

Appendix 3.8  
**Historical Resources Evaluations**

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### **Appendix 3.8: Historical Resource Evaluations**

- 3.8-1 JRP Historical Consulting, LLC, *Menlo Science and Technology Park, Department of Parks and Recreation Forms*, 2019, revised 2021.
- 3.8-2 JRP Historical Consulting, LLC, *1385 Willow Road, Menlo Park, California*, Department of Parks and Recreation forms, 2021.
- 3.8-3 JRP Historical Consulting, LLC, *1396 Carlton Avenue, Menlo Park, California*, Department of Parks and Recreation forms, 2021.
- 3.8-4 Evaluations of Dumbarton Cutoff Linear Historic District
  - JRP Historical Consulting, LLC, *Dumbarton Cutoff*, Department of Parks and Recreation Update Sheet, 2017.
  - JRP Historical Consulting, LLC, *Southern Pacific Railroad, Dumbarton Cutoff Linear Historic District*, Department of Parks and Recreation Update Sheet, 2008.
  - P.S. Preservation Services, *Request for Determination of Eligibility for Inclusion in the National Register of Historic Places, Southern Pacific Railroad Dumbarton Cutoff, Southern Pacific Railroad Dumbarton Bridge, and Southern Pacific Railroad Newark Slough Bridge*, 1996, prepared for U.S. Coast Guard.

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

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z  
Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

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\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

P1. Other Identifier: \_\_\_\_\_

\*P2. Location: ☐ Not for Publication ☒ Unrestricted  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*a. County: San Mateo

\*b. USGS 7.5' Quad: Palo Alto Date: 1997 T:   ; R:   ; Sec:   ; Mount Diablo Meridian

c. Address: Willow Road City: Menlo Park Zip: 94062

d. UTM: (give more than one for large and/or linear resources) Zone: 10S; 566579.45mE/ 4139012.99mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

See Table 1 in Section P3a, Continuation Sheets for APNs and associated addresses for the buildings on this property.

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

This form records the Menlo Science & Technology Park complex, an administrative and light-industrial park located in Menlo Park, San Mateo County (**Photograph 1**). Menlo Science & Technology Park is accessed via a primary entrance drive located on the east side of Willow Road, between U.S. Highway 101 and State Route 84. The complex is comprised of six historic-era buildings (50 years of age or older) and 14 modern structures located on 18 legal parcels (see **Table 1** and **Site Map** on Continuation Sheet). The historic-period facilities, which were constructed between 1956 and 1962, are centered near the western boundary of the complex. These buildings are immediately adjacent to Willow Road and share a similar International-style appearance and common materials, such as concrete and aluminum. The buildings set back from Willow Road are more utilitarian in their design with subtle International-style details. The site landscaping largely consists of paved parking and planting strips adjacent to buildings and around the complex perimeter (see Continuation Sheets).

\*P3b. Resource Attributes: (List attributes and codes) HP6—1-3 Story Commercial Building; HP8—Industrial Building

\*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession#) **Photograph 1.** 1370 and 1380 (left) Willow Road at Menlo Science & Technology Park, camera facing northeast, March 27, 2019.

\*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both  
1956-1962; and P3a, continuation sheet (San Mateo County Assessor)

\*P7. Owner and Address: Peninsula Innovation Partners, LLC  
1 Hacker Way  
Menlo Park, CA 94025

\*P8. Recorded by: (Name, affiliation, address)  
Joseph Freeman &  
Michelle Van Meter  
JRP Historical Consulting, LLC  
2850 Spafford Street  
Davis, CA 95618

\*P9. Date Recorded: March 27, 2019

\*P10. Survey Type: (Describe) Intensive

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.") None

\*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 # (Assigned by recorder): Menlo Science & Technology Park

B1. Historic Name: Hiller Aircraft; Fairchild Hiller Corporation; Fairchild Hiller Industrial Park; Lincoln Industrial Park

B2. Common Name: Menlo Science & Technology Park

B3. Original Use: Industrial B4. Present Use: Commercial Offices

\*B5. Architectural Style: International and Utilitarian

\*B6. Construction History: (Construction date, alteration, and date of alterations) See details on Continuation Sheet, including Table 1.

\*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: \_\_\_\_\_

B9. Architect: unknown b. Builder: unknown

\*B10. Significance: Theme: Aircraft Manufacturing / Cold War Satellite Surveillance Area: Menlo Park, CA

Period of Significance: n/a Property Type: Industrial / Commercial Applicable Criteria: n/a

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

The buildings at Menlo Science & Technology Park property do not meet the criteria individually or collectively for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor are they historical resources for the purposes of CEQA. A resource must possess historical significance and retain historic integrity to convey that significance to be eligible for listing in the NRHP or CRHR. While three of the buildings on the property possess historical significance for their associations during the Cold War with the covert Corona satellite surveillance program, the individual buildings and the property as a whole have undergone substantial alterations such that the buildings no longer retain the historic integrity necessary to convey any significance and thus do not meet the eligibility requirements for listing in either the NRHP or CRHR. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." An explanation of the NRHP and CRHR eligibility significance and integrity requirements, and a detailed eligibility evaluation for the buildings on this property are provided on the Continuation Sheets.

B11. Additional Resource Attributes: (List attributes and codes)

\*B12. References: Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, CA: Star Publishing Company, 1982); John Straubel, *One Way Up* (Palo Alto, CA: Hiller Aircraft Co., 1964); San Mateo County Assessor Records; Menlo Park Building Permits; also see footnotes.

B13. Remarks:

\*B14. Evaluator: Joseph Freeman

\*Date of Evaluation: April 2019; revised June 2021

(This space reserved for official comments.)



**P3a. Description (continued):**

**Table 1. Buildings at Menlo Science & Technology Park with APN, address, and built dates**

APN	Building #	Address	Year Built <sup>#</sup>
<b>Historic-Period Buildings (50 years or older)</b>			
055-440-130	MPK 50	1390 Willow Road	1956
055-440-210	MPK 54	1370 Willow Road	1962
055-440-110	MPK 55	1374-1376 Willow Road	1959 thru 1962*
055-440-230	MPK 51	940 Hamilton Court (aka 1392 Hamilton Court)	1961 / 1962*
	MPK53	960 Hamilton Court	1961 / 1982*
055-440-260	MPK 56	980 Hamilton Avenue	1962
<b>Modern Buildings</b>			
055-440-010	MPK 44	1205-1275 Hamilton Court	1979*
055-440-020	MPK 42	1200-1240 Hamilton Court	1979*
055-440-030	MPK 45	1105-1195 Hamilton Court	1980*
055-440-040	MPK 41	1100-1190 Hamilton Court	1980*
055-440-050	MPK 46	1003-1005 Hamilton Court	1996
055-440-090	MPK 48	927-953 Hamilton Avenue	1988*
	MPK 47	959-967 Hamilton Avenue	1988*
055-440-190	MPK 49	925 Hamilton Avenue (aka 923-925 Hamilton Avenue)	1988*
055-440-300	MPK 52	1380 Willow Road	1982
055-440-310	MPK 43	1010-1048 Hamilton Court	1981*
055-440-320	MPK 40	1050-1098 Hamilton Court	1981*
055-440-330	MPK 59	990-998 Hamilton Court (aka 960, 970, 976, 978 Hamilton Court)	1982 / n.d.*
055-440-340	MPK 58	1360 Willow Road	1982*
055-440-350	MPK57	1350 Willow Road	1985

<sup>#</sup> Year built established using sources cited herein, see section B6 and P10 (footnotes), unless otherwise noted.

\* Year built provided by City of Menlo Park.

1390 Willow Road (MPK 50)

The building at 1390 Willow Road was constructed in 1956 for the Hiller Aircraft Corporation. The facility is comprised of an office with a windowless warehouse and secondary office wing arranged in a U-shape plan on a concrete foundation. A courtyard is located at the center of the building; however, for security reasons, it was not accessible at the time of the recordation. The main office wing is a single-story building constructed of concrete with incised concrete panel walls on the primary, northwest facade. The roof is flat, extending slightly over the windows and main entrance and this eave and the roof-wall juncture is accented with horizontally grooved wood panels. The roof covering is a rolled composite material. The building is entered along the northwest-facing façade via a concrete walkway that leads to a glazed vestibule with a glass and metal door that projects from the north corner (**Photograph 2**).

The entrance is sheltered by the roof extension and stub walls that flank the entrance. The vestibule windows are recessed between vertical concrete panels. To the south of the door is a flat concrete surface that once bore the insignia of its former occupant. The southern half of the façade is fenestrated with narrow rectangular windows with reinforced glass. The window frames appear to be painted metal. The fenestration on the northeast side of the building, which includes a secondary entrance, consists of a ribbon of rectangular fixed-frame modern windows and a modern glass and metal door set beneath the roof extension (**Photograph 3**).

The warehouse wing is located on the east end of the building and is constructed of concrete panels and features a flat roof clad in a rolled composite material. An entrance vestibule with metal double doors is located on the south side of the building. There is no visible fenestration (**Photograph 4**).

The single-story secondary office wing forming the south end of the building, part of which was a later addition, is constructed of concrete and features a flat roof with a boxed overhang that extends on the northeast courtyard-facing side to shelter the entrance. Fenestration, also located on the northeast side of the wing, consists of a ribbon of modern rectangular windows with fixed aluminum frames.

#### 1370 Willow Road (MPK 54)

The one- and two-story office located at 1370 Willow Road, located south of 1390 Willow Road and the modern building at 1380 Willow Road, was constructed in 1962. The building has a generally L-shaped plan with an oversized two-story entrance projection on the primary, northwest-facing façade and a walled courtyard located on the rear, southeast side. The flat roof features a moderate, boxed overhang with metal coping at the rim of the parapet. The roof is covered with a rolled composite material. The walls are sheathed in replacement stucco superimposed onto concrete panels. The stucco is scored to give the appearance of long horizontal tiles.

The projecting oversized entrance and vestibule is accessed by a concrete walkway and is located near the north end of the northwest façade (**Photograph 5**). The projection is fenestrated by large, vertically-oriented windows set in fixed aluminum frames. Groups of windows are segmented by narrow square columns that extend the height of the structure. A set of glass double doors open to the first story of the building. On both sides of the entrance vestibule, the second story slightly overhangs the first story. The first story is defined by a smooth stucco wall surface and evenly spaced square windows with aluminum frames. The stucco replaced an original stone veneer at an unknown date. The second story features full-length ribbon of single-pane windows. The aluminum frames or mullions, are elongated from the edge of the second-story overhang to the eaves, adding to the geometric aesthetic of the façade.

The sparsely ornamented northeast and southwest sides of the building are similar in their materials and types of fenestration. The northeast side has seven window openings and a plain metal door (**Photograph 6**). All of the windows are set in fixed aluminum frames. Likewise, the southwest side end of the building is punctuated by two horizontally-oriented windows with fixed aluminum frames (**Photograph 7**).

The rear, southeast-facing side of the building is separated into two sections. The single-story north half extends outward towards the southeast. This section has two openings, occupied by an overhead garage door and an adjacent metal door with a single window, but otherwise lacks fenestration (**Photograph 8**). The south half bears a form and fenestration pattern that resembles the front façade, consisting and overhanging second story with a band of windows with fixed aluminum frames. The recessed first story also has aluminum frame windows, with a set of aluminum-framed glass doors near the center. The rear concrete-slab courtyard features a stand-alone, wood-frame shade structure and is partially enclosed by decorative cinderblock privacy walls (**Photograph 9**).

#### 1374 - 1376 Willow Road (MPK 55)

The light-industrial and office building at 1374 and 1376 Willow Road, located southeast of 1370 Willow Road, was constructed in two phases in 1959 and 1962. The adjoining rectangular-plan buildings form a roughly square footprint. Their roofs are a combination of hipped and flat elements surrounded by a short parapet that outlines the two buildings. The roofs are clad in asphalt shingles and dotted with several vents. The exterior walls are concrete panels covered in replacement stucco with vertical score marks. All sides of the building are windowless except for the main, northwest façade.

The main façade is characterized by rows of evenly-placed, aluminum-frame, fixed windows at the first and second-story levels. These windows are all modern replacements of original steel-frame windows. The windows are separated by raised concrete panels and pilasters. The façade includes two metal and glass entrance doors, located on the north and south ends (**Photograph 10**). The southwest and northeast sides of the building are far less elaborate. The southwest side characterized by plain stucco wall surface with vertical incisions. An overhead garage door, plain metal door, and glass door are offset to the west (**Photograph 11**). The northeast side, which is segmented into several bays by concrete pilasters, has no openings except for four plain metal doors (**Photograph 12**). The locations of former openings are evidenced by breaks in the siding



near the east corner. The rear, southeast side of the building serves as a loading zone and is punctuated by five overhead garage doors. The two southern-most garage doors have been resized and two former garage openings near the north end have been enclosed. The southeast side also has two metal entrance doors located near the center, one of which is sheltered by a canvas awning (**Photograph 13**)

#### 940 Hamilton Court (aka 1392 Hamilton Court; MPK 51)

Located northeast of 1390 Willow Road, the two-story building at 940 Hamilton Court, built in 1961, is nearly rectangular in plan and is constructed of concrete. Raised concrete panels extend the height of the wall and separate the windows. The roof features a hipped element in the center and a flat element that extends out from the hipped portion to a small parapet. The hipped element is clad in composition shingles and numerous vents dot both the hipped and flat elements of the roof. The entrance, located on the northeast façade, is accessed by a metal and glass modern enclosure with a bowed wall of aluminum frame windows that extends to the roofline (**Photograph 14**). The glass enclosure was constructed in 2007. Fenestration on the northeast and northwest sides consists of paired windows with fixed aluminum frames, also added in 2007. Two metal roll-up freight doors and two secondary entrance doors are located on the southeast side of the building (**Photograph 15**). Both the southeast and southwest sides of the building are void of fenestration. A large, two-story addition, also added in 2007, is located on the building's southwest side and features corrugated metal siding.

#### 960 Hamilton Court (MPK 53)

The rectangular plan, two-story building at 960 Hamilton Court, immediately south of 940 Hamilton Court, was built in 1961. The building is constructed of concrete panels. The roof features a centered hipped element with a wide flat element that extends from the base of the hipped element to a small parapet. The hipped element is clad in composition shingles and numerous vents dot both the hipped and flat elements of the roof. The entrance, located on the northwest side of the building, is accessed by a short concrete walkway leading to a glass and metal door that is sheltered by an aluminum and canvas awning (**Photograph 16**). Fenestration on this elevation consists of modern fixed aluminum-frame windows on both the first and second stories. Overhead freight doors are located on the southeast side of the building and there are no openings on the southwest or northeast sides of the building (**Photograph 17** and **Photograph 18**).

#### 980 Hamilton Avenue (MPK 56)

The two-story building located at 980 Hamilton Avenue, southeast of 1374 and 1376 Willow Road, was constructed in 1962. The rectangular plan building sits on concrete foundation and is topped a roof clad in composition shingles. The roof is a combination of a central hipped element and a flat element that extends out from the hipped portion to a small parapet. Numerous vents dot both the hipped and flat elements of the roof. The exterior walls of the building are constructed of concrete panels clad in replacement stucco with vertical score marks. The building's northwest façade is the only side that features fenestration.

A set of glass and metal double doors sheltered beneath a metal awning on the west half of the southwest-facing façade serves as the building's primary entrance. This entrance is located in a former freight opening. The remainder of the wall surface has no openings (**Photograph 19**). The northwest and southeast ends of the building each feature additional entrances. The northwest side has three metal doors. The upper portion is fenestrated by a row of ten square windows with fixed aluminum frames, all of which appear to be modern replacements (**Photograph 20**). The southeast side, which has no windows, is punctuated by a set of metal double doors at the center and a single metal door at the south corner. The location of three former garage doors is evidenced by horizontal breaks in the in the three central wall panels (**Photograph 21**). The northeast side, which was partially obscured at the time of recordation by busses and trucks, has no openings except for a set of metal doors at the center, two metal louvered vents, and two openings occupied by exterior air conditioning units. Whereas the other sides of the building feature vertical score marks to demarcate separate bays, the northeast side includes concrete pilasters that divide the wall surface (**Photograph 22**).

#### Modern Buildings

The complex also contains 14 modern buildings, constructed between 1981 and 1996, most on the eastern two-thirds of the site. They exhibit a variety architectural styles and forms and are visually distinct from the discussed historic-era buildings. See typical examples shown in **Photographs 1, 23, and 24**, and for a list of the modern buildings, see **Table 1**.

## B6. Construction History (continued):

**Table 2. Construction History for Evaluated Buildings at Menlo Science & Technology Park**

Address / Bldg No.	Construction History
1390 Willow Road / MPK 50	Built 1956; southeast wing addition, built 1960; alteration dates unknown: roof parapet addition; windows and doors replaced; Hiller Aircraft signage removed
1370 Willow Road / MPK 54	Built 1962; alteration dates unknown: replacement doors; replacement windows (mostly on first floor); first-floor northwest entrance enclosed with fixed windows; modern stucco siding application.
1374-76 Willow Road / MPK 55	Built 1959; Addition, 1376 Willow Road built 1962; alteration dates unknown: replacement aluminum-frame windows and aluminum-frame glass doors; enclosed and reduced freight door openings on southeast side; altered walls on northeast side.
940 Hamilton Court (1392 Hamilton Court, MPK 51)	Built 1961; major remodel in 2007 included two-story projecting main entrance addition, replacement windows, replacement doors, window additions, two-story full-length southwest-side addition, and siding alterations, including adding raised wall panels.
960 Hamilton Court / MPK 53	Built 1961; alteration dates unknown: multiple enclosed freight openings; replacement aluminum-frame windows; replacement main entrance door; prefabricated buildings on northeast side added 1962 and demolished dates unknown.
980 Hamilton Avenue / MPK 56	Built 1962; alteration dates unknown: replacement aluminum windows and doors; added windows and doors, including on southwest and northwest sides; remove freight doors on southeast side.

The construction histories for the individual buildings are based on Building Permits on file at City of Menlo Park Building Division; Assessor Property Records on file at San Mateo County Assessor Office; historical and aerials photographs; and field survey conducted for this document. The buildings also underwent many interior alterations throughout their histories that are not enumerated here.

## B10. Significance (continued):

### Historic Context

The buildings at Menlo Science & Technology Park were initially developed in 1956 in north Menlo Park, a city along the San Francisco Bay in southeast San Mateo County. Since that time, the buildings served a variety of purposes, including the design and testing of Hiller Aircraft helicopters, the covert development of spy satellites for the CIA, and, more recently, offices and warehouses for tech-related businesses.

### *Menlo Park History*

The Menlo Science & Technology Park property is located within the former 35,200-acre *Rancho de las Pulgas*, which was granted to Luis Arguello—the first Mexican governor of California—in 1835. Settlement of the area was slow through the mid nineteenth century, led in large part by its proximity to the shipping port at Ravenswood Slough (see **Location Map**). The port and its townsite were established in 1849 with the intent of becoming the premier shipping wharf for southern San Mateo County's burgeoning lumber industry, but ultimately that mantle was taken up by Redwood City, a bayfront town a few miles to the northwest. As the importance of Ravenswood waned in the 1860s, Lester Cooley began acquiring property in the area, using the land for a successful agricultural business. Other early settlers included Maurice Dooley, who used wealth he earned from an express delivery company to invest in real estate in Ravenswood and Menlo Park, and Charles Kavanaugh, who arrived in the area in the 1850s, purchasing 150 acres of land which he used for a profitable grain farming operation.<sup>1</sup>

Most of the Ravenswood area remained rural and undeveloped until the mid-twentieth century, when the City of East Palo Alto and the City of Menlo Park incorporated, following an unsuccessful attempt to found a City of Ravenswood. The City of

<sup>1</sup> Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, Calif.: Star Publishing, 1982), 30, 36, 37, 133-134; B.F. Alley, *History of San Mateo County, California* (San Francisco: B.F. Alley, 1883), 211.



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\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Recorded by: J. Freeman & M. Van Meter

\*Date: March 27, 2019

☒ Continuation ☐ Update

Menlo Park first incorporated in 1874, but landowners fearful of high local taxes led a campaign to disincorporate two years later, which remained the formal status of Menlo Park until the 1920s. Through the end of the nineteenth century, Menlo Park's commercial core located on the Southern Pacific Railroad (about two miles west of the subject property), remained the local hub of activity in this part of San Mateo County, while the area surrounding town was farmland. Samuel Carnduff settled the land on which the subject property is located and farmed there until his death in the 1880s (**Figure 1**). The land remained in the Carnduff family through the first half of the twentieth century.<sup>2</sup>



**Figure 1.** Menlo Park and Ravenswood in 1894, with the subject property in circle.<sup>3</sup>

The area around the subject property during the early twentieth century was held in large tracts of agricultural land until several major changes helped to transform the Ravenswood and Menlo Park areas. In 1910, Ravenswood was bisected by the Southern Pacific Railroad's Dumbarton Cutoff, which branched from the main line connecting San Francisco and San Jose near Redwood City. The Dumbarton Cutoff followed an easterly route through Ravenswood and then across the San Francisco Bay on a newly constructed bridge, and connected the Peninsula with the East Bay. To the south, in Menlo Park, the St. Patrick's Seminary & University was founded just before the turn of the twentieth century north of Middlefield Road, and would continue as one of the city's largest landowners through the twentieth century. During World War I, the military used land south of downtown Menlo Park to train nearly 30,000 soldiers at Camp Fremont, which helped drive infrastructural improvements in town. In association with Camp Fremont, the Army built a hospital north of the seminary and after the war it was transferred first to the Public Health Service, which oversaw the medical needs of veterans returning from war, then to the newly created Veterans Bureau (precursor to the Veterans Administration and, later, Department of Veterans Affairs), established to oversee the federal government's wide array of veteran benefits, including health care. The increasing density of this development and throughout the Peninsula and San Mateo County led to expansion of state and local roads, including construction of the Dumbarton Bridge and Bayshore Highway in the late 1920s and early 1930s.<sup>4</sup>

<sup>2</sup> Hynding, *From Frontier to Suburb*, 133-136; Werner C. Foss, Jr., "The History of Ravenswood," 23, San Mateo Junior College, on file at San Mateo County Historical Museum; Davenport Bromfield, *Official Map of San Mateo County, California* (San Francisco: Schmidt Label & Lith. Co., 1894);

<sup>3</sup> Bromfield, *Official Map of San Mateo County, California*.

<sup>4</sup> Hynding, *From Frontier to Suburb*, 247, 260; ESA, "Menlo Park El Camino Real and Downtown Specific Plan, Draft Environmental Impact Report," prepared for City of Menlo Park, April 2011, 4.4-5; J.V. Newman, *Official Map of San Mateo County*, 1909; Davenport Bromfield, *Map of the County of San Mateo, California* (San Francisco: D. Bromfield, 1910).

Despite these substantial changes to Menlo Park and its surroundings, the army closed Camp Fremont after World War I and the local population receded and growth returned to a more gradual pace until the post-World War II period. The end of the Second World War brought rapid suburban expansion to the Peninsula, as it did to the rest of the country, along with Cold War-related development and the introduction of the high-tech industry. Menlo Park's population grew tenfold between 1930 and 1970 as suburban tracts spread in the areas around downtown. The city quickly annexed many of these new residential areas, expanding north and east into the Ravenswood district. In 1949, the neighborhoods of Belle Haven and Suburban Park, west of Willow Road and north of Bay Road, were incorporated into Menlo Park. By the late 1950s, a fight erupted over the remaining unincorporated portions of the Ravenswood district as the City of Menlo Park sought to annex much of the land but faced opposition. A proposal to incorporate a separate City of Ravenswood was put forward, but after its incorporation failed, Menlo Park annexed a large swath of land generally north and east of the Belle Haven and Suburban Park neighborhoods, an area that included the subject property.<sup>5</sup>

In the post-war era, the rise of technology companies drove the growth of Menlo Park and the surrounding area, which in many ways was closely linked to research and development undertaken by the federal government's intelligence and military departments. It was in the early years of the post-war period that Silicon Valley, a tech-heavy region of the south San Francisco Bay, was born. Major electronics companies were attracted to the area by cheap land, improved transportation facilities, willing local governments, and the availability of professional talent coming out of University of California, Berkeley, and Stanford University. The establishment of the Stanford Research Institute, founded in 1946 and eventually located on Ravenswood Avenue in Menlo Park, was an early foray in the relationship between high-tech innovations, university resources, and government research. During its first years, Stanford Research Institute helped the Air Force study the potential for expansion in the aircraft industry, hosted the first national symposium on air pollution, and over time was an important stepping stone for engineers coming out of college before entering private industry.<sup>6</sup>

As the high-tech industry grew throughout the region, several local governments promoted the development of professional office buildings and relatively clean industrial plants. The City of Menlo Park prepared a land use-focused master plan to manage the boom of the late 1940s and early 1950s through regulated professionally-administrative zoning and it was adopted by the City Council in 1953. The new zoning districts were established outside of the city center, often where agriculture had historically dominated, and were strictly limited to industrial uses by "smokeless" companies. This spurred the development of new light-industrial parks in northeast Menlo Park, including the 200-acre Bohannon Industrial Park by noted Bay Area developer David Bohannon that included several pharmaceutical and electronic companies on a site about a mile west of the subject property. The Kavanaugh family, descendants of early Ravenswood settler Charles Kavanaugh, who still owned a vast acreage of farmland including an area south of the Menlo Science & Technology Park, decided cash out on their holdings that had appreciated in value to \$1,000 per acre, turning "barley into buildings." The Kavanaugh Industrial Park quickly attracted noteworthy tenants, such as Signal Oil and *Sunset Magazine*.<sup>7</sup>

<sup>5</sup> "Menlo May Annex Portion of E.P.A.," *San Mateo Times*, 23 April 1958, 20; "New Hassle Develops in East Palo Alto Incorporation Row," *San Mateo Times*, 28 May 1958, 2; "Annexation Vote at Menlo," *San Mateo Times*, 16 December 1958, 1; "Bellehaven to Join Menlo Pk.," *San Mateo Times*, 15 January 1949, 2.

<sup>6</sup> Hynding, *From Frontier to Suburb*, 296; SRI International, "Timeline of SRI International Innovations: 1940s-1950s," [webpage], accessed online at <https://web.archive.org/web/20061129224242/http://www.sri.com/about/timeline/timeline1.html> on 4 April 2019; Placeworks, "ConnectMenlo: General Plan Land Use & Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park," June 2016, 4.4-6 – 4.4-7.

<sup>7</sup> Charmayne Kreuz, *A Tradition of New Horizons: The Story of Menlo Park Commemorating Its 1874 Incorporation* (Menlo Park, CA: City of Menlo Park, 1974), 53-54; Michael Svanevik and Shirley Burgett, *Menlo Park, California: Beyond the Gate* (San Francisco, CA: Custom & Limited Editions, 2000), 153.

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\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Recorded by: J. Freeman & M. Van Meter

\*Date: March 27, 2019

☒ Continuation ☐ Update

### *Hiller Aircraft*

The Menlo Science & Technology Park property was developed starting in the 1940s by Stanley Hiller, who used the property for nearly 20 years to design, test, and manufacture helicopters by his company Hiller Aircraft.<sup>8</sup> During this period, part of the property was used by Lockheed Corporation for a secret CIA-sponsored program to design and build surveillance satellites. Like other local properties turned into industrial parks during the mid-twentieth century, the Hiller Aircraft site had previously been used as farmland. The Carnduff family, who were descendants of long-term Ravenswood farmers, owned the land. When Hiller developed the site in 1947, he constructed his plant in open fields at the southeast corner of the former Carnduff property and initially retained the agriculture-related buildings that were sited on the north end of the property, adjacent the railroad tracks.<sup>9</sup>

Stanley Hiller's story started when he was still a teenager building toy race cars in a barn behind his parents' house. He was only 19 in 1944 when he launched his first successful flight of a helicopter he designed and built. This project formed the basis of Hiller Aircraft, a company that would compete with the leading aircraft manufacturers around the country, developing a wide range of helicopters for both civilian and military uses. By 1948, Hiller Aircraft had won multiple military contracts, briefly teamed up with Henry Kaiser, and eventually purchased the old Carnduff farmland for construction of a new research and production plant (**Figure 2**).<sup>10</sup>



**Figure 2.** Hiller Helicopters' first plant at the site, a large building at the southwest corner that was demolished in the 1980s as the property was transformed into offices.<sup>11</sup>

Stanley Hiller's initial success was driven in part by his design for a coaxial rotor helicopter, which placed two rotors spinning in opposite directions in a vertical position above the cockpit. This design eliminated the need for a long tail with counterbalancing rotor and made the helicopter more compact. However, the design was less stable and in an accident that was nearly catastrophic for Hiller, he was convinced to abandon the coaxial rotor. What Hiller and his team came up with was a single rotor with a tail rotor and innovative stabilization features that made it easier to use. While he was initially among a limited number of helicopter makers using the coaxial rotor design, the single rotor design he turned to was typical of helicopters of that era. The company turned this new design into the Hiller 360, a reliable, consumer-oriented helicopter that

<sup>8</sup> Throughout its history, the company went by several names, including Hiller Industries, United Helicopters, Hiller Helicopters, and Hiller Aircraft Corporation. For the purposes of this form, the name Hiller Aircraft is used to identify the company before it is acquired by Fairchild Stratos Corporation in the 1960s, after which it is referred to as Fairchild Hiller.

<sup>9</sup> Several former Carnduff buildings, which included both agriculture-related structures and the family's residential area, remained on the property until about the 1970s. Over time Hiller added a few more buildings and structures, but all have since been demolished. Hiller used this area of the property for experimental research and testing.

<sup>10</sup> Foss, "The History of Ravenswood," ; Davenport Bromfield, *Official Map of San Mateo County, California* (San Francisco: Schmidt Label & Lith. Co., 1894); George A. Kneese, *Official Map of San Mateo County, California* (Redwood City, CA: San Mateo County, 1927; John Straubel, *One Way Up* (Palo Alto, CA: Hiller Aircraft Co., 1964), 5-7; "Genius Declares His Vertical Flying Craft Lands in Small Area," *Oakland Tribune*, 30 August 1944, 8; Rosa Jenson, "The Hiller-Hornet," *Skyline*, December 1951: 39-41; "Helicopter Plant for South County," *San Mateo Times*, 9 December 1946.

<sup>11</sup> Jenson, "The Hiller-Hornet," 39.

