385 feet east of Papst Avenue to Hambright Avenue.

7.0 EVALUATION

OT-001 is a historic-period canal known as Lateral 50 which distributed water from the South Side Canal to fields and orchards east of Orland. The South Side Canal was built as part of the U.S. Reclamation Service's Orland Project, completed in 1916. Lateral 50 was built just prior to 1914, as it is shown on the 1914 USGS 7.5-minute Orland topographic map.
The South Side Canal and its water distribution system, which includes Lateral 50, is part of the first agricultural irrigation system (the Orland Project) constructed in California by the federal Reclamation Service (now the USBR). The Orland Project did contribute to the early agricultural and economic development of the Orland area. However, Lateral 50, as an individual resource, was one of many canals and laterals (totaling 139 miles) that distributed water from the South Side Canal in the Orland area. Therefore, Lateral 50 as an individual resource was not significantly associated with events that have made a significant contribution to the broad patterns of local, regional and national history. Therefore, OT-001 is not eligible for the NRHP under Criterion A, or the CRHR under Criterion 1.

Lateral 50 was constructed, operated, and maintained by a federal agency, USBR. Therefore, Lateral 50 is not associated with any specific person significant in local, California, or United States history. Therefore, OT-001 is not eligible for the NRHP under Criterion B or for the CRHR under Criterion 2.

Lateral 50 is a concrete-lined canal. As a typical irrigation canal, it does not have unique architectural or engineering design characteristics. This irrigation feature does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master or possess high artistic values. Therefore, Lateral 50 (OT-001) is not eligible for the NRHP under Criterion C or the CRHR.

The route of Lateral 50 is shown on historic maps and its construction history, use, and function are known from historical research. Given the nature of the resource, it does not possess the potential to yield any additional information regarding its construction, design, or use that is not already represented in the archival record. Therefore, this segment of Lateral 50 (OT-001) does not have any potential to yield information important in history and is not eligible for the NRHP under Criterion D or the CRHR under Criterion 4.

Lateral 50 retains integrity of location, as it is in the same location as when it was built circa 1914. It also retains integrity of association, as it can still provide water for farmers as a larger part of the South Side Canal irrigation system. It also retains integrity of workmanship, feeling, setting, materials, and design because it has not been modified and still passes through an agricultural area of fields and orchards.

OT-001 (Lateral 50) is not individually eligible and the resource is not part of a known historic district. There remains the potential for the resource to be a contributing element of an as-yet undefined historic district (components of the Orland Project). However, currently, OT-001 is not eligible for the NRHP or the CRHR.

OT-002 is a historic-period road segment that dates to at least 1914. The road segment in the APE was in use as County Road 16 in 1914, but had been abandoned by 1951.

NRHP Criterion A and CRHR Criterion 1: As a result of archival research, this road was not identified in available historical documentation as having any significant historical associations. Though the road was developed during the period of the Good Roads Movement in the United States (1910 to 1926), it is certainly not a prime example of that Movement and contains no strong association with that period of development. The road was originally developed for access to rural agricultural lands with no other significant purpose. Ranching and farming activities were extensive in the Orland area and the historical use of roads was very common in correlation with those activities. As such, the road is not associated with
any specific historical event or activity and is, therefore, not eligible under NRHP Criterion A or CRHR Criterion 1.

NRHP Criterion B and CRHR Criterion 2: The lack of historical documentation for this road makes it clear that no specific individuals or groups of people significant in history are linked with this road. It was one of many rural county roads. The road does not demonstrate any association with the lives of persons significant in history and is, therefore, not eligible under NRHP Criterion B or CRHR Criterion 2.

NRHP Criterion C and CRHR Criterion 3: This resource currently consists of an abandoned roadway that is currently occupied by a paved asphalt trail. The original road was likely a dirt “light-duty” road that was abandoned and was later converted to an asphalt trail. The original historical use and construction of the “light-duty” road is typical among rural roads. It is not uniquely artistic or designed with any distinctive engineering characteristics. Therefore, this road does not embody any distinctive characteristics of a type, period, or method of road construction, nor does it possess any artistic value. In addition, no archival evidence, or physical aspect of the road indicates that the site represents the work of a master road builder or designer. Therefore, this resource is not eligible under NRHP Criterion C or CRHR Criterion 3.

