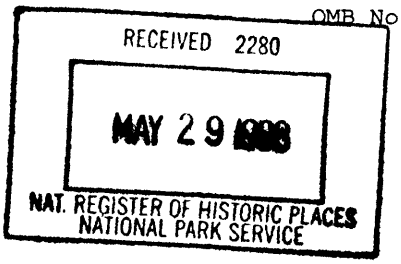
NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service



713

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Davis Subway

other names/site number Richards Boulevard Undercrossing, Structure No. 75.45 (Southern Pacific Railroad)

2. Location

street & number Richards Boulevard between Olive Drive and First Street
not for publication N/A
city or town Davis vicinity N/A
state California code CA county Yolo code 113 zip code 95616

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
In my opinion, the property X meets ____ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally X statewide ___ locally. (___ See continuation sheet for additional comments.)

Signature of certifying official — Date: May 18, 1998

California Office of Historic Preservation
State or Federal agency and bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

Signature of commenting or other official — Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

Signature of Keeper — Date of Action

V	entered in the National Register ___ See continuation sheet.	Edson H. Beall	6/26/98
____	determined eligible for the National Register ___ See continuation sheet.		
____	determined not eligible for the National Register		
____	removed from the National Register		
____	other (explain): _____		

5. Classification

Ownership of Property (Check as many boxes as apply)

- ____ private
- XX public-local
- ____ public-State
- ____ public-Federal

Category of Property (Check only one box)

- ___ building(s)
- ___ district
- ___ site
- XX structure
- ___ object

Number of Resources within Property

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
2	1	structures
_____	1	objects (City of Davis Sign)
2	2	Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) N/A

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat:	Sub:
TRANSPORTATION	Rail Related, (railroad bridge)
TRANSPORTATION	Road Related, (vehicular)

Current Functions (Enter categories from instructions)

Cat:	Sub:
TRANSPORTATION	rail related, (railroad bridge)
TRANSPORTATION	road related, (vehicular)
TRANSPORTATION	pedestrian related

7. Description

Architectural Classification (Enter categories from instructions)

Other: I-beam bridge

Materials (Enter categories from instructions)

foundation	CONCRETE
roof	METAL: steel
walls	CONCRETE
other	METAL: steel

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

XX **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

____ **B** Property is associated with the lives of persons significant in our past.

XX **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

____ **D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

N/A **A** owned by a religious institution or used for religious purposes.

____ **B** removed from its original location.

____ **C** a birthplace or a grave.

____ **D** a cemetery.

____ **E** a reconstructed building, object, or structure.

____ **F** a commemorative property.

____ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)
TRANSPORTATION
ENGINEERING

Period of Significance 1917 to 1943

Significant Dates N/A

Significant Person (Complete if Criterion B is marked above)
N/A

Cultural Affiliation N/A

Architect/Builder N/A

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # N/A
___ recorded by Historic American Engineering Record # N/A

Primary Location of Additional Data
____ State Historic Preservation Office
XX Other State agency
____ Federal agency
XX Local government
____ University
____ Other
Name of repository: Hattie Weber Museum, City of Davis

10. Geographical Data

Acreage of Property 0.18365 acres, more or less

UTM References (Place additional UTM references on a continuation sheet)

Zone	Easting	Northing
10	609913	4266470

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Jeanette K. Schulz

organization City of Davis: Historic Resources Management Commission
Parks and Community Services

date September 29, 1997

street & number 23 Russell Boulevard telephone (916) 757-5626

city or town Davis state CA zip code 95616

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)
name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 7 Page 1

Davis Subway
Yolo, CA

7. Description

The current Richards Boulevard underpass is comprised of two primary structural elements: one is an automobile subway, the other is a pedestrian and bicycle tunnel. These two structures permit automobile, pedestrian, and bicycle traffic to cross under the old Southern Pacific railroad tracks and into the downtown area. The Southern Pacific Railroad track right-of-way was purchased by Union Pacific in 1996.

The automobile subway and its related pump house, located near the southeast corner of the subway, date to 1917 and were constructed as part of State Route 6, one of the initial elements of the California State Highway. The pedestrian and bicycle tunnel was constructed in 1977 to facilitate pedestrian and bicycle access into the town of Davis and the University of California, Davis campus from South Davis.

The Richards Boulevard underpass was originally designated as the "Davis Subway" by the Southern Pacific Railroad and the California Highway Commission. The origin of the term "Richards Boulevard Underpass" is speculative, but it is logical to assume it is of local origin. The structure continued to be known as the Davis Subway for as long as it was associated with State Route 6 (i.e., until 1943). By 1956 local newspapers refer to the subway as "Richards Boulevard Underpass." It is speculated that the name may be associated with Thomas Richards, head of the Bercut-Richards Canning Company, who was largely responsible for bringing the Food and Technology Building to the Davis campus in 1951.[1]

Known as the Davis Subway by the State Department of Engineering and the California Highway Commission, or as Structure No. 75.45, by the Southern Pacific Railroad in its 1959 *Bridge Index*, the underpass is a standardized type of Southern Pacific I-Beam Bridge fabricated for the railroad company by the American Bridge Company, one of the leading builders of railroad and highway bridges during the early decades of the 20th century.[2] Railroad bridges in which the load was carried by means of metallic units spanning the gap between two supports were an important class of railroad bridge at the turn of the century. There were two general types defined as "beam" and "girder" structures. If the supporting members were homogenous bodies of rolled metal, the structure was designated as a beam bridge. If each of the carrying members as a whole were fabricated from several different rolled sections, the term girder bridge was used. Beams used in bridge construction were rolled with a transverse cross-section roughly corresponding to the shape of the letter "I," hence the term I-beam span bridge.