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was relatively affordable. Hiller gained attention for his helicopter with creative marketing—he flew the Hiller 360 across the country, stopping in more than 400 cities along the way, before ultimately creating a spectacle in downtown Manhattan.<sup>12</sup>

Despite Hiller's concerted efforts to market his helicopters to civilian buyers, sales sputtered. The cost of the helicopter was simply out of reach for many civilians and while Hiller demonstrated the benefits—for example, as a crop duster or commute vehicle—the civilian market never emerged. Undeterred, Hiller Aircraft turned back to the military, which began ramping up its war effort in the late 1940s as Post-World War II divisions on the Korean Peninsula turned to armed conflict between the US-backed South Koreans and the Chinese and Soviet Union-backed North Koreans in 1950. The United States immediately invested in new military equipment, including aircraft like helicopters. Hiller Aircraft immediately set about converting its Hiller 360s to meet military standards, developing what was renamed the Hiller Raven. The revamped helicopter received military approval in 1950 and by the end of the year Hiller Aircraft was working under a \$3.5 million contract with the Army and Navy. In Korea, the Ravens were employed in medical evacuations, spotting gunfire, and guarding planes and other aircraft. The Ravens proved successful despite the complications of using what was essentially a casual civilian aircraft for precise and demanding military requirements. Still, Hiller Aircraft faced competition with other emerging helicopter companies, like Hughes Aircraft and Bell Aircraft, and only a few hundred of the Hiller Ravens were ever deployed during the Korean War.<sup>13</sup>

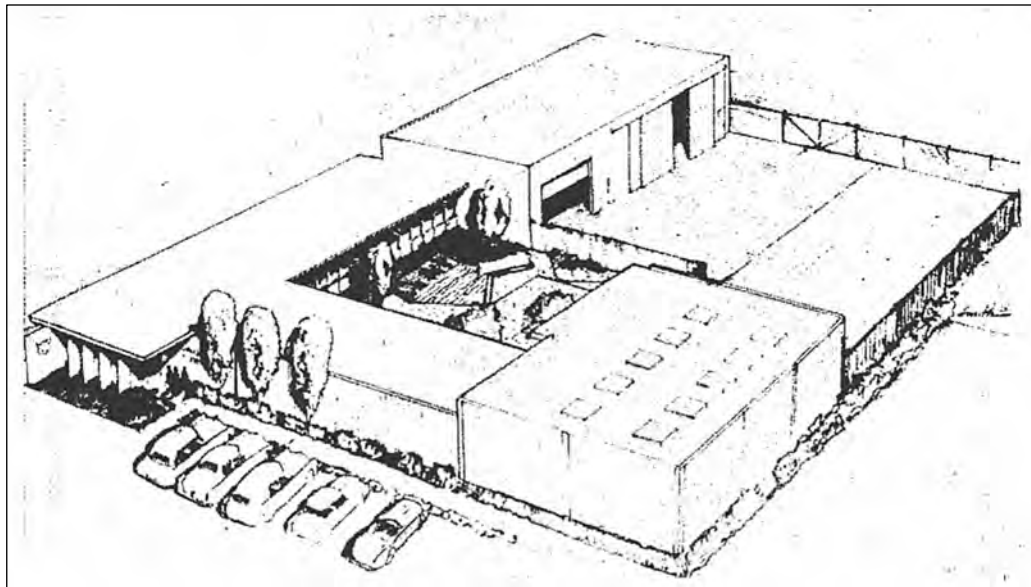
After the Korean War, Hiller Aircraft won smaller military contracts and focused less on the production of aircrafts and more on research and development. The company turned its efforts from rapid manufacturing of the Raven to more deliberate research of unique and innovative technology, much of which was still funded by the U.S. military. In the early 1950s, the increased demand for Hiller Ravens had led Hiller to build an addition onto the main plant, nearly doubling its square footage, and construct three engineering and manufacturing buildings to the south and east.<sup>14</sup> But as the company turned its attention toward research and development, Hiller Aircraft initiated plans to develop a new research facility on the property in 1955. The Advanced Research Division facility (**Figure 3**) was designed by Vincent G. Raney, a San Francisco architect, and erected in 1956. This building remains on the property at 1390 Willow Road (MPK 50) (**Photographs 2-4**). Raney, who earned an architectural engineering degree in 1929 and worked for other architectural firms through the early 1930s, founded his own firm in 1935 designing a variety of building types. He became proficient in designs of churches, schools, shopping centers, and gas stations, but was best known for his unique dome design for Century Theatres, which were built to showcase new widescreen film technology.<sup>15</sup>

<sup>12</sup> Straubel, *One Way Up*, 7-11; Jenson, "The Hiller-Hornet," 39; "Hiller Helicopter 'Unveiled' to Public," *Oakland Tribune*, 12 December 1947.

<sup>13</sup> Straubel, *One Way Up*, 15-19; "Navy Gives Contract to Hiller Helicopters," *Oakland Tribune*, 23 November 1950; "Hiller Helicopter Wins Army Order," *San Francisco Examiner*, 14 December 1950; Robert Sandifer, "War Experience Boosts Demand for Helicopters," *Los Angeles Times*, 9 May 1951.

<sup>14</sup> The main plant and the three adjacent buildings constructed during the early 1950s have since been demolished.

<sup>15</sup> "Hiller Helicopters Establishes New Division of Research," *San Mateo Times*, 5 July 1955; Straubel, *One Way Up*, 15-19; Aero Services Corporation, Santa Clara County Aerial Photography, CIV-1956, prepared for USDA – Agricultural Stabilization and Conservation Service, 1956, on file at UC Santa Barbara Davidson Library.



**Figure 3.** Architect's drawing of Hiller Aircraft's Advanced Research Division Facility.<sup>16</sup>

Military contracts continued to support Hiller Aircraft during the late 1950s and early 1960s. The company designed several new aircraft, but most proved to be duds. A helicopter powered by small jets on the tips of the rotor blades helped to reduce the overall weight of the aircraft, but was too loud and visible for military uses. Hiller designed multiple platform-style aircrafts, but because of the complications in the engineering, proved more of a novelty than a realistic craft. Hiller also entered the competition to design a vertical takeoff and landing aircraft, designing an airplane with two coaxial propellers attached to a wing that rotated in the vertical position for helicopter-like function and in the horizontal position for airplane-like function. The complications associated with what Hiller called the Propelloplane also proved too difficult to turn into reality. Still, the military contracts funded this research and development helped support continued expansion at the Hiller Aircraft site during the late 1950s and early 1960s (**Figure 4**, **Figure 5**, and **Table 1**). In 1958, Hiller constructed a new 10,260-square-foot warehouse and shipping building (the building currently at 1374 Willow Road, MPK 55) (**Photographs 10-13**), some of which was used for production of military and civilian helicopter components. Hiller Aircraft continued to obtain Defense Department contacts, and through a series of acquisitions and mergers with related companies, expanded its workforce and planned a \$2 million expansion starting in 1961. The expansion included four new buildings to provide offices for a marketing division (1370 Willow Road, MPK 54, **Photographs 5-9**), and two for engineering and manufacturing (1376 Willow Road, MPK 55, **Photographs 10-13**, and 980 Hamilton Avenue, MPK 56, **Photographs 16-18**). It was during this period that the former Advanced Research Division was occupied by Lockheed Corporation for their work on the Corona satellite (see discussion of the Corona satellite program, below).<sup>17</sup>

<sup>16</sup> "Hiller Helicopters Establishes New Division of Research," *San Mateo Times*, 5 July 1955.

<sup>17</sup> Straubel, *One Way Up*, 20-22, 26, 28-30; "Hiller Tells Plans to Build Plant Addition," *San Mateo Times*, 17 June 1958; "Hiller Helicopters Noe Hiller Aircraft Corporation," *San Mateo Times*, 12 July 1958; "Business, Real Estate Loans Up in Far West," *San Francisco Examiner*, 10 October 1958; "\$6,000,000 'Copter Contract Awarded," *Oakland Tribune*, 1 January 1959; "Hiller Lands Defense Job," *San Mateo Times*, 7 February 1961; "\$2,000,000 Expansion at Hiller," *San Mateo Times*, 6 March 1961;





**Figure 4.** In 1956, the property includes an expanded main factory with three adjacent buildings and the newly constructed Advanced Research Division facility, near the north end of the property.<sup>18</sup>



**Figure 5.** By 1965, the facilities Hiller Aircraft had built a few years earlier, including offices for the marketing division located immediately north of the original plant, fronting Willow Road. Three new warehouses surrounded the plant. At the north end of the property, the former Advanced Research Facility, now occupied by Lockheed, included two new support warehouses.<sup>19</sup>

<sup>18</sup> Aero Services Corporation, Santa Clara County Aerial Photography, CIV-1956, prepared for USDA – Agricultural Stabilization and Conservation Service, 1956, on file at UC Santa Barbara Davidson Library.

<sup>19</sup> Cartwright Aerial Surveys, Alameda, Contra Costa, Marin, Napa, Sacramento, San Francisco, San Mateo, Solano, Sonoma Counties Aerial Photography, CAS-65-130, prepared for California Division of Highways, 1965, on file at Santa Barbara Davidson Library.

By the mid 1960s, the helicopter industry began to suffer the reality of being closely tied to the military. Commercial uses of helicopters were never realized in the manner Hiller and others imagined. The technology also proved too expensive and too complicated for casual use. Ultimately, it required the investment of time and money that only the military was willing to provide, and this cause many helicopter companies to begin to consolidate. Hiller had already agreed to a merger deal with Ohio-based Electric Autolite Company. Under the arrangement Hiller remained a semi-autonomous subsidiary assisted by Electric Autolite's Research Division in further research and development. It continued to build newer versions of its Raven helicopter, which the military began deploying to Vietnam, but Hiller Aircraft struggled to develop new, profitable models. In 1964, Fairchild Stratos Corporation purchased Hiller from Electric Autolite in a move that marked a much more significant change for Hiller. Fairchild wanted to win an upcoming military helicopter contract that Hiller was competing for, but also sought to diversify its aircraft holdings. The merged company was renamed Fairchild Hiller Corporation and Stanley Hiller was named executive vice president. Fairchild Hiller ultimately lost the contract to Hughes.<sup>20</sup>

After another failed attempt to gain a lucrative military contract—this time with an airplane designed to compete with what would become the highly successful F-4 Phantom—Fairchild Hiller refocused its energies on aerospace. As the company began to downsize, it announced plans in 1965 to move most of the Menlo Park operations to the company's headquarters in Maryland. The primary elements of the Menlo Park plant were relocated, including management, marketing, and personnel, as well as the teams manufacturing of the company's FH-1100 helicopter. The company retained a pared-down operation in Menlo Park, which now included only spare parts distribution, overhaul, and some research facilities. Disillusioned, Stanley Hiller left not only Fairchild Hiller but the industry to start a business that helped turn around failing companies.<sup>21</sup>

By the late 1960s, Fairchild began leasing out parts of the Menlo Park property after Fairchild Hiller scaled back and Lockheed ceased operations at the site (see the Corona Satellite Program, below). Listed as the Fairchild Hiller Industrial Park, the property had several tenants, including US Geological Survey and engineering and manufacturing companies. It appears many of the companies that occupied the buildings through the 1970s were associated with research and development of aeronautic electrical engineer equipment. Granger Associates, an aeronautic electrical research and manufacturing company started by John Granger, used the properties at 1360 Willow Road through 1977. By 1973, the US Geological Survey opened offices at 1380 Willow Road and remained there through at least 1978. The building at 1390 Willow Road was used in 1973 by a company working on scientific instrumentation, Radiation Systems, Incorporated, and subsequently companies associated with aeronautic engineering. In 1979, Fairchild sold the property to Lincoln Properties, a development company that began expanding and redeveloping the buildings. All buildings have undergone some level of alterations since then and several new buildings were added to the site in the 1980s, often resulting in changes to street numbers (**Figure 6**).<sup>22</sup>

<sup>20</sup> "Autolite to Merge Hiller Air," *San Francisco Examiner*, 28 July 1960; "Hiller Firm is Purchased By Fairchild," *San Mateo Times*, 4 May 1960; "Hiller Name is Added to That of Parent Firm," *San Mateo Times*, 23 September 1964; Donald M. Patillo, *Pushing the Envelope: The American Aircraft Industry* (Ann Arbor, MI: University of Michigan Press, 1998), 239-240.

<sup>21</sup> Patillo, *Pushing the Envelope*, 240; "Hiller Sets Eastern Move," *San Mateo Times*, 22 July 1965.

<sup>22</sup> "Fairchild-Hiller Industrial Park," [advertisement], *San Francisco Examiner*, 20 April 1967; R. L. Polk & Co., *Polk's Menlo Park (San Mateo County, Calif.) City* (Monterey Park, CA: R. L. Polk & Co., 1967, 1971, 1973, 1977, 1978);





**Figure 6.** In the early 1980s, Lincoln Properties had begun to make substantial changes to the property by adding new buildings, developing a new road system, and paving parking lots. In this 1982 aerial, the original Hiller plant and its adjacent buildings remained but within a few years they would be demolished and replaced with new office buildings.<sup>23</sup>

### *CONONA Satellite Program*

The Lockheed Corporation used part of the Hiller Aircraft property between 1958 and 1969 as a secret facility for the development of the CIA's Corona surveillance satellite. The satellite was developed as part of the United States' effort to improve surveillance during heightening tensions with the Soviet Union, reflecting various aspects of the Cold War contest, in the space race, nuclear arms, espionage, and intelligence gathering. During the 1950s, both the United States and the Soviet Union rushed to achieve strategic military advantage by developing increasingly more powerful nuclear weapons, rockets, and airplanes to deliver weapons and a variety of systems to monitor each other's progress. The Soviet Union's successful 1957 launch of Sputnik, the first satellite to orbit Earth and evidence that the Soviets had progressed significantly in developing an intercontinental ballistic missile, and the risks of reconnaissance flights using aircraft like the U-2, created urgency in better understanding the Soviet Union's capabilities. For the United States, the solution was the Corona surveillance satellite.<sup>24</sup>

Agencies of the US government had been researching the possibility of sending surveillance satellites to space since just after World War II. The nature of nuclear warfare necessitated knowing as much as possible, as soon as possible about an opponent's capabilities. This became accepted wisdom within the US government at the same time that researchers were exploring the possibility of space travel and installing satellites in Earth's orbit. By the early 1950s, the Air Force was working with private contractors to study a reconnaissance satellite, but it was not until Sputnik launched that plans were fast-tracked. The Corona program was initiated under the cover of deep secrecy and only a select number of government officials and contractors of its existence. The primary contract to design and build the Corona was awarded to Lockheed Corporation under the direction Lockheed engineer James Plummer, who was working at the company's Palo Alto research facility. In March 1958, Plummer presented his preliminary designs to the Air Force, CIA, and others, and received approval to proceed with development. On

<sup>23</sup> USGS, Aerial Photograph, [San Mateo County], 1982.

<sup>24</sup> Curtis Peebles, *The Corona Project: America's First Spy Satellites* (Annapolis, MD: Naval Institute Press, 1997), 16-21, 23-24, 35-40, 48-49; Donald P. Steury, "A Tribute to the People of the Air Force Satellite Control Facility; the National Security Impact of Its Corona Satellites," History Section, Center for the Study of National Reconnaissance, Business Plans and Operations, National Reconnaissance Office, Chantilly, Virginia, April 2007, 1-2.

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April 1, 1958, Lockheed signed a lease with Hiller Aircraft to use the helicopter company's then vacant Advanced Research Division facility (**Figure 7**).<sup>25</sup>



**Figure 7.** From 1958 to 1969, the Hiller Aircraft Advanced Research Division building was used by Lockheed Corporation to develop the Corona surveillance satellites. As a highly guarded secret, the program did not change the appearance of the building, which retained the Hiller Aircraft signage, as seen in this photograph. The signage has since been removed.<sup>26</sup>

Work developing the satellite started immediately after Lockheed took over the facilities at the Hiller Aircraft property. One of the critical elements of working at the site was ensuring secrecy of the program. Lockheed took great measures to restrict access to the site while maintaining the cover that the building remained part of the Hiller Aircraft operation. Within a couple years, two large research and manufacturing buildings were constructed, and fences went up around the site, separating it from Hiller Aircraft operations to the south (**Figure 8**). These three buildings remained on the property at 1390 Willow Road, 940 Hamilton Court, and 960 Hamilton Court (**Photographs 2-4 and 14-18**), but were substantially altered after 1970. Though Lockheed retained the Hiller Aircraft signage (which has since been removed) and dressed security guards in Hiller attire, Hiller employees were instructed never to enter the facility. Plummer and the other Lockheed engineers drove a different route to the facility each day to make sure they were not followed. This secrecy was important for ensuring the Soviets would be kept in the dark. If successful, the satellite could be launched into orbit about 100 miles above Earth, capture high-resolution stereo-image photography of secret sites throughout the Soviet Union, and be retrieved, all without revealing its surveillance purpose and thus giving the United States an upper hand. However, achieving these goals was difficult. It took the work of several contractors, each of which worked on different aspects of the satellites. It was Lockheed's job to receive all the parts at the Hiller Aircraft facility, assemble them into launch-ready satellites, and conduct testing. Eastman Kodak made the film. Itek Corporation engineered the cameras. General Electric created the reentry capsule that was ejected from the satellite after photographs were taken.<sup>27</sup>

<sup>25</sup> Peebles, *The Corona Project*, 40-42, 44-45, 50-51; Dwayne A. Day, "The Development and Improvement of the CORONA Satellite," in *Eye in the Sky: The Story of the Corona Spy Satellites*, editors Dwayne A. Day, John M. Logsdon, and Brian Latell (Washington, DC: Smithsonian Institution Press, 1998), 48-49; Dwayne A. Day, John M. Logsdon, and Brian Latell, eds., *Eye in the Sky: The Story of the Corona Spy Satellites* (Washington, DC: Smithsonian Institution Press, 1998), 191.

<sup>26</sup> Frederick C.E. Oder, James C. Fitzpatrick, and Paul E. Worthman, *The CORONA Story* (Washington, DC: NRO, 1987), 33.

<sup>27</sup> Peebles, *The Corona Project*, 50-51; Day, Logsdon, and Latell, eds., *Eye in the Sky: The Story of the Corona Spy Satellites*, 191. National Reconnaissance Office, "Review and Redaction for Automatic Declassification of 25-Year-Old Information," Version 1.0, Approved by Donald M. Kerr, 2006, 254.

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**Figure 8.** These three buildings at the Hiller Aircraft property were used by Lockheed from 1958 until 1969 for testing and development of the Corona satellites. Note that these buildings were separated from the rest of the facility to the south by fencing.<sup>28</sup>

It took only nine months for the Corona team to develop a test satellite ready for launch, but that proved to be only the first step in a multi-year effort to build a reliable system. The first test launch on January 21, 1959, failed. The second one a month later did too. In fact, it was not until August 10, 1960, that the first Corona satellite was successfully launched into space, placed in orbit, and returned with photographs of Earth, making the first of its kind. Despite this achievement, the Corona satellite program struggled for several years because its success rate was spotty, as problems arose with nearly every aspect of the system, from blurred or foggy film to failed rocket launches. Nonetheless, engineering improved and by the mid-1960s Corona launches were succeeding more than they were failing. And the images captured helped fortify the United States' understanding of the strength and capabilities of the Soviet Union and its influence around the world. As the 1960s progressed, a new generation of surveillance satellites emerged and the Corona program was scaled down. In 1969, Lockheed moved its Corona program to its in Sunnyvale facility, near Moffett Field, where it continued the work until 1971 when the final Corona satellite was launched.<sup>29</sup>

#### NRHP and CRHR Eligibility Criteria

The criteria for listing properties in the NRHP and CRHR are essentially the same. The criteria for NRHP eligibility are codified in 36 CFR 60 and expanded upon in numerous guidelines published by the National Park Service. The eligibility criteria for listing a property in the CRHR closely parallel those of the NRHP and are codified in PRC 5024.1(c)(1)-(4). Eligibility rests on twin factors of significance and integrity. A property must have *both* significance and integrity to be considered eligible for listing in either the CRHR or NRHP. If a property possesses significance, it must be able to convey that significance through the integrity of the defining physical and architectural characteristics from the period of its significance. Loss of integrity from its significant period will remove a property's ability to convey its historical significance

<sup>28</sup> Cartwright Aerial Surveys, Alameda, Contra Costa, Marin, Napa, Sacramento, San Francisco, San Mateo, Solano, Sonoma Counties Aerial Photography, CAS-65-130, prepared for California Division of Highways, 1965, on file at Santa Barbara Davidson Library.

<sup>29</sup> Peebles, *The Corona Project*, 62-66, 80-83, 156, 173-174; Day, "The Development and Improvement of the CORONA Satellite," 51-52, 59-60, 83-85.

and render it ineligible. Likewise, a resource can have complete integrity, but if it lacks significance, it does not meet the eligibility requirements for listing in either the NRHP or CRHR and must also be considered ineligible.

Historic significance is judged by applying the NRHP criteria, identified as Criteria A through D. The NRHP guidelines state that a historic resource's significance must be determined by meeting at least one of the four main criteria. The NRHP criteria are:

NRHP Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history;

NRHP Criterion B: Are associated with the lives of persons significant in our past;

NRHP Criterion C: 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;

NRHP Criterion D: Have yielded, or may be likely to yield, information important to history or prehistory.<sup>30</sup>

The criteria for the CRHR are nearly identical to NRHP criteria, but have some differences. The CRHR criteria are identified as Criteria 1 through 4 and are:

CRHR Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

CRHR Criterion 2: Is associated with the lives of persons important in our past;

CRHR Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

CRHR Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.<sup>31</sup>

Integrity is determined by regarding the property's retention of its location, design, setting, workmanship, materials, feeling, and association to its period of significance. These seven aspects of integrity can be roughly grouped into three types of integrity considerations. Location and setting relate to the relationship between the property and its environment. Design, materials, and workmanship, as they apply to historic buildings, relate to construction methods and architectural details. Feeling and association are the least objective of the seven criteria and pertain to the overall ability of the property to convey a sense of the historical time and place in which it was constructed, or the historic events or people associated with the property. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. Association is the direct link between an important historic event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Because feeling and association depend on individual perceptions, their retention alone is insufficient to support eligibility of a property for the NRHP or CRHR.

<sup>30</sup> US Department of the Interior, National Park Service, "Guidelines for Applying the National Register Criteria for Evaluation," *National Register Bulletin* 15, 2.

<sup>31</sup> PRC 5024.1(c)(1)-(4).

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Evaluation: Significance

Six of the Buildings at the Menlo Science & Technology Park have important associations with significant historic events, patterns, or trends of development under NRHP Criterion A or CRHR Criterion 1; however, the individual buildings and the property as a whole have lost historic integrity and no longer convey the significance of the property (see integrity discussion below). Three of the buildings, 1390 Willow Road, 940 Hamilton Court, and 960 Hamilton Court (MPK 50, MPK 51, and MPK 53), are directly and importantly associated with the significant research and development that created the Corona surveillance satellite, the first spy satellite sent into space to capture aerial photography of sites around the world, including in the Soviet Union. The Corona satellite program proved pivotal in intelligence collection and national security, as well as future surveillance programs. While highly guarded information at the time, it has since been revealed that the Lockheed Corporation used these three buildings as the primary location for the research and development of the satellites between 1958 and 1969. As such, the buildings possess significance under Criteria A and 1 for their association with the pioneering period of the United States Cold War space-based surveillance programs. The period of significance for these buildings is 1958 to 1969. The characteristics that defined the buildings included the general architectural designs as well as the specific materials—such as windows, siding, and doors, arrangement of windows and doors—and the layout and spatial relationship of the buildings. These features included the International-style architecture for the building at 1390 Willow Road with original windows, signage, doors, stucco siding materials, and roof forms. The buildings at 940 Hamilton Court (aka 1392 Hamilton Court, MPK 51) and 960 Hamilton Court (MPK 53) featured mostly utilitarian designs with unadorned concrete walls, small square windows on the west side, steel personnel doors, and large rollup freight doors. Among the most important characteristics of the buildings were their relative isolation within the larger property, and the security features that helped secure the highly classified activities being undertaken inside, such as fencing that surrounded the buildings to separate them from the other buildings on the property, and each also included their own parking lot, which further segregated them from each other. Some features that characterized the buildings were present when Lockheed moved in, such as its original association with the Hiller Aircraft and the signage on the front of 1390 Willow Road (MPK 50) for Hiller Aircraft, both of which served as covers for the Lockheed operations. Additionally, the site location itself was generally secluded, at the far north end of Menlo Park's built environment and surrounded to the north and east by open fields. Since 1969, however, the buildings and the site as a whole have undergone considerable changes that have substantially diminished the historic integrity of the buildings and site and the ability of the property to convey its association with the historic Corona satellite program. The changes to the individual buildings—such as the major alterations to the entrance and the rear addition on 940 Hamilton Court (MPK 51), the removal of the original Hiller Aircraft signage, replacement doors and windows on 1390 Willow Road (MPK 50), and replacement windows on 960 Hamilton Court (MPK 53)—change the physical appearance and important characteristics of the buildings. Additionally, the changes to the site as a whole, particularly the addition of several office buildings and much larger warehouses to the north and east of the original buildings, removal of internal fencing, and integration of parking lots, substantially alter the original character of the individual buildings and the complex. See the discussion in the Integrity section below for additional information on the changes and the historic integrity of the buildings.

The three remaining historic-period buildings were developed for use by Hiller Aircraft to research, test, and manufacture helicopters and other aircraft. Most of the projects were conducted under contract with the United States Army or Navy, but only a few of the company's helicopter models were put into full production. While significant money, time, and effort were spent designing and building helicopters at this site, Hiller Aircraft did not prove to be an important company in the development of helicopters during the decades after World War II. The company frequently competed for military contracts to develop production-ready aircrafts, but repeatedly did not meet the military's requirements. It did succeed in earning research and development contracts, which proved lucrative for short periods, but usually never materialized into military aircrafts. One of its only successful helicopter models was the light observation type helicopter known as the Raven. It was first used in relatively small numbers during the Korean War and later used more extensively during the Vietnam War. Its success, however, did not translate into significance within the helicopter manufacturing industry. Many of the company's competitors, such as Bell Helicopters and Hughes Helicopters, developed a greater number of frequently more successful helicopter models and, unlike Hiller Aircraft, were able to transition into civilian markets. The buildings at this property associated with Hiller Aircraft do not possess significance within the helicopter industry that meet the eligibility requirements for listing in the NRHP and CRHR under these criteria. Even if the buildings possessed significance for their association with

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Hiller Aircraft, the buildings and the property as a whole have undergone substantial changes since they were used by Hiller Aircraft and these changes have diminished their historic integrity. See the discussion in the Integrity section below for additional information on the changes and the historic integrity of the buildings.

While the six historic-period buildings are also associated with the post-World War II rise of technology companies in the Silicon Valley, they are not significant within that association. Relative to other important projects throughout the area, such as the Stanford Research Institute, the Hiller Aircraft operation and the use of the buildings for development of the Corona satellites did not play a major or important role in the regional growth of technology companies. Despite having success, Hiller Aircraft was not among the most important technology-related companies in the area nor was it instrumental in the growth of additional tech-related companies. Lockheed's use of the buildings for the Corona project was highly insular and secretive. Although it was important for its association with the federal government's Cold War space-based surveillance programs, it did not play a significant role in the local technology industry. In any event, the buildings and the property as a whole have undergone major changes since the early history of the property such that the property no longer conveys its association with the growth of the technology industry.

The Menlo Science & Technology Park—individual buildings and as a whole—are also not eligible under NRHP Criterion B and CRHR Criterion 2, because they do not have direct, significant association with persons important to history. The property in general is most closely linked to Stanley Hiller, who started Hiller Aircraft and directed the development of the historic-period buildings on the property. Hiller proved to be a relatively successful innovator in helicopter technology. However, his innovations did not prove significant within the industry. His chief innovations, such as the coaxial rotor, stabilizing elements in his "Rotomatic" system, platform helicopters, ramjet powered helicopters, and tiltwing vertical takeoff and landing helicopter, were either derivatives of previous designs developed by others or failed to translate into successful, production-level aircrafts. While Hiller's business was successful for a time, especially during the early years, and his Raven helicopter contributed to the United States effort in the Korean and Vietnam wars, these were comparatively minor accomplishments compared to leaders of the field. As such, for the purposes of NRHP Criterion B and CRHR Criterion 2, Stanley Hiller is not considered a person whose contributions in his field of helicopter development rose to the level of significance. Moreover, the buildings are no longer associated with Stanley Hiller and have undergone significant changes since he was directly connected with the site. Thus, the buildings do not possess the historic integrity to convey their association with Hiller.

The historic-period buildings at Menlo Science & Technology Park are not significant as important examples of a type, period, or method of construction, they are not important examples of master architects or engineers, and they do not represent high artistic value. Therefore, the buildings—individually and as a collection—are not eligible for listing in the NRHP or CRHR under Criterion C or Criterion 3. Some of the buildings represent modest examples of International-style architecture, while most are mostly utilitarian in design. The buildings at 1370 Willow Road (MPK 54) and 1390 Willow Road (MPK 50) contain some elements of the International style, such as contrasting horizontal and vertical elements, rectilinear asymmetric designs, and lack of architectural ornament, but these are decidedly typical and basic elements of the style. The buildings lack the level of architectural detail and quality of design and materials to be considered important examples of International style. The building at 1390 Willow Road was designed by Vincent Raney, who was a successful architect in the San Francisco Bay Area who became known for his designs of the Century dome movie theaters. Despite gaining moderate success in the field, Raney was not generally recognized as one of the distinguished architects of his time. Some of his buildings, such as the domed theaters, may be considered significant for their designs, but his overall body of work in the field does not rise to the level of greatness. As such, the building at 1390 Willow Road is not an important example of a master architect. The remaining buildings represent very modest utilitarian designs. They were built as large warehouses and feature minimal windows, large freight doors, and tilt-up concrete panels. The buildings were designed to meet the basic functions of their occupants with little effort paid to aesthetic and architectural qualities. While the architects of these buildings are not known, they do not represent an important work of an unidentified craftsman. As such, none of the buildings at Menlo Science & Technology Park meet the requirements for eligibility under NRHP Criterion C or CRHR Criterion 3.

Under NRHP Criterion D and CRHR Criterion 4, this property and its buildings are not significant or likely sources of important information about historic construction materials or technologies that otherwise would not be available through documentary evidence. The buildings represent standard construction techniques of their historical period that are well

recorded by documentary evidence. The buildings mostly feature concrete tilt-up or wood-frame construction, both of which are very common and well understood methods. It is unlikely that any information revealed would add historically significant information to the common understanding of these type of structures.

#### Evaluation: Integrity

The property and the individual buildings have lost historic integrity to the historic period, including during the years when the building was associated with the historically significant Corona satellite program (1958-1969). All of the buildings have undergone some changes, and some of the buildings have undergone significant alterations. The buildings alterations are detailed in Sections P3a Description and in **Table 2** of B6 Construction History above, and can be seen illustrated in the photographs on the following pages. As detailed in the Significance section above, the features that characterize the three buildings directly associated with the important Corona satellite program—1390 Willow Road, 940 Hamilton Court, and 960 Hamilton Court (MPK 50, MPK 51, and MPK 53)—include their overall architectural designs, materials, layout, and spatial relationships within the complex. Since their significant period, the buildings have undergone several changes, including the replacement of windows, doors, and siding, and construction of roof parapets. The building at 1390 Willow Road has replacement siding and the original Hiller Aircraft signage on the front of the building has been removed. The buildings at 940 Hamilton Court and 960 Hamilton Court have replacement windows, personnel doors, and freight doors. In addition, the building at 940 Hamilton Court has substantial additions on the north and south sides. Elements of the overall property were also important to the character of these buildings. The relative isolation of the site and the security features for the three buildings associated with the Corona program were important character-defining elements. After their association with the Corona program, the security features have been removed and several new buildings have been constructed in the surrounding areas. The buildings are no longer directly associated with their historical uses. The three buildings directly connected with the development of the Corona satellites (1390 Willow Road, 940 Hamilton Court, and 960 Hamilton Court; MPK 50, MPK 51, and MPK 53) lost this association after the program was moved to facilities in Sunnyvale in 1969. These changes have substantially diminished the integrity of design, materials, workmanship, feeling, and association of the buildings at 1390 Willow Road, 940 Hamilton Court, and 960 Hamilton Court. The integrity of setting is also diminished because of modern construction in the immediate vicinity. The buildings retain their integrity of location because they have not been moved, but these three buildings do not retain overall historic integrity.

