

3.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

Five cultural resources surveys were prepared by Tom Origer & Associates (Origer et al. 2003a, 2003b, 2005, 2006, 2007) encompassing all of the land for the Wilfred, Stony Point, and Lakeville sites. As indicated in **Section 2.0**, the Wilfred site is adjacent to the Stony Point site, with substantial portions of overlap. With the incorporation of the Wilfred site as the site for the present Alternative A, the previous Alternatives A through D became Alternatives B through E. The archaeological Area of Potential Effects (APE) for the Proposed Project consists of the Area of Direct Effect, defined as the construction footprint for each alternative, which includes all areas of construction, equipment storage, and lay-down areas. All other areas within the confines of the site boundaries are considered areas of indirect effect and are outside the APE. The architectural APE included the site boundaries for each of the three sites (Wilfred, Stony Point, and Lakeville) plus one parcel beyond.

A preliminary assessment of paleontological sensitivity for the Stony Point site was prepared by Dr. Thomas B. Anderson (2004a), with a second assessment done in January of 2006 on the remainder of parcels comprising the Wilfred site (Anderson 2006). A separate preliminary assessment of paleontological sensitivity for the Lakeville site was also prepared by Dr. Anderson (2004b). These studies are also summarized below.

3.6.1 REGULATORY BACKGROUND

AGENCY RESPONSIBILITIES UNDER SECTION 106

The National Indian Gaming Commission (NIGC) is the Lead Federal agency for the purpose of compliance with Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800.

As Federal Lead Agency, the NIGC must take into account the effects of its undertakings on historic properties. In accordance with 36 CFR Part 800.4, Identification of Historic Properties, the Agency Official must identify historic properties within the APE, evaluate the identified historic properties for historic significance, apply the National Register criteria, and make a finding of effects. Findings can either be 1) *No Historic Properties Affected*, or 2) *Historic Properties Affected*. If the latter of the two, the Agency Official must then apply the criteria of adverse effects found at 36 CFR Part 800.5(a). If the Agency Official determines that the undertaking's effects would not be adverse to the historic properties, or if the undertaking is modified so as to mitigate the adverse effects, then a *Finding of No Adverse Effect* can be made and the State Historic Preservation Officer (SHPO) is asked to concur in the finding. The SHPO has 30 days in which to respond. If the Agency Official determines that the project would have

an adverse effect on historic properties, or if the SHPO disagrees with the Agency's findings of no adverse effects, procedures at 36 CFR Part 800.6 Resolution of Adverse Effects, provide guidance on how the Agency and SHPO are to proceed.

National Register of Historic Places Eligibility

The NHPA authorizes the National Register of Historic Places (NRHP), a program for the preservation of historic properties ("cultural resources") throughout the Nation. The eligibility of a resource for listing in the NRHP is determined by evaluating the resource using criteria defined in 36 CFR 60.4 as follows:

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 integrity of location, design, setting, materials, workmanship, feeling, association, and

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

Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

All properties change over time, therefore, it is not necessary for a property to retain all its historic physical features or characteristics in order to be eligible for listing on the NRHP. The property must, however, retain enough integrity to enable it to convey its historic identity; in other words, to be recognizable to a historical contemporary. The National Register recognizes seven aspects or qualities that, in various combinations, define integrity (National Park Service 1990). These seven qualities are listed below:

1. **Location** – the place where the historic property was constructed or the place where the historic event occurred.
2. **Design** – the combination of elements that create the form, plan, space, structure, and style of a property.
3. **Setting** – the physical environment of a historic property.

4. **Materials** – the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. **Workmanship** – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
6. **Feeling** – a property’s expression of the aesthetic or historic sense of a particular period of time.
7. **Association** – the direct link between an important historic event or person and a historic property.

To retain historic integrity, a property will always possess several, and usually a majority, of these qualities. In order to properly assess integrity, however, significance (why, where, and when a property is important) must first be fully established. Therefore, the issues of significance and integrity must always be considered together when evaluating a historic property.

3.6.2 GENERAL SETTING

PREHISTORY

Archaeological evidence indicates that human occupation of California began at least 12,000 years ago (Fredrickson, 1984). Early inhabitants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on extended family units. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears contemporary with the development of sedentism, population growth, and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

An understanding of the region’s archaeology began with Meighan’s 1955 synthesis of research in the North Coast Ranges. Meighan’s (1955) work suggested a regional span of occupation extending back at least 2,500 years. Later, Fredrickson (1984) suggested that initial occupation could date to 7,000 years ago, and proposed a chronology for the north coastal region showing that time depth. Fredrickson’s regional chronology is summarized below.

Based on previous research, Fredrickson (1984) described the earliest documented period as marked by milling equipment (handstones and grinding slabs) and large, concave-based projectile points. Later, middle-period assemblages are marked by lanceolate projectile points, grinding and mashing tools (mortars and pestles), and certain types of *Olivella* shell beads. Approximately 1,000 years ago, the introduction of the bow and arrow gave rise to a distinctive projectile point that was small and lightweight. It had a straight to slightly expanding stem and serrated edges. This period is also marked by particular types of *Olivella* beads, distinct from those of the middle

period. The final period, extending to the historic period, was marked by projectile points with expanding stems with notched corners and entire, straight blade edges. During this period, clamshell disk beads were also common. Although a number of other diagnostic artifacts mark chronological periods of the region, those listed above are common, and typically are used to determine the temporal placement of prehistoric archaeological sites.