NRHP Criterion D and CRHR Criterion 4: The information potential in historic roads lies in its alignment and route. This road was recorded relatively accurately in historical topographic maps and the information regarding its historical route is provided in the archival record. Furthermore, this road does not possess the potential for subsurface archaeological deposits, and, accordingly, was not tested. The road does not possess the potential to yield any additional information regarding the relationship or functionality of roads or provide any information that isn’t already represented in the archival record and, therefore, is not eligible under NRHP Criterion D or CRHR Criterion 4.

OT-002 does retain its integrity of location, as it is in the same location and follows the same alignment as depicted on the earliest maps. It does not retain integrity of design, workmanship, and materials, as it has been converted from a dirt “light-duty” road to asphalt paved path. It does retain integrity of setting and feeling, as it is still in a rural agricultural setting with fields and orchards. Although the road is associated with the development of agriculture in this region, this association is of no significance or outstanding importance.

In conclusion, OT-002 (abandoned County Road 16) does not meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource and does not contribute to any known or suspected district.

8.0 MANAGEMENT CONSIDERATIONS

8.1 Conclusions

OT-001 and OT-002 have been evaluated using NRHP and CRHR eligibility criteria and are not eligible for the NRHP and CRHR. They are not historic properties under Section 106 of the NHPA and are not Historical Resources as defined by CEQA.
8.2 Likelihood for Subsurface Cultural Resources

Due to the likelihood of pre-contact archaeological sites being located near perennial waterways, such as Stony Creek, there exists the potential for buried pre-contact archaeological sites in the APE.

8.3 Post-Review Discoveries

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, ECORP recommends the following mitigation measures be adopted and implemented by the Lead Agency to reduce potential adverse impacts to less than significant.

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City of Orland and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be an Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not an Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction.

- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Glenn County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will
also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

The Lead Agency is responsible for ensuring compliance with these mitigation measures because damage to significant cultural resources is in violation of CEQA and Section 106. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, *Mitigation Monitoring or Reporting*, “the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.”


9.0 REFERENCES CITED


______. 1973. Early Cultures of the North Coast and North Coast Ranges, California. PhD Dissertation, Department of Anthropology, University of California, Davis.


_____ 1999. Directory of Properties in the Historical Resources Inventory


Rosenthal, Jeffrey, and Sam Willis. 2017. Geoarchaeological Investigation for the Sutter Basin Flood Risk Management Project, Cypress Avenue to Tudor Road, Feather River West Levee, Sutter County, California. DRAFT


_____ 1982. The Shasta Complex in the Redding Area, California. Master’s Thesis, Department of Anthropology, California State University, Chico.


LIST OF ATTACHMENTS

Attachment A – Records Search Confirmation and Historical Society Coordination
Attachment B – Sacred Lands File Coordination
Attachment C – Project Area Photographs
Attachment D – Confidential Cultural Resource Site Locations and Site Records
ATTACHMENT A

Records Search Confirmation and Historical Society Coordination
July 19, 2018

Orland Historical & Cultural Society
PO Box 183
Orland, California 95963

RE: Cultural Resources Identification Effort for the Orland Recreational Trail Improvement Project, Glenn County, California T22 North, R3 West, Section 23 (ECORP Project No. P18-350).

Dear Orland Historical & Cultural Society:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. The Project consists of the construction of a trail within the City of Orland, Glenn County. The proposed Project begins at the western terminus of Paigewood Drive and heads south behind the entire length of the apartment complex before snaking westward. The trail would span approximately 0.1 mile before hooking south along an existing concrete ditch, over County Road 15 to the existing asphalt right-of-way known as County Road 16. Upon reaching County Road 16, the trail would bend eastward for a span of approximately half a mile to the entrance of Lely Aquatic Park at Hambright Avenue. The entire trail would span for just under one mile in length. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If possible, please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100 or mwebb@ecorpconsulting.com

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Megan Webb
Associate Archaeologist
To: ECORP CONSULTING INC  
2525 WARREN DRIVE  
ROCKLIN, CA 95677

For questions concerning this invoice please contact:  
Foundation Accounts Receivable 530-898-3539

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<th>Invoice Date</th>
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Total Due $182.60

ATTN: MR. SHANE MESTON

RE: ORLAND RECREATIONAL TRAIL IMPROVEMENT

IN-HOUSE TIME-1 HOUR @ $100.00 PER HOUR
STAFF TIME-1 HOUR @ $40.00 PER HOUR
PHOTOCOPY CHARGE-284 COPIES @ $0.15 PER COPY
PLEASE INCLUDE THE INVOICE NUMBER ON YOUR REMITTANCE