The original plans for the Davis Subway were drawn up by the Western Division of the Southern Pacific Railroad in December 1913, but were modified twice in May 1915 and July 1917, before construction was initiated. The Subway was completed before the end of 1917 under the supervision of Division of Highways resident engineer B. C. Gerwick.[3] The main superstructure consists essentially of a single span comprised of twenty-eight 24 inch rolled steel I-beams used as stringers.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 7 Page 2

Davis Subway
Yolo, CA

7. Description (Continued)

The I-beams are spaced at 1 foot, 6 inches between two concrete abutments to support a floor system. The bridge deck was built to a width of 48 feet to accommodate three sets of railroad tracks. Space between the exterior three beams has been filled with concrete on each side of the bridge to brace beams that have been damaged from traffic accidents. A "sacrificial rail" has been installed, probably in the 1980s, outside the outside beam on each side of the bridge to protect the superstructure from further damage.

The decking on the railroad bridge over Richards Boulevard is carried in a single span that is supported at each end on reinforced concrete walls. In the 1910s, I-beam bridges were rarely constructed where the span to be bridged was greater than about 30 feet.[4] Thus, in the context of the time I-beam bridges were most commonly used over small streams and canals, in grade separation work, or at stock passes. For the railroad bridges with spans from 30 feet to 125 feet, plate girder bridges were favored and for spans over 100 feet, riveted or pin-connected trusses.[5] The total length of the bridge over Richards Boulevard measured from the back face of each backwall is only 27 feet, 10 inches. The clear width between the two concrete abutments is 24 feet. The clear height of the Subway from the roadway to the bottom of the I-beams was originally listed as 14 feet, but it is now posted as 13 feet, 6 inches.

At the top of each abutment, there is a 1 foot, 11 inch deep shelf in the concrete upon which the I-beam decking rests. The deck consisted of 28 eighty pound steel I-beams. At the center and each end of the span, a cross frame was riveted to the webs of each I-beam. The I-beams each measured 27 feet, 4 inches in length. The beams were covered with two layers of 2 inch x 12 inch planking laid perpendicular to the beams. This planking was then weatherproofed with asphalt roofing sheets laid with 3 inch lap joints sealed with a coat of hot asphalt. A one inch coating of sand or pea gravel was spread over the roofing material before railroad ties and rails were placed across the bridge. Rock ballast was then spread between and around the ties to stabilize the roadbed. Protective railings made of 2 inch pipe with standard tees and flanges extended along each side of the bridge for a distance of approximately 28 feet.

The substructure units of an I-beam railroad bridge were typically of two general classes: piers and abutments. The Davis Subway, being a single span, has no piers. Reinforced concrete abutments support the span at each end and also act as a retaining wall for the embankment which sustains the approaches. The two abutments are identical. Each rises to a total height of 20 feet measured from the base to top of the backwall. The inside walls of the abutments below the superstructure are an unbroken horizontal plane, whereas the breast extends far into the adjacent hillside fill. Wings of the abutment on their upper surface are sloped to conform to the natural slope of the retained material. At the top, the abutments have a minimum width of 2 feet and then the breast widens to nearly 4 feet at the point where the steel I-beams rest upon the abutments. The breast wall widens in four equal steps to a total width of 8 feet, 9 inches at the base.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 4

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

The period of significance for this structure runs from 1917 when it was constructed to 1943 when it ceased to function as a unit of the state highway system.

The primary significance for the Richard Boulevard underpass under Criterion A is derived from its association with the State of California's initial efforts under the State Highway Act of 1909 to create a true state highway system. State Route 6 was a key component of that program linking Sacramento with the west side of the Sacramento Valley and the Bay Area. It was also among the initial nine routes that received funding in 1912 as the inaugural units in the state highway system. Discounting the road bed itself, State Route 6 possessed only two major engineering structures: the original Yolo Causeway, which no longer exists, and the "Davis Subway" or Richards Boulevard underpass, which is remarkably intact and continues to serve the Davis Community as a distinctive entrance to the downtown area.

The Richards Boulevard underpass is an anomaly. Most of the Subways constructed by the California Highway Commission as grade separations during the pioneer-era of state highway construction in California have been destroyed by subsequent highway widening projects that have turned the original two-lane state highways into four-lane divided roads or freeways. The old Davis Subway has survived to the present only because State Route 6 was abandoned as a state highway in the 1940s and replaced by Highway 40 (now I-80) south of Davis. At that time the function of the old state highway Subway was transformed. It ceased to serve the general motoring public and became the main entrance into Davis, a small town of a few thousand residents. Had Highway 40 been constructed on its original alignment, the Subway would have required enlargement and deepening to meet modern highway standards and would no longer exist.

The Richards Boulevard underpass also appears to be significant under National Register Criterion C, as a rare surviving example of a certain type of subway structure and one of the oldest remaining Southern Pacific I-beam bridges in the State. While many steel girder railroad grade separations from the turn of the century remain in California today, I-beam bridges dating to the period 1900-1920 are extremely rare.

In summary, the Richards Boulevard Underpass is the only important engineering feature of State Route 6 that remains intact today. It possesses a high degree of integrity of location, design, materials, feeling, workmanship, and association. Only its setting has been compromised by the addition in 1977 of the bicycle and pedestrian tunnel on the west side of the subway. In the context of highway construction in California, the Davis subway appears to be one of the oldest surviving examples of the use of I-beam bridge construction on a railroad grade separation. It is certainly the oldest of the original Southern Pacific system in California. This fact, in combination with its strong association with the pioneering phase of state highway design, make it an important engineering structure and eligible under Criterion C for listing in the National Register of Historic Places and the California Register of Historic Places.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 5

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Secondary Significance

The Richards Boulevard Underpass has a secondary measure of significance as a segment of the Lincoln Highway. The proposal to designate and map a transcontinental automobile route across the United States originated in 1913 in Detroit, Michigan, the center of automobile manufacturing in the United States. The idea was promoted by Carl G. Fisher, a manufacturer of automobile frames and bodies, who interested other automobile tycoons to pledge $4,000,000 toward establishment of the road. The "Lincoln Highway Association" was formed in July 1913 and set out to identify the shortest, best, and most direct route across the midsection of the country from New York to San Francisco. The initial segment of the Lincoln Highway was designated in 1914. The road generally followed the route of modern Interstate 80. The eastern terminus of the route was in New York City and the western terminus was at San Francisco.