Previous research has been conducted at four sites along the Laguna de Santa Rosa, west-northwest of the Wilfred and Stony Point sites. Investigations that began in 1977 by archaeologists from Sonoma State University found a rich and diverse array of prehistoric artifacts that proved invaluable to the understanding of native inhabitants of the Laguna (Origer and Fredrickson, 1980). Information that was collected set a tentative beginning date for habitation of the Santa Rosa Plain at approximately 5,000 B.C.

A local (Santa Rosa area) chronology was proposed by Wickstrom (1986) in his Master's thesis. Wickstrom assumed five local phases corresponding to the periods and patterns of Fredrickson's regional chronology. The earliest phase of Wickstrom's Santa Rosa chronology, called the Spring Lake Phase, was thought to span from about 4,000 to 7,000 years ago.

Ten years later, Dowdall and Origer (1997) presented evidence that the Santa Rosa area, and especially the Laguna de Santa Rosa locale was in use earlier than the 7,000 years proposed by Fredrickson and Wickstrom. Based on obsidian hydration measurements secured from a crescent scraper, Dowdall and Origer (1997) placed the time depth at approximately 11,000 years ago.

ETHNOGRAPHY

At the time of European contact, typical Native American occupation throughout the State was characterized by separate and politically autonomous nations first referred to by ethnologist A.L. Kroeber as "tribelets" (Kroeber, 1925; Moratto, 1984). Tribelets were typically governed by a chief and tended to have one or more permanent village sites with smaller seasonal/temporary camps scattered throughout the tribelet territory for food procurement. Tribelets sharing similar cultural elements and linguistic traits comprised "nonpolitical ethnic groups" and have been grouped by ethnologists into language families.

The alternative project sites are in a region that was traditionally controlled by the Coast Miwok, though Rohnert Park was near a traditional language boundary shared with the Southern Pomo (Barrett, 1908; Kroeber, 1925; Kelly, 1978; Milliken 1995). The Coast Miwok are differentiated from other nearby ethnographic groups based on the language they spoke. Linguists consider the Coast Miwok language to be of the Penutian linguistic stock, which is believed to have entered the lower Sacramento Valley about 4,500 years ago. This language stock is further divided, and the family to which Coast Miwok belongs is the Utian language family. Linguistic evidence suggests that Utian speakers spread to occupy the marshlands surrounding San Francisco Bay

between 4,000 and 2,500 years ago, displacing older groups in the area (Moratto, 1984). Moratto notes that the early Utian settlement pattern matches the distribution of historic marshlands, with most Utian villages located at marsh margins prior to 200 B.C.

The Coast Miwok economy reflected this early focus on marsh resources, with added emphasis on hunting and gathering in the hills of the North Coast Ranges. A typical Coast Miwok tribe inhabited a semi-permanent village from which trips were made to temporary, seasonal camps to obtain locally available resources (Kelly, 1978).

Drawing from Franciscan mission registers and other historical documents, Milliken (1995) compiled an encyclopedia of San Francisco Bay tribal groups and their geographic distribution. Milliken attributes “lands from the Cotati area west as far as Bloomfield and Two Rock” to the Licatiut tribe of the Coast Miwok. The nearest reported ethnographic sites are the villages of *kōta 'īī*, described as being “just north of the town of Cotati,” and *ūlī'yōmi* (or *atcamōtcō 'tcawi*), thought to be about 4 miles west of Cotati (Barrett, 1908).

HISTORICAL CONTEXT

The following information on the history of the area Rohnert Park area, and specifically the Wilfred and Stony Point sites) has been condensed from the Tom Origer & Associates reports prepared for this project (2003a, 2005, 2006, 2007) (**Appendix M**). The reader is referred to those reports for more detail and a list of the references used by the authors. Additional information was drawn from resources on file at AES, Sacramento, California.

Early Euro-American Settlement

Historically, the Wilfred and Stony Point sites were once part of the 13,316-acre Rancho Llano de Santa Rosa granted to Joaquin Carillo in 1844. Carillo was the son of Maria Carillo, grantee of the Rancho Cabeza de Santa Rosa, whose family had the first permanent, non-native residence in the area. The residential focus of the Llano de Santa Rosa grant was centered on present-day Sebastopol where Carillo’s adobe house was located. The Wilfred and Stony Point sites border the Cotate Rancho granted to Juan Castañeda in 1844 (Hoover *et al.*, 1990). Castañeda failed to finalize the grant, and in 1857, the U.S. Land Commission patented the 17,238-acre rancho to Thomas S. Page. Page arrived in California in 1847, and with his six sons, ran a stock ranch on the Cotate Rancho from 1858 until his death in the late 1890s.

By 1877, William Hill and James McNear acquired nearly 900 acres within the Llano de Santa Rosa land grant, abutting the western edge of the Cotate Rancho. William Hill obtained full interest in the property and purchased additional land to the east from the Page heirs. In 1910, acting as president of the William Hill Company, Hill filed a subdivision map with the County for Santa Rosa Farms No. 2. Most of the “farms” were 5-acre parcels laid out on a grid. Farms that varied from the 5-acre norm were primarily situated along a creek flowing northeast to southwest

through the subdivision. This creek has since been channelized and is known as the Bellevue-Wilfred Ditch or Flood Control Channel.