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT

Remit and make check payable to:
The CSU, Chico Research Foundation  
Accounts Receivable  
25 Main Street, suite 203  
Chico, CA 95928-5388

Invoice: SP000349  
Customer No: 002633  
PO Number: IC FILE #W18-137  
Invoice Date: 08/13/2018  
Total Amount Due: $182.60

Total Payment: $
**INVOICE**

To: ECORP CONSULTING INC  
2525 WARREN DRIVE  
ROCKLIN, CA 95677

For questions concerning this invoice please contact:  
Foundation Accounts Receivable 530-898-3539

Printed By: SMAL

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Total Due $40.60

ATTN: MR. SHANE MESTON
RE: COPY OF 9-11-000602

STAFF TIME-1 HOUR @ $40.00 PER HOUR  
PHOTOCOPY CHARGE-4 COPIES @ $0.15 PER COPY  
PLEASE INCLUDE THE INVOICE NUMBER ON YOUR REMITTANCE

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**PLEASE RETURN THIS PORTION WITH YOUR PAYMENT**

Remit and make check payable to:

The CSU, Chico Research Foundation  
Accounts Receivable  
25 Main Street, suite 203  
Chico, CA 95928-5388

---

**Invoice:** SP000351  
**Customer No:** 002633  
**PO Number:** IC FILE #W18-141  
**Invoice Date:** 08/13/2018  
**Total Amount Due:** $40.60

**Total Payment:** $
Sacred Lands File Coordination
Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Orland Recreational Trail Improvement Project
County: Glenn
USGS Quadrangle: Orland, CA
Township: 22 North  Range: 3 West   Section: 23
Company/Firm/Agency: ECORP Consulting, Inc.
Contact Person: Megan Webb
Street Address: 2525 Warren Drive
City: Rocklin             Zip: 95677
Phone: (916) 782-9100
Fax: (916) 782-9134
Email: mwebb@ecorpconsulting.com

Project Description:
See attached letter and map for project scope and details.
July 19, 2018

Ms. Sharaya Soza
Associate Governmental Program Analyst
Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA  95691

RE: Cultural Resources Identification Effort for the Orland Recreational Trail Improvement Project, Glenn County, California T22 North, R3 West, Section 23 (ECORP Project No. P18-350).

Dear Ms. Soza:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. The Project consists of the construction of a trail within the City of Orland, Glenn County. The proposed Project begins at the western terminus of Paigewood Drive and heads south behind the entire length of the apartment complex before snaking westward. The trail would span approximately 0.1 mile before hooking south along an existing concrete ditch, over County Road 15 to the existing asphalt right-of-way known as County Road 16. Upon reaching County Road 16, the trail would bend eastward for a span of approximately half a mile to the entrance of Lely Aquatic Park at Hambright Avenue. The entire trail would span for just under one mile in length. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate the results of your search of the Sacred Lands File and list of tribal contacts who can be contacted to provide input on this undertaking.

Please email or fax your response to my attention at mwebb@ecorpconsulting.com or (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance.

Sincerely,

Megan Webb
Associate Archaeologist
Glenn County, California
§.23, T.22N, R.03W, MDBM
Latitude (NAD83): 39.739814°
Longitude (NAD83): -122.174634°
Watershed: Sacramento-Stone Corral (18020104)

Orland, CA (1958 (P.R. 1978), NAD 27)
CA 7.5-minute Topographic Quadrangle
US Geological Survey.
July 19, 2018

Megan Webb
ECORP Consulting, Inc.

Sent by E-mail: mwebb@ecorpconsulting.com

RE: Proposed Orland Recreational Trail Improvement Project, City of Orland; Orland USGS Quadrangle, Glenn County, California

Dear Ms. Webb:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the Sacred Lands File does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714
Grindstone Rancheria of Wintun-Wailaki
Ronald Kirk, Chairperson
P.O. Box 63
Elk Creek, CA, 95939
Phone: (530) 968 - 5365
Fax: (530) 968-5366
Patwin Wailaki
Nomlaki

Mechopda Indian Tribe of Chico Rancheria
Dennis Ramirez, Chairperson
125 Mission Ranch Blvd
Chico, CA, 95926
Phone: (530) 899 - 8922
Fax: (530) 899-8517
dramirez@mechoopda-nsn.gov
KonKow Maidu

