



Historic Resources Board Staff Report

From: Planning and Development Services Director
Lead Department: Planning and Development Services

Meeting Date: January 25, 2024
Report #: 2311-2250

TITLE

Historic Resources Board (HRB) Recommendation to Council on the Nomination of 2601 East Bayshore Road, Consideration of Reasons for Local Inventory Listing Objections, and Recommendation to City Council Regarding Properties Found Eligible for Local Inventory Listing via the Historic Reconnaissance Survey for Which Property Owner Objections Were Received.

RECOMMENDATION

Staff recommends the HRB:

- (1) provide a recommendation to City Council regarding the nomination of the City's property at 2601 East Bayshore Road, which was postponed from the December 14, 2023 HRB hearing, and
- (2) affirm the eligibility for local inventory listing of the properties with owners who have objected to listing on the local inventory, consistent with the HRB's action on January 11th,
- (3) decline to advance these properties to the City Council for listing on the inventory, also consistent with the HRB's action on January 11, 2024.

BACKGROUND

2601 East Bayshore Road

On December 14, 2023, the HRB considered the local eligibility criteria and category recommended by the Consultant, and there were no owner objections submitted to listing on the local inventory. An HRB member asked to postpone the vote, asking to see a study of the building, what its future use would be, and what it would take for demolition if the building were to contain hazardous materials. Staff agreed to find out what is known about the property. The historic resources evaluation of the property is attached to this report as Attachment A. Staff will speak further with staff of the Community Services Department prior

to the HRB meeting. Photos will be taken to share with the HRB on January 25th, of current conditions at the site.

Non-Objection Properties

Prior to the HRB meetings of December 14, 2023 and January 11, 2024, staff sent certified letters to all owners of properties that were scheduled for the HRB evaluations on those dates.

For the properties considered during the November 9, 2023 HRB meeting, staff sent notice cards, but not certified letters, to the owners. Following the November 9, 2023 HRB meeting, staff received 10 additional objections; as of the writing of this report (January 12, 2024). There remain approximately 25 properties the HRB voted on November 9th to advance to the City Council that the City has not received objections for. Staff has now sent certified letters to owners of those properties considered at the November 9 meeting for which the City did not receive objections.

If staff does not receive additional objections for properties the HRB previously voted to advance to City Council, there are a total of 66 properties without objections, which will therefore be advancing to Council. This number is comprised of the approximately 25 properties from November 9, 24 properties from January 11, 2024, and 17 properties from December 14, 2023 (including 2601 East Bayshore).

During the meeting of December 14, 2023, staff noted an intent to send certified letters and notice cards to all owners. Given the HRB's action on January 11 to signal its intent to not advance the 'objections properties' to Council on January 25, staff is preparing certified letters to send after this meeting to the 66 properties without objections. These letters will:

- describe the HRB's actions on January 11 and 25,
- alert owners to the upcoming community meeting of the HRB on February 23, and
- note that there is no date set yet for City Council consideration of the properties for which no objections have been received.

Objection Properties

As of January 12, the City had received 80 owner objections to local inventory listing of the properties previously found eligible for National and California Registers and affirmed to still have integrity and thus retain eligibility.

- The original January batch of 41 properties had 17 objections.
- The original December batch of 38 properties had 21 objections (and the 38 includes the two properties 330 Cowper and 365 Hawthorne postponed from 12-14 to 1-11; 330 Cowper was advanced on January 11, 2024, with support from owner while the owner of 365 Hawthorne submitted an objection so was not considered on January 11, 2024.

- The original November batch of 67 properties had 42 objections in total (32 objections before the November 9 meeting and 10 objections after the HRB voted to recommend properties to the City Council).