Records at the Sonoma County Recorder's Office (SCRO) show that it took a few years before any of the lots were sold, and in 1913, Sine and Kendrick purchased all of the unsold lots. Sales were more brisk after 1913, but the last parcels were not sold until about 1922. Review of the initial purchase of lots within the current Wilfred and Stony Point sites show that a few, single parcels were sold between 1912 and 1915, but that most of the farms were sold in multiple lots from 10 to 45 acres. By about 1920, four families owned most of the Wilfred site. Most notable of these was dairyman Louis Pedrotti, who purchased a 160-acre farm on the west side of Stony Point Road in 1882. Between 1884 and 1921, Pedrotti acquired 245 acres on the east side of Stony Point Road that included what is now the southern half and northwestern corner of the Stony Point site. Others who owned significant portions of the Wilfred site were the Pedranzini, Correia, Sartorelli, and Leis families.

Dairy Farming

The cattle and dairy industries historically have been important factors in Sonoma County's economy. In his history of four northern California counties, newspaper publisher C.A. Menefee (1873:275) writes:

Next to the cultivation of the soil the greatest source of wealth [in Sonoma County] is stock-raising the Northwestern part of the county is principally devoted to this industry. [. . .] Most of these stock ranges are so far removed from the roads and markets that no attempt is made at dairying. [. . .] Along the Northern Coast where the roadsteads offer shipping facilities, considerable attention is given dairying, but it is not till [sic] we get to [the] Russian River that we come into the chief dairy districts of the county. All along down the Coast from this point to Marin are large dairies, where nothing else is attended to but butter and cheese making.

In 1872, Sonoma County produced more than 762,000 pounds of butter and 356,000 pounds of cheese (Menefee 1873:352), some 62 percent and 77 percent more, respectively, than neighboring Napa, Lake, and Mendocino counties combined. By 1877, more than two million pounds of butter and 250,000 pounds of cheese were reportedly produced in the county (Thompson 1877:16). The growth of the dairy industry during the 1870s and 1880s was unparalleled by other Sonoma County agricultural industries (LeBaron *et al.* 1985:58). While the production of butter and cheese decreased around the turn of the twentieth century, milk production increased. Seemingly, "Dairying was destined to remain the chief money crop of Sonoma County well into the next century (LeBaron *et al.* 1985:58). By 1936, poultry farming overtook dairying as the county's leading agricultural industry. Still, revenue from the estimated 52,000 dairy cows

reported in the County in 1936 was nearly three million dollars, keeping the dairy industry high on the County's economic ladder (Finley 1937:370).

Rural Subdivisions

During a previous architectural survey completed in 1986 for the Stony Point Road widening project, the historical theme was described for Sonoma County that is commonly known as "Rural Subdivisions," a term applied to the historical phenomenon of the late nineteenth and early twentieth centuries when large parcels were divided into progressively smaller holdings (Praetzellis *et al.* 1989). Division of rural lands occurred at varying times in different parts of the county and in some areas, never at all. During the latter part of the nineteenth century, there was a notable trend toward division of large holdings, in the area southwest of Santa Rosa (including the Cotati and present-day Rohnert Park areas). In contrast, the area south of Lakeville has generally avoided the rural subdivision trend.

The earliest of the subdivisions broke large tracts of land into smaller farm parcels "large enough to accommodate a successful farming venture" (Praetzellis *et al.* 1989:18). The Santa Rosa Farms Company, Union Trust Company, and Cotati Company were a few of the businesses that capitalized on this trend, purchasing many large holdings in the area and dividing them into small farm lots. As the twentieth century progressed, lots created through these subdivisions were generally too small to provide a family's primary source of income. Work outside the home became increasingly necessary to sustain a family's economic viability, and there was greater reliance on goods sold at retail outlets. Where, in the past, large farms and ranches were relatively self sufficient, families living on these small farms could not meet all their own needs.

Division of rural lands also brought with it an increase in the number of people living in areas isolated from amenities readily found in town. As families began moving into the newly created rural subdivisions, the need for nearby groceries and supplies also grew. It was during this time frame that many small rural stores and shops opened their doors to provide needed supplies and services.

3.6.3 WILFRED SITE

RECORDS AND LITERATURE SEARCH

Methodology

Archival research included examination of the library and project files at the offices of Tom Origer & Associates, which included local histories, census data, and extensive collection of historical maps, and previous archaeological, historical, and ethnographic reports for the region. Research was also completed in 2003 and 2006 at the Northwest Information Center (NWIC), Sonoma State University (NWIC File Nos. 03-140 and 06-302) (Origer, *et al.* 2003a and 2006).

Additional documents reviewed included archaeological site base maps and records, survey reports, and other pertinent materials.

The records searches and literature reviews for this study were done to (1) determine whether known cultural resources had been recorded within or adjacent to the study area; (2) assess the likelihood of unrecorded cultural resources based on archaeological, ethnographic, and historical documents and literature; and (3) review the distribution of nearby archaeological sites in relation to their environmental setting. Sources of information included, but were not limited to, the listings of properties on the NRHP, *California Historical Landmarks*, *California Register of Historical Resources*, and *California Points of Historical Interest* as listed in the Office of Historic Preservation's (OHP) Historic Property Directory for Sonoma County.