The Lincoln Highway Association did not actually construct the Lincoln Highway. Instead the association drew up a projected course and then raised local support among state, county, district, and local councils which lobbied to bring their respective sections of the Lincoln Highway up to minimum federal standards.

The route from Sacramento through Davis and Vacaville to the Bay Area was one of three California highway routes identified as portions of the Lincoln Highway west of Sacramento. The first route in California to be given the Lincoln Highway designation was what became State Route 50 running from Sacramento south through Stockton, west through the Altamont Pass to Livermore, and then to Oakland and San Francisco. When the Yolo Causeway was completed in 1916, State Route 6 was also labeled the Lincoln Highway. With the completion of the Carquinez Bridge in 1927, State Route 6 from Sacramento via the Yolo Causeway to Davis, Vacaville, and the Bay Area supplanted the old Stockton road as the chief means of auto travel between Sacramento and the Bay Area. The third route west of Sacramento to receive designation as the Lincoln Highway was State Route 2--the river road from Sacramento that winds south on levees through the Sacramento-San Joaquin Delta to the Bay Area.

The honorific term "Lincoln Highway" gradually lost significance regionally as the State of California adopted its unified highway system and nationally when the federal government adopted the numbered federal highway system. The eastern segment of the Lincoln Highway from the Atlantic Coast to Salt Lake City was designated U.S. Highway 30 in 1925; the western segment from Salt Lake to San Francisco was designated U. S. Highway 40. The route of the Lincoln Highway through Davis was commemorated by the erection of Lincoln Highway markers sometime in the 1930s.[8]

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 6

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Historical background and context

While the beginning history of the Davis Subway dates to 1913-1918, the rail line that is carried over the Subway has a much longer history, for this was the original line built by the California Pacific Railroad through Davisville in 1868. The Central Pacific Railroad took over the old California Pacific lines in 1871, and control was, in turn, taken over by the Southern Pacific in 1886, and has now been taken over by Union Pacific in 1996. Located at the junction of the Southern Pacific's mainline east and to the northwest, Davis was a busy railroad town. During the late 19th century, Davis became a major shipping point for wheat farmers and ranchers in southern Yolo and northern Solano counties. In addition to the advantages of trade over the railroad, availability of convenient passenger traffic to major urban centers was an important factor in the development of the Davis community.

From 1870, when the railroad completed its bridge across the Sacramento River to 1916, the railroad served as the principal means of interurban travel between Sacramento and Davis and points west. The Yolo Basin flooded annually for six to eight months creating a vast marshy district extending from a point fifteen miles north of Marysville to Rio Vista. Thus, the flooded territory paralleled the Sacramento River for a distance of some 120 miles and was three miles wide in places. These extensive marshlands prevented vehicular traffic from passing from the west to the east side of the valley for all but a few months of the year in the summer and fall.

The first attempt to build a road across the Yolo By-pass came in 1855 when the state legislature granted the Yolo Plankwood Turnpike a charter to operate a 4.5 mile toll road between the Sacramento River and the Tule House on the western edge of the marshlands. Regular stage lines departed from the Tule House to take travelers over the Putah Creek Turnpike to Davis or the Buckeye Road to the western foothills of Yolo County. The private toll road was not successful as a commercial venture and was replaced by the "Tule Jake Road" which remained the only road from Davis to Sacramento until the Yolo Causeway was completed in 1916. Impassable except in summer, the easterly course across the tules was recharted every year by the first wagons that crossed. Once west of the marshlands, the county road wended its way west and south until it paralleled the railroad about two miles east of Davis and then followed the course of the railroad line into town.[9]

Other communities on the west side of the Sacramento Valley experienced similar difficulties traveling by roads to the east side of the valley. North of Sacramento all of the roads crossing the river to the west side were seasonal crossings until one reached Meridian, a distance of 70 miles from Sacramento. Thus communication by highway with the capitol city from all of the towns on the west side of the Sacramento River in Yolo, Colusa, and Glenn counties was cut-off for much of the year before the state highway was constructed. The first all weather road between Sacramento and Davis was built by the California State Highway Commission in1915-1918.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 7

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Historical background and context (continued)

The new state highway between Sacramento and Davis was a critical link in the road network for the Sacramento Valley and northern California in general. By bridging the Yolo By-pass in 1916 the completion of State Routes 6 and 7 solved the seasonal flooding problem and improved automobile access to the Bay Area. Bridging the great Yolo Basin was important not only to permanently connect the west side counties with Sacramento, but it also reduced the all-weather travel distance from Sacramento to San Francisco by automobile from 140 miles to less than 100 miles.[10] The adoption of the motor vehicle varied significantly among the different geographic regions of the United States. The Pacific States had higher ratios than the national average and California was among the leaders in adopting the new form of transportation.

When the automobile was first adopted, it was widely believed that the comparatively poor condition of roads might retard its general use. The Overland Monthly lamented in 1896 that "from the standpoint of a road engineer, there are not over 100 miles of first-class road in California." In 1904 only about 7% of the roads in America were surfaced and most of these were covered with gravel. Good roads became a popular political issue nationally in the early 20th century.

The California legislature created the Bureau of Highways in 1895. Two years later the Bureau was dissolved in favor of a Department of Highways, comprised of three commissioners appointed to two year terms. Under the auspices of the Department, several county roads were conveyed to the state and by legislative acts commissions were appointed to survey and reconstruct these roads. However, the Department of Highways functioned primarily as a research agency. In 1907 the Department of Engineering was established with Nathaniel Ellery, an ex-highway commissioner, as State Engineer. Public sentiment for "good roads" and the rapid rise in automobile ownership led to rapid development of a state highway system after 1909.