Mooretown Rancheria of Maidu Indians
Gary Archuleta, Chairperson
#1 Alverda Drive
Oroville, CA, 95966
Phone: (530) 533 - 3625
Fax: (530) 533-3680
frontdesk@mooretown.org
KonKow Maidu

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Nomlaki Wintu

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Orland Recreational Trail Improvement Project, Glenn County.
ATTACHMENT C

Project Area Photographs
<table>
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<th>Mo.</th>
<th>Day</th>
<th>Time</th>
<th>Exp./Frame</th>
<th>Subject/Description</th>
<th>View Toward</th>
<th>Accession #</th>
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<td>View West of canal and existing path from southern terminus</td>
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</tr>
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<td>First instance of path crossing canal</td>
<td>West</td>
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<td>July</td>
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<td>First instance of path crossing canal, north view</td>
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<td>Second instance of path crossing existing/previous canal</td>
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<td>Close up of canal drainage</td>
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<td>Close of canal drainage, different angle</td>
<td>Northeast</td>
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<td>View East standing atop canal drainage, previous canal visible parallel to the current canal.</td>
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<td>Location where planned path and current canal diverge..</td>
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<tr>
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<td>View of planned path location to the east of canal which extends directly north.</td>
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<tr>
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<td>View of northern path terminus from the south</td>
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<tr>
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<td>View of the northern path terminus from the north looking south</td>
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<td>012</td>
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<tr>
<td>July</td>
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<td></td>
<td>View returning to the southern terminus from the northern terminus crossing County Road 15</td>
<td>South</td>
<td>013</td>
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This Attachment contains information on the specific location of cultural resources. This information is not for publication or release to the general public. It is for planning, management and research purposes only. Information on the specific location of pre-contact and historic sites is exempt from the Freedom of Information Act and California Public Records Act.
P1. Other Identifier: Lateral 50

*P2. Location: [Not for Publication] [Unrestricted]

- a. County: Glenn
- b. USGS 7.5’ Quad: Orland
  - Date: 1958 PR 1978
  - T22 North; R03 West Sec 23; M.D.B.M.
- c. Address: N/A
  - City: Orland
  - Zip: 95963
- d. UTM: Zone: 10; (NAD 83): Eastern Segment Extent: 571221mE/ 4399210mN, Western Segment Extent: 570543mE/ 4399224mN. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 236’ amsl
  - Driving Directions to southern extent: Driving Directions to southern extent; Heading North on I-5 take the exit for South Street and continue on for 1.5 miles before turning right onto East South Street, then continue another quarter mile and take a left onto Hambright Ave. At this point, drive until the road ends in front of the Orland Recreation Department. The southern terminus of the canal is just north of the road.

*P3a. Description: This resource is a historic-period irrigation concrete canal lateral that gets water from the South Side Canal. The canal segment appears on the 1914 USGS 7.5’ Orland Topographic map, and was likely built around that same time. The lateral is concrete lined and measures approximately 10 feet wide at the top, approximately 5 feet wide at the base, and is 3.5 to 4.5 feet deep. The recorded segment runs between East Walker Street and East South Street. It is currently not in active use but in good condition with minor impacts from vegetation overgrowth and general weathering.


*P4. Resources Present: Building [Structure] Object Site District Element of District Other (Isolates, etc.)

*P5. Description of Photo: (View, date, accession #)
  - Photo: 13 7/26/18
  - View looking south from County Road 15.

*P6. Date Constructed/Age and Sources: Historic Prehistoric Both

*P7. Owner and Address: Bureau of Reclamation
  - Northern California Area Office
  - 16349 Shasta Dam Boulevard
  - Shasta Lake, CA 96019

*P8. Recorded by: S.Meston
  - ECORP Consulting, Inc.
  - 2525 Warren Drive
  - Rocklin, CA 95677

*P9. Date Recorded: 7/26/18

*P10. Survey Type: Intensive Pedestrian Survey

Resource Name or #: OT-001

L1. Historic and/or Common Name: Lateral 50
L2a. Portion Described: □ Entire Resource □ Segment □ Point Observation

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

UTMs: Segment begins at 570626 mE/439962 mN and continues west to 570541 mE/4399617 mN where it then turns directly south until 570543 mE/4399226 mN where it makes a final turn due east and continues until the end of this segment at 570930 mE/4399215 mN. Canal sits between East Walker Street and East South Street in Orland, California.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

Feature consists of a segment of historic-aged canal Lateral 50, which is concrete lined.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)
a. Top Width: Approximately 10 feet
b. Bottom Width: Approximately 5 feet
c. Height or Depth: 2.5-3.5 feet deep
d. Length of Segment: 3,786 feet

L5. Associated Resources: None

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)
Situated between agricultural orchards and family homes on a flat plane.