The OHP has determined that structures in excess of 45 years of age (for purposes of this report, structures that pre-date 1961) should be considered potentially important historical resources, and former building and structure locations could be potentially important historic archaeological sites. Therefore, archival research included an examination of historical atlases and maps to gain insight into the nature and extent of historical development in the general vicinity. Maps ranged from hand-drawn maps of the 1800s (e.g., General Land Office) to topographic quadrangles issued by the United States Geological Survey (USGS). County records for each parcel were obtained via ParcelQuest.com, an on-line property information service. Following the field survey, research focused on parcels where buildings and/or structures were present that appeared to be older than 45 years, or for which there was archival evidence suggesting that a building was older than its outward appearance.

In addition, ethnographic literature that describes local Native American groups, county histories, and other primary and secondary sources were also reviewed.

Results

As the record search and archival research for the Wilfred site overlaps the Stony Point site, the reader is directed to Tom Origer & Associates' 2003a and 2007 reports for more detailed discussion of the findings.

In summary, a search of the archival data found that portions of the Wilfred site have been subjected to previous cultural resources studies and that there have been multiple surveys conducted adjacent to the site. None of these surveys identified prehistoric or historic-period resources within the Wilfred site. Review of historical maps found a possible homestead located within the Wilfred site. Review of County parcel data found an additional nine properties constructed prior to circa 1961 located within the Wilfred site Architectural APE.

Review of ethnographic literature found that there are no ethnographic sites reported on the Wilfred site (Barrett, 1908; Kelly, 1978; Kroeber, 1925 and 1932). The nearest reported ethnographic sites are the villages of *kōta 'tī*, north of the town of Cotati, and *ūlī'yōmi* (or *atcamōtcō 'tcawi*), about 4 miles west of Cotati (Barrett, 1908).

NATIVE AMERICAN CONSULTATION

A letter requesting a check of the sacred lands file for the project area (the Stony Point and Wilfred sites and surrounding areas) was sent to the Native American Heritage Commission (NAHC) in September 2003. The NAHC responded with an indication that they have no record of sacred lands within or near the project area. The NAHC also supplied a list of Native American individuals and groups that have expressed interest in projects in Sonoma County. Tom Origer & Associates sent contact letters on September 9, 2003, to the Native American individuals and groups identified by the NAHC, requesting information relevant to the prehistoric, historic, and ethnographic land uses in the project area. No responses were received. Follow-up calls were made and consultation logs were maintained (**Appendix M**).

FIELD SURVEY

Methodology

Field inspection of the Wilfred site included monitoring and archaeological and historic architectural surveys. Initially, staff from Tom Origer & Associates observed biologists on-site as the hand excavated small pits for wetland studies and monitored soil samples taken from within the study area. No indications of cultural materials were observed during these periods of observation. Intensive field surveys of the Wilfred site were completed by Tom Origer & Associates over several visits as detailed in their reports (Origer, et al. 2003a, 2005, 2006, 2007). Previously surveyed portions of the study area were examined. Zig-zag transects spaced 15 to 25 meters apart were walked where topography and vegetation allowed. Areas considered to be more archaeologically sensitive (i.e., along natural watercourses, on high spots, and in places where archival research suggests the presence of features), the width of the transects was reduced. Surface visibility ranged from poor to excellent, with vegetation being the chief hindrance. Hand tools were used, as necessary, to clear small patches so that the soil could be inspected. In addition, existing pits, road cuts, and other soil exposures were sought out to allow an examination of subsoils. Cultural resources located during the field survey were photographed, mapped, and recorded on Department of Parks and Recreation (DPR) 523-series site record forms.

Based on archival review, it was anticipated that prehistoric and historic-period archaeological resources and historic architectural structures would be identified within the study area. Prehistoric archaeological site indicators expected to be found in the region include but are not limited to, obsidian, chert flakes, and chipped-stone tools; grinding and mashing implements such

as slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits and dumps).

Results

One historic archaeological site (RPC-5) was located during Tom Origer & Associates' surveys of the Wilfred site. Based on available data, the NIGC *recommends, for management purposes, that RPC-5 be treated as eligible for the NRHP* under criteria A (events) and D (information potential) for its association with the themes of early Euro-American settlement. The reader is directed to Tom Origer & Associates, 2003a for a more detailed discussion of the evaluation of this resource. DPR 523 forms (site recordation forms) are located in **Appendix M**.

Nine properties were identified within the Wilfred site architectural APE as a result of the archival and field surveys. Of these nine, all were determined to be ineligible for listing on the National Register of Historic Places and are not considered historic properties. The California State Office of Historic Preservation concurred with the eligibility determinations in a letter dated January 28, 2008 (**Appendix LL**). The reader is directed to Tom Origer & Associates, 2007 for a more detailed discussion of the evaluation of this resource. DPR 523 forms are located in **Appendix M**. The remaining eight sites have been determined ineligible for listing on the NRHP.

PALEONTOLOGICAL RESOURCES

Introduction

Paleontological resources are defined as the traces or remains of prehistoric plants and animals. Such remains often appear as fossilized or petrified skeletal matter, imprints or endocasts, that reside in sedimentary rock layers. Fossils are important resources due to their scientific and educational value. Fossil resources are non-renewable.