One of the major policies of the State Highway Commission was to elevate the standards of safety for roads constructed under the 1909 bond act. Thus, California's State Highway system was laid out with safety as a high priority. The California Highway Commission noted in its July 1914 edition of the California Highway Bulletin, for example, that safety was given greater consideration in building the state highway system than in ordinary county road construction:

> Grades are eliminated as much as possible, crossings of railroads at grade are abolished when that can be done, curves are made more sweeping and less blind, and mountain roads are protected and made over, so that the touring in California will be a delight, never a menace, no matter what section of the State Highway may be traversed by motorists.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 8

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Historical background and context (continued)

Of all these improvements in road construction, the Highway Commission reported that the most appreciated by the highway traveler was the elimination of dangerous, at-grade railroad crossings. Wherever traffic was heavy on a highway-railroad intersection, the State Highway Commission gave serious consideration to constructing its highways over or under the existing railroad tracks.[11]

Located at the junction of two major inter-regional railroad lines that sent some 64 trains daily through the town, Davis was a prime candidate for a railroad grade separation where the proposed state highway crossed the Southern Pacific tracks. The Southern Pacific Railroad almost immediately began surveying work on the Subway and completed initial plans for an I-beam span bridge with concrete abutments in December 1913. The bridge was fabricated by the American Bridge Company, the major builder of Southern Pacific's railroad bridges during this era. Minor changes were made to the design of the I-beam superstructure in May 1915 and the plans were adopted by the California Highway Commission later that year. The December 1913 Southern Pacific drawings of the proposed subway and the November 20, 1915 plans and profiles of the proposed state highway depict a Subway of the same design and configuration as the current Richards Boulevard underpass.

Although the Richards Boulevard underpass was not actually constructed until 1917, its design had been completed between 1913 and 1915 before the State Railroad Commission and Highway Commission launched a major program to improve railroad crossings. In 1915 there were 106 deaths and 368 injuries resulting from automobile accidents at railroad crossings in California. In the following year, the State Railroad Commission instituted a survey of all railroad crossings with public roads within the state in order to improve public safety and reduce the number of vehicular accidents due to poor visibility or lack of adequate warning devices. The commission prepared 1500 reports describing over 10,500 crossings. Between 1916 and 1918 various railroad companies and the Highway Commission had cooperated to construct at least five subway structures to eliminate railroad-highway crossings. These were located on Southern Pacific tracks at Davis and Niles; on the Northern Pacific Railroad tracks south of Healdsburg; on the Atchison, Topeka & Santa Fe tracks at Las Flores, north of Oceanside; and on the San Diego & Arizona Railroad at Coyote Wells in Imperial County. Other subways were in the planning stages.

The Railroad Commission's "Grade Crossing Program" was emulated by several other states, including Colorado, Washington and Oregon. Between 1918 and 1922, grade separations were constructed at a feverish pace. By 1922 the Highway Commission working jointly with the various railroad companies of the state had eliminated 163 (39%) state highway-railroad grade crossings either through realignment or by construction of overhead highway crossings or subways.[12]

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Historical background and context (continued)

The Davis Subway was among the first approved by the California Highway Commission, but it took a few years to acquire the necessary right of way and build the structure. From the levee west of the Sacramento River, State Route 6 paralleled the tracks of the Southern Pacific Railroad across the lowlands on a timber and concrete trestle and then into Davis on the south side of the railroad tracks. To reach the town of Davis, automobiles traveling on the new state highway had to cross the railroad tracks to the north side before entering town. Initially, a temporary state highway crossing was located about 2000 feet east of the railroad station at what was known as Anderson Crossing. The crossing was dangerous and resulted in a near fatal collision between an automobile and train shortly after the highway was opened. Four parallel tracks had to be crossed and visibility was frequently blocked by railroad cars parked on the outside tracks. Furthermore, the approach was on a steep grade that further limited visibility up and down the tracks.

As noted above, the State Railroad Commission had granted permission in 1913 for installation of a Subway west of the Davis Station. The cost of the Subway was to be shared equally by the Southern Pacific and the Highway Commission. The original projected completion date was April 1916, but delays ensued in acquiring the necessary right of way for the Subway approach across the lands of J. W. Marshall. As a result, the Subway was not completed until January 1918. During the interval, the Anderson crossing was closed and a temporary grade crossing was established at the foot of Olive (G) Street where a traffic watchman monitored automobile traffic around the clock on the state highway crossing over Southern Pacific's five railroad tracks.[13]

Although businessmen favored a route that would bring traffic into the central business district, the Highway Commissioners favored a less congested route through Davis and the Southern Pacific backed a route that minimized the number of tracks to be crossed. The commission and railroad company agreed to locate the subway at a place 900' west of Davis Station where the number of tracks to be crossed was reduced from 5 to 2 and on a line to meet with the existing street grid at First and E streets. As the State Route 6 approached Davis from the east, the highway paralleled the railroad tracks on the south side down what is now Olive Drive, then swung west under the subway and proceeded west along First Street to B Street. The state highway continued north on B to 5th Street (Russell Boulevard), then turned west on Russell Boulevard to Cactus Corners (Pedrick Road) where it connected with State Route 7 that traversed the west side of the Sacramento Valley.