The remaining buildings on the property do not meet the NRHP or CRHR significance criteria. They have also undergone a variety of alterations that have diminished their historic integrity, including: additions, replacement of original windows and doors, enclosing freight doors, personnel doors, and other openings, creation of new openings, and changes to siding. It appears very few original windows or doors remain at any of the buildings. More substantial changes include additions and major alterations to entrances, such as at 960 Hamilton Court, where a two-story glass-wall entrance was built. These changes substantially diminish the integrity of materials, design, workmanship, and feeling of the historic-period buildings.

In addition to the changes to the individual buildings, the site as a whole underwent a major overhaul during the 1970s and 1980s. The original Hiller Aircraft plant and three adjacent buildings constructed in the 1950s (and seen in **Figures 2, 4, 5, and 6** above) were demolished. In the largely open space that was used for testing aircraft from the late 1940s to the mid 1960s, several new buildings were constructed, including some that dwarf the square footage of the historic-period buildings. In fact, as stated above, a critical element to the history of the site includes the large open space that characterized and helped protect the privacy of the Corona satellite program. Overall, 14 new buildings were constructed at the site, new roads were added, and paved parking lots fill most of the space between the buildings. These changes substantially diminish the integrity setting, association, feeling, and design of the property as a whole, as well as the individual buildings.

Like the buildings formerly associated with the Corona program, the other buildings on the property are no longer directly associated with their historical uses. The associations with the Hiller companies were lost during the 1960s when most of the operations were moved to the East Coast. Since then, the buildings have been used for a variety of office and industrial purposes. Ultimately, even though some of the buildings once possessed significance for association with the Corona satellite program, none of the buildings on the property, nor the site as a whole, meet the criteria for listing in the NRHP or CRHR because of the loss of integrity of materials, design, workmanship, feeling, setting, and association to the individual buildings, and the loss of design, feeling, setting, and association to the overall site.



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\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Recorded by: J. Freeman & M. Van Meter

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 2:** Northwest façade of 1390 Willow Road (MPK 50), with the entrance vestibule in the foreground, camera facing south, March 27, 2019.



**Photograph 3:** Northeast façade of 1390 Willow Road, showing the location of a secondary entrance and window ribbon, camera facing south, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 4:** Unfenestrated warehouse section of 1390 Willow Road (MPK 50), camera facing west, March 27, 2019.



**Photograph 5:** Primary, northwest façade of 1370 Willow Road (MPK 54), camera facing southeast, March 27, 2019.



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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 6:** Northeast façade of 1370 Willow Road (MPK 54), camera facing west, March 27, 2019.



**Photograph 7:** Southwest façade of 1370 Willow Road, camera facing northwest, March 27, 2019.



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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 8:** Unfenestrated section of the southeast façade of 1370 Willow Road, camera facing southwest, March 27, 2019.



**Photograph 9:** Semi-enclosed patio area at the rear of 1370 Willow Road, camera facing northwest, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 10:** Northwest façade of 1374 and 1376 Willow Road (MPK 55), camera facing south, March 27, 2019.



**Photograph 11:** Unfenestrated southwest façade of 1374 and 1376 Willow Road, camera facing north, March 27, 2019.



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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 12:** Northeast façade of 1374 and 1376 Willow Road (MPK 55), camera facing south, March 27, 2019.



**Photograph 13:** Southeast façade of 1374 and 1376 Willow Road, camera facing north, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 14:** Glass enclosure addition on the northeast façade of 940 Hamilton Court, aka 1392 Hamilton Court (MPK 51), camera facing south, March 27, 2019.



**Photograph 15:** Southeast façade of 940 Hamilton Court, camera facing southwest, March 27, 2019.



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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 16:** Northwest façade of 960 Hamilton Court (MPK 53), camera facing east, March 27, 2019.



**Photograph 17:** Overhead freight doors on the southeast façade of 960 Hamilton Court, camera facing northwest, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 18:** Unfenestrated northeast façade of 960 Hamilton Court (MPK 53), camera facing south, March 27, 2019.



**Photograph 19:** Southwest façade of 980 Hamilton Avenue (MPK 56), camera facing north, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 20:** Northwest façade of 980 Hamilton Avenue (MPK 56), camera facing southeast, March 27, 2019.



**Photograph 21:** Southeast façade of 980 Hamilton Avenue, camera facing northwest, March 27, 2019.



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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 22:** Northeast façade of 980 Hamilton Avenue (MPK 56), camera facing south, March 27, 2019.



**Photograph 23:** Typical view of modern buildings within the Willow Village complex, camera facing northeast, March 27, 2019.

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\*Recorded by: J. Freeman & M. Van Meter

\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Date: March 27, 2019

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 24:** Typical view of modern buildings within the Willow Village Complex, camera facing west, March 27, 2019.



**Site Map:**





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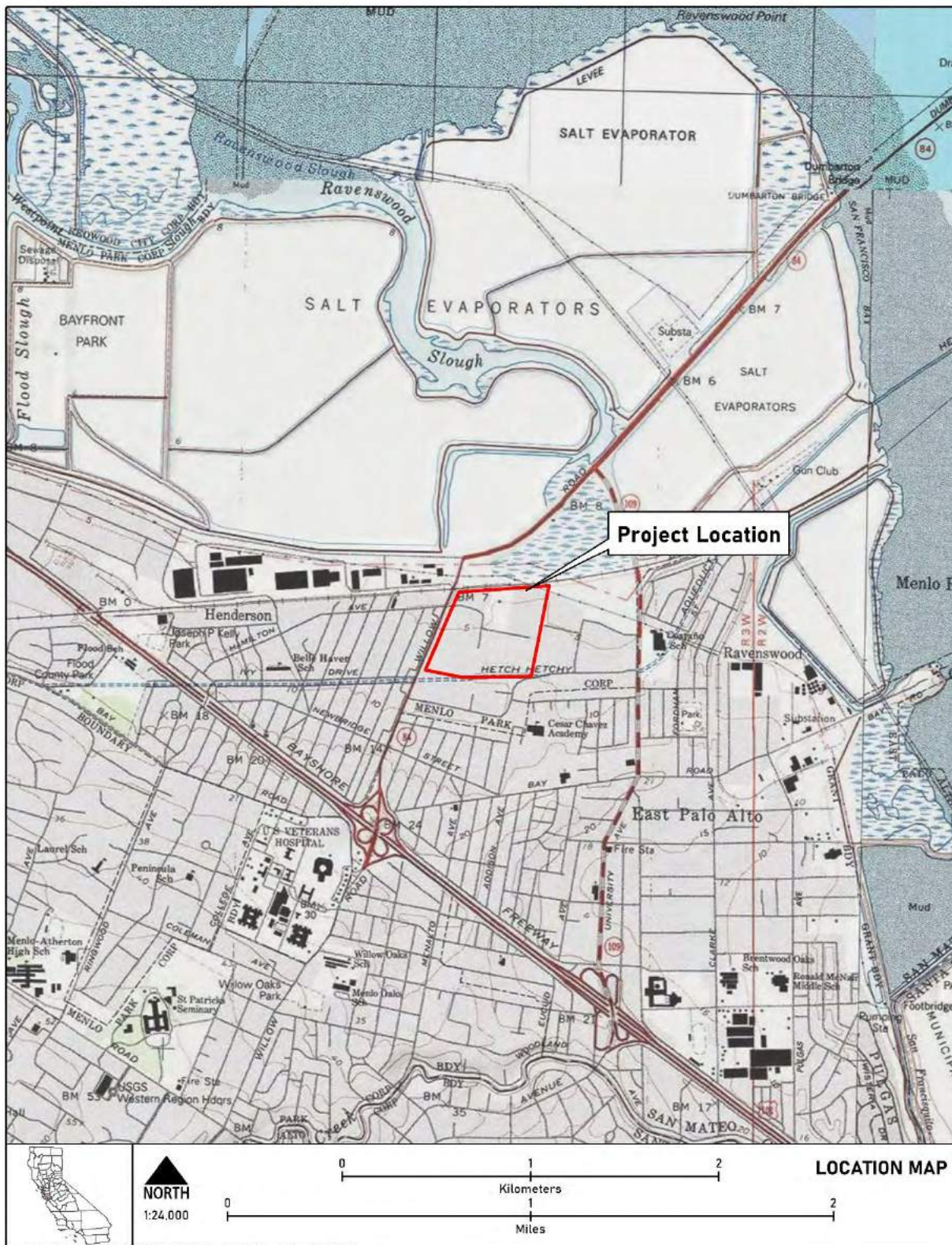
\*Resource Name or # (Assigned by recorder): Menlo Science & Technology Park

\*Recorded by: J. Freeman & M. Van Meter

\*Date: March 27, 2019

☒ Continuation ☐ Update

## Location Map:





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

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Page 1 of 8

\*Resource Name or # (Assigned by recorder): 1385 Willow Road

P1. Other Identifier: \_\_\_\_\_

\*P2. Location: ☐ Not for Publication ☒ Unrestricted

\*a. County: San Mateo

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

\*b. USGS 7.5' Quad: Palo Alto Date: 1961 (photorevised 1968 and 1973) T:5S; R:3W; Sec:    ; Mount Diablo Meridian

c. Address: 1385 Willow Road City: Menlo Park Zip: 94025

d. UTM: (give more than one for large and/or linear resources) Zone:    ;    mE/    mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor Parcel Number (APN): 055-383-560

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

This form records an apartment building located on the west side of Willow Road south of Hamilton Avenue in the Belle Haven neighborhood of the city of Menlo Park. It is the northernmost apartment building on a 2.969-acre parcel that spans most of the block between Hamilton Avenue and Ivy Drive, containing the northern half of the multi-unit Gateway Garden Apartments complex, see **Sketch Map**, and **Figures 1 and 3**. Gateway Garden Apartments consists of numerous single- and two-story apartment buildings. The current study evaluates the northernmost one, which is a single-story, Ranch-style, four-unit building at 1385 Willow Road. The subject building has a rectilinear footprint, stucco cladding, and a low-pitched side-gable roof with composition shingles, open overhanging eaves, wood fascia, and rectangular louvered vents in the gable peaks (**Photograph 1**). The building has a symmetrical, south-facing main façade, with entries to the four residential evenly distributed living units that feature replacement wood panel doors—one with a metal security door (Unit C)—and replacement vinyl, horizontal-sliding windows. The units open out to a courtyard shared with the adjacent, virtually identical, north-facing, single-story, four-unit apartment building at 1381 Willow Road (**Photograph 2**). (See Continuation Sheet.)

\*P3b. Resource Attributes: (List attributes and codes) HP3 – Multiple-family property

\*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession#) **Photograph 1. 1385 Willow Road (right); camera facing west / southwest, June 2, 2021.**

\*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both  
1953 (Menlo Park Building Permit)

\*P7. Owner and Address:  
Menlo Gateway, Inc.  
P.O. Box 167928  
Irving, TX 75016

\*P8. Recorded by: (Name, affiliation, address)  
Samuel Skow & Andrew Young  
JRP Historical Consulting, LLC  
2850 Spafford Street  
Davis, CA 95618

\*P9. Date Recorded: June 2, 2021

\*P10. Survey Type: (Describe)  
Intensive



\*P11. Report Citation: (Cite survey report and other sources, or enter "none.") None.

\*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) \_\_\_\_\_

**BUILDING, STRUCTURE, AND OBJECT RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_

Page 2 of 8

\*NRHP Status Code: 6Z

\*Resource Name or # (Assigned by recorder): 1385 Willow Road

B1. Historic Name: \_\_\_\_\_

B2. Common Name: Gateway Garden Apartments

B3. Original Use: Apartment building B4. Present Use: Apartment building

\*B5. Architectural Style: Ranch

\*B6. Construction History: (Construction date, alteration, and date of alterations) Built 1953; replacement roofing installed 2010; replacement doors and windows installed pre-2011.

\*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: \_\_\_\_\_

B9. Architect: unknown b. Builder: Redwood Terrace Co.

\*B10. Significance: Theme: n/a Area: n/a

Period of Significance: n/a Property Type: n/a Applicable Criteria: n/a

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

The apartment building at 1385 Willow Road does not meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) because it is not historically significant. This property was also evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code and it is not an historical resource for the purposes of the California Environmental Quality Act (CEQA). (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) \_\_\_\_\_

\*B12. References: Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, CA: Star Publishing Company, 1982); R. L. Polk & Co. *Polk's Menlo Park City Directory*, various years 1957-1978, accessed via Ancestry.com; San Mateo County Assessor records; see also footnotes.

B13. Remarks:

\*B14. Evaluator: Samuel Skow

\*Date of Evaluation: June 2021

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See Continuation Sheet.

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\*Resource Name or # (Assigned by recorder): 1385 Willow Road

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

### **P3a. Description (continued):**

In addition to the courtyard framed at the east end by a wood fence and pergola, the two apartment buildings (1381 and 1385 Willow Road) also share two asphalt-paved parking areas—comprising a former frontage road to the east and an alley to the west—as well as a metal-frame shade structure to the south.

### **B10. Significance (continued):**

#### Historic Context

The apartment building recorded on this form was constructed in 1953 in north Menlo Park, a city along the San Francisco Bay in southeast San Mateo County. Since its initial construction, the building has continued to function as a multi-family residential property. The parcel is located on land once within the former 35,200-acre *Rancho de las Pulgas*, which was granted to Luis Arguello—the first Mexican governor of California—in 1835. Settlement of the area was slow through the mid nineteenth century, and most of the acreage was devoted to agricultural uses. Landowners and their tenant farmers used the nearby port at Ravenswood Slough (established in 1849) to ship products to market. As the importance of the Ravenswood port and its surrounding settlement waned in the 1860s, the rancho was divided and sold to various investors and agriculturalists, including Robert E. Doyle and Charles C. Bowman. Doyle and Bowman acquired many former rancho parcels, including Tract No. 1 that stretched along the bay between what is now Marsh Road and Willow Road. This more than 1,770-acre tract included the study area near Hamilton Avenue and Willow Road. Doyle held the tract for several more years, but gradually further subdivided and sold portions of it.<sup>1</sup>

James P. Rynder, a banker based in Eureka, California, acquired some of Doyle's acreage in the 1870s, and by 1894 had amassed a 400-acre portion that was bounded by the salt marshes on the north, Bay Road on the south, and Willow Road on the east. Rynder never occupied this land and most likely rented it for grain and forage farming. His son and one of his two daughters, George and Ida, inherited the tract when their father died in 1910. George Y. Henderson and Ida Henderson Sevier appear to have continued renting it as farmland for about 15 years before subdividing much of the eastern half of the parcel to create Newbridge Park—the location of the subject property—and selling the new residential tract to a real estate sales company (**Figure 1**). The subdivision offered small lots on a grid of streets located south of the Dumbarton Cutoff rail line and straddling Willow Road, a layout designed to take advantage of the new bay crossing for vehicles, the Dumbarton Bridge.<sup>2</sup> Sales were very slow despite repeated efforts to market the lots throughout the greater San Francisco Bay Area. Although the first buildings at the southwest corner of Willow Road and Hamilton Avenue (just north of the property) appeared not long after the subdivision map was filed, Newbridge Park and the surrounding lands remained rural and agricultural through the 1940s, even though the residential streets were laid out. Very few lots sold during the great depression, and it was not until after World War II that most of the area—including the row of apartment buildings containing the subject property—was densely developed.<sup>3</sup>

The end of the Second World War brought rapid suburban expansion to the San Francisco Peninsula, as it did to the rest of the country, along with Cold War-related development and the introduction of the high-tech industry. Menlo Park's population grew tenfold between 1930 and 1970 as suburban tracts spread in the areas around downtown. The city quickly annexed many of these new residential areas, expanding north and east into the Ravenswood district. In 1949, the neighborhoods of Belle

<sup>1</sup> Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, California: Star Publishing, 1982), 30, 36, 37, 133-134; B.F. Alley, *History of San Mateo County, California* (San Francisco: B.F. Alley, 1883), 211.

<sup>2</sup> Hynding, *From Frontier to Suburb*, 133-136; Werner C. Foss, Jr., "The History of Ravenswood," 23, San Mateo Junior College, San Mateo County Historical Museum; "Tracts No. 1 and No. 2," Map Book 1, page 8, filed 14 Nov 1863, San Mateo County Assessor; Davenport Bromfield, *Official Map of San Mateo County, California* (San Francisco: Schmidt Label & Lith. Co., 1894); "Newbridge Park," subdivision map, Map Book 14, pages 6-7, filed 10 Jun 1926, San Mateo County Assessor; "The Bay is Bridged at Newbridge Park," advertisement, *San Francisco Examiner*, 17 Jul 1926, page 8.

<sup>3</sup> Fairchild Aerial Surveys, for Redwood City, Flight C-1025, June 1930, UCSB Davidson Library; Fairchild Aerial Surveys, for Palo Alto City, Flight C-7065, April 1941, UCSB Davidson Library.

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\*Resource Name or # (Assigned by recorder): 1385 Willow Road

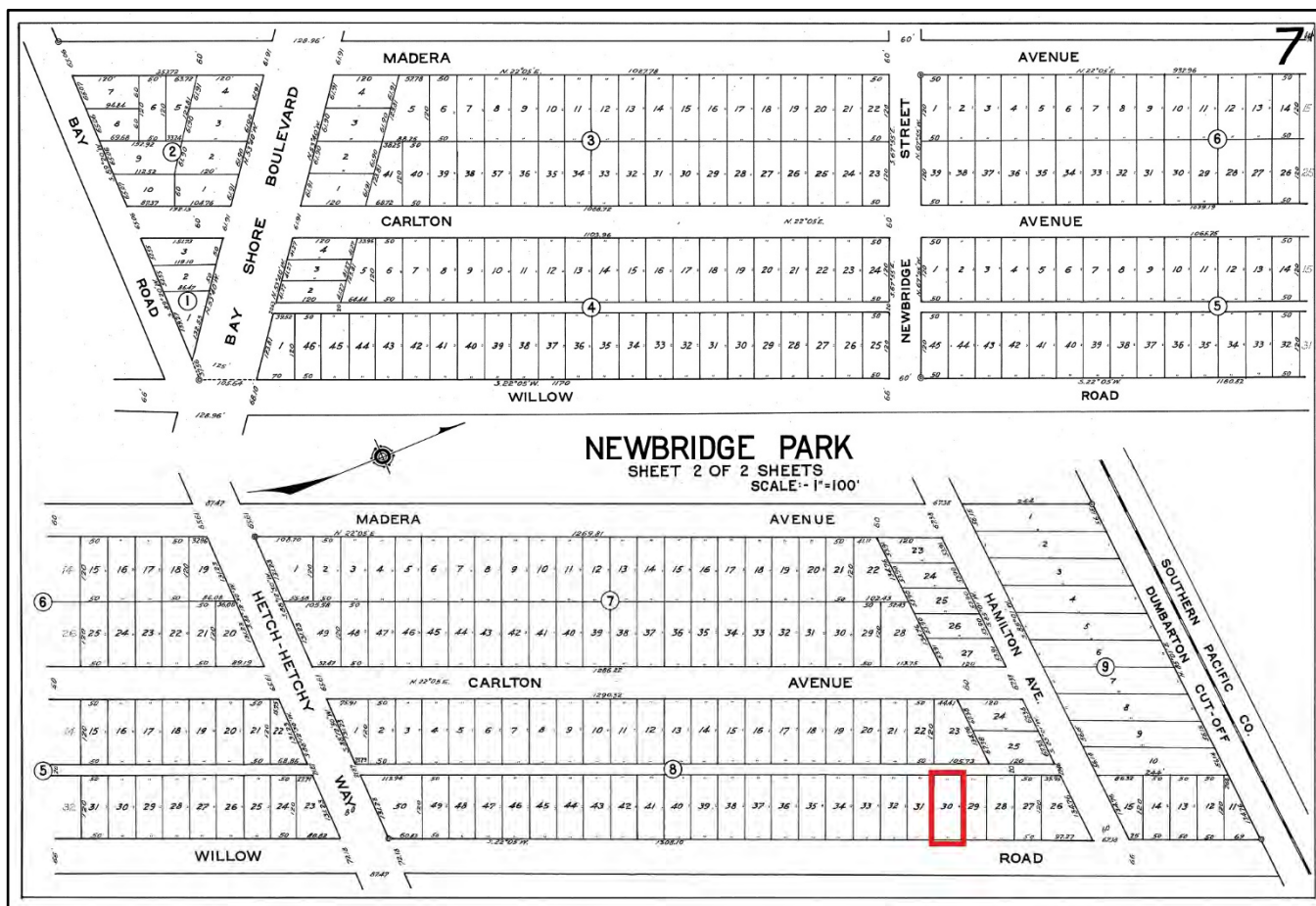
\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

Haven and Newbridge Park, west of Willow Road and north of Bay Road, were incorporated into Menlo Park, including the lot for the subject property.<sup>4</sup>

The parcels on the west side of Willow Road were developed in the mid twentieth century and tended to be commercial or residential in nature.<sup>5</sup> After the first commercial buildings appeared at the southwest corner of Willow Road and Hamilton Avenue, the other Newbridge Park parcels started to be developed as well, and by the late 1940s and early 1950s a few small residences and a few roadside commercial buildings appear in aerial photographs. Early in 1956, real estate agents Hare, Brewer & Kelly advertised property for sale in Menlo Park, including a “drive-in commercial corner opposite Hiller Helicopter plant, Willow Road, can be used for industry.”<sup>6</sup>



**Figure 1.** 1926 Newbridge Park subdivision map, with approximate location of subject property outlined in red.<sup>7</sup>

Commercial and multi-family residential buildings dominated the development of the west side of Willow Road area through the rest of the twentieth century, including the first row of apartment buildings containing the subject property on, which were built in the early 1950s. In addition to a market, restaurant, and bakery, a contractor’s yard was among the businesses located

<sup>4</sup> “Bellehaven to Join Menlo Pk,” *San Mateo Times*, 15 Jan 1949, page 2; Hynding, *From Frontier to Suburb*, 296.

<sup>5</sup> Charmayne Kreuz, *A Tradition of New Horizons: The Story of Menlo Park Commemorating Its 1874 Incorporation* (Menlo Park, California: City of Menlo Park, 1974), 53-54; Michael Svanevik and Shirley Burgett, *Menlo Park, California: Beyond the Gate* (San Francisco: Custom & Limited Editions, 2000), 153.

<sup>6</sup> Aero Services Corporation, Santa Clara County, flight CIV-1956, for USDA, Agricultural Stabilization and Conservation Svc, 1956, UCSB Davidson Library; Aero Services Corporation, Santa Clara County, flight DDB-1956, for USDA, Commodity Stabilization Svc, 1956, UCSB Davidson Library; “Menlo Park,” real estate advertisement, *San Francisco Examiner*, 23 Feb 1956, page 36.

<sup>7</sup> “Newbridge Park,” page 7, San Mateo County Assessor.



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\*Resource Name or # (Assigned by recorder): 1385 Willow Road

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

on Willow Road near Hamilton Avenue in the 1960s and 1970s (**Figure 2**). Single-family homes faced Hamilton Avenue or Carlton Avenue, the street running parallel to Willow Road one block west, and a youth center and a church appeared north of Hamilton Avenue in the 1970s as well.<sup>8</sup>



**Figure 2.** Excerpt of 1964 aerial photograph, with subject property circled in red. Annotation by JRP.<sup>9</sup>

By the late 1980s, the Community Development Agency (CDA) of Menlo Park began to focus its efforts in the area when it submitted a re-subdivision map for the row of apartment buildings on the west side of Willow Road (**Figure 3**). The CDA also resurveyed the parcels within the study area, and it appears that the parcels at the southwest corner of Hamilton and Willow Road were cleared of buildings not long after. The site, just north of the apartment building at 1385 Willow Road, remained vacant for about a decade until the CDA filed a new resurvey of all the parcels at both the northwest and southwest corners of the intersection. This resurvey was called Belle Haven Retail Center and eventually led to the construction of the current buildings at the site by 2002.<sup>10</sup>

<sup>8</sup> Cartwright Aerial Surveys, flight CAS-65-130, prepared for California Division of Highways, 1965, UCSB Davidson Library; R.L. Polk & Co., *Polk's Menlo Park City Directory*, various years 1961-1978, accessed via Ancestry.com; Cartwright Aerial Surveys, flight CAS-2310, Santa Clara County, May 1968, UCSB Davidson Library.

<sup>9</sup> Cartwright Aerial Surveys, flight CAS-SM, 1963-1964, UCSB Davidson Library.

<sup>10</sup> Western Aerial Photos, flight GS-VEZR, Santa Clara County, October 1980-April 1981, for USGS, UCSB Davidson Library; "Parcel Map," Book 59, page 17, filed 13 Apr 1987, San Mateo County Assessor; "Parcel Map," Book 59, page 17, filed 9 Jun 1987, San Mateo County Assessor; Aerial photographs, unknown photographer, Flight NAPP-3C, 1998, for USGS, UCSB Davidson Library; "Parcel Map for Belle Haven Retail Center," PM Book 71, pages 15-16, filed 31 Dec 1987, San Mateo County Assessor; Hauts-Monts, Inc., Santa Clara County, flight HM-2002-USA, 2002, UCSB Davidson Library; March 2020, Street View, google earth.com.

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\*Resource Name or # (Assigned by recorder): 1385 Willow Road

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

The Redwood Terrace Company built the property recorded and evaluated on this form in 1953 (1385 Willow Road) as one of many independently developed apartment buildings along the west side of Willow Road between Hamilton Avenue and the Bayshore Freeway (US Highway 101) in the 1950s and 1960s. The Redwood Terrace Company was a residential development firm active throughout the San Francisco Peninsula in the late 1940s through the 1950s. By the early 1960s, the company relocated to Citrus Heights in Sacramento County. Multiple development companies constructed the various multi-family residential complexes ad hoc in this area, and it appears that the Redwood Terrace Company developed the subject building in tandem with three virtually identical buildings: the extant apartment building at 1381 Willow Road, which contains the odd-numbered units as counterpart to the subject property's even numbers; and two buildings with identical footprints originally sited to the immediate south and demolished sometime after 1981. By 1963, Castle Realty, a San Francisco Peninsula-based real estate firm, had acquired ownership of the apartment building, with Bob Olden listed as the owner in 1976. The four-unit apartment building experienced a high rate of turnover during the pre-1971 period, with tenants employed in such professions as: maintenance and construction workers, general laborers, machinists, a nurse, and a security guard at the adjacent Hiller Aircraft compound. Since 1987, the non-profit housing organization, MidPen Housing, has owned and managed the Gateway Garden Apartments (1221-1385 Willow Road), which includes the apartment building recorded on this form.<sup>11</sup>

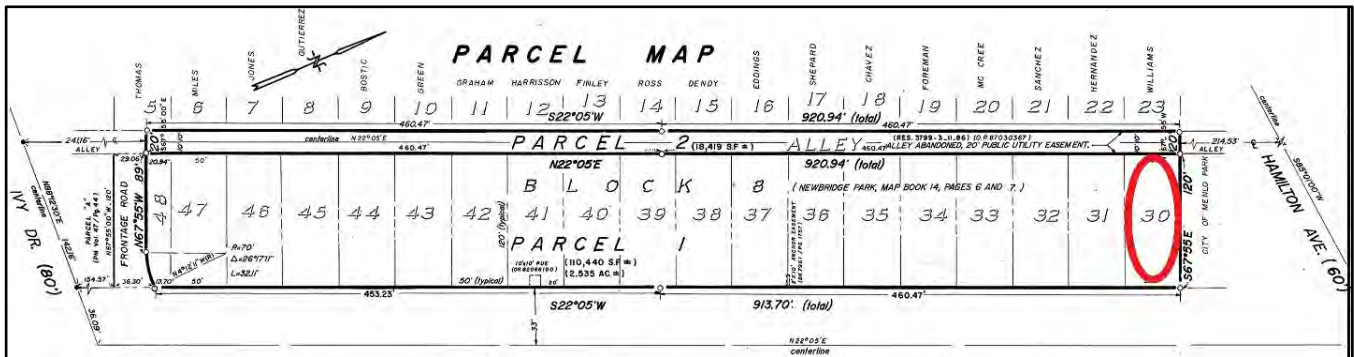


Figure 3. Excerpt of 1987 parcel map, with approximate location of subject property circled in red. Annotation by JRP.<sup>12</sup>

## Evaluation

This property does not have important associations with significant historic events, patterns, or trends of development (NRHP Criterion A / CRHR Criterion 1). This multi-family residential property was developed in 1953 during a period of general expansion for the city of Menlo Park and while generally associated with this trend, 1385 Willow Road did not play a demonstrably important role in the post-World War II growth of the city. Additionally, the building does not have important associations with any other known local historic contexts or themes explored within this document, or any state or national historic contexts. Therefore, the property does not meet NRHP Criterion A / CRHR Criterion 1.

<sup>11</sup> Menlo Park, Office of the Building Inspector, Job Record: Permit No. A-2927 (1 May 1953), Menlo Park Community Development Department, Menlo Park, California (MPCDD); "South San Francisco – Cash Out of Trade," advertisement, *San Francisco Examiner*, 25 Jul 1948, page 14; "318 Reasons Why You Get More Selection of Homes for Sale in The Examiner Want Ads!" advertisement, *San Francisco Examiner*, 18 Jan 1953, page 7; "Roseville Building Permits," *Roseville Press-Tribune*, 12 Feb 1962, page 1; R.L. Polk & Co., *Polk's Menlo Park City Directory*, various years 1957-1978 (Ancestry.com); Western Aerial Photos, flight GS-VEZR (1980-1981), for USGS, UCSB Davidson Library; Menlo Park, Office of the Building Inspector, Job Record: Permit No. A-8494 (15 Mar 1963), MPCDD; Building Permit No. A-14765 (17 May 1976), MPCDD; Menlo Park Building Department, Record BLD2020-03328-DEF001 (2020), <https://aca-prod.accela.com/MENLOPARK/Cap/CapDetail.aspx?Module=Building&TabName=Building&capID1=20CAP&capID2=00000&capID3=003AQ&agencyCode=MENLOPARK&IsToShowInspection=> (accessed May 2021); MidPen Housing, "About MidPen" (2020), <https://www.midpen-housing.org/about-midpen/> (accessed May 2021); Apartments.com, "The Gateway Garden Apartments" (2021), <https://www.apartments.com/the-gateway-garden-apartments-menlo-park-ca/hbh2vt3/> (accessed May 2021).

<sup>12</sup> "Parcel Map," Book 59, page 17, filed 29 Jan 1987, San Mateo County Assessor.



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\*Resource Name or # (Assigned by recorder): 1385 Willow Road

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

The building at 1385 Willow Road is not significant for an association with the lives of persons important to history (NRHP Criterion B/CRHR Criterion 2). It does not appear that any individual associated with this multi-unit residence made demonstrably important contributions to history at the local, state, or national level.