This section presents documentation on reported paleontological deposits on the Wilfred site and surrounding region, as well as an analysis on the potential for unreported paleontological resources to be present on the Wilfred site.

Typologies and Formation Processes

The processes involved in the preservation of paleontological resources result in several types of remains. It is noted that only a small percentage of ancient life forms and their traces have been exposed to conditions favorable to preservation (Encyclopedia Britannica, 1966). Factors

affecting the persistence of paleontological resources vary between species, and broadly include geological formation processes, climate, soil and rock chemistry, and organism morphology. Paleontological resources are discussed here as fossil remains, although other types of remains occur elsewhere.

Fossils are the remains of plants and animals embedded in layers of rock, which have retained some degree of their original characteristics over a long period of time. Remains are buried under layers of sediment, which under building pressure become sedimentary rock. Paleontological remains can be those of organism structure, such as skeletal parts, shell, tree trunks, pollen, endocasts or imprints, or they can be remnants of activity, such as footprints or tunnels of burrowing organisms. Soft tissues are less frequently fossilized, because they usually decay before fossilization processes take place. Since fossil remains occur in sedimentary rock formations, they tend to persist unless the rock has undergone significant changes. Fossils, therefore, do not occur in metamorphic rock formations.

Fossils of considerable age may be subject to varying degrees of mineralization, at times resulting in the total replacement of original, organic matter by minerals. The agents of mineralization are most commonly comprised of calcium carbonates, such as calcite and aragonite, and silicates, such as quartz, opal and chalcedony. Less common materials are iron disulfides such as pyrite and marcasite; limonite; sulphates such as gypsum; phosphates such as calcium phosphate and vivianite; and glauconite. These minerals are typically transported in minute quantities by seeping water, with aggregation over time.

Regulatory Background

The Antiquities Act of 1906 (PL 59-209; 16 United States Code 431 et seq.; 34 Stat. 225) calls for the protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on Federal land. Additional provisions appear in the Archaeological and Historic Data Preservation Act of 1974, as amended, for the survey, recovery, and preservation of significant scientific, prehistoric, historic, archaeological, or paleontological data, in such cases wherein this type of data might be otherwise destroyed or irrecoverably lost as a result of Federal projects.

Plant fossils, shell fossils, pollen and microfossils are generally more frequent than fossils of vertebrates. Thus, vertebrate fossils are considered significant. Invertebrate fossils are considered significant if they are scarce or diagnostic of date range, or if they constitute a segment of a unique paleoenvironmental framework. Paleontologists may additionally determine significance on a case-by case basis.

All surficial deposits on the Wilfred site are Pleistocene to Recent in age. Weaver (1949) completed initial mapping of these deposits and classified all deposits as Quaternary alluvium.

Cardwell (1958) mapped almost the entire Wilfred site as younger Quaternary alluvium. The exception was a small area near the junction of Stony Point Road and Wilfred Avenue where his map showed an outcrop of Glen Ellen Formation, a unit composed of lenticular deposits of poorly sorted silty clay, sand, and poorly cemented conglomerate and gravel. Mapping by Fox *et al.* (1973) and Herbst and Miyazaki (1979) rejected the use of Glen Ellen Formation for these deposits and mapped them as alluvial fan deposits. Weaver (1949) mentions no fossil localities in the Glen Ellen Formation.

More recent mapping by Fox *et al.* (1973) subdivided the surficial deposits into three units: alluvial fans, which crop out along the western margin of the area, a narrow V-shaped zone open to the north of fluvial deposits which occur to the east of the alluvial fan deposits, and basin deposits, which crop out in the eastern two thirds of the area. The unit that underlies the majority of the Wilfred site was mapped as basin deposits by Herbst and Miyazaki (1979). These basin deposits are part of a very large outcrop area that includes the entire central part of the southern Santa Rosa Plain with Rohnert Park in the center. The deposits were interpreted by both Fox *et al.* (1973) and Herbst and Miyazaki (1979) as marsh-like deposits. A recent map by Allen (2004) shows the Wilfred site to be underlain by Quaternary alluvium, which includes undifferentiated Pleistocene and Holocene alluvial and fluvial deposits. None of the authors in any of their maps and publications report any fossil localities from the surficial units in the immediate project vicinity.

Potential for Fossil Discovery

The environments of deposition of the surficial sediments underlying the Wilfred site were alluvial fans and marshes. Fossil occurrences are not usually common in alluvial fan deposits because of the high probability of reworking and damage of any skeletal and plant material as it is transported and deposited.

The basin deposits on the Wilfred site have the most potential for yielding fossils. These deposits occurred in a low energy marshy environment where fine sediment accumulated. The fact that no fossils have been reported from these beds suggests that conditions favorable for preservation were not common.

Based on the absence of fossils for this area in the published record and lack of reported findings during construction of sites in the Rohnert Park area in similar materials, it is not likely that fossils are present on the Wilfred site.

3.6.4 STONY POINT SITE

RECORDS AND LITERATURE SEARCH

Methodology

Archival research for the Stony Point site was conducted as part of the record search for the Wilfred site (NWIC File No. 03-140). Refer to **Section 3.6.3** above for more detail.

Results

As the record search and archival research for the Stony Point site overlaps the Wilfred site, the reader is directed to Tom Origer & Associates' 2003a and 2007 reports for more detailed discussions of the findings.