8. Statement of Significance (Continued)

Historical background and context (continued)

Three entities were responsible for construction of the Davis Subway: a private construction firm, the Southern Pacific Railroad Company, and the State of California. A contract for concrete work to build the abutments and wing walls of the underpass was awarded by the State to Palmer and McBryde of San Francisco, the same firm that constructed State Route 6 from the west end of the Yolo By-Pass to the town of Davis in 1915. The Southern Pacific Railroad drove falsework for the temporary bridge that carried its trains during construction. The railroad company also installed the steel deck, wood flooring, ballast, and tracks on the superstructure of the subway. The Division of Highways undertook all excavation and fill required in building the Subway using day labor. The excavation was carried out by hand labor with the excess material excavated being hauled by team and wasted over the bank of Putah Creek. Undertaken under the supervision of highway engineer B. C. Gerwick, work on the underpass began on August 13, 1917 and was completed January 18, 1918. The Davis Subway was the final element of State Route 6 to be finished. With its completion, the temporary grade crossing at the foot of G Street was abandoned and automobile traffic was diverted to First Street.[14]

State Route No. 6 was built with bond money made available through the first highway bond act—the State Highway Act of 1909. In 1913 the state legislature passed an act requiring the registration of all motor vehicles and the payment of these fees went to maintain the new state highway system. In 1916 a second bond issue of $15,000,000 was ratified by the voters to add additional mileage to the state highway system. Additional roads were made a part of the state highway system after a third bond act of $40,000,000 was approved by voters in 1919. This was the last highway bond issue. In 1923 the Highway Commission began financing road construction through the gasoline sales tax.[15]

Even before the causeway was officially dedicated, local newspapers reported that the Lincoln Highway Association had already accepted Route 6 and Route 7 from its intersection with Route 6 west of Davis to the Bay Area as a link in its transcontinental road network. Months before the road opened, the Davis Enterprise crowed that the Lincoln Highway Association would feature the Yolo Causeway in its next major publication:

> It is no longer a mythical and hoped for thing. Yolo is now on the map as a link of the Lincoln Highway. The state highway from Sacramento to Davis has now been accepted. The literature to be sent out by the Lincoln Highway Association will carry pictures and a description of the causeway boosting it as the greatest piece of roadwork in the country, or in the world.[16]

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 8 Page 11

Davis Subway
Yolo, CA

8. Statement of Significance (Continued)

Historical background and context (continued)

The poster promoting the formal dedication of the Yolo Causeway on May 11-14, 1916 featured a woman, with a Lincoln Highway emblem on her dress, opening the highway. Regardless of its status as a segment of the Lincoln Highway, State Route 6 was an essential link in the first statehighway system. It became part of the main east-west transcontinental highway (Federal Route 40) and carried heavy traffic for industrial, commercial, and agricultural uses as well as general touring. The years following World War I brought a burst of highway building. Economic diversification and specialization generated a need for a larger and more intricate transportation network.

The number of cars increased from a little over a half million in 1920 to nearly 2 million by the end of the decade, nearly a fourfold increase. From 1922 into the 1930s the Highway Commission embarked on the greatest construction drive in its history. Emphasis was on upgrading the trunk lines throughout the state to withstand escalating and heavier traffic-- widening highways, strengthening pavement, rebuilding grades, and installing shoulders. The 4,000 miles of new and improved highways endowed California with one of the best highway systems in the nation.[17]

By the late 1930s planning had begun on a replacement for that portion of State Route 6 that diverted traffic through the town of Davis in favor of a more direct route that could carry the increasing volume of traffic more safely and efficiently. State Route 6 had been built in keeping with early day road alignment standards. It accommodated only two lanes of traffic and the surfacing was too light for industrial uses. Shoulders were narrow and did not provide sufficient stability in wet weather. Furthermore, the underpass at Davis was too constrictive to meet modern design and clearance requirements. The three right-angle turns within the city limits created a bottleneck for high speed travel and trucking that was estimated in 1942 at 7000 to 8000 vehicles per 16 hour day. Final plans drawn up by the Division of Highways in 1942 called for a four-lane divided highway that adopted a new alignment from a point 1.0 miles east of the Davis subway to 1.3 miles north of Dixon. The new alignment substantially reduced curvature and shortened the distance traveled 3.25 miles while by-passing the towns of Davis and Dixon.

By the late 1930s the antiquated Subway structure at the entrance to Davis and the two-lane highway built through the city during the pioneering era of state highway building no longer met state standards for a major transportation route. The Richards Boulevard underpass has survived to the present only because of the decision in the early 1940s to abandon State Route 6 as a state highway and replace it with a four-lane divided freeway, Highway 40 (now I-80), south of Davis. The old Subway became, in essence, an off-ramp from Highway 40 into a small town of a few thousand residents.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 9 Page 12

Davis Subway
Yolo, CA

9. Major Bibliographic References:

Bibliography:

I. Richard's Boulevard Corridor Upgrade Project EIR, City of Davis, January , 1996.

N.B.: The text of the Description and Significance sections was taken substantially from the following report in the above cited document:

"CEQA Analysis of Historic Resources: Richards Boulevard Corridor Upgrade Project, Davis, California. (October, 1995) Prepared by: Stephen R. Wee, JRP Consulting Services, 712 Fifth Street, Suite F, Davis, CA, 95616.

Citations in text:

1. Interview with Phyllis Haig. September, 1995: *Davis Enterprise,* October 13, 1950, November 22, 1951; March 20, 1952; and October 4, 1956.
2. H.R. Demmon. "Southern Pacific System. Bridge Index, Revised to December 31, 1956, Southern Pacific Collection, Railroad Museum Archives, Sacramento.
3. Western Division, Southern Pacific Railroad, "Plan of the Proposed Subway at Davis, December 1913." Hattie Weber Museum and Archives, Davis, California.
4. Technological improvements in I-beam Construction widened the practical width of this type of bridge to about 50 feet by the late 1930s. *Railroad Engineering and Maintenance Cyclopedia* (New York: Simmons-Boardman Publishing Company. 1939), 482.
5. George A. Hool and W.S. Kinne, *Steel and Timber Structures,* (New York: McGraw-Hill Book Company, Inc., 1942), 286.
6. Western Division, Southern Pacific Railroad. "Plan of the Proposed Subway at Davis, December 1913." Drawing 2285, Sheet 2, Hattie Weber Museum and Archives, Davis, California.
7. Western Division, Southern Pacific Railroad. "Plan of the Proposed Subway at Davis. September, 1915. Drawing 2285, Sheet 2, Hattie Weber Museum and Archives, Davis, California: Interview with Duane Copley, City of Davis Public Works Department, September 29, 1995.
8. American Association of State Highway Officials, *Public Roads of the Past: Historic American Roadways* (1953): Michael McBride. "Highway History Recalled by sign." *Davis Enterprise,* November 30, 1971.
9. Joann L. Larkey. *Davisville '68: The History and Heritage of the City of Davis* (Davis: Davis Historical and Landmarks Commission. 1969), 38; *Davis Enterprise, July 17, 1915.*
10. "Across the Yolo Basin." *California Highway Bulletin* (May 1, 1913).
11. California Highway Commission, *Report of the California Highway Commission* (Sacramento: SPO, 1922) 37.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 9, 10 Page 13