Under NRHP Criterion C / CRHR Criterion 3, this apartment building is not significant as an important example of a type, period, or method of construction. The building is a modest example of the Ranch style that grew in popularity from the 1940s through the 1960s. The style is characterized by a single-story, sprawling rectilinear plan with a wide façade, and a broad, low- to medium-pitched roof. Other common elements include sliding windows and stucco cladding.<sup>13</sup> The building on the study parcel is an unremarkable example of the style and does not embody enough of the distinctive characteristics of the type necessary for significance under these criteria. The apartment building also lacks high artistic value and is not the important work of a master architect or builder.

Under NRHP Criterion D / CRHR Criterion 4, this property is not a significant or likely source of important information about historic construction materials or technologies that otherwise would not be available through documentary evidence.

Aside from the installation of replacement vinyl window, the subject property retains overall historic integrity; however, it lacks historical significance and does not meet the criteria necessary for eligibility for listing in either the NRHP or CRHR.

### Photographs (continued):



**Photograph 2:** View of adjacent building 1381 Willow Road (left), with 1385 Willow Road obscured by storage container, at right; camera facing northwest, June 2, 2021.

<sup>13</sup> Virginia McAlester and Lee McAlester, *A Field Guide to American Houses* (New York: Knopf, 2005), 479.  
DPR 523L (1/95)

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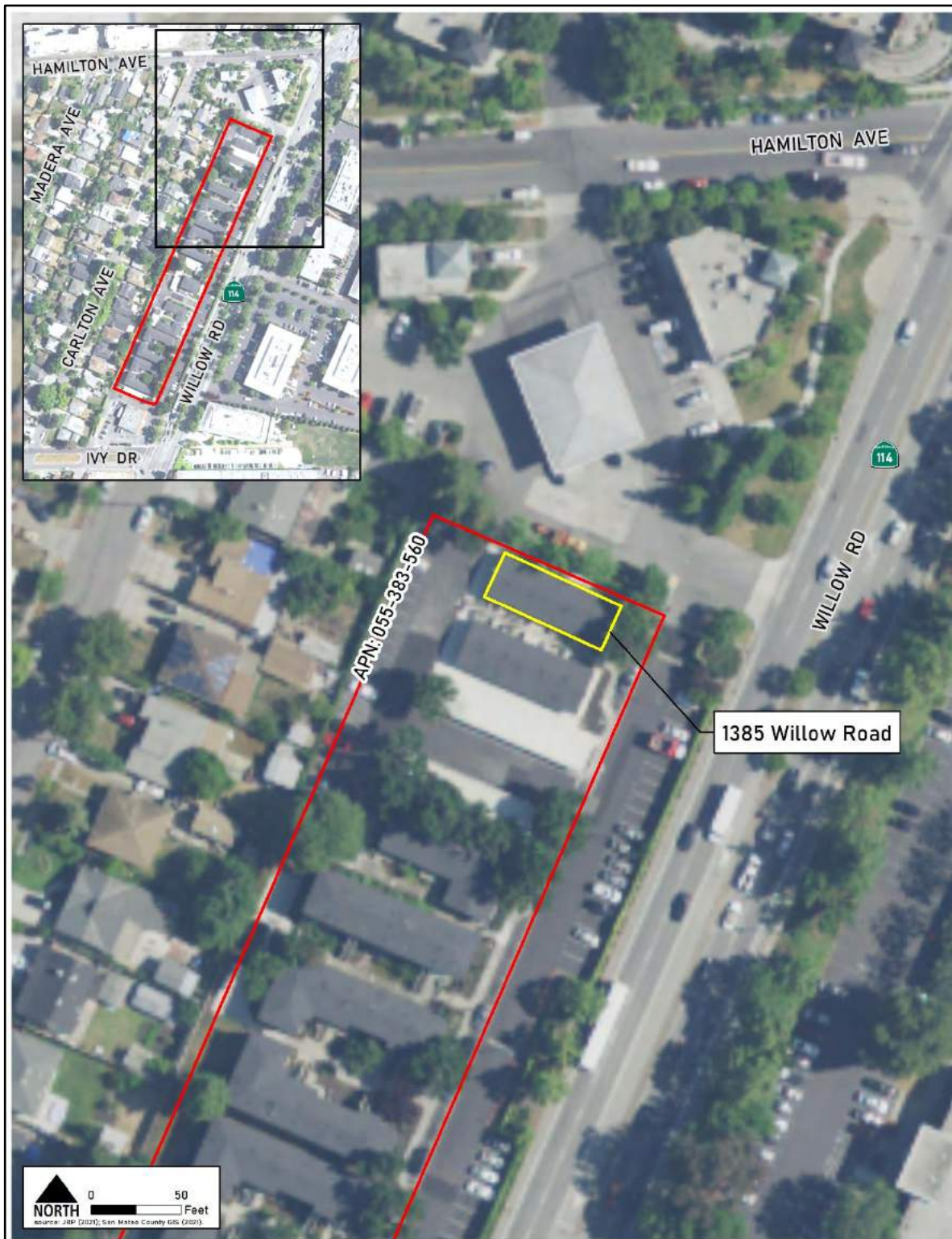
\*Recorded by: S. Skow & A. Young

\*Resource Name or # (Assigned by recorder): 1385 Willow Road

\*Date: June 2, 2021

☒ Continuation ☐ Update

**Sketch Map:**





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

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

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\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

P1. Other Identifier: 1396 Carlton Avenue

\*P2. Location: ☐ Not for Publication ☒ Unrestricted

\*a. County: San Mateo

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

\*b. USGS 7.5' Quad: Palo Alto Date: 1961 (photorevised 1968 and 1973) T:5S; R:3W; Sec:    ; Mount Diablo Meridian

c. Address: 1396 Carlton Avenue City: Menlo Park Zip: 94025

d. UTM: (give more than one for large and/or linear resources) Zone:    ;    mE/    mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor Parcel Number (APN): 055-395-560

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

This form records a 0.206-acre parcel located on the east side of Carlton Avenue south of Hamilton Avenue in the Belle Haven neighborhood of the city of Menlo Park. The parcel contains a 960-square-foot, single-story Ranch Bungalow with attached garage, an approximately 230-square-foot rear utility shed, a metal-frame shade shelter, and minimal landscape / hardscape features. This residence has a generally rectangular footprint, stucco cladding, and a medium-pitched, side-gable roof with composition shingles, narrow closed eaves along the front (west) façade, and flush eaves in the north- and southside gable peaks (**Photograph 1**). A stucco-clad chimney rises through the roof the south end of the main (west) slope. The main (west) entrance is located within an inset porch with a horizontal wood railing or balustrade and gate. The entry features a replacement wood panel door with a fanlight in the top panel and narrow vertical sidelight (**Photograph 2**). At the south end of the house is the attached single-car garage with a replacement metal roll-up door. Fenestration consists of replacement, sliding, vinyl windows with false muntins. (See Continuation Sheet.)

\*P3b. Resource Attributes: (List attributes and codes) HP2 – Single-family property

\*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession#) **Photograph 1, 1396 Carlton Avenue; camera facing east / northeast, June 2, 2021.**

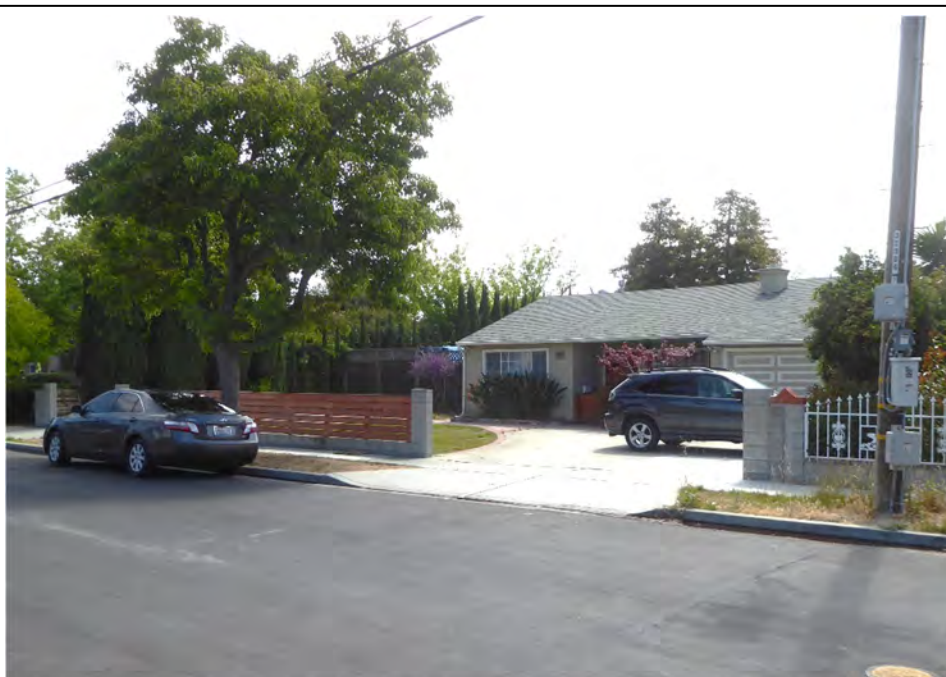
\*P6. Date Constructed/Age and Sources:  
☒ Historic ☐ Prehistoric ☐ Both  
1952 (San Mateo County Assessor)

\*P7. Owner and Address:  
Yang Tzjeng Hsu Yaping  
1396 Carlton Ave  
Menlo Park, CA 94025

\*P8. Recorded by: (Name, affiliation, address)  
Samuel Skow & Andrew Young  
JRP Historical Consulting, LLC  
2850 Spafford Street  
Davis, CA 95618

\*P9. Date Recorded: June 2, 2021

\*P10. Survey Type: (Describe)  
Intensive



**Photograph 1**

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.") None.

\*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) \_\_\_\_\_

B1. Historic Name: none

B2. Common Name: none

B3. Original Use: Residential B4. Present Use: Residential

\*B5. Architectural Style: Ranch Bungalow

\*B6. Construction History: (Construction date, alteration, and date of alterations) Residence: built 1952, replacement windows and front door installed pre-2007, front-porch railing erected ca. 2012; Outbuilding: built between 1991-1998; Shade Structure: erected / added to parcel ca. 2003; Grounds: parcel reconfigured and masonry wall erected 1987, driveway extended and portions of front (west) and rear (east) yards paved with concrete pre-2003, concrete-block perimeter wall on southern boundary replaced with vertical wood fencing ca. 2018, concrete-block and horizontal wood fencing erected along western parcel boundary ca. 2020.

\*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: \_\_\_\_\_

B9. Architect: unknown b. Builder: Moore & Tahaney

\*B10. Significance: Theme: n/a Area: n/a

Period of Significance: n/a Property Type: n/a Applicable Criteria: n/a

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

The residence at 1396 Carlton Avenue does not meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) because it is not historically significant. This property was also evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code and it is not an historical resource for the purposes of the California Environmental Quality Act (CEQA). (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) \_\_\_\_\_

\*B12. References: Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, CA: Star Publishing Company, 1982); R. L. Polk & Co. *Polk's Menlo Park City Directory*, various years 1957-1978, accessed via Ancestry.com; San Mateo County Assessor records; see also footnotes.

B13. Remarks:

\*B14. Evaluator: Samuel Skow

\*Date of Evaluation: June 2021

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



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\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

### **P3a. Description (continued):**

Sited to the rear (east) and side (north) of the residence are a modern outbuilding and modern shade structure, respectively. They are not visible from the public right-of-way on Carlton Avenue, but are evident in aerial satellite imaging.

The parcel is framed by concrete-block and horizontal and vertical wood fencing. The front features a semicircular grass lawn framed by a concrete driveway and brick walkway (**Photograph 3**). The rear yard is divided between a rectangular grass lawn and a concrete patio.

### **B10. Significance (continued):**

#### Historic Context

The residence recorded on this form was constructed in 1952 in north Menlo Park, a city along the San Francisco Bay in southeast San Mateo County. Since its initial construction, the building has continued to function as a single-family residential property. The parcel is located on land once within the former 35,200-acre *Rancho de las Pulgas*, which was granted to Luis Arguello—the first Mexican governor of California—in 1835. Settlement of the area was slow through the mid nineteenth century, and most of the acreage was devoted to agricultural uses. Landowners and their tenant farmers used the nearby port at Ravenswood Slough (established in 1849) to ship products to market. As the importance of the Ravenswood port and its surrounding settlement waned in the 1860s, the rancho was divided and sold to various investors and agriculturalists, including Robert E. Doyle and Charles C. Bowman. Doyle and Bowman acquired many former rancho parcels, including Tract No. 1 that stretched along the bay between what is now Marsh Road and Willow Road. This more than 1,770-acre tract included the study area near Hamilton Avenue and Willow Road. Doyle held the tract for several more years, but gradually further subdivided and sold portions of it.<sup>1</sup>

James P. Rynder, a banker based in Eureka, California, acquired some of Doyle's acreage in the 1870s, and by 1894 had amassed a 400-acre portion that was bounded by the salt marshes on the north, Bay Road on the south, and Willow Road on the east. Rynder never occupied this land and most likely rented it for grain and forage farming. His son and one of his two daughters, George and Ida, inherited the tract when their father died in 1910. George Y. Henderson and Ida Henderson Sevier appear to have continued renting it as farmland for about 15 years before subdividing much of the eastern half of the parcel to create Newbridge Park—the location of the subject property—and selling the new residential tract to a real estate sales company (**Figure 1**). The subdivision offered small lots on a grid of streets located south of the Dumbarton Cutoff rail line and straddling Willow Road a layout designed to take advantage of the new bay crossing for vehicles, the Dumbarton Bridge.<sup>2</sup> Sales were very slow despite repeated efforts to market the lots throughout the greater San Francisco Bay Area. Although the first buildings at the southwest corner of Willow Road and Hamilton Avenue (just north of the subject property) appeared not long after the subdivision map was filed, Newbridge Park and the surrounding lands remained rural and agricultural through the 1940s, even though the residential streets were laid out. Very few lots sold during the great depression, and it was not until after World War II that most of the area—including that residential block containing the subject property—was densely developed.<sup>3</sup>

The end of the Second World War brought rapid suburban expansion to the San Francisco Peninsula, as it did to the rest of the country, along with Cold War-related development and the introduction of the high-tech industry. Menlo Park's population grew tenfold between 1930 and 1970 as suburban tracts spread in the areas around downtown. The city quickly annexed many

<sup>1</sup> Alan Hynding, *From Frontier to Suburb: The Story of the San Mateo Peninsula* (Belmont, California: Star Publishing, 1982), 30, 36, 37, 133-134; B.F. Alley, *History of San Mateo County, California* (San Francisco: B.F. Alley, 1883), 211.

<sup>2</sup> Hynding, *From Frontier to Suburb*, 133-136; Werner C. Foss, Jr., "The History of Ravenswood," 23, San Mateo Junior College, San Mateo County Historical Museum; "Tracts No. 1 and No. 2," Map Book 1, page 8, filed 14 Nov 1863, San Mateo County Assessor; Davenport Bromfield, *Official Map of San Mateo County, California* (San Francisco: Schmidt Label & Lith. Co., 1894); "Newbridge Park," subdivision map, Map Book 14, pages 6-7, filed 10 Jun 1926, San Mateo County Assessor; "The Bay is Bridged at Newbridge Park," advertisement, *San Francisco Examiner*, 17 Jul 1926, page 8.

<sup>3</sup> Fairchild Aerial Surveys, for Redwood City, Flight C-1025, June 1930, UCSB Davidson Library; Fairchild Aerial Surveys, for Palo Alto City, Flight C-7065, April 1941, UCSB Davidson Library.



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\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

of these new residential areas, expanding north and east into the Ravenswood district. In 1949, the neighborhoods of Belle Haven and Newbridge Park, west of Willow Road and north of Bay Road, were incorporated into Menlo Park, including the lot for the subject property.<sup>4</sup>

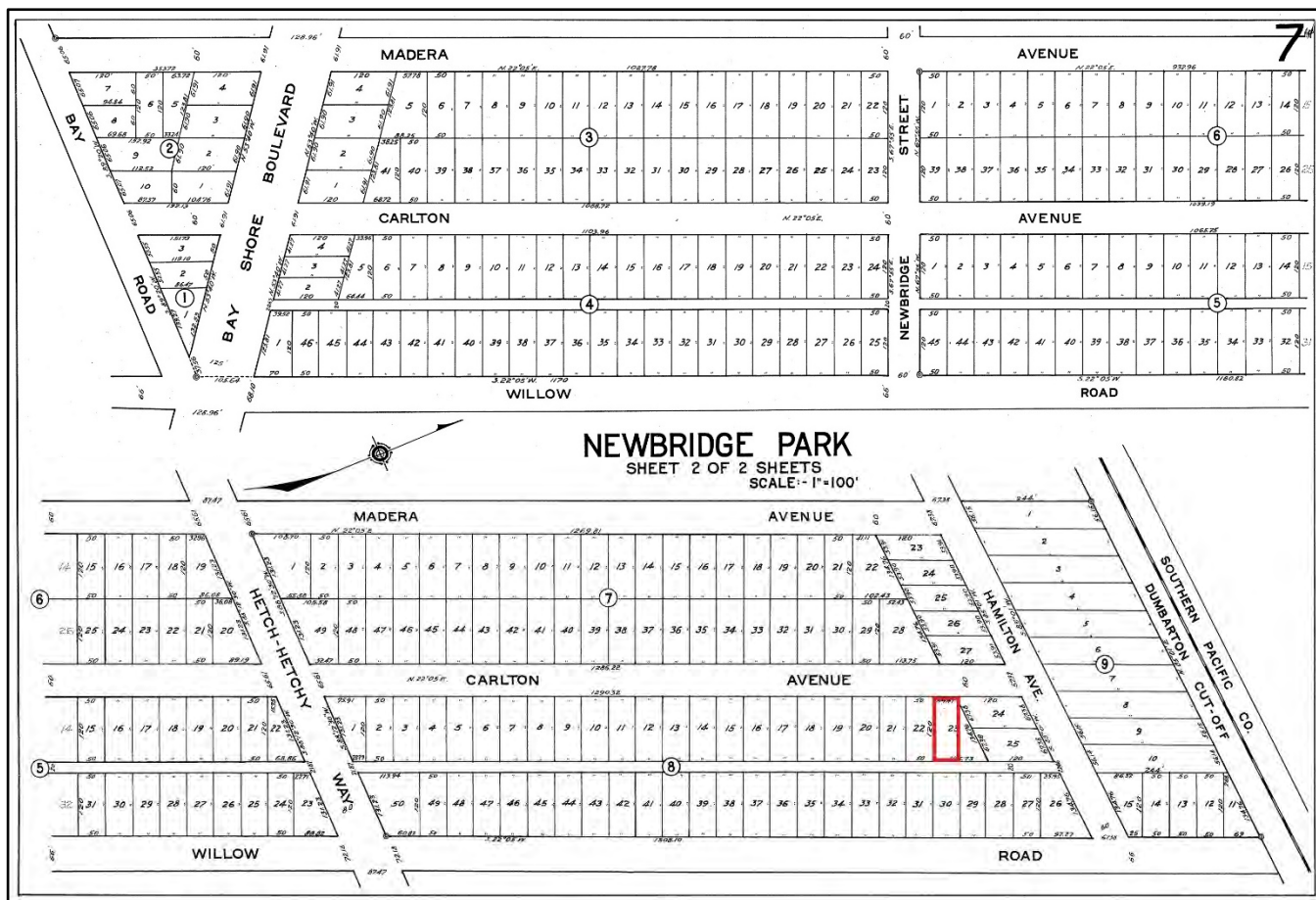


Figure 1. 1926 Newbridge Park subdivision map, approximate location of subject property outlined in red.<sup>5</sup>

The parcels west of Willow Road, on either side of Hamilton Avenue, were also developed in the mid twentieth century, but were commercial and residential in nature.<sup>6</sup> After the first commercial buildings appeared at the southwest corner, the other Newbridge Park parcels on Hamilton and Willow Road started to develop as well, and by the late 1940s and early 1950s a few small residences and a few roadside commercial buildings appeared in aerial photographs. Early in 1956, real estate agents Hare, Brewer & Kelly advertised property for sale in Menlo Park, including a “drive-in commercial corner opposite Hiller Helicopter plant, Willow Road, can be used for industry.”<sup>7</sup>

Commercial and residential buildings dominated the development of the area through the rest of the twentieth century, including a row of apartment buildings along the west side of Willow Road in the 1950s and 1960s. In addition to a market,

<sup>4</sup> “Bellehaven to Join Menlo Pk,” *San Mateo Times*, 15 Jan 1949, page 2; Hynding, *From Frontier to Suburb*, 296.

<sup>5</sup> “Newbridge Park,” page 7, San Mateo County Assessor.

<sup>6</sup> Charmayne Kreuz, *A Tradition of New Horizons: The Story of Menlo Park Commemorating Its 1874 Incorporation* (Menlo Park, California: City of Menlo Park, 1974), 53-54; Michael Svanevik and Shirley Burgett, *Menlo Park, California: Beyond the Gate* (San Francisco: Custom & Limited Editions, 2000), 153.

<sup>7</sup> Aero Services Corporation, Santa Clara County, flight CIV-1956, for USDA, Agricultural Stabilization and Conservation Svc, 1956, UCSB Davidson Library; Aero Services Corporation, Santa Clara County, flight DDB-1956, for USDA, Commodity Stabilization Svc, 1956, UCSB Davidson Library; “Menlo Park,” real estate advertisement, *San Francisco Examiner*, 23 Feb 1956, page 36.



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\*Recorded by: S. Skow & A. Young

\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

\*Date: June 2, 2021

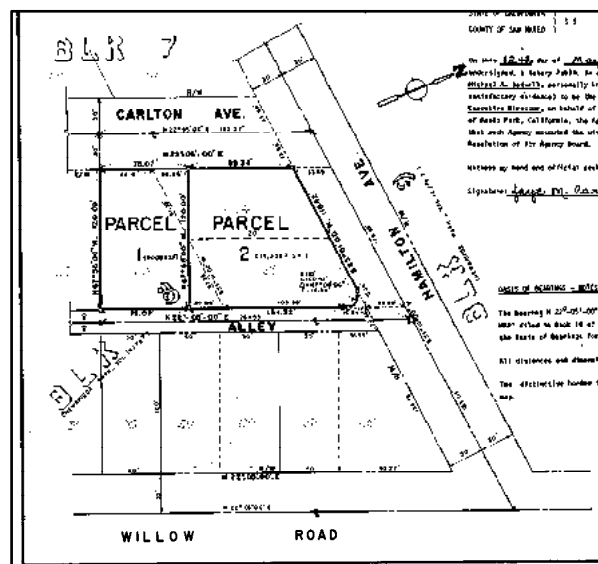
☒ Continuation ☐ Update

restaurant, and bakery, a contractor's yard was among the businesses located on Willow Road near Hamilton Avenue in the 1960s and 1970s. The single-family homes—including the subject property—faced Hamilton Avenue or Carlton Avenue, the street running parallel to Willow Road one block west. A youth center and a church appeared north of Hamilton Avenue in the 1970s as well.<sup>8</sup>

Moore and Tahaney, presumably a local development firm, developed the property recorded on this form in 1952 on Lot 23, Block 8 of the Newbridge Park subdivision. As originally built, the subject property contained the Ranch Bungalow with attached garage on a roughly 0.24-acre, trapezoidal-shaped lot. The parcel attained its current configuration through subdivision in 1987 (**Figure 2** and **Figure 3**). For the first roughly 20 years of its history, numerous short-term occupants were listed at the address, indicating that it may have functioned as a rental property for at least part of this period. The earliest recorded residents were Harold W. Bryan, his wife Laverne, and at least two of their children by 1957. Harold Bryan was born in Oregon, raised in the San Francisco Bay Area, and worked as a carpenter for Schirmer Contractors, a local general contracting firm owned by Arthur Shirmer. Laverne Bryan was as a housewife. The Bryans remained at the subject property through about 1960, after which residents changed at least every two years or so. By 1971, Charlene Williams, a dietician at Stanford Hospital, was listed at the property, and she remained through 1978, and a relative—Melvie Lee Williams—retained ownership until sometime prior to 1987. The current owners and occupants acquired the property in 2012.<sup>9</sup>



**Figure 2.** Excerpt of 1956 aerial photograph, with subject property circled in red. Note the original trapezoidal lot configuration.<sup>10</sup>



**Figure 3.** Excerpt of 1987 map; subject property is "Parcel 1."<sup>11</sup>

<sup>8</sup> Cartwright Aerial Surveys, flight CAS-65-130, prepared for California Division of Highways, 1965, UCSB Davidson Library; R.L. Polk & Co., *Polk's Menlo Park City Directory*, various years 1961-1978, accessed via Ancestry.com; Cartwright Aerial Surveys, flight CAS-2310, Santa Clara County, May 1968, UCSB Davidson Library.

<sup>9</sup> Menlo Park, Office of the Building Inspector, Job Record: Permit No. A-2020 (18 Oct 1951), Menlo Park Community Development Department, Menlo Park, California (MPCDD); San Mateo County Assessor, property information for APN 055-395-060, accessed via ParcelQuest.com; "Newbridge Park," page 7, San Mateo County Assessor; "Parcel Map," Book 59, page 52, filed 29 Jan 1987, San Mateo County Assessor; R.L. Polk & Co., *Polk's Menlo Park City Directory*, various years 1957-1978 (Ancestry.com); "New Arrivals," *San Mateo Times*, 18 Apr 1946, page 6; "Births," *San Mateo Times*, 20 Jan 1959, page 10; "Remembrances," *The Sacramento Bee*, 21 Jan 2009, page B4; Menlo Park, Office of the Building Inspector, Job Record: Permit No. A-8634 (10 Jun 1963), MPCDD.

<sup>10</sup> Aero Services Corporation, Santa Clara County, flight CIV-1956, for USDA, Agricultural Stabilization and Conservation Svc, 1956, UCSB Davidson Library.

<sup>11</sup> Note that the subject parcel was resurveyed and contains most of the original Lot 23 and a portion of Lot 24, Block 8, from the original subdivision (see Figure 1). "Parcel Map," Book 59, page 52, filed 29 Jan 1987, San Mateo County Assessor.

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\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

\*Recorded by: S. Skow & A. Young

\*Date: June 2, 2021

☒ Continuation ☐ Update

### **Evaluation**

This property does not have important associations with significant historic events, patterns, or trends of development at the local, state, or national level (NRHP Criterion A / CRHR Criterion 1). This residential property was developed in 1952 during a period of general expansion for the city of Menlo Park. While an example of this trend, 1396 Carlton Avenue did not play a demonstrably important role in the post-World War II growth of the city. Additionally, it does not have important associations with any other known local historic contexts or themes explored within this document, or any state or national historic contexts. Therefore, the property does not meet NRHP Criterion A / CRHR Criterion 1.

This property is not significant for an association with the lives of persons important to history (NRHP Criterion B/CRHR Criterion 2). It does not appear that any individual associated with the development, ownership, use, or occupancy of this residence made demonstrably important contributions to history at the local, state, or national level. The achievements of Howard and Laverne Bryan, Charlene Williams, and any other recorded occupant do not elevate them to the level of a person important to history.

Under NRHP Criterion C / CRHR Criterion 3, this residence is not significant as an important example of a type, period, or method of construction. The main building on this property is a Ranch Bungalow, a style that grew in popularity from the 1940s through the 1960s. The style is characterized by a single-story, compact rectilinear plan with a wide façade, and a broad, low- to medium-pitched roof. Other common elements include stucco cladding.<sup>12</sup> The building on the study parcel is a modest and typical example of the style and does not embody enough of the distinctive characteristics of the type necessary for significance under these criteria. The house also lacks high artistic value and is not the important work of a master architect or builder.

Under NRHP Criterion D / CRHR Criterion 4, this property is not a significant or likely source of important information about historic construction materials or technologies that otherwise would not be available through documentary evidence.

In addition to lacking historical significance and not meeting the criteria necessary for eligibility for listing in either the NRHP or CRHR, the replacement of all visible windows and doors, the reconfiguration of the parcel, and the addition of non-original landscape / hardscape features have changed the building relative to its historic-era appearance, thus diminishing its historic integrity.

<sup>12</sup> Virginia McAlester and Lee McAlester, *A Field Guide to American Houses* (New York: Knopf, 2005), 479.  
DPR 523L (1/95)

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\*Recorded by: S. Skow & A. Young

\*Resource Name or # (Assigned by recorder): 1396 Carlton Avenue

\*Date: June 2, 2021

☒ Continuation ☐ Update

**Photographs (continued):**



**Photograph 2:** Detail view of main (west) entrance of residence at 1396 Carlton Avenue; camera facing southeast, June 2, 2021.



**Photograph 3:** Alternate view of 1396 Carlton Avenue, showing north end of driveway; camera facing southeast, June 2, 2021.



**P1. Other Identifier:** Dumbarton Cutoff

\*P2 e. Other Locational Data: The short segment of the Dumbarton Cutoff railroad line (MR 21a) in the APE is in Redwood City just south of the SR 84 Woodside Freeway Overpass where the Dumbarton Cutoff splits from the mainline at railroad M.P. 26.25.

\*P3a. **Description:** Only a short segment of the westernmost end of the Dumbarton Cutoff line is in the APE for the project listed in P11. This segment is bordered by private property, far from the public right-of-way, and obscured by fencing, conditions that made it difficult to view and photograph during field survey (**Photograph 1**). The resource at this location is a single track standard gauge railroad that appears to have wood ties and stone ballast, which was confirmed using current aerial photography. The railroad bed is roughly level with the surrounding flat terrain. This resource has been field checked and has not been altered since its last recordation (see attached previous documentation and B10).

\*P3b. **Resource Attributes:** HP11—Engineering Structure

\*P6. **Date Constructed/Age:** 1907–1910

\*P8. **Recorded by:** Heather Miller and Samuel Skow, JRP Historical Consulting, LLC, 2850 Spafford Street, Davis, CA 95618; January 25, 2017

\*P11. **Report Citation:** JRP Historical Consulting, LLC, “California High Speed Rail Authority San Francisco to San Jose Project Section Historical Architectural Survey Report,” 2019.

**\*B10. Significance:**

John W. Snyder previously recorded the Dumbarton Cutoff (MR 21) in 1996 during a survey and evaluation that identified the Dumbarton Cutoff Linear Historic District as a National Register of Historic Places (NRHP)-eligible resource. Snyder defined the district contributors as the Dumbarton Cutoff railroad line and two bridges along the line: the Dumbarton Bridge and Newark Slough Bridge. Southern Pacific built the Dumbarton Cutoff between 1907 and 1910 as a 16.4-mile route to provide a shortcut between the mainline on the San Francisco Peninsula and the SPRR routes on the east side of San Francisco Bay. The APE for this project intersects only a very short segment of the westernmost end of the Dumbarton Cutoff line. Snyder concluded that the Dumbarton Cutoff Linear Historic District appeared eligible for the NRHP under Criterion A, B, and C, but the Dumbarton Cutoff line was only eligible as a contributor under Criterion A and B for its important association with “system-wide improvements to the Southern Pacific” in the early 20<sup>th</sup> century and “national defense efforts during World War I and World War II” and for its important association with E.B. Harriman, the president of SPRR who initiated the construction of the Dumbarton Cutoff. Snyder identified the period of significance for the district as from 1909, when the earliest contributor was completed, to 1945, presumably for the end of World War II (Snyder 1996). The California Register of Historical Resources (CRHR) had not been established at the time of Snyder’s study.