In summary, a search of the archival data found that portions of the Stony Point site has been subjected to previous cultural resources studies and that there have been multiple surveys conducted adjacent to the site. One prehistoric isolate was located within the Stony Point site during a survey conducted by Origer in 1988. No other prehistoric or historic-period resources were identified as a result of these surveys.

Review of historical maps found several buildings and structures depicted within the Stony Point site. These resources include a homestead (identified in the Wilfred site discussion above [**Section 3.6.3**]), two houses with outbuildings, two barns, and a water tank. Review of County parcel data found an additional nine properties constructed since circa 1961 located within the Stony Point site Architectural APE.

Review of ethnographic literature found that there are no ethnographic sites reported on the Stony Point site (Barrett, 1908; Kelly, 1978; Kroeber, 1925 and 1932). The nearest reported ethnographic sites are the villages of *kōta 'tī*, north of the town of Cotati, and *ūlī'yōmi* (or *atcamōtcō 'tcawi*), about 4 miles west of Cotati (Barrett, 1908).

NATIVE AMERICAN CONSULTATION

Native American Consultation for the Stony Point site was conducted as part of the consultation for the Wilfred site. Refer to **Section 3.6.3** above for more detail.

FIELD SURVEY

Methodology

An intensive cultural resources survey of the Stony Point site was completed by Tom Origer & Associates and a Tribal Representative during October 2003 (Origer, et al. 2003a). An additional field survey for architectural resources was conducted by Origer in 2007. Field survey methodology for the Stony Point site was the same as described above for the Wilfred site. Refer to **Section 3.6.3** above for more detail.

Results

One prehistoric isolate and four historic-period archaeological sites (RPC-1, -2, -4, -5) were located and recorded during Tom Origer & Associates' field survey of the Stony Point site in October 2003. Based on available data, the NIGC *recommends, for management purposes, that RPC-1 and RPC-5 be treated as eligible for the NRHP* under criteria A (events) and D (information potential) for their association with the themes of early Euro-American settlement. The prehistoric isolate and remaining two historic-period sites are determined ineligible to the NRHP. The reader is directed to Tom Origer & Associates, 2003a for a more detailed discussion of the evaluation of these resources. DPR 523 forms are located in **Appendix M**.

Nine properties were identified within the Stony Point architectural APE as a result of the archival and field surveys. Of these nine, two sites are recommended as significant to the NRHP. These two properties include 597 Wilfred Avenue, a circa 1910 house with dairy, and 605 Wilfred Avenue, a circa-1949 house and outbuildings. 597 Wilfred Avenue is considered significant under NRHP criteria A (events), B (people), and C (workmanship). 605 Wilfred Avenue is considered significant under NRHP criteria A (events) and B (people). The reader is directed to Tom Origer & Associates, 2007 for a more detailed discussion of the evaluation of this resource. DPR 523 forms are located in **Appendix M**. The remaining eight sites have been determined ineligible for listing on the NRHP.

PALEONTOLOGICAL RESOURCES

Refer to **Section 3.6.3** above for a general discussion of paleontological resources, including typologies and formation processes, and the regulatory background.

Background Research

All surficial deposits on the Stony Point site are Pleistocene to Recent in age. Weaver (1949) completed initial mapping of these deposits. He classified all deposits as Quaternary alluvium. Cardwell (1958) mapped almost the entire Stony Point site as younger Quaternary alluvium. The exception was a small area near the junction of Stony Point Road and Wilfred Avenue where his map showed an outcrop of Glen Ellen Formation, a unit composed of lenticular deposits of poorly sorted silty clay, sand, and poorly cemented conglomerate and gravel. Mapping by Fox *et al.* (1973) and Herbst and Miyazaki (1979) rejected the use of Glen Ellen Formation for these deposits and mapped them as alluvial fan deposits. Weaver (1949) mentions no fossil localities in the Glen Ellen Formation.

More recent mapping by Fox *et al.* (1973) subdivided the surficial deposits into three units as described in the previous section for the Wilfred site. The unit that underlies the majority of the Stony Point site was mapped as basin deposits by Herbst and Miyazaki (1979). These basin

deposits are part of a very large outcrop area that includes the entire central part of the southern Santa Rosa Plain with Rohnert Park in the center. The deposits were interpreted by both Fox *et al.* (1973) and Herbst and Miyazaki (1979) as marsh-like deposits. A recent map by Allen (2004) shows the Stony Point site to be underlain by Quaternary alluvium, which includes undifferentiated Pleistocene and Holocene alluvial and fluvial deposits. None of the authors in any of their maps and publications report any fossil localities from the surficial units in the immediate project vicinity.

Potential for Fossil Discovery

The environments of deposition of the surficial sediments underlying the Stony Point site were alluvial fans and marshes. Fossil occurrences are not usually common in alluvial fan deposits because of the high probability of reworking and damage of any skeletal and plant material as it is transported and deposited.

The basin deposits on the Stony Point site have the most potential for yielding fossils. These deposits occurred in a low energy marshy environment where fine sediment accumulated. The fact that no fossils have been reported from these beds suggests that conditions favorable for preservation were not common.

Based on the absence of fossils for this area in the published record and lack of reported findings during construction of sites in the Rohnert Park area in similar materials, it is not likely that fossils are present on the Stony Point site.