Because the HRB signaled via a full board vote (6-1) that the HRB would not recommend listing of properties over the objections of the property owner, staff has not attached the evaluation forms of the 'objections properties' to this report. The forms are viewable online in the prior packets, and individually via hyperlinked address in this online document:

<https://www.cityofpaloalto.org/files/assets/public/v/2/planning-amp-development-services/historic-preservation/historic-inventory/property-groupings-for-hrb-hearings-hyperlinked-rev12052023.pdf>

SUMMARY OF OBJECTIONS

Staff intends to summarize reasons for objections on January 25, 2024 and during the February 23, 2024 community meeting. The December 14, 2023 presentation included a brief overview of objections received before that meeting, which were as follows:

- Objections express a desire for flexibility, and owner uncertainty about the nomination process; they cite general opinion or perhaps fear about potential property values and review processes related to listing
- Some objections noted disagreement with the property's nomination findings and/or description
- One owner suggested an interest in the City proposing a historic district for their neighborhood, to which she would not object (but which would require a majority of the owners to agree to, and would involve properties not previously identified as historic resources, and which is not within the scope of this effort)

ATTACHMENTS

Attachment A: 2601 East Bayshore Road Evaluation

AUTHOR/TITLE:

Amy French, Chief Planning Official

2601 EAST BAYSHORE ROAD

Historic Name: Federal Telegraph Company—Marsh Station

APN: 008-04-001

1997-2001 SURVEY UPDATE SUMMARY

Identified National Register Criteria of Significance: Criterion A (Events)¹

Identified Period of Significance: 1921-1951

Summary of Significance: The property at 2601 East Bayshore Road, formerly known as the Federal Telegraph Company – Marsh Station, was found nationally significant under Criterion A as the best surviving remnant of the Federal Telegraph Company which was founded in Palo Alto and made groundbreaking contributions to the field of radio communications.

2023 RECONNAISSANCE SURVEY SUMMARY

Alterations Since 2001: Three structures were demolished in 2017 and a fourth structure was demolished in 2019; the remaining building was fenced in 2017.

Status in 2023: Extant, retains adequate historic integrity.

Recommended Revisions to Significance: The previously determined period of significance for the property was 1921-1951, ending 50 years prior to 2001 due to guidance for listing on the National Register of Historic Places, not due to a clear change in use or an end to the property's significance. A revised period of significance, beginning in 1921 and ending ca. 1977 would end with the sale of the property to the City of Palo Alto, demonstrating a change in ownership (although it continued to operate until after 2001). Additional research would need to be undertaken to further refine the period of significance and determine a date at which the critical work of the station ceased.



Figure 1: 1997-2001 Survey Update photograph.



Figure 2: 2023 Reconnaissance Survey photograph.

¹ Note that the property is listed in 2001 Survey Report summary tables as significant under Criterion C (architecture) in addition to Criterion A (Events); however, all available DPR forms created during the 2001 Survey only include an evaluation for Criterion A significance.

RECOMMENDATION FOR LISTING IN THE PALO ALTO HISTORIC INVENTORY

Palo Alto Historic Inventory Criteria for Designation:

- Criterion 1 (The structure or site is identified with the lives of historic people or with important events in the city, state or nation)
- Criterion 4 (The structure or site is connected with a business or use which was once common, but is now rare)
- Criterion 5 (The architect or building was important)

Statement of Significance: The former Federal Telegraph Company – Marsh Station, located at 2601 East Bayshore Road, is significant for its remarkable contributions to the field of radio communications that impacted the field nationally and were significant to the American war effort in World War II. The company, which was originally founded in 1909 in Palo Alto as the Poulsen Wireless Telephone & Telegraph Company, was a pioneer in continuous wave transmission and long-distance transmission. Marsh Station was the hub of all West Coast wired communication (telegraph and telephone, and later ship-to-shore radio transmission) when it was completed in 1921, and led the world in how many channels of communication could be used simultaneously. While alterations have been made to the property with the removal of several structures, the site's significant association with national communication history remain legible through the presence of its main surviving building within the vast open marshland and the various concrete anchorage blocks that remain scattered throughout the site and once supported a 626-foot-tall radio tower (present from 1921-1960).