In 2012, JRP prepared an update DPR 523 form for the Dumbarton Cutoff Linear Historic District and agreed with Snyder’s conclusions. JRP also added an underpass and two culverts as contributors to the district and provided evaluations under each of the CRHR Criterion. It appears that the conclusions reached by Snyder in 1996 and JRP in 2012 have not received concurrence from the State Historic Preservation Officer (Snyder 1996; JRP 2012). The present study agrees with the previous conclusions that the Dumbarton Cutoff railroad line is eligible under NRHP Criterion A and B/CRHR Criterion 1 and 2 as a contributor to the Dumbarton Cutoff Linear Historic District. The previous studies do not explicitly state the character-defining features of the Dumbarton Cutoff line, but these are its alignment, location, and all rails, ties, ballast, and signal structures dating to the period of significance. The historic property boundaries are the footprint of the engineering structure within its alignment from its split at the mainline in Redwood City to the Niles Railroad Depot. The Dumbarton Cutoff line has been evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) (54 U.S.C. 306108) and its implementing regulations (36 CFR Part 800), and Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. It is an historic property under Section 106, and an historical resource under CEQA.

\*B14. **Evaluator:** Steven J. Melvin

\*Date of Evaluation: February 2017

**B12. References:**

JRP Historical Consulting, LLC. 2012. "Historic Resources Inventory and Evaluation Report, Dumbarton Rail Corridor Project." April.

Snyder, John W. P.S. Preservation Services. 1996. "Request for Determination of Eligibility for Inclusion in the National Register of Historic Places, Southern Pacific Railroad Dumbarton Cutoff, Dumbarton Bridge, and Newark Slough Bridge, Alameda and San Mateo Counties, California." Prepared for the San Mateo County Transportation Agency. December. Northwest Information Center.

**Photograph:**



**Photograph 1:** View of Dumbarton Cutoff where it splits from the mainline; camera facing south, January 25, 2017.

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\*Resource Name or # (Assigned by recorder) Map Reference #11  
☐ Continuation ☒ Update**P1. Other Identifier:** Southern Pacific Railroad, Dumbarton Cutoff Linear Historic District**P2d. UTM:** Redwood Junction at west end of Dumbarton Cutoff: 10 569140 mE / 4148020 mN

West end of Dumbarton Bridge: 10 577450 mE / 4149100 mN; Newark Junction: 10 585260 mE / 4152550 mN

Culvert at University Avenue: 10 057605 mE / 4148432 mN; Henderson Underpass: 10 0573261 mE / 4148139 mN; Newark culvert: 10 0583491 mE / 4152976 mN

**\*P3a. Description:**

This form updates a 1996 study by John Snyder of the Southern Pacific Railroad, Dumbarton Cutoff. In that study, Snyder inventoried and evaluated on separate DPR forms the Southern Pacific Railroad Dumbarton Cutoff, the Southern Pacific Railroad Dumbarton Bridge and the Newark Slough Bridge. This form is an update to only that portion of the Dumbarton Cutoff that enters the APE for this study, running from Redwood Junction in San Mateo County on the west side of the San Francisco Bay to just before the Niles station in Alameda County on the east side of the Bay. In 1998, a major fire damaged nearly 2000 feet of the western spans of the Dumbarton Bridge. All but the pilings are now gone in that section of the line. Otherwise, the railroad alignment appears as it did when John Snyder recorded it. In addition to the railroad and the two bridges, JRP also recorded two culverts and an underpass. The forms for these resources can be found attached to the HRIER prepared for this project. These resources are: the Henderson Underpass (Map Reference #12) in Menlo Park, the University Avenue / M.P. 30.80 culvert (Map Reference #13) and the Newark culvert (Map Reference #17). The Dumbarton Bridge (Map Reference #14) and Newark Slough Bridge (Map Reference #16) can also be found attached to the HRIER. (See Continuation Sheet.)

**\*P3b. Resource Attributes:** (List attributes and codes) (HP19) Bridge (HP 11) Engineering Structure**\*P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "Historic Resources Inventory and Evaluation Report, Dumbarton Rail Corridor Project," 2012.**\*B10: Significance:**

The previous study determined that the cutoff appeared to be eligible for listing in the National Register of Historic Places (NRHP) at the local level of significance in transportation and engineering. Snyder also concluded that the cutoff retained integrity of location, setting, feeling, and association, noting that the trestle replacements from the 1970s constituted a "minor compromise to integrity of design, materials, and workmanship." Under Criterion A, the Dumbarton Cutoff is associated with significant system-wide improvements to the Southern Pacific Railroad, and the economic growth of San Francisco in the first half of the twentieth century. It is also associated with the national defense activities during World War I and World War II. Under Criterion B, the Dumbarton Cutoff is associated with E.H. Harriman, who drove the growth of the Southern Pacific Railroad during the first two decades of the twentieth century. Harriman directed the construction of the bridge. Under Criterion C, Snyder concluded that contributive elements, such as the Dumbarton and Newark Slough Bridges, are representative examples of their type (Harriman Common Standard timber trestle, deck girder, and through truss bridges), period (first decade of the twentieth century), and method of construction. A 1995 fire and a more disastrous 1998 fire damaged the bridge. The 1998 fire destroyed most of the western ballast-deck timber trestle approach spans, comprising 1,766 feet of the bridge. Above water, only partial remains of some of the posts still exist. Other changes to the railroad include replacement rails and ties, as well as the placement of concrete grade-crossings and similar modernizing features. The fire damage appears to compromise the integrity of design, materials and workmanship; however, the bridge retains integrity of location, setting, feeling and association. While the damage to the bridge compromises the integrity, the segment that was destroyed is small enough to have a relatively minor effect on the integrity of the Dumbarton Cutoff as a whole. The modernization of the rails and ties and other mechanical elements of the railroad do not affect the integrity of the railroad route. The route the original railroad took remains the same. (see Continuation Sheet)

**\*B14. Evaluator:** Rand Herbert & Joseph Freeman **\*Date of Evaluation:** June 2008



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### P3a. Description (continued):

JRP conducted a survey of the railroad alignment at several locations, usually at street crossings but also at underpasses, overpasses, bridges and some culverts. Access was limited to the railroad. The following is a detailed description of each of the recordation sites.

The segment begins in San Mateo County at Redwood Junction near Willow Street, just south of the State Route 84 crossing. Light and heavy industrial buildings surround this railroad wye, however no cultural resources aside from the rail line appear within the APE, which is aligned with the railroad right of way. The railroad line at this point consists of four standard-gauge tracks on the main line and two tracks along the Dumbarton Cutoff. Of the mainline tracks, three appear to be modernized, with concrete ties. On the Dumbarton Cutoff line, the tracks sit on wood ties and rock ballast.

The rail line continues along a slight curve to Middlefield Road, a wide, two-lane road. At this at-grade crossing the APE extends beyond the width of the railroad right-of-way; however the APE does not incorporate any features that are not associated with the rail line. The APE does include two street medians, both of which are inside the railroad right-of-way, as well as part of Middlefield Road, both north and south of the tracks. The surrounding area at this crossing, but outside the APE, is characterized by light and heavy industrial development, with some residential units located south of the crossing. This crossing also designates another railroad wye which connects the cutoff with the main line.

The next crossing along the rail line is at 2nd Street, a two lane road. The APE at this point does not extend beyond the railroad right-of-way, and the crossing is at-grade. Thus, there are no non-railroad features within the APE. This intersection is bordered to the north by residential units and a small parking lot and to the south by industrial buildings and a parking lot for an automobile towing company. The APE includes part of the street north of the tracks. East of this location is the 5th Avenue at-grade crossing, which intersects the two lines of track at this location (**Photograph 1**). As at 2nd Street, the area surrounding this intersection is characterized by residential development to the north and large warehouses to the south. The APE at this intersection does not encroach on any of these properties. The APE includes part of the street north of the rail line.

Marsh Road, the next crossing nearly a mile east of 5th Avenue, is a wide, four-lane road with a center median (**Photograph 2**). A modern office park is located at the northeast corner, while a strip mall is located across Marsh Road. Beyond the strip mall and south of the tracks are residential buildings. The Dumbarton Cutoff crosses over the US 101 on the Henderson Underpass (**Photograph 3**). The highway at this location is eight lanes wide. A variety of development constitutes the surrounding area. Office parks and large industrial-style warehouses are located north of the railroad, while residential development characterizes the area south of the railroad.

Chilco Street, which parallels the rail line to the north for a quarter of a mile, crosses the tracks at grade. The area north of the tracks and east of the freeway is comprised of large industrial warehouses, while residential buildings are located south of the railroad at this location. The APE at this location includes portions of the Chilco Street north and south of the tracks, but it does not include any structures. The area surrounding Willow Road, site of the next crossing, is characterized by modern commercial and industrial buildings. The APE at this location extends north and south of the tracks along Willow Road and parts of Hamilton Avenue. The Menlo Park Station is proposed for this site.

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As the railroad nears the western shore of the bay, a culvert carries the railroad tracks over a small unnamed creek/drainage approximately 150 feet west of University Avenue (**Photograph 8**). At the University Avenue crossing, the APE remains within the railroad right-of-way. There are no buildings within the APE or in the close vicinity of the tracks. A residential development is located southeast of the tracks. At this point, the railroad crosses the San Francisco Bay on the Dumbarton Bridge (**Photograph 4**). It then passes through the marsh area before reaching the Newark Slough Bridge (both bridges are discussed in full on separate forms).

Near the Cargill Salt loading facility, the railroad passes over a culvert with a date stamp of 1924. Beyond the Cargill Salt facility, the current project proposes constructing a parking lot near the Willow Street crossing. This site is surrounded by modern construction and vacant lots. To the north the railroad is bordered by industrial warehouses west of Willow Street. South of the tracks an abandoned warehouse and office complex is located at 8787 Enterprise Drive. That building was determined to be ineligible for listing in the NRHP in the accompanying HRIER. Three other properties with all modern buildings are located within the APE near this intersection. Modern residential housing is located east of Willow Street and outside the APE for this project.

At the Spruce Street crossing, the APE remains within the railroad right-of-way. The surrounding area is characterized by residential buildings dating to the 1950s and 1960s. The Ash Street at-grade crossing is surrounded by residential buildings dating to the first decades of the twentieth century. At this intersection, the APE includes part of the street north and south of the railroad right-of-way for proposed road medians. The properties at 37069 Ash Street, 37144 Ash Street, 37115 Ash Street and 7590 Snow Avenue were recorded for this project. These properties were determined ineligible for listing in the NRHP. Past the Ash Street crossing, the railroad makes an S-turn before paralleling Baine Avenue. It crosses Cherry Street; however the APE remains within the railroad right-of-way (**Photograph 5**). It next passes under Newark Boulevard, which is carried over the tracks on the modern Newark Boulevard Overhead, designated by Caltrans as Bridge # 33C0137. This part of Newark is characterized by single- and multiple-family residences. The last crossing before the railroad enters the City of Fremont is at Cedar Boulevard, where the APE remains within the right-of-way.

In Fremont, the tracks cross over Interstate 880 on two through plate girder bridges designated by Caltrans as the East Newark Underpass, Bridge # 33-0262 (**Photograph 6**). While this crossing has been used since the construction of Interstate 880, the bridges were replaced in 1995. The APE for this overpass remains within the right-of-way and includes no historic resources. The area surrounding the overpass consists of single- and multiple-family residences as well as industrial-use warehouses. East of the Interstate 880 crossing, the railroad crosses Blacow Road, where the APE remains within the railroad right-of-way. No historic resources were recorded at this intersection. The surrounding area consists primarily of single-family residential buildings with some commercial and industrial development. The APE remains within the railroad right-of-way as it crosses Dusterberry Way and Maple Street. This area is characterized by a mixture of residential buildings and complexes, light industrial buildings and commercial properties.

Following Maple Street, the railroad tracks cross Fremont Boulevard and enter the Centerville Station (**Photograph 7**). The Centerville Station (Centerville Railroad Depot) is ineligible for listing in the NRHP. The APE extends outside the railroad right-of-way at this location to include improvements to the Centerville Railroad Depot. This part of Fremont Boulevard is generally represented by commercial buildings, many of which date to the late nineteenth or early twentieth century. North of the station and west of Fremont Boulevard, the APE incorporates part of two properties, on which sit three buildings. Among these are the buildings at 3810 and 3850 Bonde Way, which have been previously inventoried and evaluated, and are discussed in more detail below.

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The railroad continues northeast to Niles, crossing the Paseo Padre Parkway on a bridge designated by Caltrans as 33C0225. Built in 1975 the Paseo Padre Parkway Underpass is a concrete box beam bridge. The railroad then passes under the Bay Area Rapid Transit (BART) line which is carried on a bridge. At this point, the APE leaves the Dumbarton Cutoff before it enters the Niles Railroad Depot.

**B10. Significance (continued):**

Southern Pacific Railroad built the Henderson Underpass in 1931 and expanded it from a single span to a double span in 1958 to accommodate the construction of four more lanes of highway.

Research did not indicate when the culvert west of University Avenue was built, but the type of construction and materials used suggest an early construction date in the history of the Southern Pacific Railroad Dumbarton Cutoff. Timber and concrete box culverts were used in early railroad construction. Aerial photographs, dating back to 1948, show a culvert of similar style at this location. The Newark culvert was built by Southern Pacific Railroad in 1924.<sup>1</sup>

These three resources are contributing structures to the historic district. They were all constructed within the period of significance (1909-1945) as defined by John Snyder. These resources were not included in the previous study. These resources are not eligible for listing in the NRHP or CRHR as individual historic properties. JRP conducted a survey of the railroad alignment at several locations, usually at street crossings but also at underpasses, overpasses, bridges and some culverts. Access was limited to the railroad.

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<sup>1</sup> Bob Haydon, ed., *Model Railroad Bridges & Trestles: A Reprint from Model Railroader Magazine* (Waukesha, WI: Kalmbach Publishing Co., 1992), 36-42. Aerial Photographs, (1946, 1956, 1968, 1980, 1991, 1993, 2000, 2005). Accessed online at: <http://www.historicaerials.com>, June 6, 2008



**Photographs (continued):**



**Photograph 1.** At 5<sup>th</sup> Avenue in Redwood City, San Mateo County, camera facing west, 6/16/2008.



**Photograph 2.** At Marsh Road in Redwood City, San Mateo County, camera facing east, 6/16/2008.

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**Photographs (continued):**



**Photograph 3.** Showing Henderson overpass, San Mateo County, camera facing east, 6/16/2008.



**Photograph 4.** Dumbarton Bridge over San Francisco Bay, camera facing southwest, 6/16/2008.



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**Photographs (continued):**



**Photograph 5.** Crossing at Cherry Street in Newark, Alameda County, camera facing northeast, 6/16/2008.



**Photograph 6.** I-880 Overpass in Fremont, Alameda County, camera facing northeast, 6/16/2008.



Photographs (continued):



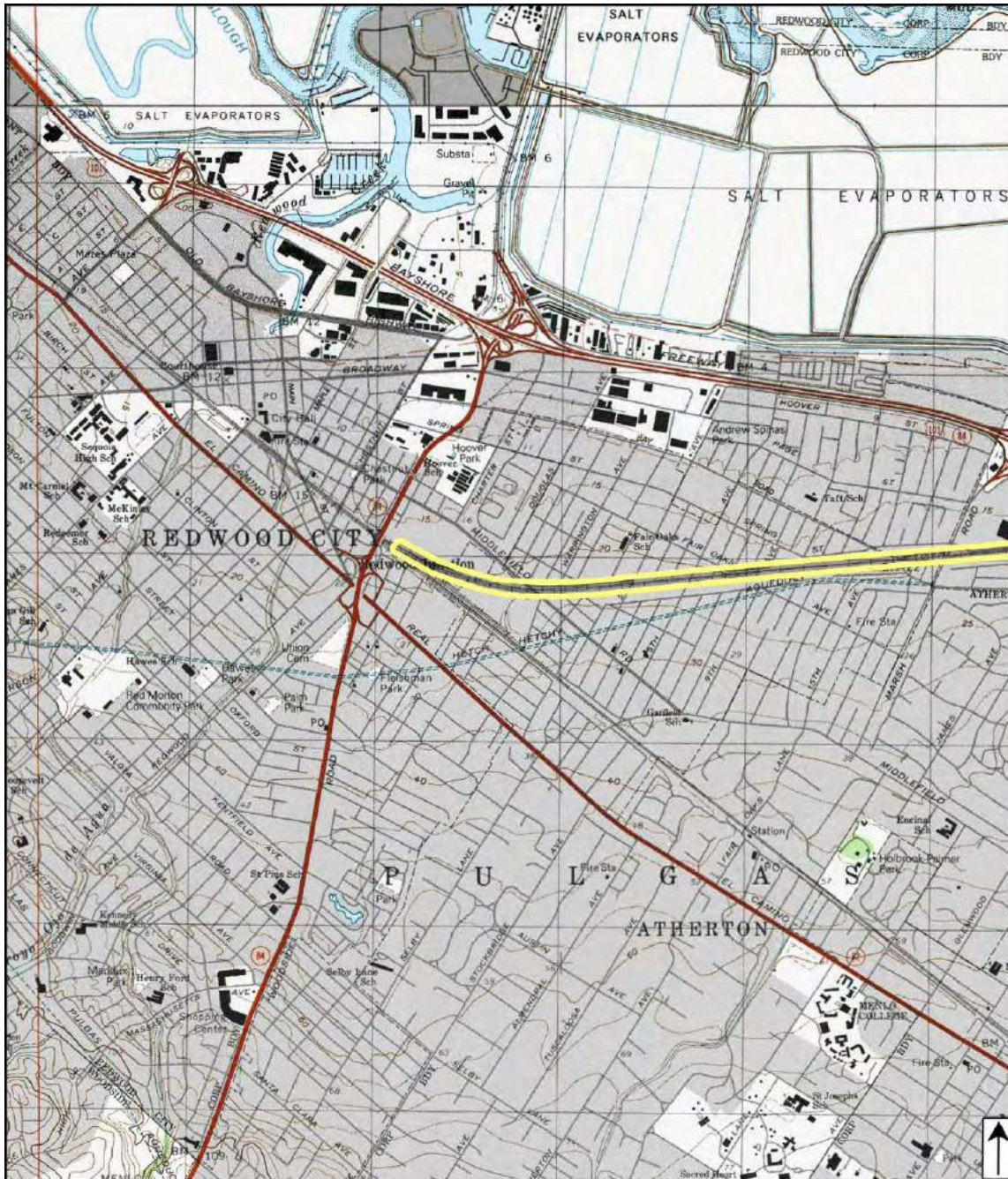
**Photograph 7.** Centerville Station, Fremont, Alameda County, camera facing west, 6/16/2008.



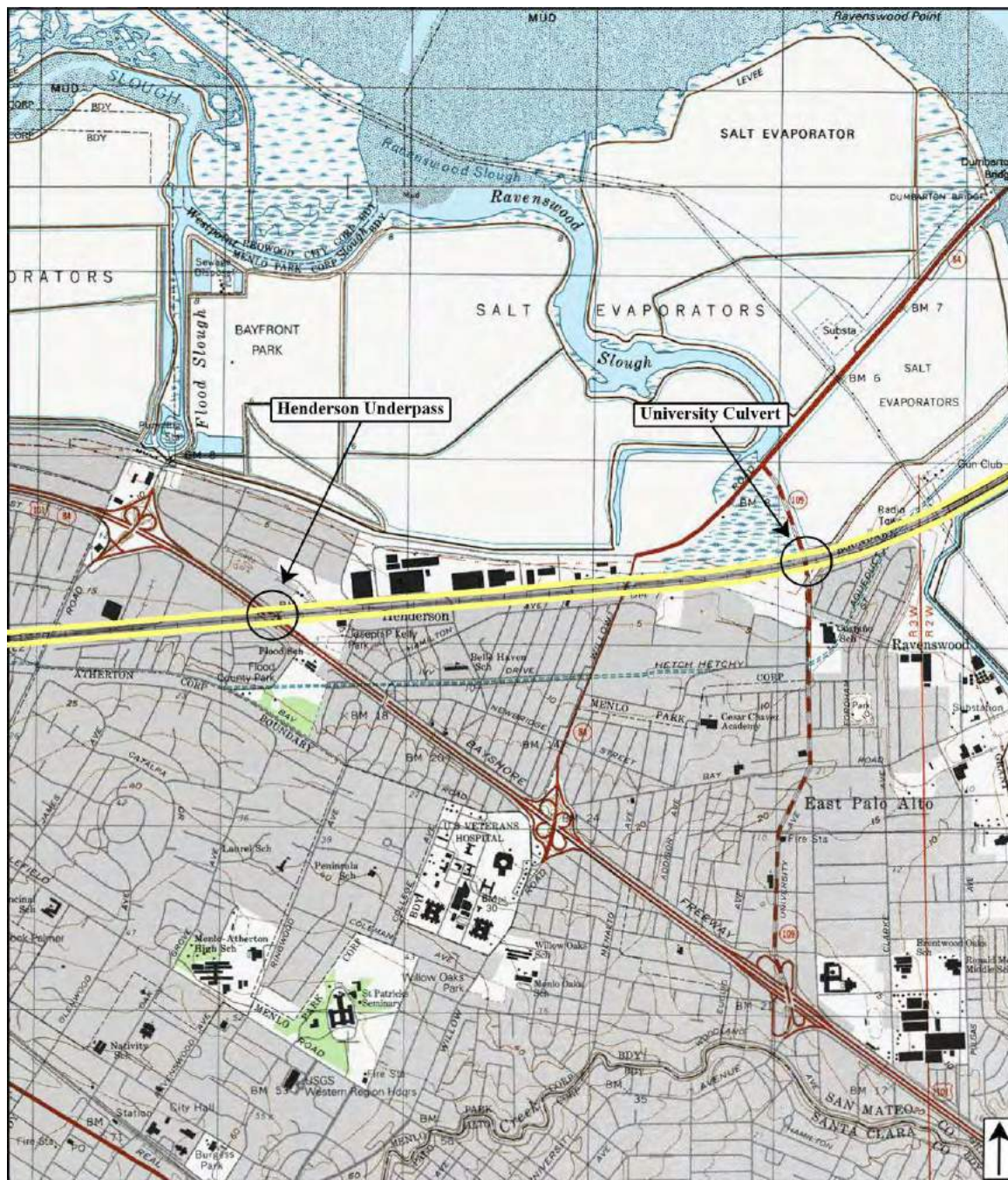
**Photograph 8.** Showing culvert west of University Avenue, camera facing southwest, 6/16/2008.



Sketch Maps:







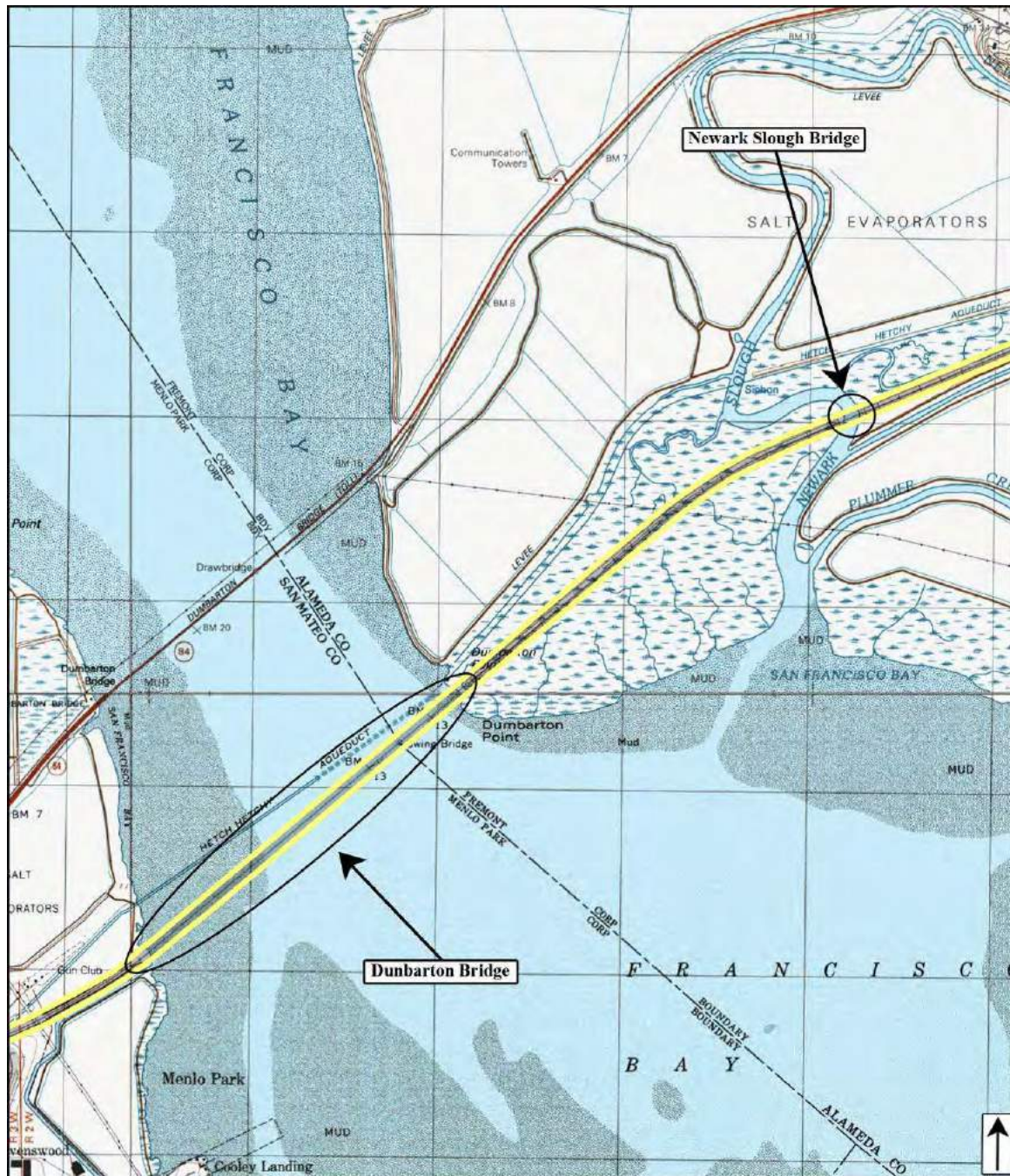


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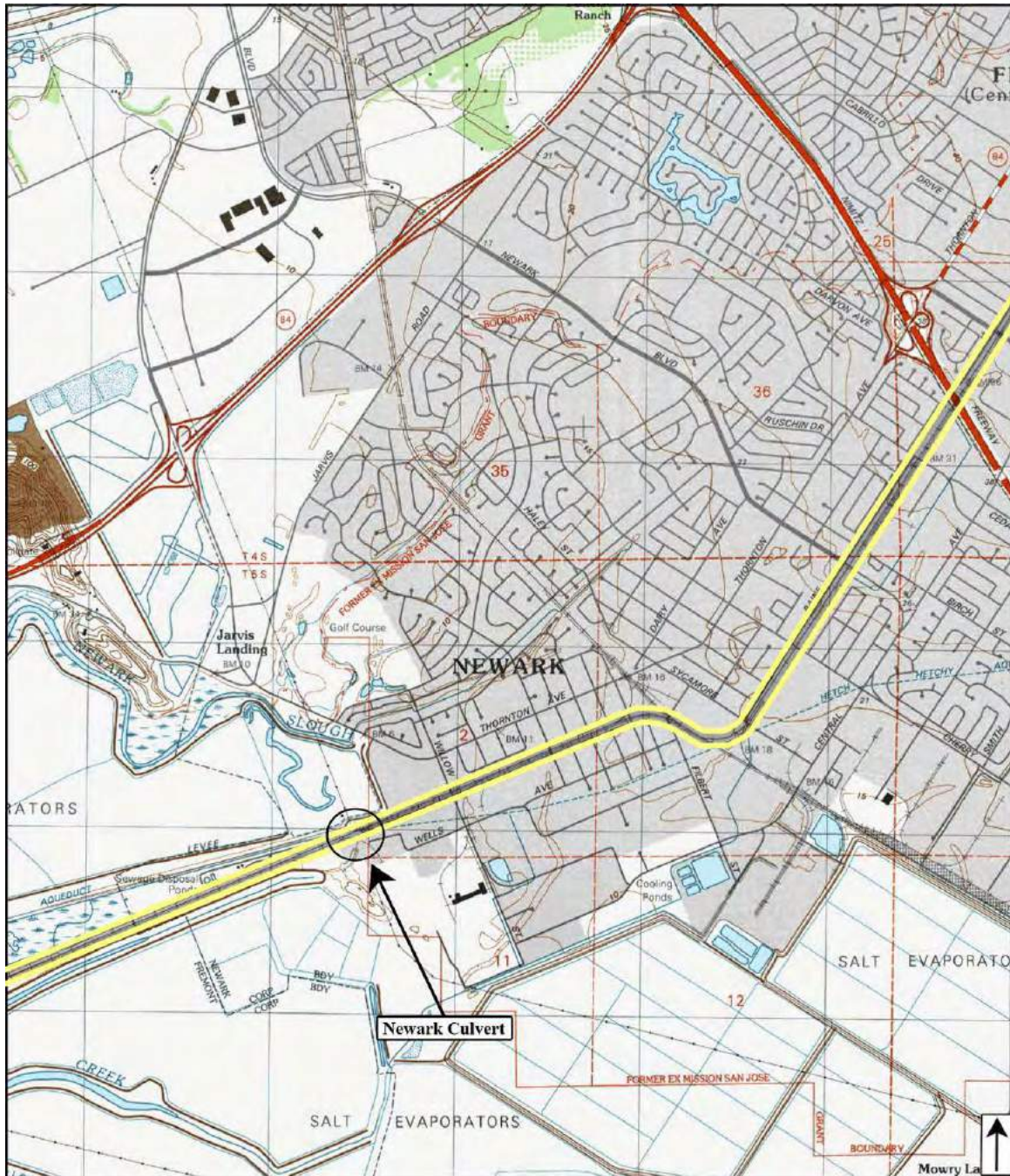
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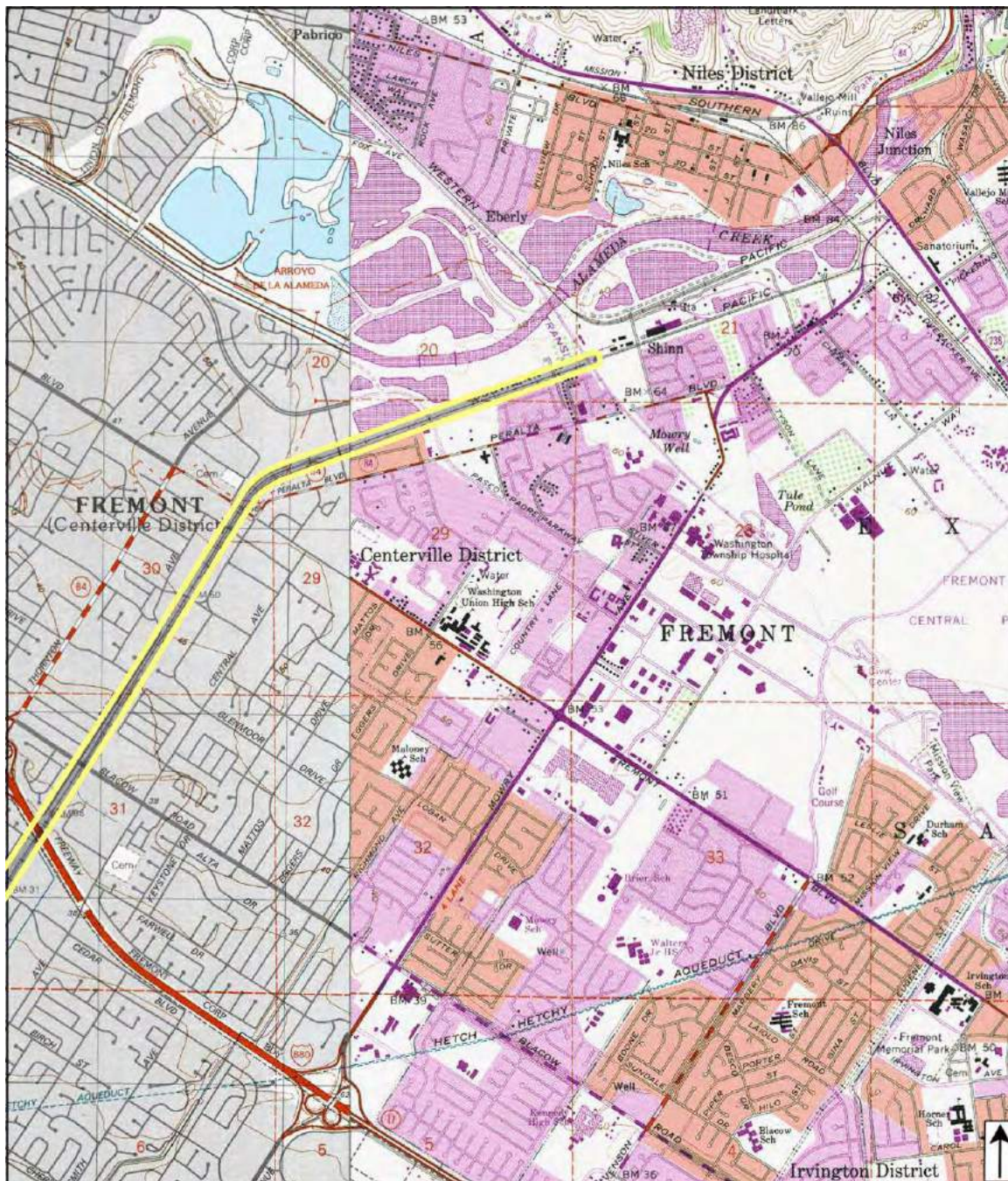


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**REQUEST FOR DETERMINATION OF ELIGIBILITY  
FOR INCLUSION IN THE NATIONAL REGISTER OF HISTORIC PLACES**

Southern Pacific Railroad Dumbarton Cutoff [Historic District]  
Southern Pacific Railroad Dumbarton Bridge  
Southern Pacific Railroad Newark Slough Bridge  
Alameda and San Mateo Counties, California

BY

John W. Snyder  
P.S. Preservation Services  
Sacramento, CA 95819

REQUEST FOR  
DETERMINATION OF ELIGIBILITY  
FOR INCLUSION IN THE  
NATIONAL REGISTER OF HISTORIC PLACES

SOUTHERN PACIFIC RAILROAD DUMBARTON CUTOFF  
SOUTHERN PACIFIC RAILROAD DUMBARTON BRIDGE  
SOUTHERN PACIFIC RAILROAD NEWARK SLOUGH BRIDGE  
Alameda and San Mateo Counties, California

Submitted pursuant to 36 CFR 800.6(e)

U.S. Coast Guard

December 1996

## ABSTRACT

This document has been prepared to report on the history, and evaluate the significance of, the Southern Pacific Railroad Dumbarton Cutoff Linear Historic District, which connects Niles in Alameda County, California with Redwood Junction in San Mateo County, California, and traverses the lower reached of San Francisco Bay. In addition, this document also seeks a determination of eligibility of two of the District's contributing features, the Southern Pacific Railroad Dumbarton Bridge, and the Southern Pacific Railroad Newark Slough Bridge. In evaluating the District's and the bridges' significance, this report will satisfy the requirements of 36 CFR 63, allowing a determination as to whether or not the resources meet the eligibility criteria of the National Register of Historic Places. The San Mateo County Transportation Agency (Samtrans), current owner of this rail line, is proposing rehabilitation of the two bridges, contributors to the District. This work will require a permit from the U.S. Coast Guard.