3.6.5 LAKEVILLE SITE

PREHISTORY

Nels Nelson was a significant figure in Bay Region archaeology. He conducted a survey of the San Francisco Bay area in 1906 and 1908 and documented hundreds of archaeological sites. His survey focused on marsh margins and adjacent lands surrounding the bay, including the current Lakeville site.

Among the earliest, large-scale projects in the North Bay research was conducted by University of California archaeologists focusing initially on the Napa Valley region. In 1953, R.E. Heizer and several of his University of California at Berkeley students published the findings of their archaeological survey and site investigations in the Napa Valley. Their report is a good summary of the archaeology, as it was known at that time.

The work of Heizer and his students helped form the basis for the understanding of the region's prehistory by other researchers. Meighan's (1955) work suggested a regional span of occupation extending back at least 2,500 years. Fredrickson (1984) suggests that initial occupation of the region could date to 7,000 years ago.

In addition to numerous archaeological surveys conducted in this area, research close to the Lakeville site includes investigations at Tolay Valley, a notable and unique archaeological resource area where abundant charmstones have been found in the now-dry, prehistoric lakebed. Tolay Valley is situated in the hills, a short distance north of the Lakeville site. This phenomenon was first described by University of California archaeologist Albert Elsasser (1955). Elsasser recorded the charmstone site and three midden/habitation sites. The charmstone site covers the bed of a reported 300-acre lake drained during the 1870s to create additional agricultural fields. Once the lake was drained, large numbers of plummet-shaped charmstones were exposed, which Elsasser remarked upon as being crudely manufactured. He posited that because of the shallowness of the lake, these items were not used as net weights but rather were used as slingstones for hunting waterfowl (Elsasser, 1955).

In 1990, George Phebus reported on archaeological investigations conducted at nine sites in the Tolay Valley during the 1950s and 1960s (Phebus, 1990). No map accompanies this report so it is unclear whether the seven sites later recorded by David Chavez (1979) are some of the same sites where Phebus worked years earlier.

East of the Lakeville site, two archaeological sites were investigated in 1998 by Tom Origer & Associates (Origer and Beard, 1998). Site CA-SON-227, a shell midden, yielded abundant shellfish and bone dietary debris, shell and bone artifacts, fragments, and a few projectile points and other stone tools. Diagnostic artifacts and tests conducted on obsidian flakes suggested that the site was inhabited during the Emergent Period from about 900 years ago to the time of Euroamerican contact. This site also contained human remains. Site CA-SON-2226 was a highly disturbed site thought possibly to have been a camp because of the lack of midden development. Materials found at this site were diverse but limited in numbers and included such artifacts as projectile points and other stone tools, grinding implements, charmstones, hammerstones, and chipped stone debris. Analysis of materials from this site, and especially from obsidian hydration, suggested that initial use of this site began about 3,100 years ago and that it was in use as late as 150 years ago; however, occupation appeared to have occurred during three distinct time-frames.

ETHNOGRAPHY

A detailed discussion of the ethnography of the Coast Miwok Tribe appears in **Section 3.6.1** above.

HISTORICAL CONTEXT

The Lakeville site is at the southern edge of the Rancho Petaluma granted in 1843 to Marianno Vallejo, and the grant boundary marks the edge of the historical marsh margin. Agriculture has been the chief economic endeavor in this area since the time of Vallejo, and relatively easy access to San Francisco down the navigable waters of the Petaluma River (then Creek), resulted in rapid

development of the area after 1849. Prior to the 1900s, most of the Lakeville site was part of the marsh.

During the late 1800s, entrepreneurs began reclamation of marshlands along the margins of the San Pablo Bay, and large tracts of land were created that extended the shoreline well beyond its historical reach. Levee building, to reclaim swamp and marshlands, commenced in the 1850s and 1860s along the Sacramento and San Joaquin rivers. Much of this labor was undertaken by Chinese workers returning from the gold fields (Chinn *et al.*, 1984). On San Pablo Bay, the Pacific Reclamation Company and the San Pablo Land Company financed a series of levees along the bay's north shore, initially planning to use Chinese laborers. However, this method proved ineffective because the strong tidal action of the bay outpaced the workers and eventually, a floating dredge was used to complete the levees (Wilson, 1997).

As the marsh was drained, thousands of acres of fertile agricultural lands were created and utilized for hay production and ranching. Crops were shipped to market on the steamers that plied San Pablo Bay, the Petaluma River, and Sonoma Creek.

Eventually, transportation alternatives were made available by fledgling railroad companies hoping to gain a toehold in the area north of San Francisco. Chief among the railroad promoters was Peter Donahue, whose San Francisco & North Pacific (SF&NP) Railroad came to dominate rail transportation in this region. Early on, Donahue had a rail line that extended from Petaluma to Donahue's Landing on the Petaluma River, where goods and passengers could connect with steamers to San Francisco.

East of the Lakeville site, investors hoped to build a railroad from near the embarcadero on Sonoma Creek to the town of Sonoma but met a series of setbacks. By 1880, the Sonoma Valley Railroad Company had succeeded in constructing a line from Sonoma to Sonoma Landing on San Pablo Bay (at the south end of the Lakeville site). Sonoma Landing provided a quarter-mile long wharf for steamers to on- and off-load cargo and passengers.