Period of Significance: 1921-ca. 1977

Palo Alto Historic Inventory Category: Category 1*

**Note: Note, this is one of the few properties with significance as an "Exceptional Building" that is of pre-eminent national importance.*

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

Primary # _____

HRI # _____

Trinomial _____

NRHP Status Code 3S

Item 2

Attachment A: East

Bayshore Road 2601

Other Listings _____

Review Code _____

Reviewer _____

Date _____

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*Resource Name or #: (Assigned by recorder) 2601 East Bayshore Road

P1. Other Identifier: 2601 East Bayshore Road

P2. Location: ☐ Not for Publication ☒ Unrestricted *a: County Santa Clara

and (P2c, P2e, and P2b or P2d. Attach Location Map as necessary.)

*b. USGS 7.5' Quad Palo Alto, CA Date 1991 T ; R ; ¼ of ¼ of Sec ; B.M.

c. Address 2601 East Bayshore Road City Palo Alto Zip 94301

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) APN 8-4-1

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

The property at 2601 East Bayshore Road, on the east side of Palo Alto between U.S. 101 and the south end of San Francisco Bay, consists of about 36 acres enclosed by a chain link fence. This enclosed area is surrounded by about 123 acres of marshland known as the Emily Renzel Wetlands. Within the fenced area there appear to be five buildings and several antennas and arrays. Because of the size of the property and the location of these features inside the chain link fence, the buildings and antennas must be viewed from a distance and cannot be seen clearly or completely. In addition, several anchorages for a 626-foot tall steel tower (demolished in 1960) are visible in scattered locations inside and outside the fenced area. These are massive concrete blocks with embedded steel hooks to which were once affixed cables that supported the tower and wires than served as parts of the antenna.

See continuation sheet

*P3b Resource Attributes: (List attributes and codes) HP11

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



P5b. Description of Photo:

(View, date, accession #)

2601 East Bayshore Rd.; view
northeast; 08/08/01; by B. Vahey;
roll BRV-XX, neg #21

*P6. Date Constructed/Age and

Source: ☒ Historic

☐ Prehistoric ☐ Both

newspapers

*P7. Owner and Address:

City of Palo Alto

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

Michael Corbett, Dames & Moore

221 Main Street, Suite 600

San Francisco, CA 94105

*P9. Date Recorded:

8 August 2001

*P10. Survey Type: (Describe)

Intensive

P11. Report Citation*: (Cite survey
report and other sources, or enter "none".) Palo Alto Historic Survey Update (Corbett and Bradley for Dames & Moore)

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

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CONTINUATION SHEET

Page 2 of 7Resource Identifier: 2601 East Bayshore RoadRecorded by Michael Corbett/Steve Hardy (history)*Date 21 August 2001☒ Continuation ☐ Update

Description (continued)

The buildings, all located near the center of the fenced area, include the main building, three rectangular buildings that form a courtyard with the main building at its northeast corner, and a small square building east of the main cluster.

The main building is a rectangular reinforced concrete structure with a low pitched gable roof. From a distance, it appears to be in three roughly equal sections separated by windowless parapeted wall sections that interrupt the otherwise continuous line of the eaves. Changes in the pattern of fenestration and in the roof surface suggest that the northernmost of the three sections may itself have been built in two phases. Stuccoed surfaces and gabled parapets at the gable ends, together with symmetrical fenestration, establish a suggestion of classical or Mission Revival style. Photographs of the interior taken in 1922 show concrete floors, wood walls and ceilings, and partition walls of wood and glass (Federal Telegraph Company, *Bulletin 14A*, PL-MA-22 and PL-MA-25). This building is oriented generally north-south and appears to have been built in phases from north to south in 1921, 1922 (?), 1928, 1932, and 1935.

The three rectangular buildings at the northeast corner of the main building are one-story, gable roofed structures clad in various materials. They are smaller than the main building, both in height and in the dimensions of their footprints. Two of these are perpendicular to the main building — there is a stucco-clad garage at the north end, and a hard-to-see structure parallel to it to the south. In the space between the east ends of these buildings, there is a smaller building, parallel to the main building, that is clad in corrugated metal.