This document concludes that the Southern Pacific Railroad Dumbarton Cutoff Linear Historic District appears to be eligible for inclusion in the National Register of Historic Places, and that the Southern Pacific Railroad Dumbarton Bridge and Southern Pacific Railroad Newark Slough Bridge are contributors to that eligible district. In addition, this document concludes that the Southern Pacific Railroad Dumbarton Bridge is individually eligible for inclusion in the National Register of Historic Places as the first successful bridging of San Francisco Bay.

### I. PROPERTY NAME

#### A. Historic Name: Southern Pacific Railroad Dumbarton Cutoff.

1. Original owner or builder: Southern Pacific Railroad; American Bridge Company.
2. Significant persons or events associated with the District: Edward H. Harriman.
3. Innovative or unusual characteristics of the District: The first successful crossing of San Francisco Bay. The two bridges are the second oldest known movable bridges in California.



B. Common Names: Dumbarton Cutoff; Samtrans Dumbarton Cutoff.

III. LOCATION

The Southern Pacific Railroad Dumbarton Cutoff Linear Historic District generally extends from Niles in southern Alameda County, southwestward to Redwood Junction in southern San Mateo County. The Cutoff was conceived in 1904 to provide a link between the railroad's Sunset Route (San Francisco-New Orleans) and the Ogden (San Francisco-Ogden) and Shasta (San Francisco-Portland) lines, obviating the need for trains to travel as far south as San Jose before turning north again. For the District's and the bridges' UTM references, see the attached forms.

IV. CLASSIFICATION

A. Category: Linear District; bridge.

V. OWNERSHIP: San Mateo County Transportation Agency.

VI. REPRESENTATION IN EXISTING SURVEYS: None.

VII. DESCRIPTION

In brief, the Southern Pacific Railroad Dumbarton Cutoff Linear Historic District is described as a 16.4-mile standard-gauge railroad line, with attendant turnouts, spurs, sidings, signals, culverts, bridges, and other contributive elements. For a more complete description of the line and its history, see the attached forms. While a full survey of the line and all its contributing elements was beyond the scope of this survey, the information developed in the evaluation of the two bridges will allow a finding of eligibility for the District, which is perhaps the most intact Harriman-era Southern Pacific rail line in California.

**Dumbarton Bridge:** In brief, this is a 1.4-mile long structure, built in 1908-9, crossing the south end of San Francisco Bay. Its elements include timber trestle spans, reinforced concrete trestle spans, steel deck girder spans, steel through Pratt truss spans, and a steel through Pennsylvania (Petit) truss swing span. This bridge, and the nearby Newark Slough Bridge, are the

second oldest movable bridges in California. For a complete description, see the attached forms.

**Newark Slough Bridge:** Built in 1908-9 across Newark Slough, southwest of Newark, Alameda County, this bridge has an overall length of 817 feet. Its elements include timber trestle spans, steel deck girder spans, and a steel through Baltimore (Petit) truss span. For a complete description, see the attached forms.

## VIII. SIGNIFICANCE

**A. History:** For a complete history of the Southern Pacific Railroad Dumbarton Cutoff, Dumbarton Bridge, and Newark Slough Bridge, see the attached forms.

**B. Evaluation:** "The National Register of Historic Places is the official Federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture." [NPS, Bulletin 16A, p.i] In general, properties must be at least 50 years old to be eligible for listing in the National Register. The National Register defines as district as follows: "A district is a geographically definable area--urban or rural, small or large--possessing a significant concentration, linkage, or continuity of sites, buildings, structures, and/or objects united by past events or aesthetically by plan or physical development." [NPS Bulletin 15]

The National Register uses specific criteria, codified in 36 CFR 60, to assess the significance of these property types. Critical to this assessment are seven points of integrity, set apart from the criteria themselves. These points of integrity--location, design, setting, materials, workmanship, feeling, and association--serve to define the historic authenticity of any given property, through the survival of physical characteristics. According the *National Register Bulletin 16A*, "Not only must a property *resemble* [emphasis added] its historic appearance, but it must also retain physical materials, design features, and aspects of construction dating from the period when it attained significance." [NPS, Bulletin 16A, p.4] Properties that lack these qualities, or

in which these qualities are severely compromised, no longer meet the National Register eligibility criteria.

The Southern Pacific Railroad Dumbarton Cutoff Linear Historic District retains a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association; with the exception of reinforced concrete trestle portions of the Dumbarton Bridge, which must be considered as non-contributors, all elements are virtually unmodified from the period of significance, 1909-1945. The Southern Pacific Railroad Dumbarton Cutoff Linear Historic District appears to meet National Register criteria A, B, and C; the Dumbarton Bridge and Newark Slough Bridge are contributors to the eligible district. In addition, the Dumbarton Bridge appears individually eligible under the three criteria, as the first successful bridging of San Francisco Bay. For a complete discussion of integrity and significance of the District and the bridges, see the attached forms.

IX. BIBLIOGRAPHY

See the attached forms.

X. MAPS AND ACREAGE

A. Map: See the attached forms.

B. Acreage: Unknown.

XI. PHOTOGRAPHS See the attached forms.

XII. INDIVIDUAL COMPILING DOCUMENTATION

John W. Snyder, Co-Principal  
P.S. Preservation Services  
P.O. Box 191275  
Sacramento CA 95819-1275





HRI # \_\_\_\_\_

Trinomial \_\_\_\_\_

NRHP Status Code \_\_\_\_\_

Other Listings \_\_\_\_\_

Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

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Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Cutoff

P1. Other Identifier: Samtrans Dumbarton Cutoff

P2. Location: ☐ Not for Publication ☒ Unrestricted a. County Alameda, San Mateo

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

b. USGS 7.5' Quad see continuation Date T : R ; 1/4 of 1/4 of Sec ; B.M.

c. Address: City Zip

d. UTM: (Give more than one for large and/linear resources) 10 ; 569140 mE 4148020 mN

e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Crossing San Francisco Bay at Dumbarton Point, linking Alameda and San Mateo counties  
between Niles and Redwood City.

Parcel No. \_\_\_\_\_

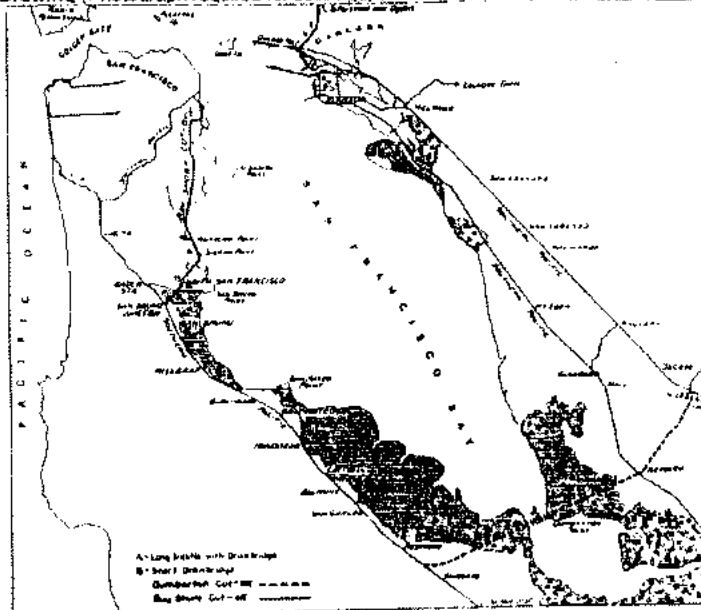
P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Southern Pacific Railroad Dumbarton Cutoff links the railroad's Sunset Route (San Francisco-New Orleans) line with the Ogden (San Francisco-Ogden) and Shasta (San Francisco-Portland) lines, providing a cutoff from the former route that required trains to transit via San Jose. Contributors to this property, and the subject of this survey, are the Southern Pacific Railroad Dumbarton Bridge, located at milepost 31.51, carrying the Dumbarton Cutoff across the south end of San Francisco Bay between Dumbarton Point in Alameda County and East Palo Alto in San Mateo County, and the Newark Slough Bridge, carrying the cutoff over the navigable waters of Newark Slough at milepost 34.53. The Dumbarton Cutoff is 16.4 miles long, connecting the two main lines between Niles, Alameda County, and Redwood Junction, San Mateo County. The cutoff is a single-track rail line with attendant spurs and sidings, turnouts and searchlight-type block and bridge approach signals. It crosses marsh areas on dredged fill, and crosses San Francisco Bay and Newark Slough on through truss swing bridges.

P3b. Resource Attributes: (List attributes and codes) HP19 - Bridge

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

Photograph or Drawing (Photograph required for buildings, structures, and objects)



Map of Bay Shore and Dumbarton Cut-Offs of the Southern Pacific.

P5b. Description of Photo: (View, date, accession #)  
See continuation sheets

P6. Date Constructed/Age and Sources:

☐ Prehistoric ☒ Historic ☐ Both

1907-1910, research, date plate on bridges

P7. Owner and Address

San Mateo County Transportation Agency  
1250 San Carlos Avenue  
San Carlos, California

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

John W. Snyder, P.S. Preservation Services  
P.O. Box 191275  
Sacramento CA 95819-1275

P9. Date Recorded: 11/29/96

P10. Survey Type: (Describe)

Intensive - Section 106.

P11. Report Citation: (Cite survey report and other sources, or enter "none")

P.S. Preservation Services, November 1996, Historic Resource Evaluation Report, Southern Pacific Railroad Dumbarton and Newark Slough Bridges, prepared

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

CONTINUATION SHEET

HRI #

Trinomial

Page 2 of 7

Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Cutoff

Recorded by: John W. Snyder, P.S. Preservation Services

Date 11/29/96

☒ Continuation ☐ Update

P2b. Quads for this resource are: Niles, 1961, photorevised 1968; Newark, 1959, photorevised 1980; Mountain View, 1991; Palo Alto, 1991. Township and Range varies, from T5S/R3W at Redwood Junction, to T5S/R2W at the Dumbarton Bridge, to T5S/R2W at the Newark Slough Bridge, Newark Junction, and Niles.

P2d. UTM (continued) UTM reference on Primary Record is for Redwood Junction at west end of Dumbarton Cutoff. UTM reference for west end of Dumbarton Bridge is 10-577450-4149100; east end of bridge is 10-579110-41500510. UTM Reference for Newark Slough Bridge is 10-581220-4152020. UTM reference for Newark Junction is 10-585260-4152550. UTM Reference for Niles Junction at east end of Dumbarton Cutoff is 10-591100-4158500.

P3. Description (continued) (Descriptions of the Dumbarton and Newark Slough Bridges can be found on the individual records compiled for those structures.) Rails on the Dumbarton Bridge, while continuous-welded, carry rolling dates of 1944 and 1951. Rails on adjacent fill approaches carry rolling dates of 1923 (siding) and 1939 (main line). Mainline rail east of the Newark Slough Bridge is largely 112-pound rail, rolled in 1935 and 1939. There is a handcar setout platform just east of the east approach spans to the Newark Slough Bridge, on the south side of the mainline.

All along the mainline track and on the trestle approaches to the bridges, ties still carry date nails from 1926, 1928, the 1930s and the 1940s; coupled with the rolling dates observed on the rails, these indicate a high degree of integrity of materials for this line.

The Southern Pacific Dumbarton Cutoff appears to meet the eligibility criteria of the National Register of Historic Places, at the local level of significance in transportation and engineering. It retains integrity of location, setting, feeling, and association; trestle replacements from the 1970s constitute a very minor compromise to integrity of design, materials, and workmanship. Under criterion A, it is associated with the system-wide improvements to the Southern Pacific that gave the railroad its 20th century form and made it the standard railroad of the West. It is inextricably linked with the economic growth of San Francisco and its port in the first half of the 20th century, and with the national defense efforts during both world wars. Under criterion B, it is associated with the life of E.H. Harriman, the genius of whom drove the modernization of the S.P. during the first two decades of this century, even beyond his death. Harriman saw the need for, and directed the building of, the Dumbarton Cutoff. Under criterion C, contributive elements of the Cutoff, such as the Dumbarton and Newark Slough Bridges, are representative examples of their type (Harriman Common Standard timber trestle, deck girder, and through truss girders), period (first decade of the 20th century), and method of construction. Built in 1908-9, they are among the oldest of their type in California, with only the Southern Pacific's Sacramento River Bridge at Tehama (1898) known to predate them. In addition, the Southern Pacific Dumbarton Bridge appears to be individually eligible for the National Register under criterion A, as the first successful bridging of San Francisco Bay.

P5b. Description of Photo (continued) Southern Pacific Railroad Dumbarton Cutoff, view to northeast from Ravenswood Point toward Dumbarton Bridge, November 1, 1996.

P11. Report Citation (continued) for San Mateo County Transportation Agency.



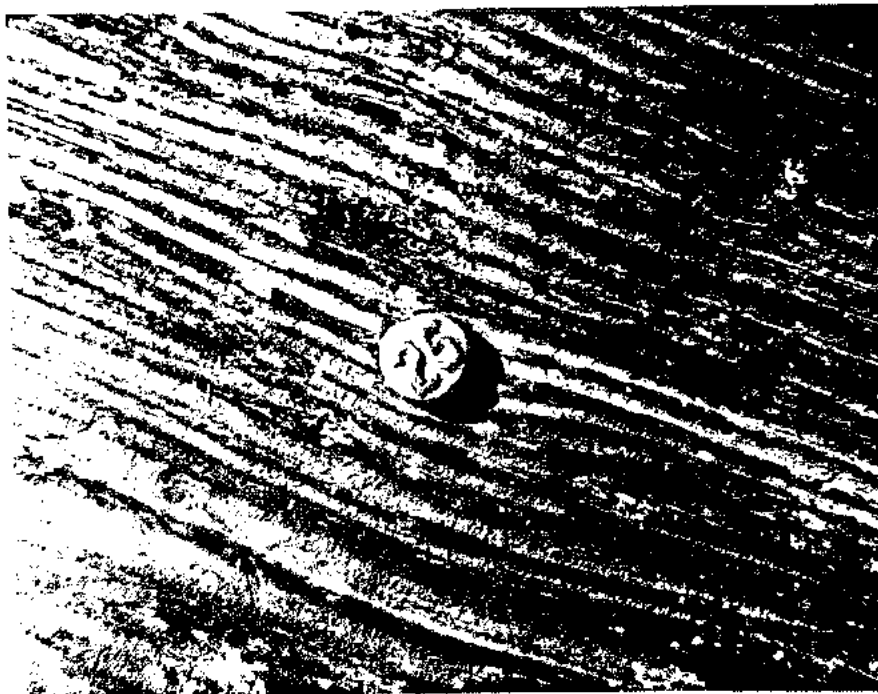
State of California -- The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**CONTINUATION SHEET**

HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 3 of 7 Resource Name or #: (Assigned by recorder) Southern Pacific RR Dumbarton Cutoff  
Recorded by: John W. Snyder, P.S. Preservation Services Date 11/1/96



View to northeast toward Dumbarton Bridge from Ravenswood. Mainline to left, spur to former salt company to right. Loading facility at left in distance built from former bridge girders.



1926 tie date nail, located on main line between Ravenswood and west end of Dumbarton Bridge.

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

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 4 of 7 Resource Name or #: (Assigned by recorder) Southern Pacific RR Dumbarton Cutoff  
Recorded by: John W. Snyder, P.S. Preservation Services Date 11/1/96



Typical main line view, to northeast toward Dumbarton Bridge, amid salt marshes. Dumbarton highway bridge visible at left in distance.



Bridge approach signals, view to northeast toward Dumbarton Bridge. Open draw span visible in distance.

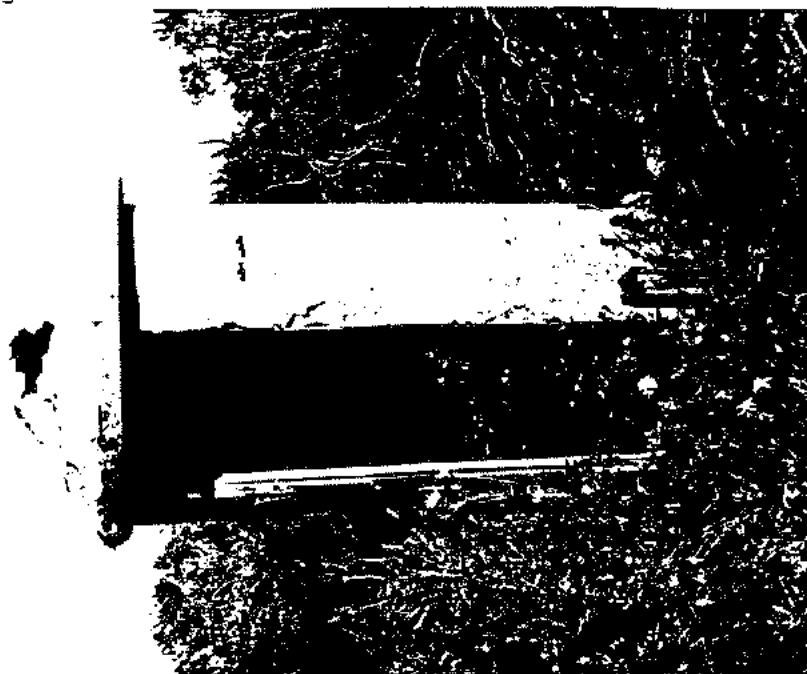
State of California -- The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**CONTINUATION SHEET**

HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 5 of 7 Resource Name or #: (Assigned by recorder) Southern Pacific RR Dumbarton Cutoff  
Recorded by: John W. Snyder, P.S. Preservation Services Date 11/1/96



View to northeast toward Newark Slough Bridge from just east of the Dumbarton Bridge. Switch led to former siding at right.



S.P. Common Standard precast concrete telephone booth, located on north side of main line between Dumbarton and Newark Slough Bridges. View to southeast.

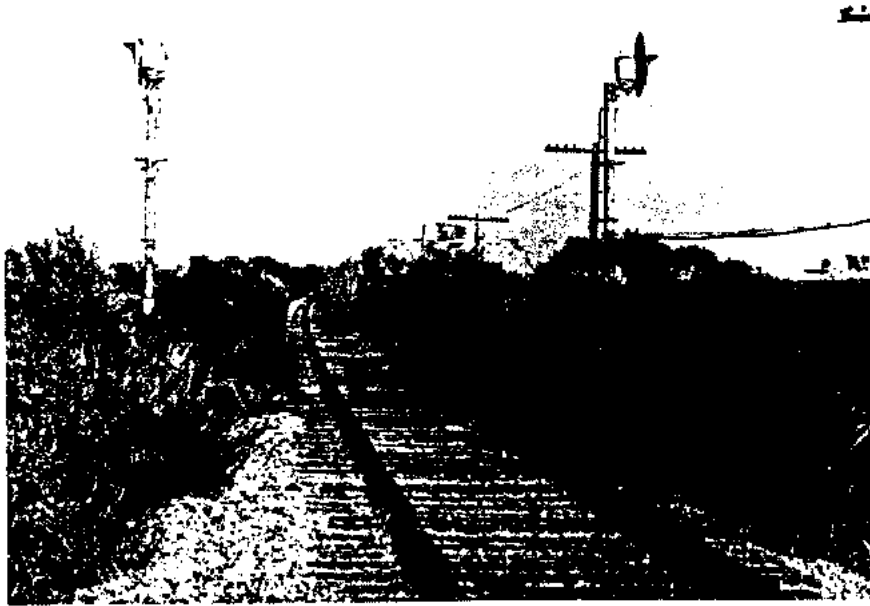


State of California -- The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**CONTINUATION SHEET**

HRI # \_\_\_\_\_

Trinomial \_\_\_\_\_

Page 6 of 7 Resource Name or #: (Assigned by recorder) Southern Pacific RR Dumbarton Cutoff  
Recorded by: John W. Snyder, P.S. Preservation Services Date 11/1/96



View to northeast, showing bridge approach signals located between Dumbarton and Newark Slough Bridges.



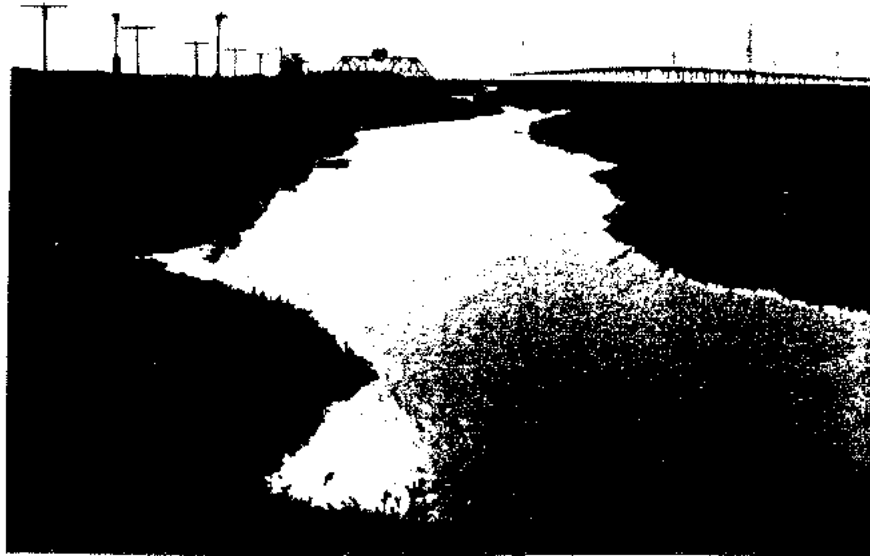
View to southwest across unchanged salt marshes west of Newark. Rail line at left, Newark Slough at center, Newark Slough Bridge visible in distance.

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

HRI # \_\_\_\_\_

TrInomial \_\_\_\_\_

Page 7 of 7 Resource Name or #: (Assigned by recorder) Southern Pacific RR Dumbarton Cutoff  
Recorded by: John W. Snyder, P.S. Preservation Services Date 11/1/96



View to southwest across unaltered salt marshes west of Newark. Rail line at left, with bridge approach signals and Newark Slough Bridge visible. Newark Slough at center. Dumbarton highway bridge at right.



View to east of handcar/speeder setout platform located just east of Newark Slough Bridge.

PRIMARY RECORD

Previous Documentation -  
NOT FOR REVIEW

NRHP Status Code

Other Listings

Review Code

Reviewer

Date

Page 1 of 16

Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge

P1. Other Identifier: Samtrans Dumbarton Bridge

P2. Location: ☐ Not for Publication ☒ Unrestricted a. County Alameda, San Mateo  
and (P2b and P2c or P2d, Attach a Location Map as necessary.)

b. USGS 7.5' Quad Mountain View Date 1991 T 5S ; R 2W ; 1/4 of 1/4 of Sec ; B.M.

c. Address:

City

Zip

d. UTM: (Give more than one for large and/linear resources) 10 ; 579110

mE/ 4150510

mN

e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Crossing San Francisco Bay at Dumbarton Point, linking Alameda and San Mateo counties  
between Newark and Redwood City.

Parcel No.

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

An element of the Southern Pacific Railroad Dumbarton Cutoff linking the railroad's Sunset Route (San Francisco-New Orleans) line with the Ogden (San Francisco-Ogden) and Shasta (San Francisco-Portland) lines, and providing a cutoff from a former route that required trains to transit via San Jose, the Southern Pacific Railroad Dumbarton Bridge, located at milepost 31.51, carries the Dumbarton Cutoff across the south end of San Francisco Bay between Dumbarton Point in Alameda County and East Palo Alto in San Mateo County. See continuation sheet for complete description.

The Dumbarton Cutoff is 16.4 miles long, connecting the two main lines between Niles, Alameda County, and Redwood Junction, San Mateo County. The cutoff is a single-track rail line with attendant spurs and sidings, turnouts and searchlight-type block and bridge approach signals. It crosses marsh areas on dredged fill, and crosses San Francisco Bay and Newark Slough on through truss swing bridges.

P3b. Resource Attributes: (List attributes and codes) HP29 - Railroad Grade:

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)  
See continuation sheets

P6. Date Constructed/Age and Sources:

☐ Prehistoric ☒ Historic ☐ Both

1907-10 (factual): research; 1909 (factual): date plate on bridges

P7. Owner and Address

San Mateo County Transportation Agency  
1250 San Carlos Avenue  
San Carlos, California

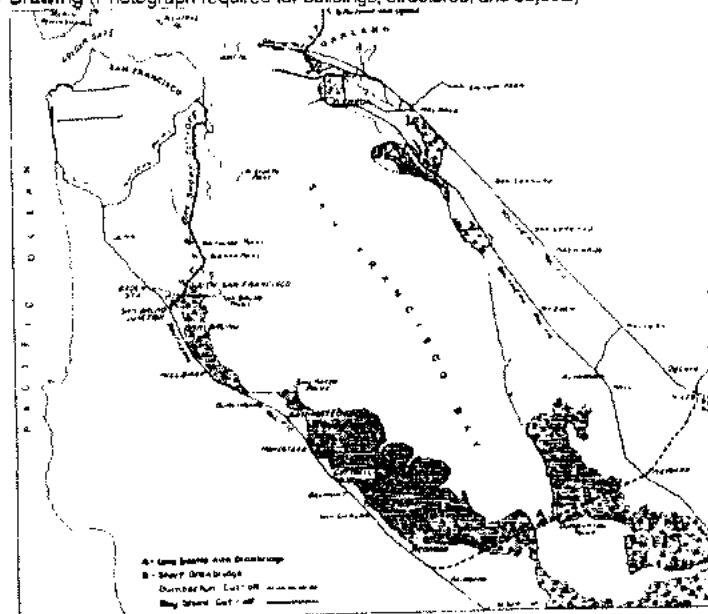
P8. Recorded by: (Name, affiliation, and address)

John W. Snyder, P.S. Preservation Services  
P.O. Box 191275  
Sacramento CA 95819-1275

P9. Date Recorded: 11/29/96

P10. Survey Type: (Describe)

Intensive - Section 106.



Map of Bay Shore and Dumbarton Cut-Offs of the Southern Pacific.

P11. Report Citation: (Cite survey report and other sources, or enter "none")

P.S. Preservation Services, November 1996, Historic Resource Evaluation Report, Southern Pacific Railroad Dumbarton and Newark Slough Bridges, prepared

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



CONTINUATION SHEET

Previous Documentation -  
NOT FOR REVIEW

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 2 of 16

Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge

Recorded by: John W. Snyder, P.S. Preservation Services

Date 11/29/96

☒ Continuation ☐ Update

2d. UTM (continued) UTM reference on Primary Record is for east end of Dumbarton Bridge. UTM reference for center pier of swing span is 10-578795-4150250. UTM reference for west end of Dumbarton Bridge is 10-577450-4149100.