The Marin & Napa Railroad Company was formed in 1886 to construct a line across the Petaluma River to Pacheco (now Ignacio). The new line departed from the Sonoma Valley Railroad south of Sears Point and traveled north of the line that terminated on San Pablo Bay. Thereafter, Sonoma Landing was used chiefly for freight while Ignacio provided for passenger services. Donahue purchased the holdings of Sonoma Valley Railroad and the Marin & Napa Railroad in 1889, broadening the reach of his SF&NP Railroad.

In 1887, Monroe Greenwood sold a 100 foot wide strip of land to the Marin & Napa Railroad Company with the provision that the railroad company construct and maintain a station with stockpens and siding on the land of James Tatterson, near the head of Duncan's Slough (SCRO Deeds 107:607). Tatterson and J. Rose also sold land to the railroad company at that time with

the same provision (SCRO 107:609, 611). The station provided for in the Greenwood, Tatterson, and Rose deeds became the Reclamation Station. The new Marin & Napa Railroad line joined with the San Francisco & North Pacific (SF&NP) Railroad at Ignacio where travelers could board trains going north as far as Cloverdale and south to Tiburon. Peter Donahue purchased both the Sonoma Valley Railroad and Marin & Napa Railroad properties in 1896 bringing them into the SF&NP fold. In 1906, the Northwestern Pacific (NWP) Railroad was formed and absorbed the SF&NP line (Kniess 1956).

RECORDS AND LITERATURE SEARCH

A search of the archival data found that, in addition to Nelson's early bay survey, portions of the Lakeville site have been subjected to previous cultural resources studies, and that one prehistoric archaeological site and one prehistoric isolate have been located within the Lakeville site. Review of historical maps found no structures depicted within the Lakeville site that might be found during the field study. Review of County parcel data found an additional three properties constructed since circa 1961 located within the Lakeville site architectural APE.

Review of ethnographic literature found that there are no ethnographic sites reported on the Lakeville site (Barrett 1908; Kelly 1978; Kroeber 1925, 1932). The nearest ethnographic site is the village of *wotōkī*, which Barrett's (1908:310) description places about 3.25 miles northwest of the Lakeville site.

NATIVE AMERICAN CONSULTATION

A letter requesting a check of the sacred lands file for the Lakeville site was sent to the NAHC in May 2003. The NAHC responded indicating that they have no record of sacred lands within or near the Lakeville site and supplied a list of Native American individuals and groups that have expressed interest in projects in Sonoma County. Tom Origer & Associates sent contact letters on June 27, 2003, to the Native American individuals and groups identified by the NAHC, requesting information relevant to the prehistoric, historic, and ethnographic land uses on the Lakeville site. No responses were received. Follow-up calls were made and consultation logs were maintained (**Appendix M**).

FIELD SURVEY

Methodology

Field inspection included monitoring and archaeological survey. A mixed-strategy, archaeological survey of the Lakeville site was completed by teams of three to five people from Tom Origer & Associates during the months of June and July of 2003. Survey coverage varied depending upon whether the area had been surveyed previously, the presence or absence of environmental variables that tend to be associated with prehistoric and historic-period resources, and the presence of buildings or structures on historical maps.

Previously surveyed portions of the Lakeville site were not resurveyed; however, the locations of recorded sites were revisited to assess the current conditions of the resources. Those portions of the Lakeville site that had not been surveyed in the past were examined for the presence of prehistoric and historic-period resources.

An additional field survey for architectural resources was conducted by Origer in 2007.

Results

One previously recorded prehistoric archaeological site (CA-SON-204) and one prehistoric isolate were located and recorded during Tom Origer & Associates' field survey of the Lakeville site in October 2003. Based on available data, the NIGC *recommends, for management purposes, that the CA-SON-204 be treated as eligible for the NRHP* under criterion D for its potential to yield information important in our prehistory. The prehistoric isolate is determined ineligible to the NRHP. The reader is directed to Tom Origer & Associates, 2003a for a more detailed discussion of the evaluation of these resources. DPR 523 forms are located in **Appendix M**.

Three properties were identified within the Lakeville site architectural APE as a result of the archival and field surveys. Of these, only one, 7697 Lakeville Highway, a house with outbuildings constructed circa 1902, is recommended significant under NRHP criteria A (events), B (people), and C (workmanship). The reader is directed to Tom Origer & Associates, 2007 for a more detailed discussion of the evaluation of this resource. DPR 523 forms are located in **Appendix M**. The remaining two sites have been determined ineligible for listing on the NRHP.

PALEONTOLOGICAL RESOURCES

Refer to **Section 3.6.3** above for a general discussion of paleontological resources, including typologies and formation processes, and the regulatory background.

Background Research

The topography of the Lakeville site is generally a flat alluvial plain sloping down to the south and east to San Pablo Bay and to the west towards the floodplain of the Petaluma River. The area is underlain by one geologic material; Quaternary alluvium.

The Quaternary alluvium is composed of young (Pleistocene and Holocene) gravels, sands, and clays that were deposited in the valley by streams draining the higher ridge to the northeast. To date, no fossil localities have been reported from the alluvium.

Potential for Fossil Discovery

Fossils are usually rare in Quaternary alluvial deposits and, if present, are likely to be broken remains of vertebrates and plant debris. Therefore, it is not likely that fossils are present on the Lakeville site.