L7. Integrity Considerations: The canal was dry at the time of survey but does appear to be maintained and in working order, all associated water control systems appear in working and maintained order.

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
View south of the County Road 15 crossing depicting concrete lined canal and associated water control systems.

L9. Remarks: None

L10. Form Prepared by: (Name, affiliation, and address)
S. Meston
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

L11. Date: July 26 2018

DPR 523E (1/95)
Photo 002: View of foot crossing and close up of concrete lined canal. View West 7/26/18

Photo 005: View of associated water control systems. View Northwest 7/26/18
P1. Other Identifier: Segment of Bungalow Road no longer in use

P2. Location:  ■ Not for Publication □ Unrestricted
   a. County: Glenn
   b. USGS 7.5' Quad: Orland
   c. Address: N/A
   d. UTM: See Linear Feature Record.
   e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 238' amsl
      Driving Directions to southern extent: Heading North on I-5 take the exit for South Street and continue on for 1.5 miles before turning right onto East South Street, then continue another quarter mile and take a left onto Hambright Ave. At this point, drive until the road ends in front of the Orland Recreation Department. The road segment perpendicular to Hambright Ave., parallel to the canal.

P3a. Description:
This resource consists of an abandoned historic-period road segment that has been replaced by a 6-foot wide asphalt paved trail. The road sits behind recreational facilities and a modern housing development and continues west towards the Orland fairgrounds. The road appears on the 1914 USGS 7.5' Orland topographic map, adjacent to laterals associated with the South Side Canal. It is still in current use as a foot path.


P4. Resources Present: □ Building ■ Structure □ Object □ Site □ District □ Element of District □ Other (Isolates, etc.)

P5. Description of Photo: (View, date, accession #)
   Photo 001 7/26/18 showing the road segment and canal lateral to the right.

P6. Date Constructed/Age and Sources: ■ Historic □ Prehistoric □ Both

P7. Owner and Address:
   City of Orland

P8. Recorded by: (Name, affiliation, and address)
   S. Meston
   ECORP Consulting, Inc.
   2525 Warren Drive
   Rocklin, CA 95677

P9. Date Recorded:
   7/26/18

P10. Survey Type: (Describe)
   Intensive Pedestrian

P11. Report Citation:

*Attachments: □ NONE ■ Location Map □ Sketch Map □ Continuation Sheet □ Building, Structure, and Object Record □ Archaeological Record □ District Record ■ Linear Feature Record □ Milling Station Record □ Rock Art Record □ Artifact Record □ Photograph Record □ Other (List):
Resource Name or #: OT-002

L1. Historic and/or Common Name: Bungalow Road [Segment]

L2a. Portion Described: □ Entire Resource  □ Segment  □ Point Observation

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

UTM: Eastern Segment Extent: 571221mE/ 4399210mN
Western Segment Extent: 570543mE/ 4399224mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)
Feature consists of historic road segment, currently paved as a trail. This feature is only a single segment of the road, which continues east and west in both directions. The road was originally depicted on the 1951 USGS Orland 7.5 Minute Quad as an extension of County Road 16. The road was present in the 1914 USGS Orland quad as well, but is not named.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width: 6 feet wide (trail).
b. Bottom Width: N/A
c. Height or Depth: N/A
d. Length of Segment: 2,260 feet

L5. Associated Resources:
For the length of this segment, OT-002 runs adjacent to OT-001, the canal.

L6. Setting: Road located between recreational facilities to the south (recreation center and park) and a canal lateral to the north. Trail runs east-west towards Orland fairgrounds.

L7. Integrity Considerations:
Road is in various states of repair but does appear to have been maintained to some degree as there are minimal cracks and the surface looks to have been repaved since

L8b. Description of Photo, Map, or Drawing:
View West towards the Orland Fairgrounds along OT-002 with the canal (OT-001) the right.

L9. Remarks:
None

L10. Form Prepared by: (Name, affiliation, and address)
S. Meston
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

L11. Date: 7/26/18