P3. Description (continued) The Dumbarton Bridge, crossing San Francisco Bay is comprised of, from west to east:

a. A backfilled timber abutment.

b. 1,766 feet of Harriman Common Standard ballast-deck timber trestle approach spans on 7-pile timber bents, with each span comprising two lines of five timber stringers each below the rails, and a single timber stringer at each outer edge, with timber posts supporting timber guardrails.

c. Thirty reinforced concrete ballast-deck trestle approach spans of 30 feet each, on reinforced concrete 4-pile bents and bent caps, with railings of steel posts and wire cable.

d. Fifty-three reinforced concrete ballast-deck trestle approach spans of approximately totalling 2,374 feet, on cylindrical, cast-in-place 2-column bents and bent caps, with railings of steel posts and wire cable.

e. One 26-foot, three-inch Harriman Common Standard open-deck, steel deck girder approach span.

f. Three double-track Harriman Common Standard 180-foot open-deck riveted steel Pratt through truss approach spans, with the main line track carried on the north side of the deck, and a spur track carried on the south side. The westernmost truss span (historically Span 6) carries a mast-mounted searchlight-type block signal to protect the draw span, and a switch stand and turnout leading to the spur track. The trusses have boxed end posts and top chords with solid steel plate tops and sides, and latticed soffits; laced bottom chords; laced diagonal tension members; latticed and laced vertical compression members; latticed top laterals and struts; latticed portals and interior top transverse braces. The truss spans are carried on two-column bents, each column consisting of a concrete-filled steel cylinder, founded on timber piles.

g. One double-track, 310-foot open deck riveted steel through Pennsylvania (Petit) truss, with sub-struts and sub-ties, center-bearing swing span. Its built-up members are as described for the Pratt truss spans, above. The bridge operator's control cabin, containing operating machinery, is carried atop the trusses at the center of the span. The swing span is carried on a large, cylindrical, steel-shelled mass concrete center pier, which is founded on timber piles. When in the closed position, its ends rest on two-column bents as described for the Pratt truss spans, above. Lines of timber pile dolphins, connected by catwalks, delineate the navigable channel on each side of the draw span, and protect it when it is in the open position. The draw span is currently maintained in the open position (i.e., closed to rail traffic).

h. Three double-track Harriman Common Standard 180-foot open-deck riveted steel Pratt through truss approach spans, as described above. The searchlight-type block signal protecting the east end of the draw span is mounted on the north end post of the easternmost span (historically Span 1).

i. Eight reinforced concrete ballast-deck trestle approach spans of approximately totalling 394 feet, on cylindrical, cast-in-place 2-column bents and bent caps, with railings of steel posts and wire cable.

j. One reinforced concrete ballast-deck trestle approach span of approximately 30 feet, on reinforced concrete pile bents and bent caps, with railings of steel posts and wire cable.

k. 610 feet of single-track Harriman Common Standard ballast-deck timber trestle approach spans on 6-pile timber bents, with each span comprising two lines of five timber stringers each below the rails, and a single timber stringer at each outer edge, with timber posts supporting timber guardrails.

Rails on the Dumbarton Bridge, while continuous-welded, carry rolling dates of 1944 and 1951. Rails on adjacent fill approaches carry rolling dates of 1923 (siding) and 1939 (main line). Mainline rail east of the Newark Slough Bridge is largely 112-pound rail, rolled in 1935 and 1939. There is a handcar setout platform just east of the east approach spans to the Newark Slough Bridge, on the south side of the mainline.

All along the mainline track and on the trestle approaches to the bridges, ties still carry date nails from 1926, 1928, the 1930s and the 1940s; coupled with the rolling dates observed on the rails, these indicate a high degree of integrity of materials for this line.

P3b. Resource Attributes (continued) HP19 - Bridge.

Previous Documentation -  
NOT FOR REVIEW

CONTINUATION SHEET

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 3 of 16      Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge

Recorded by: John W. Snyder, P.S. Preservation Services

Date 11/1/96

☒ Continuation    ☐ Update

11. Report Citation (continued) for San Mateo County Transportation Agency.

**BUILDING, STRUCTURE, AND OBJECT RECORD**

Page 4 of 16

NRHP Status Code

Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge

B1. Historic Name: Southern Pacific Railroad Dumbarton Bridge

B2. Common Name: Samtrans Dumbarton Bridge

B3. Original Use: Railroad Bridge

B4. Present Use: Abandoned

B5. Architectural Style: See Continuation Sheet

B6. Construction History: (Construction date, alterations, and date of alterations)

Truss and draw span, timber trestle approaches built 1908-9. Present western timber trestle may date to mid-1930s; eastern timber trestle appears to be original. Reinforced concrete trestle approaches built 1967-8, and 1976.

B7. Moved? ☒ No ☐ Yes ☐ Unknown Date:

Original Location:

B8. Related Features: Southern Pacific Railroad Dumbarton Cutoff, connecting Niles in Alameda County with Redwood Junction in San Mateo County.

B9a. Architect: Engineering Department, Southern Pacific RR

b. Builder: American Bridge Company (fabricators of trusses)

B10. Significance: Theme: Transportation

Area: Engineering

Period of Significance: 1909-45

Property Type: Bridge

Applicable Criteria: A,B,C

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

By the 1890s, the Central Pacific and Southern Pacific Railroads were under the control of Collis P. Huntington, sole survivor of the "Big Four" who had undertaken construction of the Central Pacific portion of the transcontinental railroad beginning in 1863 (the others had been, of course, Charles Crocker, Mark Hopkins, and Leland Stanford). Huntington was parsimonious in his management, and the S.P. was in a period of retrenchment during this era, helped along by the Panic of 1893 that affected railroads nationwide. After Huntington's death, however, railroad magnate Edward H. Harriman was able in 1901 to obtain control of Huntington's interest in the S.P. from his heirs, adding that railroad to the Union Pacific, Illinois Central, and others already under his control. In contrast to the frugality of the Huntington era, Harriman, assuming the presidency of the Southern Pacific, immediately initiated large expenditures that began a series of system-wide improvements to the S.P. to improve its efficiency (and hence its rate of return to him and company stockholders). During the next two decades then, these improvements, representing engineering and construction on a scale not seen on the S.P. since the initial construction of the Central Pacific, shaped both the physical plant and the operations of the railroad into what we see today.

B11. Additional Resource Attributes: (List attributes and codes) HP29 - Railroad Grade;

B12. References:

Books

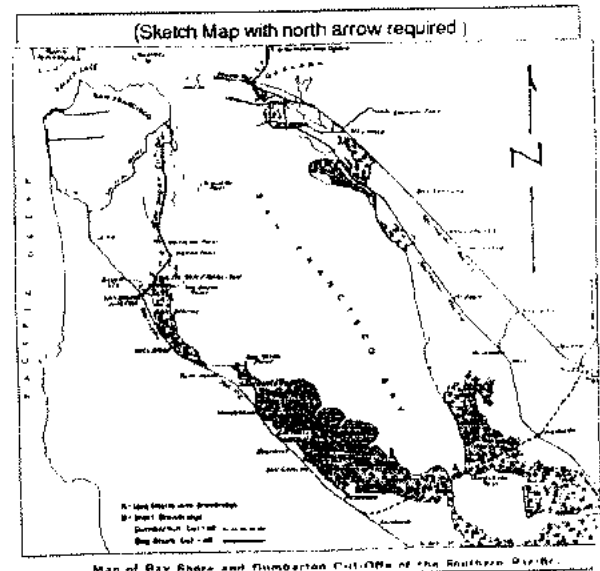
Beebe, Lucius. *The Central Pacific & The Southern Pacific Railroads*. Berkeley: Howell-North, 1963.

B13. Remarks:

B14. Evaluator: John W. Snyder

Date of Evaluation: 11/29/96

(This space reserved for official comments.)





CONTINUATION SHEET

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 5 of 16      Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge  
Recorded by: John W. Snyder, P.S. Preservation Services      Date 11/1/96      ☒ Continuation    ☐ Update

B8. The cutoff was built in conjunction with the Bayshore Cutoff and other Peninsula rail improvements during the administration of E.H. Harriman to expedite rail freight shipment between San Francisco and the Southern Pacific's Ogden and Shasta routes.

B10. Under Harriman's direction, beginning in 1903 the engineering and maintenance of way departments of all the railroads under his control undertook standardization of virtually all elements, from track spikes to locomotives, and from bridges to stations. This allowed the companies to achieve greater economies as they expanded and improved. Among the standardized bridge types developed at this period were the timber pile trestles, deck plate girders, and through truss types used on the S.P. Dumbarton Bridge. At the same time, the S.P. began to modernize its locomotive and car fleet, transitioning to much larger and heavier locomotives (including the first of the articulated Mallet engines that were to become its hallmark), converting to oil fuel, and to all-steel passenger cars; freight cars likewise increased in size and capacity. Harriman invested in oil lands so that the oil-hungry Southern Pacific would not be dependent on outside sources, amassing some of the largest oil holdings in the nation.

In addition, Harriman began massive construction projects all around the S.P. system to increase operating efficiency, and to upgrade lines and bridges for modern traffic loadings; often these efforts took the form of newly-incorporated railroads that were totally S.P.-controlled, and that would be subsumed by the parent company upon their completion; more about this later. He also instituted an enlightened plan of formal training for employees, and built employee club houses to offer an alternative to bars and saloons. By late 1910, his efforts had resulted in the once-moribund Southern Pacific becoming one of only three railroads in the United States with an annual gross income of more than \$100 million!

By 1904 Harriman had completed the Lucin Cutoff across the Great Salt Lake, eliminating the original Central Pacific/Union Pacific route around the north end of the lake (and in the process bypassing the meeting site at Promontory Summit). In 1905 the S.P. began improvements to main lines between San Francisco and the Pacific northwest, between San Francisco and Ogden, and between San Francisco and New Orleans, where S.P. steamships connected to New York. Harriman authorized more than 400 miles of new line system-wide, at a cost of \$14 million, and gained concessions for 775 miles of new line for S.P.'s wholly-owned subsidiary in Mexico. During this period Harriman obtained a \$2 million loan from New York banks, and is alleged to have told S.P. General Manager Julius Kruttschnitt that it was all to be spent improving mainline track in California. According to author, Lucius Beebe, Harriman called to Kruttschnitt as the latter was leaving the Thursday meeting, saying, "Spend it this week." While apocryphal, the story illustrates Harriman's impact upon the S.P. By the end of the year, S.P. had installed automatic block signals on 1,038 miles of track, with 664 more miles projected to be so signalled in 1906. In the San Francisco area, the company began construction of the Bayshore Cutoff between San Francisco and San Bruno to replace the circuitous and hilly line that had originally been built into the city by the predecessor San Francisco and San Jose Railroad in 1863. The new line, built in tunnels and on fill across Visitacion Bay, would be shorter and virtually level, and would include a major new yard and shops on 200 acres of reclaimed land at Visitacion. The Bayshore Cutoff would materially shorten running times between San Francisco and San Jose, and would facilitate freight shipment into San Francisco.

Related to this, and to facilitate freight shipments between San Francisco and the Ogden and Shasta lines, Harriman also directed the incorporation of the Central California Railway, to build a 16.4 mile line between Niles in Alameda County, and Redwood Junction in San Mateo County. This would obviate the need to ship freight across the Bay by ferry, or by rail south to San Jose and then back up the east side of the Bay, a trip of more than 100 miles; it would also be a logical link in conjunction with the new Bayshore Cutoff, then building. Completion of the two cutoffs would unify and improve the railroad's terminal facilities in San Francisco, shortening the trip around the south end of the Bay by 50 miles, and dispensing with the need for two car ferry transfers of freight. While conceived before the April 18, 1906 disaster in San Francisco, that event demonstrated to Harriman the need to improve access to and from the city.

The Central California Railway incorporated on October 3, 1904 with a capital stock of \$1 million, to build a standard gauge railroad, with all appurtenances, from Niles to Dumbarton Point, across San Francisco Bay to Redwood City, and then to a point near San Mateo. While the articles of incorporation made no mention of the Southern Pacific, save in noting the two end connections with the S.P. mainlines, the makeup of the Board of Directors left no doubt as to the seat of control of the Central California: Director, Nathaniel T. Smith was Treasurer of the Southern Pacific; Director, William Hood was S.P.'s Chief Engineer; Director, Edgar E. Calvin was a Southern Pacific Vice-President; Director, John E. Foulds was an S.P. attorney; only Director, Frank Shay of Oakland seemingly had no connection to Southern Pacific. (Even more telling was the allocation of shares in 1912: members of the Board of Directors of the Central California held 300 shares; the Southern Pacific Railroad held 49,700 shares!)

## CONTINUATION SHEET

Page 6 of 16      Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge  
Recorded by: John W. Snyder, P.S. Preservation Services      Date 11/1/96      ☒ Continuation    ☐ Update

In 1906 the railroad built a new ferryboat facility at Alameda for both freight and passengers, replacing one built in the 1880s. It built new stations, including completing a stylish new Mission Revival station at Santa Barbara. When San Francisco was devastated by earthquake and fire on April 18, Harriman directed the railroad's response: in eighteen days the railroad carried in 1,252 cars of relief supplies, and carried out 115,295 passengers, 78,560 of which were carried free, some as far as Chicago. Harriman himself came west to the stricken city to direct efforts. In the southern part of the state, the Colorado River left its channel and began to flood the Imperial Valley, creating the Salton Sea. Forced to move its tracks five times, S.P. finally undertook the efforts, which would consume two years, to close the breach and force the river back into its natural channel. This year also saw Harriman decide to build a new line in Oregon to replace the steep and dangerous Siskiyou line; to build a cutoff line through eastern California to shorten times between Sparks, Nevada and Portland. In the few years remaining before his death in 1909, Harriman also began a major reconstruction of the original Central Pacific route over the Sierras. Under Harriman's presidency the Southern Pacific joined in cooperation with rival Santa Fe to build the Northwestern Pacific Railroad north from Willits to Eureka; such cooperation was hardly surprising, since Harriman owned controlling stock in Santa Fe.

The year 1906 saw Harriman and the S.P. investigating railroad electrification, including consideration of electrifying the S.P. main line over Donner Summit. Southern Pacific began acquisition of power generating plants and sites in the Sierras, but ultimately backed away from the expense when new, larger, oil-fired, and more efficient steam locomotives arrived. In the Bay Area, Harriman moved to electrify local lines in Oakland and the East Bay, with the ultimate intent to electrify all S.P. lines on both sides of the Bay, though his death, coupled with uncertainties related to government anti-trust proceedings would quash that effort. Related to this was the construction of the Dumbarton Cutoff, which would have carried electric-powered trains around the south end of the Bay.

Niles is located on the Southern Pacific mainline at the south end of Alameda County. Though Central Pacific crews had conducted initial surveys for a bridge between Dumbarton Point and Ravenswood as early as March 1875, the first actual rail link had been a narrow-gauge line projected between Santa Clara and Newark, intended to transport strawberries and other Santa Clara Valley produce to a steamer landing at Alviso, for transshipment to San Francisco. The company went bankrupt long before completion of the effort, and it fell upon Alfred Davis and the South Pacific Coast Railroad to complete it. Eventually connecting Oakland and Alameda with Santa Cruz, the narrow gauge SPC joined San Jose to Newark by 1877. Southern Pacific acquired the company in 1887, and eventually standard-gauged the line beginning in 1906, in conjunction with the other Harriman system improvements. Newark was to be the staging point for construction of the Dumbarton Cutoff and its attendant bridges.

The first surveying crews had actually arrived in 1905, setting off local speculation that the project would result in Newark receiving major yards and shops that would boost the local economy--speculation that was reinforced by similar reports in *The Railroad Gazette*; alas, this was not to be. Still, the little town boomed--sometimes literally with the off-loading and assembly of bridge steel--for the duration of the \$15 million-dollar project to build the Dumbarton Cutoff. Bridge materials and other supplies arrived at Newark by rail from Oakland. Crews were busy grading the five miles between Niles and Newark, and the eleven miles between Newark and Redwood Junction. The most difficult work was to the west, for just outside Newark lay the tidal marshes of San Francisco Bay. By mid-1908, workers had completed nearly seven miles of track and an additional seven miles of grading, and were at work on the bridges. Construction steel, fabricated by American Bridge Company in Pennsylvania, was delivered by rail and off-loaded to the subassembly site at Dumbarton Point. Working from both sides of the Bay, and in several locations at once, crews began constructing the timber pile trestle approaches for the drawbridges at Newark Slough (subject of a separate form and evaluation) and at Dumbarton. Piledrivers rode both ends of isolated sections of trestles as crews built toward each other. Adjacent to Dumbarton Point, and paralleling the shoreline at right angles to the eventual alignment of the Dumbarton Bridge, workers erected falsework on pilings. Crews then moved steel subassemblies from shore onto the falsework, where they assembled them, one-by-one, into the six through truss approach spans. At the same time, a similar process was taking place in the fifty-foot-deep water of the navigable channel.

Here (and at Newark Slough), crews erected an elaborate system of timber pile dolphins topped by a timber truss falsework placed parallel to the navigable channel, allowing shipping to proceed relatively unimpeded during construction. With the falsework in place, they built a vertical steel guiding frame to place the steel shell of the central pivot pier. When they had placed the outside shell of the pier, the workers then proceeded to dredge the inside to a predetermined depth, after which they drove a forest of timber piles, finally filling the shell with concrete. (The two-column bents for the truss approach spans were constructed in similar fashion.) They then pulled out the timber pile dolphins surrounding the pivot pier. With the pivot pier in place, workers began the task of assembling the machine they would use to erect the 310-foot swing span. With the machine in place, they could then begin assembly of the massive through truss, with subassemblies delivered by barge.

## CONTINUATION SHEET

Page 7 of 16 Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge

Recorded by: John W. Snyder, P.S. Preservation Services

Date 11/1/96

☒ Continuation ☐ Update

Meanwhile, other crews were erecting the through truss approach spans alongside the shoreline, making them ready for final placement by use of the area's twelve-foot tides. As each was completed, a pair of large barges (constructed by cutting the hull of the obsolete S.P. ferry *Thoroughfare* in half) was carefully maneuvered among the falsework and beneath the span at low tide. As the tide came in, the barges rose until timber cribbing on their decks lifted the span off the falsework. The S.P. fireboat *Ajax* took up the tow, with the steam launch *W.E. Marsh* pushing, and with equal care maneuvered the span over its waiting piers, holding the assembly in place until the tide went out and gently deposited the span into place. Six times the crews repeated the process, and six times the assemblies came to rest precisely as intended.

On land, crews used dredgers to build three miles of new railroad grade above the marsh, while in San Mateo County that scene was repeated to reach from the solid ground to the western trestle approaches. The line was finally completed on September 12, 1910 and the bridge was formally opened on September 24, amid festivities that included an all-night dance, a barbecue, special trains, and the obligatory speeches. As soon as construction was completed, the line was leased to the Central Pacific and was ultimately sold to the C.P. (itself a subsidiary of the S.P.) on February 29, 1912.

The Dumbarton Cutoff proved to be the valuable freight link that Harriman had foreseen, though he had died in 1909, before its completion. During World War 1, when U.S. railroads came under the control of the United States Railroad Administration, the USRA ordered the joint use of the line and its bridges by the S.P. and peacetime rival Western Pacific. Again during World War 2 the cutoff carried massive amounts of freight for the war effort. In peacetime, it served to drastically shorten times and distances between San Francisco and destinations in the Pacific northwest and in the east, proving a vital economic and transportation link. During the 1920s, heavy freight traffic from the Dumbarton Cutoff into San Francisco was a factor in renewed consideration by Southern Pacific to electrification of this and Peninsula lines, and to completing the Peninsula lines to their ultimate 4-track mainline design; ultimately, the Great Depression obviated such need.

By the 1970s, "hotshot" freight trains from the Overland Route used the Dumbarton Cutoff to access San Francisco, and late in that decade the railroad began to replace the timber trestles with ones of reinforced concrete. Then, a shift in shipping from the port of San Francisco to the Port of Oakland caused a substantial and irreversible decline in traffic into San Francisco. Hard on the heels of its improvements to the Dumbarton Cutoff, S.P. closed the line in May 1982. In the early 1990s, Caltrain planners began considering use of the line for commuter rail, and electrification was again discussed. Today, the line is owned by the San Mateo County Transportation Agency, which is pursuing re-opening the line for commuter rail use. This effort will require rehabilitation of the bridges, leading to preparation of this evaluation.

In terms of the bridge types involved, the timber pile trestle as a type finds its antecedents in Colonial America. By the time these were built, the Southern Pacific Railroad had adopted a standard design, first during the Harriman era, and later updated that standardization. The trestle elements of these bridges conform to plans C.S. 1600, "Southern Pacific Lines Common Standard Ballasted Deck Pile Trestle, Single Track, Six-Pile Bents, Five-Stringer Creosoted Packed Chords, Adopted May 18, 1937," and C.S. 1602, "Southern Pacific Lines Common Standard Ballasted Deck Pile Trestle, Single Track, Seven-Pile Bents, Six-Stringer Creosoted Packed Chords, Adopted May 18, 1937." The abutments conform to C.S. 1660, "Southern Pacific Lines Common Standard Straight Timber Bulkhead for Ballasted Deck Trestle C.S. 1600, Adopted October 10, 1931. Since period accounts identify the original trestles as having 6-pile bents, those at the east end of the Dumbarton Bridge and at both ends of the Newark Slough Bridge appear to date from 1908-9.

Plate girder spans came into railroad use during the 1840s, first in iron, later in steel. The deck girder spans found at the Newark Slough and Dumbarton Bridges conform to Harriman Common Standard deck girders as adopted in 1905.

As a type, the Pratt truss dates to 1844 when Thomas and Caleb Pratt patented the design. Most of the first examples were so-called "combination" trusses, using wood for chords, endposts, and compression members, and iron tension members. The design offered lower initial cost and slightly longer life than its immediate predecessors. With the onset of iron bridge construction, American railroads quickly adopted the Pratt, first in iron, later in steel. Today it is the most common truss bridge type in the United States. The Pratt truss spans found at the Dumbarton Bridge are Harriman Common Standard riveted through trusses, as adopted in 1905. The Pennsylvania (Petit) truss, as used in the Dumbarton swing span, is a derivative of the Parker truss (itself a derivative of the basic Pratt truss), and was developed by the Pennsylvania Railroad circa 1875, using a series of sub-struts and sub-ties for greater strength and carrying capacity. (The Parker truss uses a curved top chord, allowing deeper trusses of greater strength, and is usually used for longer spans than those achievable with the Pratt truss.)



## CONTINUATION SHEET

Primary # \_\_\_\_\_  
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Trinomial \_\_\_\_\_Page 8 of 16      Resource Name or #: (Assigned by recorder) Southern Pacific Railroad Dumbarton Bridge  
Recorded by: John W. Snyder, P.S. Preservation Services      Date 11/1/96      ☒ Continuation    ☐ Update

Movable bridges are required for low level crossings where there is a necessity to provide for a navigable passage. Of the three types of movable bridges--swing, vertical lift, and bascule--the swing bridge is the least expensive to build. Among their disadvantages, however, are the facts that they are slow to operate, require a large pier in the center of the navigable channel, and have to be fully opened for even small vessels. There are two types of swing bridges, the center-bearing and the rim-bearing. Both of the subject bridges are center-bearing. When in the closed position, the center-bearing bridge has three points of support: the center pier and the end piers; when open, the weight of the bridge rests entirely on the large phosphor bronze center bearing. In operation, the operator releases a series of wedges and brakes that secure the ends of the swing span, then engages the motor drive system whereby power is transmitted through a pinion-gear drive train to a curved rack gear atop the center pier, opening the draw span. Normally, swing bridges only rotate ninety degrees.

The Southern Pacific Dumbarton Bridge is a contributive element of the Southern Pacific Dumbarton Cutoff, a property that appears to meet the eligibility criteria of the National Register of Historic Places, at the local level of significance in transportation and engineering. It retains integrity of location, setting, feeling, and association; trestle replacements from the 1970s constitute a very minor compromise to integrity of design, materials, and workmanship. Under criterion A, it is associated with the system-wide improvements to the Southern Pacific that gave the railroad its 20th century form and made it the standard railroad of the West. It is inextricably linked with the economic growth of San Francisco and its port in the first half of the 20th century, and with the national defense efforts during both world wars. Under criterion B, it is associated with the life of E.H. Harriman, the genius of whom drove the modernization of the S.P. during the first two decades of this century, even beyond his death. Harriman saw the need for, and directed the building of, the Dumbarton Cutoff. Under criterion C, contributive elements of the Cutoff, such as the Dumbarton and Newark Slough Bridges, are representative examples of their type (Harriman Common Standard timber trestle, deck girder, and through truss bridges), period (first decade of the 20th century), and method of construction. Built in 1908-9, they are among the oldest of their type in California, with only the Southern Pacific's Sacramento River Bridge at Tehama (1898) known to predate them. In addition, the Southern Pacific Dumbarton Bridge appears to be individually eligible for the National Register under criterion A, as the first successful bridging of San Francisco Bay.

B12.

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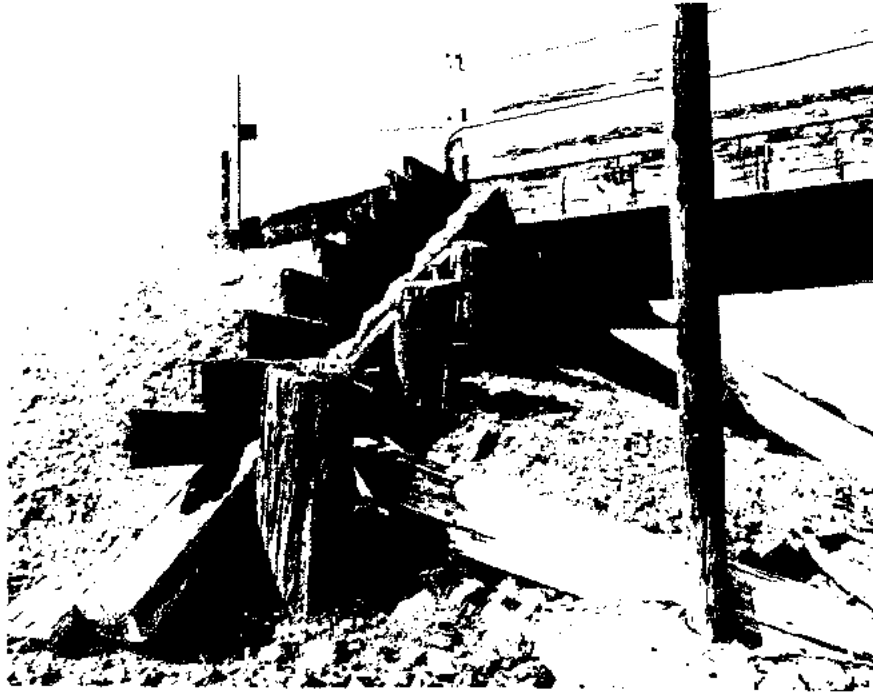
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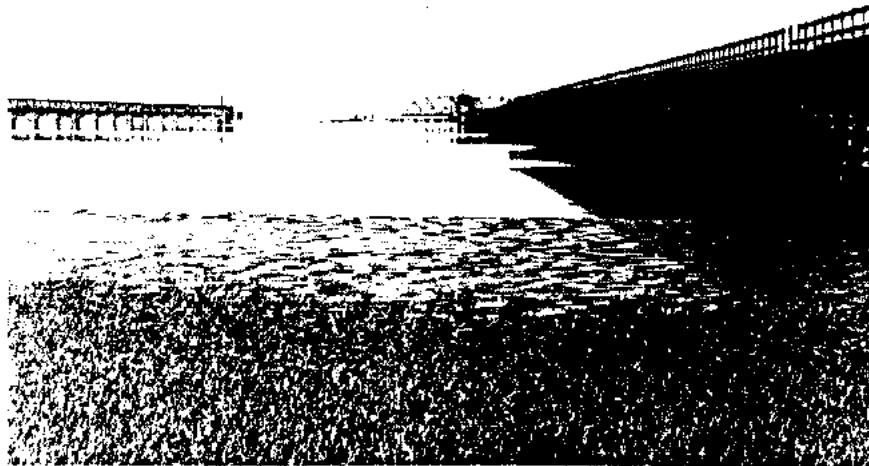


View to northwest of west abutment.



View to north of western timber trestle approach spans, from south side of western abutment.

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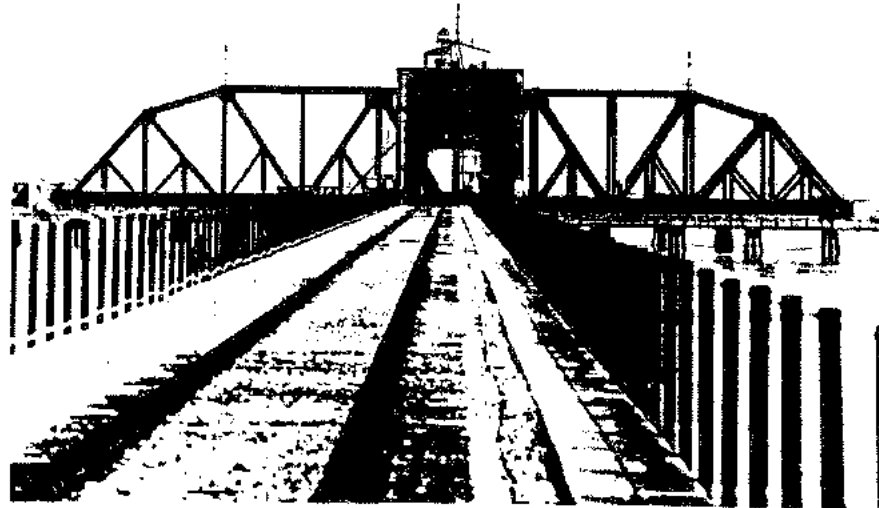


View to east of western timber trestle approach spans, from north side of western abutment, with open draw span visible at center. Hetch Hetchy pipeline bridge at left.



View to north of handcar/speeder setout platform on north side of western approach trestle. Hetch Hetchy pipeline bridge at left.

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View to northeast toward truss approach spans and open draw span from western concrete trestle.



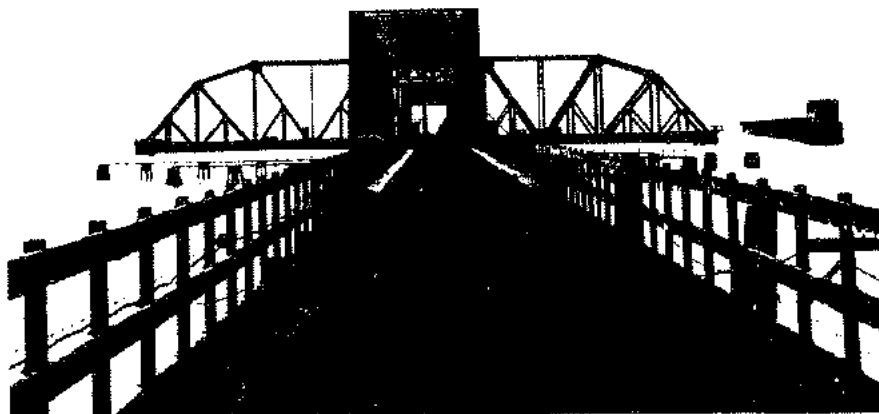
View to northeast of Harriman Common Standard through truss western approach spans (span 6 nearest camera). Note siding on bridge, draw span approach signal at right.