Davis Subway
Yolo, CA

9. Major Bibliographic References (continued):

Bibliography (continued):

12. California Railroad Commission, Engineering Department, "Grade Crossing Report as of January 1, 1917." Records of the Public Utilities Commission. California State Archives, Sacramento: *Report of the California Highway Commission (1922), 37.*
13. Division of Highways—Highway Engineer's Office. Contract File—Contract No. 24, District III Yolo-6-A, 1915-1916. Records of the Department of Public Works, California State Archives; *Davis Enterprise,* June 10, 1916 and July 8, 1916.
14. Division of Highways—Highway Engineer's Office. Contract Files. Contract No. 82-III Yolo 7A, 1914-1915 and Contract No. 124-III Yolo-6-A; Division of Highways—District No. III, Route Construction Files, 1912-1959, Yolo-6-A, 1914-1921. Records of the Department of Public Works, California State Archives.
15. "State of Highway System". in *California Highways and Public Works: Centennial Edition.* Kenneth C. Adams, ed. (Sacramento: Division of Highways, 1950), 71-80.
16. *Davis Enterprise,* February 12, 1916.
17. California Highway Commission. *Annual Reports,* 1922, 1928, 1930, and 1932.

II. Hokanson, Drake. The Lincoln Highway: Main Street Across America, University of Iowa Press, Iowa City, 1988.

III. Photographs on file, Hattie Weber Museum.

10. Geographical Data:

Verbal Boundary Description:

The nominated property includes the area of the present Richards Boulevard which encompasses the historic undercrossing and its immediate surroundings and is defined by the following legal description:

Attachment "A"
Legal Description
Richards Boulevard Underpass Upgrade Project
C.P.U.C. Crossing No. A.75.45

All that real property situated in the City of Davis, County of Yolo, State of California, being a strip of land described for historical purposes for the underpass of the Union Pacific Railroad (UPRR) at Richards Boulevard and being more particularly described as follows:

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 10, 11 Page 14

Davis Subway
Yolo, CA

10. Geographical Data (continued):

Verbal Boundary Description (continued):

COMMENCING at the most southeasterly corner of Aggie Village, Subdivision No. 4275 as said map is filed for record in the Office of the County Recorder of Yolo County in Map Book 19 at pages 60-61, said point being on the northwesterly right-of-way of UPRR; thence from said POINT OF COMMENCEMENT, along said right-of-way line, N. 34° 17' 53" E., 562.35 feet, the existing westerly right-of-way line of Richards Boulevard, being the POINT OF BEGINNING; thence from said POINT OF BEGINNING, continuing along said northwesterly right-of way of UPRR, N. 34° 17' 53" E., 80.00 feet to a point on the existing easterly right-of-way of Richards Boulevard; thence leaving said right-of-way across UPRR, S. 55°42'07"E., 100.00 feet to a point on the southeasterly right-of-way of UPRR; thence along the southeasterly right-of-way of said UPRR, S. 34°17'53" W., 80.00 feet; thence leaving said southeasterly right-of-way across UPRR, N. 55°42'07" W., 100.00 feet to the POINT OF BEGINNING. Containing 0.18365 acres more or less (1-16-97).

Boundary Justification:

The boundary is based on the legally recorded boundary lines that encompass the city property which contains the historic railroad bridge and subway and also its associated structures. A section of the original alignment, and both approaches of historic State Route 6, for which the undercrossing was built, are included. This route also became a unit of the Lincoln Highway. The existing modern roadway follows the same alignment. Within the boundary is the recently constructed bikeway and pedestrian tunnel and also the wooden "City of Davis" sign.

11. Additional Information:

Photographs:

A. 1. Davis Subway
2. Yolo County
3. Unknown
4. ca. 1917, or at least before 1930
5. Courtesy Hattie Weber Museum
6. Davis Subway undercrossing soon after completion, camera facing northwest, prior to1930s.
7. #1

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 11 Page 15

Davis Subway
Yolo, CA

11. Additional Information (continued):

Photographs (continued):

B. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. Richards Boulevard Undercrossing, camera facing northwest.
7. #2

C. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. Undercrossing showing I-beams resting on shelf of eastern abutment wall.
7. #3

D. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. Pumphouse, camera facing north.
7. #4

E. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. Undercrossing and adjacent bicycle and pedestrian tunnel.
7. #5

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 11 Page 16

Davis Subway
Yolo, CA

11. Additional Information (continued):

Photographs (continued):

F. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. View of Southern Pacific tracks crossing ballast deck of undercrossing, camera facing west.
7. #6

G. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. Richards Boulevard Undercrossing from intersection of Richards Boulevard and First Street, camera facing southeast.
7. #7

H. 1. Davis Subway
2. Yolo County
3. Stephen R. Wee
4. September, 1995
5. JRP Historical Consulting Service, Sacramento, CA
6. City of Davis sign on southeasterly bank of undercrossing, camera facing northeast.
7. #8

I. 1. Davis Subway original plans
2. Courtesy Hattie Weber Museum

J. 1. Davis Subway original location map
2. JRP Historical Consulting Service, Sacramento, CA

K. 1. Road map of State of California, 1922
2. JRP Historical Consulting Service, Sacramento, CA

L. 1. USGS map, Quadrangle

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 11 Page 17

Davis Subway
Yolo, CA

11. Additional Information (continued):

Table 1: Southern Pacific Bridge Index, December 31, 1959, for California.