A photograph of the facility taken about 1922 (Federal Telegraph Company, *Bulletin 14A*, PL-MA-1) shows, in addition to the 626-foot tower, the main building as it existed at the time, a water tower, a building parallel to and east of the main building, and what appears to be the corner of another structure behind the main building. The buildings behind the main building may be among those still standing today. From a distance, all three look like they might have been built in the 1920s to the 1940s. In addition to these, there is a small square structure with a shallow hip roof. The two walls of this structure which are visible are clad in what appears to be plywood panels without windows. This looks like it was built in the 1960s or 1970s.

Scattered in and around the central cluster of buildings are a number of antennas and arrays. One of these, located near the north end of the main building consists of a solid bulb on a pair of latticed steel poles. One, located in the marsh northwest of the center, is an umbrella shaped structure with a central latticed steel pole from which is suspended a wide ring. The remainder appear to be variations of a type consisting of vertical creosoted poles with wires strung between them. There are at least six such features, three of which are square or rectangular and are defined by four tall poles, two of which are similar to clotheslines with wire strung between two lines of closely spaced short poles, and one of which is hexagonal and is defined by six poles at its perimeter. None of these are shown in the 1922 photo of the facility. None are visible in a photo taken in 1960 or earlier, showing the 626-foot tower (Winslow, p. 206).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary # _____

HRI # _____

BUILDING, STRUCTURE, AND OBJECT RECORDPage 3 of 7*NRHP Status Code 3S*Resource Name or # (Assigned by recorder) 2601 East Bayshore Road

- B1. Historic Name: Federal Telegraph Company, Marsh Station
- B2. Common Name: Mackay Station; International Telephone and Telegraph Station
- B3. Original Use: radio telegraph station B4. Present Use: radio communication station
- *B5. Architectural Style: utilitarian
- *B6. Construction History: (Construction date, alterations, and date of alterations)
Built 1920-1921; additions 1922, 1928, 1932, and 1935
- *B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
- *B8. Related Features:

four service structures, numerous antennas and arrays

- B9a. Architect: unknown b. Builder: unknown
- *B10. Significance: Theme Electronics industry Area United States
- Period of Significance 1921-1951 Property Type radio station Applicable Criteria A
- (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

History

The complex of buildings, antennas, and arrays at 2601 Bayshore Road was first built for the Federal Telegraph Company. The Federal Telegraph Company was a successor of the Poulsen Wireless Telephone and Telegraph Company, founded in Palo Alto by Cyril F. Elwell in 1909. The company was reorganized in 1911 as the Federal Telegraph Company. The company was a pioneer in the development and manufacturing of equipment for continuous wave radio broadcasting. It was initially named for Valdemar Poulsen, a Danish inventor who patented a design for an arc converter. An arc converter was a machine that generated continuous wave transmission. Research by the Federal Telegraph Company in Palo Alto demonstrated the superiority of continuous wave transmission over the principal alternative — damped wave transmission. Research in other areas and partnerships with other inventors, including Lee de Forest, produced the package of technology that placed Federal Telegraph in the advance guard of the radio industry at the beginning of that industry.

The Federal Telegraph Company first operated out of a house at 913 Emerson Street in Palo Alto. In 1913, the company built a large plant (90 by 400 feet) on El Camino Real "for general manufacturing, research, and testing" (Federal Telegraph Company, n.d.) of specialized electronic equipment. Among the products of the plant were switchboards, special transformers, pumps, metal

See continuation sheet

- B11. Additional Resource Attributes: (List attributes and codes) _____
- *B12. References:

See continuation sheet.

- B13. Remarks:

- *B14. Evaluator: Michael Corbett
- Date of Evaluation: 21 August 2001

(This space reserved for official comments)

(Sketch map with north arrow required)

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stampings, screw machine products, marine radio compasses, radio transmitters and receivers for ships and commercial stations, high voltage thermionic rectifiers, high frequency electronic furnaces, special glass working tools and machines, and commercial oscillator and rectifier tubes. This plant, which employed as many as 300 workers, closed in 1931 when its operations were moved to Newark, New Jersey.