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View to northeast through span 6 toward spans 5, 4, and open draw span. Span 3 of eastern approach visible beyond open draw span.

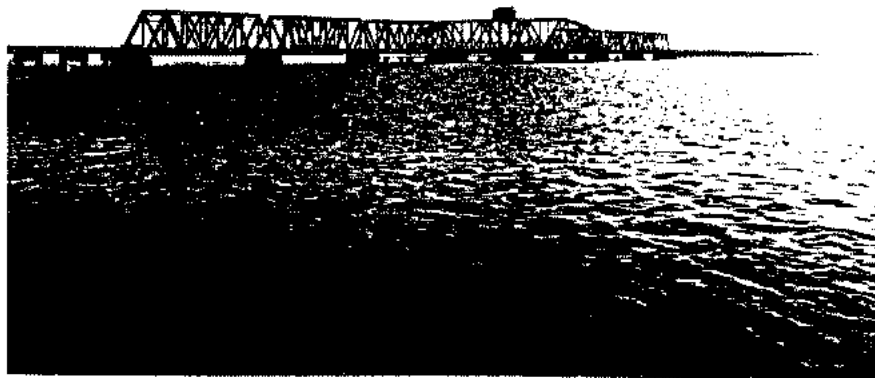


View to southwest from eastern timber trestle approach toward truss approach span 1, with open draw span beyond.

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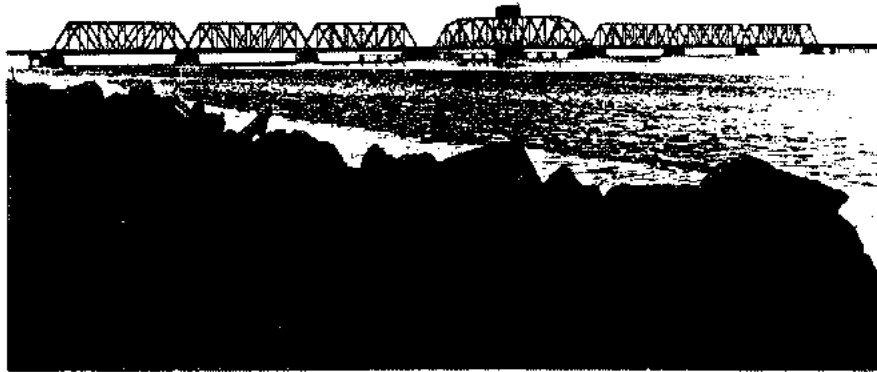


View to southwest through eastern truss approach span 3 toward open draw span, with western approach truss span 4 visible beyond.



View to south of Dumbarton Bridge..

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View to south of truss spans of Dumbarton Bridge. From left to right: Spans 1, 2, 3, draw span, Spans 4, 5, 6.

PRIMARY RECORD

Previous Documentation -  
NOT FOR REVIEW

Other Listings

NRHP Status Code

Review Code

Reviewer

Date

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Resource Name or #: (Assigned by recorder) Southern Pacific R.R. Newark Slough Bridge

P1. Other Identifier: Samtrans Newark Slough Bridge

P2. Location: ☐ Not for Publication ☒ Unrestricted a. County Alameda

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

b. USGS 7.5' Quad Newark Date 1959-80 T 5S ; R 2W ; 1/4 of 1/4 of Sec ; B.M.

c. Address: City Zip

d. UTM: (Give more than one for large and/linear resources) 10 ; 581220 mE 4152020 mN

e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Crossing Newark Slough in Alameda County, southwest of Newark.

Parcel No.

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

An element of the Southern Pacific Railroad Dumbarton Cutoff linking the railroad's Sunset Route (San Francisco-New Orleans) line with the Ogden (San Francisco-Ogden) and Shasta (San Francisco-Portland) lines, and providing a cutoff from a former route that required trains to transit via San Jose, are the Southern Pacific Railroad Newark Slough Bridge, located at milepost 34.53, carrying the cutoff over the navigable waters of Newark Slough, and the Dumbarton Bridge, located at milepost 31.51, carrying the cutoff across the south end of San Francisco Bay between Dumbarton Point in Alameda County and East Palo Alto in San Mateo County. See continuation sheet for complete description.

The Dumbarton Cutoff is 16.4 miles long, connecting the two main lines between Niles, Alameda County, and Redwood Junction, San Mateo County. The cutoff is a single-track rail line with attendant spurs and sidings, turnouts and searchlight-type block and bridge approach signals. It crosses marsh areas on dredged fill, and crosses San Francisco Bay and Newark Slough on through truss swing bridges.

P3b. Resource Attributes: (List attributes and codes) HP29 - Railroad Grade;

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☒ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)  
See continuation sheets

P6. Date Constructed/Age and Sources:

☐ Prehistoric ☒ Historic ☐ Both

1907-10 (factual): research; 1909 (factual): date plate on bridges

P7. Owner and Address

San Mateo County Transportation Agency  
1250 San Carlos Avenue  
San Carlos, California

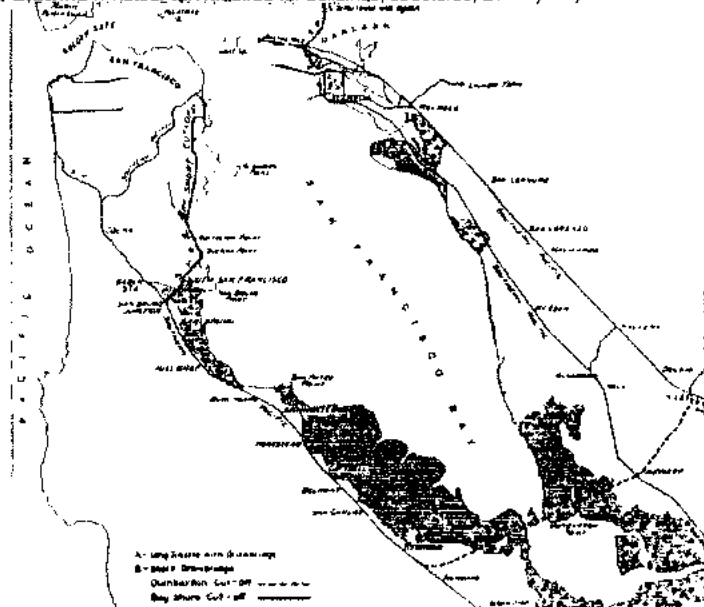
P8. Recorded by: (Name, affiliation, and address)

John W. Snyder, P.S. Preservation Services  
P.O. Box 191275  
Sacramento CA 95819-1275

P9. Date Recorded: 11/29/96

P10. Survey Type: (Describe)

Intensive - Section 106.



Map of Bay Shore and Dumbarton Cut-Offs of the Southern Pacific.

P11. Report Citation: (Cite survey report and other sources, or enter "none")

P.S. Preservation Services, November 1996, Historic Resource Evaluation Report, Southern Pacific Railroad Dumbarton and Newark Slough Bridges, prepared

Attachments

☐ NONE

☒ Continuation Sheet

☐ District Record

☐ Rock Art Record

☐ Other: (List)

☒ Location Map

☒ Building, Structure, and Object Record

☐ Linear Feature Record

☐ Artifact Record

☐ Sketch Map

☐ Archaeological Record

☐ Milling Station Record

☐ Photograph Record



CONTINUATION SHEET

Trinomial

Page 2 of 11 Resource Name or #: (Assigned by recorder) Southern Pacific RR Newark Slough Bridge

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3. Description (continued) The Newark Slough Bridge is a 182-foot double-track, riveted steel Baltimore (Petit) through truss, with sub-struts and sub-ties, center-bearing swing span. Its built-up members are as described for the Dumbarton Bridge truss spans, above. Its control cabin, clad in V-rustic siding and with gable roof with clipped eaves, is carried atop the center of the trusses. Remnants of protective dolphins, tied together with cables, can be seen in the channel. Approach spans on both ends are single-track Harriman Common Standard ballast-deck timber trestle approach spans on 6-pile timber bents, with each span comprising two lines of five timber stringers each below the rails, and a single timber stringer at each outer edge, with timber posts supporting timber guardrails; there are 450 feet of approach spans on the west, and 150 feet of approach spans on the east. The final approach span on each end is a sixteen-foot open-deck steel deck girder span, supported on 6-pile timber bents. Though the swing span is a double-track structure, it carries only one track, on the north side of centerline.

Mainline rail east of the Newark Slough Bridge is largely 112-pound rail, rolled in 1935 and 1939. There is a handcar setout platform just east of the east approach spans to the Newark Slough Bridge, on the south side of the mainline.

All along the mainline track and on the trestle approaches to the bridges, ties still carry date nails from 1926, 1928, the 1930s and the 1940s; coupled with the rolling dates observed on the rails, these indicate a high degree of integrity of materials for this line.

P3b. Resource Attributes (continued) HP19 - Bridge.

P11. Report Citation (continued) for San Mateo County Transportation Agency.

**BUILDING, STRUCTURE, AND OBJECT RECORD**

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NRHP Status Code \_\_\_\_\_

Resource Name or #: (Assigned by recorder) Southern Pacific RR Newark Slough Bridge

B1. Historic Name: Southern Pacific Railroad Newark Slough Bridge

B2. Common Name: Samtrans Newark Slough Bridge

B3. Original Use: Railroad Bridge

B4. Present Use: *Abandoned*

B5. Architectural Style: Baltimore (Petit) truss; timber pile trestle; steel deck girder

B6. Construction History: (Construction date, alterations, and date of alterations)

Fabricated by American Bridge Company at Ambridge, Pennsylvania, and erected 1908-9 by Southern Pacific Railroad.

B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: \_\_\_\_\_

Original Location: \_\_\_\_\_

B8. Related Features: Southern Pacific Railroad Dumbarton Cutoff, connecting Newark in Alameda County with Redwood Junction in San Mateo County.

B9a. Architect: Engineering Department, Southern Pacific

b. Builder: American Bridge Company ; S.P. Railroad

B10. Significance: Theme: Transportation

Area: Engineering

Period of Significance: 1909-45 Property Type: Bridge

Applicable Criteria: A,B,C

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

By the 1890s, the Central Pacific and Southern Pacific Railroads were under the control of Collis P. Huntington, sole survivor of the "Big Four" who had undertaken construction of the Central Pacific portion of the transcontinental railroad beginning in 1863 (the others had been, of course, Charles Crocker, Mark Hopkins, and Leland Stanford). Huntington was parsimonious in his management, and the S.P. was in a period of retrenchment during this era, helped along by the Panic of 1893 that affected railroads nationwide. After Huntington's death, however, railroad magnate Edward H. Harriman was able in 1901 to obtain control of Huntington's interest in the S.P. from his heirs, adding that railroad to the Union Pacific, Illinois Central, and others under his control. In contrast to the frugality of the Huntington era, Harriman immediately initiated large expenditures that began a series of system-wide improvements to the S.P. to improve its efficiency (and hence its rate of return to him and company stockholders). During the next two decades then, these improvements, representing engineering and construction on a scale not seen on the S.P. since the initial construction of the Central Pacific, shaped both the physical plant and the operations of the railroad into what we see today.

B11. Additional Resource Attributes: (List attributes and codes) HP19 - Bridge

**B12. References:**

Books

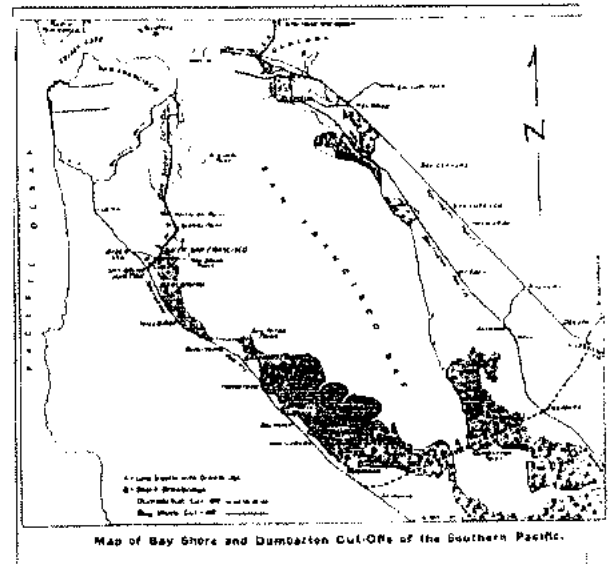
Beebe, Lucius. *The Central Pacific & The Southern Pacific Railroads*. Berkeley: Howell-North, 1963.

B13. Remarks:

B14. Evaluator: John W. Snyder

Date of Evaluation: 11/22/96

(This space reserved for official comments.)



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3. The cutoff was built in conjunction with the Bayshore Cutoff and other Peninsula rail improvements during the administration of E.H. Harriman to expedite rail freight shipment between San Francisco and the Southern Pacific's Ogden and Shasta routes.

The Baltimore (Petit) truss, as used in the Newark Slough swing span, is a derivative of the basic Pratt truss using a series of sub-struts and sub-ties for greater strength and carrying capacity, and was developed by the Pennsylvania Railroad in 1871.

B10. Significance (continued) Under Harriman's direction, beginning in 1903 the engineering and maintenance of way departments of all the railroads under his control undertook standardization of virtually all elements, from track spikes to locomotives, and from bridges to stations. This allowed the companies to achieve greater economies as they expanded and improved. Among the standardized bridge types developed at this period were the timber pile trestles, deck plate girders, and through truss types used on the S.P. Newark Slough Bridge. At the same time, the S.P. began to modernize its locomotive and car fleet, transitioning to much larger and heavier locomotives (including the first of the articulated Mallet engines that were to become its hallmark), converting to oil fuel, and to all-steel passenger cars; freight cars likewise increased in size and capacity. Harriman invested in oil lands so that the oil-hungry Southern Pacific would not be dependent on outside sources, amassing some of the largest oil holdings in the nation.

In addition, Harriman began massive construction projects all around the S.P. system to increase operating efficiency, and to upgrade lines and bridges for modern traffic loadings; often these efforts took the form of newly-incorporated railroads that were totally S.P.-controlled, and that would be subsumed by the parent company upon their completion; more about this later. He also instituted an enlightened plan of formal training for employees, and built employee club houses to offer an alternative to bars and saloons. By late 1910, his efforts had resulted in the once-moribund Southern Pacific becoming one of only three railroads in the United States with an annual gross income of more than \$100 million!

By 1904 Harriman had completed the Lucin Cutoff across the Great Salt Lake, eliminating the original Central Pacific/Union Pacific route around the north end of the lake (and in the process bypassing the meeting site at Promontory Summit). In 1905 the S.P. began improvements to main lines between San Francisco and the Pacific northwest, between San Francisco and Ogden, and between San Francisco and New Orleans, where S.P. steamships connected to New York. Harriman authorized more than 400 miles of new line system-wide, at a cost of \$14 million, and gained concessions for 775 miles of new line for S.P.'s wholly-owned subsidiary in Mexico. During this period Harriman obtained a \$2 million loan from New York banks, and is alleged to have told S.P. General Manager Julius Kruttschnitt that it was all to be spent improving mainline track in California. According to author, Lucius Beebe, Harriman called to Kruttschnitt as the latter was leaving the Thursday meeting, saying, "Spend it this week." While apocryphal, the story illustrates Harriman's impact upon the S.P. By the end of the year, S.P. had installed automatic block signals on 1,038 miles of track, with 664 more miles projected to be so signalled in 1906. In the San Francisco area, the company began construction of the Bayshore Cutoff between San Francisco and San Bruno to replace the circuitous and hilly line that had originally been built into the city by the predecessor San Francisco and San Jose Railroad in 1863. The new line, built in tunnels and on fill across Visitacion Bay, would be shorter and virtually level, and would include a major new yard and shops on 200 acres of reclaimed land at Visitacion. The Bayshore Cutoff would materially shorten running times between San Francisco and San Jose, and would facilitate freight shipment into San Francisco.

Related to this, and to facilitate freight shipments between San Francisco and the Ogden and Shasta lines, Harriman also directed the incorporation of the Central California Railway, to build a 16.4 mile line between Niles in Alameda County, and Redwood Junction in San Mateo County. This would obviate the need to ship freight across the Bay by ferry, or by rail south to San Jose and then back up the east side of the Bay, a trip of more than 100 miles; it would also be a logical link in conjunction with the new Bayshore Cutoff, then building. Completion of the two cutoffs would unify and improve the railroad's terminal facilities in San Francisco, shortening the trip around the south end of the Bay by 50 miles, and dispensing with the need for two car ferry transfers of freight. While conceived before the April 18, 1906 disaster in San Francisco, that event demonstrated to Harriman the need to improve access to and from the city.

The Central California Railway incorporated on October 3, 1904 with a capital stock of \$1 million, to build a standard gauge railroad, with all appurtenances, from Niles to Dumbarton Point, across San Francisco Bay to Redwood City, and then to a point near San Mateo. While the articles of incorporation made no mention of the Southern Pacific, save in noting the two end connections with the S.P. mainlines, the makeup of the Board of Directors left no doubt as to the seat of control of the Central California: Director, Nathaniel T. Smith was Treasurer of the Southern Pacific; Director, William Hood was S.P.'s Chief Engineer; Director, Edgar E. Calvin was a Southern Pacific Vice-President; Director, John E. Foulds was an S.P. attorney; only Director, Frank Shay of Oakland seemingly had no connection to Southern Pacific. (Even more telling was the allocation of shares in 1912: members of the Board of Directors of the Central California held 300 shares; the Southern Pacific Railroad held 49,700 shares!)

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In 1906 the railroad built a new ferryboat facility at Alameda for both freight and passengers, replacing one built in the 1880s. It built new stations, including completing a stylish new Mission Revival station at Santa Barbara. When San Francisco was devastated by earthquake and fire on April 18, Harriman directed the railroad's response: in eighteen days the railroad carried in 1,252 cars of relief supplies, and carried out 115,295 passengers, 78,560 of which were carried free, some as far as Chicago. Harriman himself came west to the stricken city to direct efforts. In the southern part of the state, the Colorado River left its channel and began to flood the Imperial Valley, creating the Salton Sea. Forced to move its tracks five times, S.P. finally undertook the efforts, which would consume two years, to close the breach and force the river back into its natural channel. This year also saw Harriman decide to build a new line in Oregon to replace the steep and dangerous Siskiyou line; to build a cutoff line through eastern California to shorten times between Sparks, Nevada and Portland. In the few years remaining before his death in 1909, Harriman also began a major reconstruction of the original Central Pacific route over the Sierras. Under Harriman's presidency the Southern Pacific joined in cooperation with rival Santa Fe to build the Northwestern Pacific Railroad north from Willits to Eureka; such cooperation was hardly surprising, since Harriman owned controlling stock in Santa Fe.

The year 1906 saw Harriman and the S.P. investigating railroad electrification, including consideration of electrifying the S.P. main line over Donner Summit. Southern Pacific began acquisition of power generating plants and sites in the Sierras, but ultimately backed away from the expense when new, larger, oil-fired, and more efficient steam locomotives arrived. In the Bay Area, Harriman moved to electrify local lines in Oakland and the East Bay, with the ultimate intent to electrify all S.P. lines on both sides of the Bay, though his death, coupled with uncertainties related to government anti-trust proceedings would quash that effort. Related to this was the construction of the Dumbarton Cutoff, which would have carried electric-powered trains around the south end of the Bay.

Niles is located on the Southern Pacific mainline at the south end of Alameda County. Though Central Pacific crews had conducted initial surveys for a bridge between Dumbarton Point and Ravenswood as early as March 1875, the first actual rail link had been a narrow-gauge line projected between Santa Clara and Newark, intended to transport strawberries and other Santa Clara Valley produce to a steamer landing at Alviso, for transshipment to San Francisco. The company went bankrupt long before completion of the effort, and it fell upon Alfred Davis and the South Pacific Coast Railroad to complete it. Eventually connecting Oakland and Alameda with Santa Cruz, the narrow gauge SPC joined San Jose to Newark by 1877. Southern Pacific acquired the company in 1887, and eventually standard-gauged the line beginning in 1906, in conjunction with the other Harriman system improvements. Newark was to be the staging point for construction of the Dumbarton Cutoff and its attendant bridges.

The first surveying crews had actually arrived in 1905, setting off local speculation that the project would result in Newark receiving major yards and shops that would boost the local economy--speculation that was reinforced by similar reports in *The Railroad Gazette*; alas, this was not to be. Still, the little town boomed--sometimes literally with the off-loading and assembly of bridge steel--for the duration of the \$15 million-dollar project to build the Dumbarton Cutoff. Bridge materials and other supplies arrived at Newark by rail from Oakland. Crews were busy grading the five miles between Niles and Newark, and the eleven miles between Newark and Redwood Junction. The most difficult work was to the west, for just outside Newark lay the tidal marshes of San Francisco Bay. By mid-1908, workers had completed nearly seven miles of track and an additional seven miles of grading, and were at work on the bridges. Construction steel, fabricated by American Bridge Company in Pennsylvania, was delivered by rail and off-loaded to the subassembly site at Dumbarton Point. Working from both sides of the Bay, and in several locations at once, crews began constructing the timber pile trestle approaches for the drawbridges at Newark Slough (subject of a separate form and evaluation) and at Dumbarton. At Dumbarton, piledrivers rode both ends of isolated sections of trestles as crews built toward each other.

At Newark Slough (and at Dumbarton), crews erected an elaborate system of timber pile dolphins topped by a timber truss falsework placed parallel to the navigable channel, allowing shipping to proceed relatively unimpeded during construction. With the falsework in place, they built a vertical steel guiding frame to place the steel shell of the central pivot pier. When they had placed the outside shell of the pier, the workers then proceeded to dredge the inside to a predetermined depth, after which they drove a forest of timber piles, finally filling the shell with concrete. (The two-column bents for the rest piers were constructed in similar fashion.) They then pulled out the timber pile dolphins surrounding the pivot pier. With the pivot pier in place, workers began the task of assembling the swing span. They began assembly of the massive through truss, with subassemblies delivered by barge.

On land, crews used dredgers to build three miles of new railroad grade above the marsh, while in San Mateo County that scene was repeated to reach from the solid ground to the western trestle approaches of the Dumbarton Bridge. The line was finally completed on September 12, 1910 and the bridge was formally opened on September 24, amid festivities that included an all-night dance, a barbecue, special trains, and the obligatory speeches. As soon as construction was completed, the line was leased to the Central Pacific and was ultimately sold to the C.P. (itself a subsidiary of the S.P.) on February 29, 1912.



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The Dumbarton Cutoff proved to be the valuable freight link that Harriman had foreseen, though he had died in 1909, before its completion. During World War 1, when U.S. railroads came under the control of the United States Railroad Administration, the USRA ordered the joint use of the line and its bridges by the S.P. and peacetime rival Western Pacific. Again during World War 2 the cutoff carried massive amounts of freight for the war effort. In peacetime, it served to drastically shorten times and distances between San Francisco and destinations in the Pacific northwest and in the east, proving a vital economic and transportation link. During the 1920s, heavy freight traffic from the Dumbarton Cutoff into San Francisco was a factor in renewed consideration by Southern Pacific to electrification of this and Peninsula lines, and to completing the Peninsula lines to their ultimate 4-track mainline design; ultimately, the Great Depression obviated such need.

By the 1970s, "hotshot" freight trains from the Overland Route used the Dumbarton Cutoff to access San Francisco, and late in that decade the railroad began to replace the timber trestles with ones of reinforced concrete. Then, a shift in shipping from the port of San Francisco to the Port of Oakland caused a substantial and irreversible decline in traffic into San Francisco. Hard on the heels of its improvements to the Dumbarton Cutoff, S.P. closed the line in May 1982. In the early 1990s, Caltrain planners began considering use of the line for commuter rail, and electrification was again discussed. Today, the line is owned by the San Mateo County Transportation Agency, which is pursuing re-opening the line for commuter rail use. This effort will require rehabilitation of the bridges, leading to preparation of this evaluation.

In terms of the bridge types involved, the timber pile trestle as a type finds its antecedents in Colonial America. By the time these were built, the Southern Pacific Railroad had adopted a standard design, first during the Harriman era, and later updated that standardization. The trestle elements of these bridges conform to plans C.S. 1600, "Southern Pacific Lines Common Standard Ballasted Deck Pile Trestle, Single Track, Six-Pile Bents, Five-Stringer Creosoted Packed Chords, Adopted May 18, 1937," and C.S. 1602, "Southern Pacific Lines Common Standard Ballasted Deck Pile Trestle, Single Track, Seven-Pile Bents, Six-Stringer Creosoted Packed Chords, Adopted May 18, 1937." The abutments conform to C.S. 1660, "Southern Pacific Lines Common Standard Straight Timber Bulkhead for Ballasted Deck Trestle C.S. 1600, Adopted October 10, 1931." Since period accounts identify the original trestles as having 6-pile bents, those at the east end of the Dumbarton Bridge and at both ends of the Newark Slough Bridge appear to date from 1908-9.

Plate girder spans came into railroad use during the 1840s, first in iron, later in steel. The deck girder spans found at the Newark Slough and Dumbarton Bridges conform to Harriman Common Standard deck girders as adopted in 1905.

As a type, the Pratt truss dates to 1844 when Thomas and Caleb Pratt patented the design. Most of the first examples were so-called "combination" trusses, using wood for chords, endposts, and compression members, and iron tension members. The design offered lower initial cost and slightly longer life than its immediate predecessors. With the onset of iron bridge construction, American railroads quickly adopted the Pratt, first in iron, later in steel. Today it is the most common truss bridge type in the United States. The Baltimore (Petit) truss span found at the Newark Slough Bridge is a derivative of the Harriman Common Standard riveted through Pratt trusses, as adopted in 1905. The Baltimore (Petit) truss, as used in the Newark Slough swing span, was developed by the Pennsylvania Railroad in 1871, using a series of sub-struts and sub-ties for greater strength and carrying capacity.

Movable bridges are required for low level crossings where there is a necessity to provide for a navigable passage. Of the three types of movable bridges--swing, vertical lift, and bascule--the swing bridge is the least expensive to build. Among their disadvantages, however, are the facts that they are slow to operate, require a large pier in the center of the navigable channel, and have to be fully opened for even small vessels. There are two types of swing bridges, the center-bearing and the rim-bearing. The Newark Slough Bridge is center-bearing. When in the closed position, the center-bearing bridge has three points of support: the center pier and the end piers; when open, the weight of the bridge rests entirely on the large phosphor bronze center bearing. In operation, the operator releases a series of wedges and brakes that secure the ends of the swing span, then engages the motor drive system whereby power is transmitted through a pinion-gear drive train to a curved rack gear atop the center pier, opening the draw span. Normally, swing bridges only rotate ninety degrees.

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The Southern Pacific Dumbarton Cutoff appears to meet the eligibility criteria of the National Register of Historic Places, at the local level of significance in transportation and engineering. It retains integrity of location, setting, feeling, and association; trestle replacements from the 1970s constitute a very minor compromise to integrity of design, materials, and workmanship. Under criterion A, it is associated with the system-wide improvements to the Southern Pacific that gave the railroad its 20th century form and made it the standard railroad of the West. It is inextricably linked with the economic growth of San Francisco and its port in the first half of the 20th century, and with the national defense efforts during both world wars. Under criterion B, it is associated with the life of E.H. Harriman, the genius of whom drove the modernization of the S.P. during the first two decades of this century, even beyond his death. Harriman saw the need for, and directed the building of, the Dumbarton Cutoff. Under criterion C, contributive elements of the Cutoff, such as the Dumbarton and Newark Slough Bridges, are representative examples of their type (Harriman Common Standard timber trestle, deck girder, and through truss bridges), period (first decade of the 20th century), and method of construction. Built in 1908-9, they are among the oldest of their type in California, with only the Southern Pacific's Sacramento River Bridge at Tehama (1898) known to predate them.

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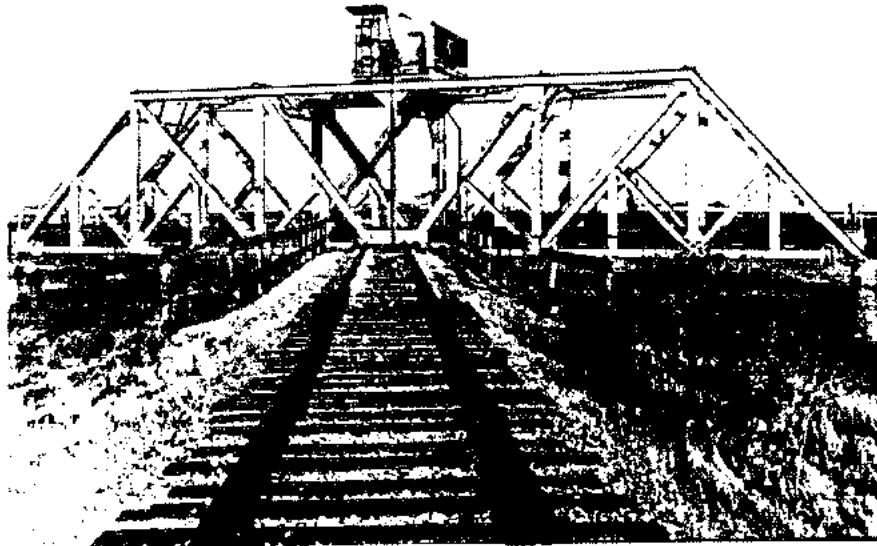
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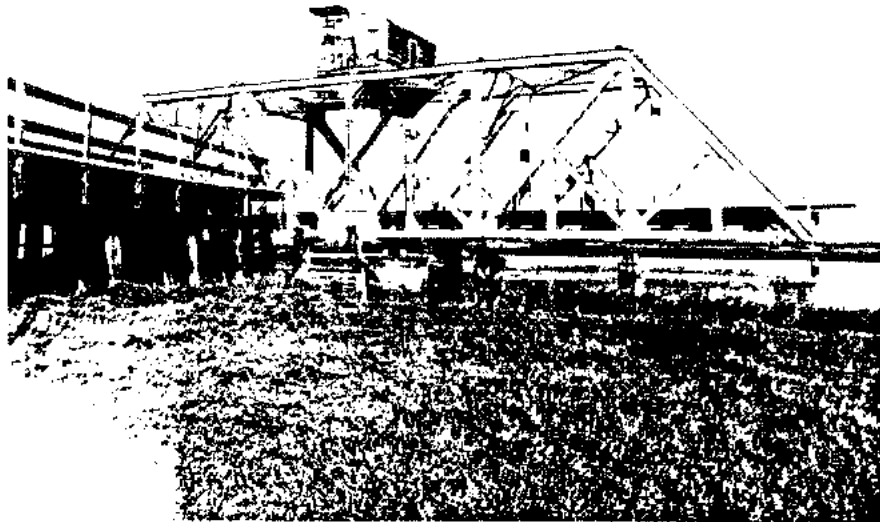
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**Recorded by:** John W. Snyder, P.S. Preservation Services **Date** 11/1/96



View to northeast of Newark Slough Bridge from just west of western approach. Swing span is in open position.



View to northeast of Newark Slough Bridge, from south side of western approach.

Page 11 of 11 **Resource Name or #:** (Assigned by recorder) Southern Pacific RR Newark Slough Bridge  
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View to southwest of Newark Slough Bridge, from eastern approach.



View to southwest of Newark Slough Bridge, from south side of eastern approach.