As cited in: "CEQA Analysis of Historic Resources: Richards Boulevard Corridor Upgrade Project, Davis, California. (October, 1995), page 40. Prepared by: Stephen R. Wee, JRP Consulting Services, 712 Fifth Street, Suite F, Davis, CA, 95616.

TABLE 1
Southern Pacific Bridge Index, December 31, 1959
Pre-1946 I-Beam Span Bridges, by Division

Number of Bridges	Bridge Function	Length of Spans	Range of Dates
Western Division.	Branch Lines		
4	Highway Undergrade	23'6" to 41'	1917 to 1936
Sacramento Div'n.	Branch Lines		
5	Highway Undergrade	28' to 41'	1928 to 1936
Coast Division.	Sunset Route		
11	Highway Undergrade	30' to 42'8"	1927 to 1935
Los Angeles Div'n.	Sunset Route		
1	Highway Undergrade	46'8"	1939
3	Steam Crossings	30'	1931-1940
Sacto-Shasta Div'n.	Shasta Route		
1	Highway Undergrade	24'	1930
Western Division.	Valley Route		
2	Highway Undergrade	41'5" to 43'4"	1932 to 1938
Western Division.	Altamont Route		
1	Highway Undergrade	25'6"	1936
San Joaquin Div'n.	Owenyo Branch		
1	Aqueduct Crossing	25'	1910
Los Angeles Div'n.	Burbank-Covina Br		
1	Creek Crossing	34'2"	1940
Los Angeles Div'n.	Inter California		
1	Undergrade crossing	33'	1928
TOTALS			
31		23'6" to 46'8"	1910-1940

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section Number 7, 8 Page 3

Davis Subway
Yolo, CA

7. Description (Continued)

A reinforced concrete slab extends between the two abutments near its base and ties into the abutment walls to form a concrete foundation for the highway roadbed.[6]

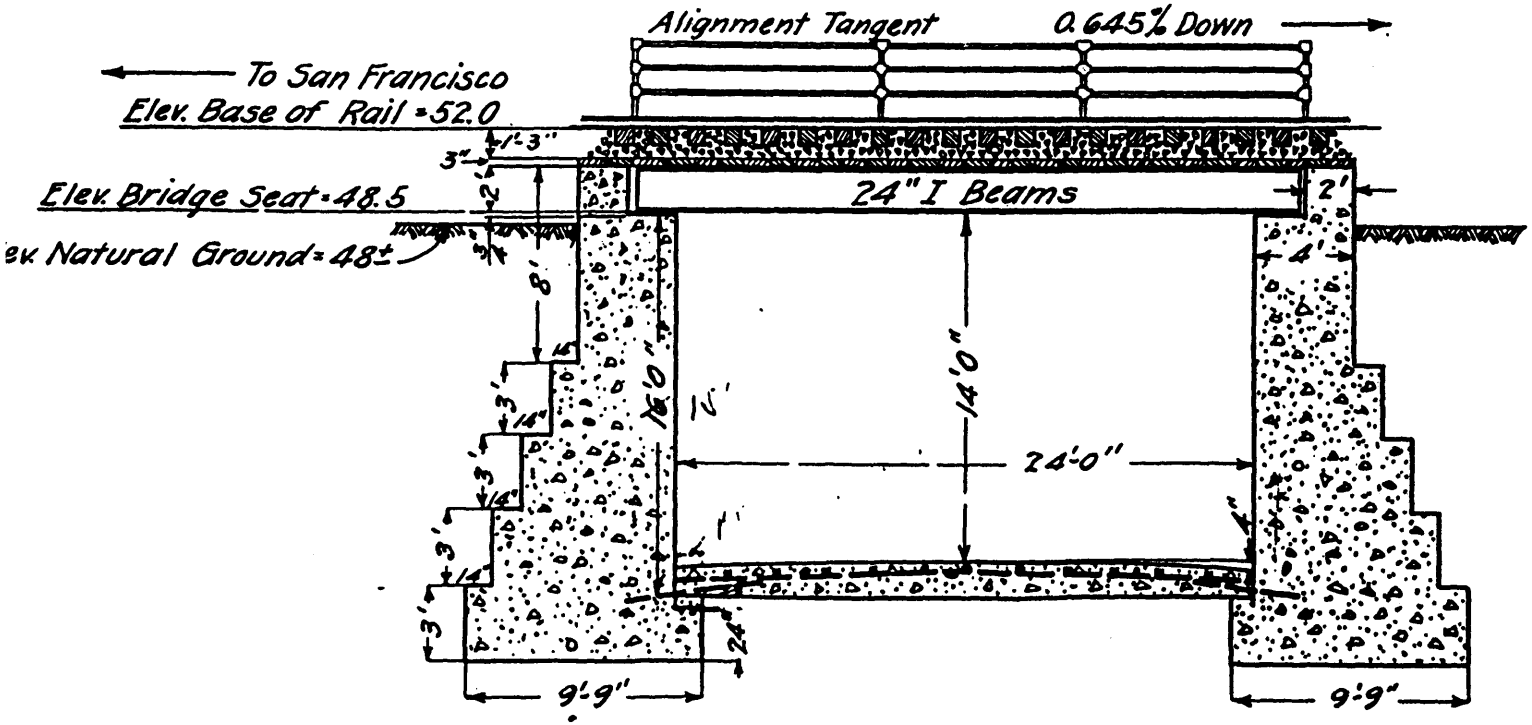
At the lowest point of the Subway a sump pump was installed to remove storm water that collected in the bottom of the subway. The waste water was pumped through a 6" pipe to a pump house located on the southeast side of the structure. The drainage system has been modified through the years to deal with a persistent flooding problem. The original pump was replaced as early as 1933 and the City Public Works Department has recently replaced the pump again.[7]

The pump house, a modest front gabled concrete structure still exists at its original site at the northeast corner of the Subway. The building measures 8 feet x 8 feet and possesses one foot thick concrete walls. This simple concrete box was somewhat modified in the early 1980s when the original nearly flat front gabled roof was removed and replaced with a much steeper front gabled roof with wide overhangs and open eaves. The gable end is filled with a plywood infill painted white to match the concrete. At the same time, a door framed by massive timbers was cut into the southwest elevation of the pump house, facing Richards Boulevard. Although some physical detail has been modified, the simple building still retains its integrity of materials, association, and feeling.