As part of its research and testing efforts, the company had first established stations at Sacramento and Stockton in 1911. This was followed in the same year by a station at San Francisco. This station, at Ocean Beach, was a conspicuous feature of the landscape, with its 300-foot tall wood antenna poles. In 1916, the company built an immense receiving apparatus on the grounds of its Palo Alto manufacturing plant: "On four supports about fifty feet high . . . the Federal Telegraph Company is constructing a giant network containing twelve miles of aluminum wire which will form the receiving apparatus of a new wireless telephone." (*Palo Alto Times*, 1916).

All the company's stations were taken over by the government in World War I. Immediately after the war, the stations were returned.

Planning for a new station in Palo Alto was announced in the *Palo Alto Times* on 30 October 1920 as part of an effort by the Federal Telegraph Company to build radio stations up and down the Pacific coast at a cost of \$500,000. The stations at San Diego, Los Angeles, Palo Alto, and Portland would provide the facilities for "taking over the telegraph service between San Francisco and Portland, and subsequently to Los Angeles and San Diego, this business now being handled over leased wires."

At the time it was completed, the *Palo Alto Times* wrote on 24 March 1921: "The Palo Alto marsh station, just completed, will act as the hub or central station for Pacific Coast communication. It is located on a 200 acre tract east of town at the end of Embarcadero Road, and was built at a cost of approximately \$175,000. The guyed steel tower, erected in thirty-three days working time, is 626-feet in height and consists of a latticed steel shaft six feet by six feet square, rising perpendicularly from a ball and socket joint at the ground." This was "the first station in the world using four channels of communication simultaneously."

At the time the Portland station was nearing completion, on 28 June 1921, the *Palo Alto Times* reported, "Many new developments in the radio art are being taken advantage of . . . Among these are the use of high speed and automatic equipment with multiplex communication channels. Both receiving and transmitting operations will be located in the main offices of the company in the heart of the cities where close touch can be maintained with the business houses and offices. The company's San Francisco main office is located in the Hobart Building, where the necessary control apparatus for operating the Palo Alto station will be installed. The operators located at this office will control the powerful radio transmitters at Palo Alto directly by automatic wire connection." Each station consisted of a 626-foot high tower which "supports the overhead wires that generate the radio waves" and "a concrete station operating powerhouse." The station was built under the charge of R.R. Beal and Hardon Pratt, radio engineers on the staff of Federal Telegraph. The tower was designed by Stanford professor Paul Wing.

Less than a year later, the Palo Alto station was enlarged "so that messages can be sent in six directions simultaneously. . . . This distinction is shared by no other station in the world," according to the *Palo Alto Times* of 31 March 1922. While the available information is not clear about what was enlarged at this time, it seems likely that it involved both additional wires on the tower and an expansion of the station building. Photographs of the interior in 1922 show separate rooms with heavy equipment — one for arc converters and one for radio frequency units.

"In 1924, additional equipment made communications with ships at sea possible (*San Jose Mercury News*). In 1927, the station was sold to the Mackay Radio and Telegraph Company "to use for point-to-point and ship-to-shore communications" (Winslow, p. 207). On 21 May 1928, the Mackay Radio and Telegraph Company was taken over by the International Telephone and Telegraph Company, but retained a separate identity under the Mackay name. (Clarence Mackay was a New York City capitalist who was born in San Francisco. He was an officer or director of numerous communications companies, including several cable

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telegraph companies. He was married to an opera singer and his daughter was married to Irving Berlin. He was on the boards of the Metropolitan Opera, the Philharmonic Society, the Metropolitan Museum of Art, and the Lincoln Farm Association which preserved Abraham Lincoln's birthplace.) The station was enlarged again in 1928 (Winslow, p. 207), "at that time the station was doubled in size for transmission to Hawaii and the Philippines." (*San Jose Mercury News*)

In 1932, a 50-foot addition to the station was built "to accommodate four more high power vacuum tube transmitters to be used in communication with the Orient." Specifically, they were "for communication with the receiving station at Shanghai belonging to the Chinese ministry of communications." (*San Jose Mercury News*). The station was enlarged again in 1935 (Winslow, p. 207). These transmitters replaced the original Poulsen arc converters.

Early in its history, the station was provided with call letters (KWT) for its communication operations with ships. By 1941 the call letters had been changed to KFS. According to a 1992 article in the *San Jose Mercury News*, "On December 7, 1941, an operator for the KFS Marine Radio heard this signal: "Submarine sighted." The time was 10:50 a.m. Pacific Standard Time. Five minutes later, at 7:55 a.m. Hawaiian time, the attack on Pearl Harbor commenced. The radio message had been the first inkling that the Japanese were attacking."

In 1960, the 626-foot tower was dismantled. It was no longer needed, it required expensive maintenance, and it was a hazard to aviation. Despite the loss of the tower, with new antennas and new technology the station remained in operation. In 1977, the entire property was sold to the City of Palo Alto. Because the Federal Communications Commission would not allow the station to shut down — it still performed an important function in communications with ships — it remained in operation. A 1987 article in the *Times-Tribune* referred to the "antenna farm" surrounding the station. While it is not known when the various antennas and arrays now around the station were built, most if not all of them must have been in place by 1987. In 1990, the lease to operate the station was sold by International Telephone and Telegraph to KFS World Communications. Today (2001), the station remains in operation.

Evaluation

Although additional work should be done on this property (including a close inspection of the buildings and the equipment inside them, and additional research), it appears eligible for the NRHP under criterion A at the national level of significance. The period of significance is 1921 to at least 1951 (50 years ago). The building is significant as the best surviving remnant of the once extensive presence of the Federal Telegraph Company in Palo Alto, its early headquarters.

The removal of the tower in 1960 constituted a serious loss of integrity for the facility. However, it retains integrity of location, design, setting, materials, workmanship, feeling, and association.

References

Elliott, Harold E. and Adrien L. Anderson. "Stanford Men Develop Radio System." *Stanford Illustrated Review*, May 1919, pp. 392-396.

Federal Telegraph Company. *Since 1908 An Organization Devoted to Special Engineering and Manufacturing Problems*, brochure. Palo Alto and San Francisco, n.d.

Federal Telegraph Company. *30 KW Arc Radio Transmitters Manufactured by Federal Telegraph Company, San Francisco, U.S.A., Bulletin 58-30*. [1920].

Federal Telegraph Company. *Arc Radio Transmitting Apparatus Manufactured by Federal Telegraph Company, San Francisco, U.S.A., Bulletin 14A*. [1922].

Hoye, David. "'Antenna Farm' Vital Communications Link." *Peninsula Times-Tribune*. 23 March 1987.

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Recorded by Michael Corbett/Steve Hardy (history)

*Date 21 August 2001

☒ Continuation ☐ Update

References (continued)

Hughes, Carol B. "A Radio Station Transmits Signals of Palo Alto's Past." *San Jose Mercury News*. 31 May 1996, p. 6.

Knowlton, Archer E., editor. *Standard Handbook for Electrical Engineers*. New York: McGraw-Hill, 1957.

Miller, Greg. "Wetlands for a price: City considers a (rather inflated) offer for marshes." *Peninsula Times Tribune*. 24 December 1992.

Palo Alto Times.

"Hub Unit of Coast Radio Line Completed." 24 March 1921.

"Experimenting on a Wireless Phone: Federal Telegraph Building a Powerful Receiving Apparatus." 28 April 1916.

"Unique Marsh Station is Hub to Federal's Coast Radio System." 31 March 1922.

"Federal Telegraph Company to Spend \$500,000 Building Coast Radio Stations: Ground Being Broken on Marshes at End of Embarcadero Road for \$175,000 Tower . . ." 30 October 1920.

"Coast Radio System for Commercial Use is Nearly Completed." 28 June 1921.

San Jose Mercury News.

"Palo Alto Radio Station Enlarged to Reach Orient: Mackay Plant Preparing to Handle Trans-Pacific Traffic Nov. 1." 8 September 1932.

Who's Who on the Pacific Coast. Chicago: A.N. Marquis, 1951.

Winslow, Ward and the Palo Alto Historical Association. *Palo Alto: A Centennial History*. Palo Alto: Palo Alto Historical Association, 1993.