The underpass itself possesses a high degree of historic integrity to its date of construction. The major alterations at the site are the bicycle and pedestrian tunnel, a paved path adjacent to the underpass passing through the bicycle tunnel, and associated protective metal railings and scored concrete retaining walls. These improvements, which affect the setting more than the Subway structure itself, were installed in 1977. On the deck of the railroad bridge, the wood plank floor, rock ballast, railroad ties and rails have been replaced over the years, but the deck retains the outward appearance it had in 1917 at the time of its initial construction. Field observation and recordation of stamp dates indicate that the roadbed has been restored recently. Dates on the rail ties, tie plates and the rails themselves indicate that the track was rehabilitated on the overcrossing and for several hundred feet on either side of the bridge sometime after 1971.

8. Statement of Significance

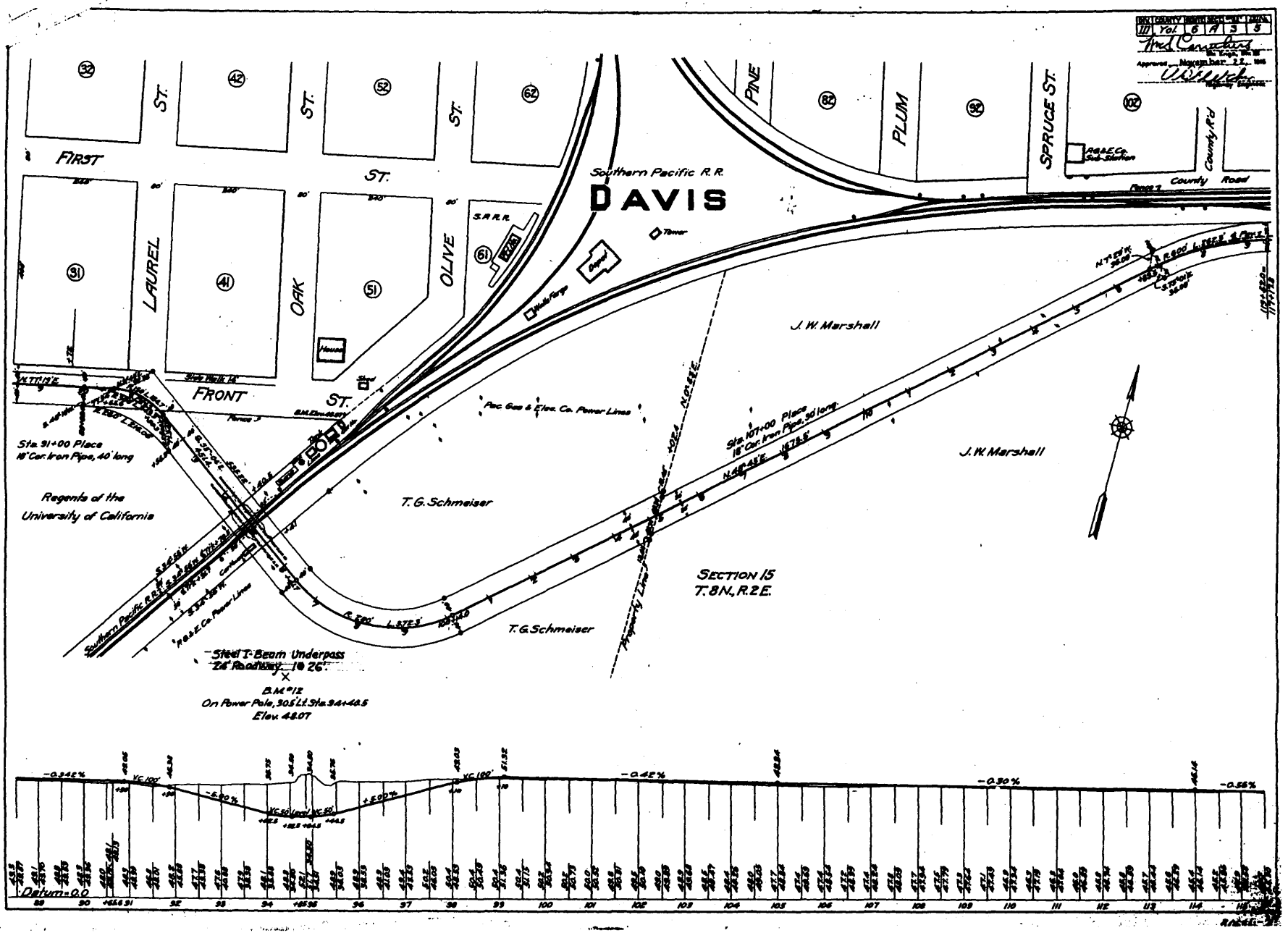
The Richards Boulevard underpass is significant under National Register Criterion A, *association with events that have made a significant contribution to the broad patterns of history,* at the State level of significance, for its association with construction of one of the initial units of the first state highway system, State Route 6. At a secondary level, it is significant for its designation as a unit of the Lincoln Highway. Its significance in the context of California highway development is further underscored by its status as the last remaining intact engineering structure associated with State Route 6. The subway also appears to be significant under National Register Criterion C, *embodies the distinctive characteristics of a type, period, or method of construction,* as one of the oldest remaining Southern Pacific I-beam bridges in the State. As indicated in the Southern Pacific *Bridge Index* for 1959 for California, only two I-beam bridges that date to the 1910s are extant today. The Owenyo bridge has been abandoned by the railroad. Therefore, the Davis Subway is the only extant Southern Pacific I-beam bridge, older than 1927, that is still in use (see Table 1, Continuation Sheet, page 17).



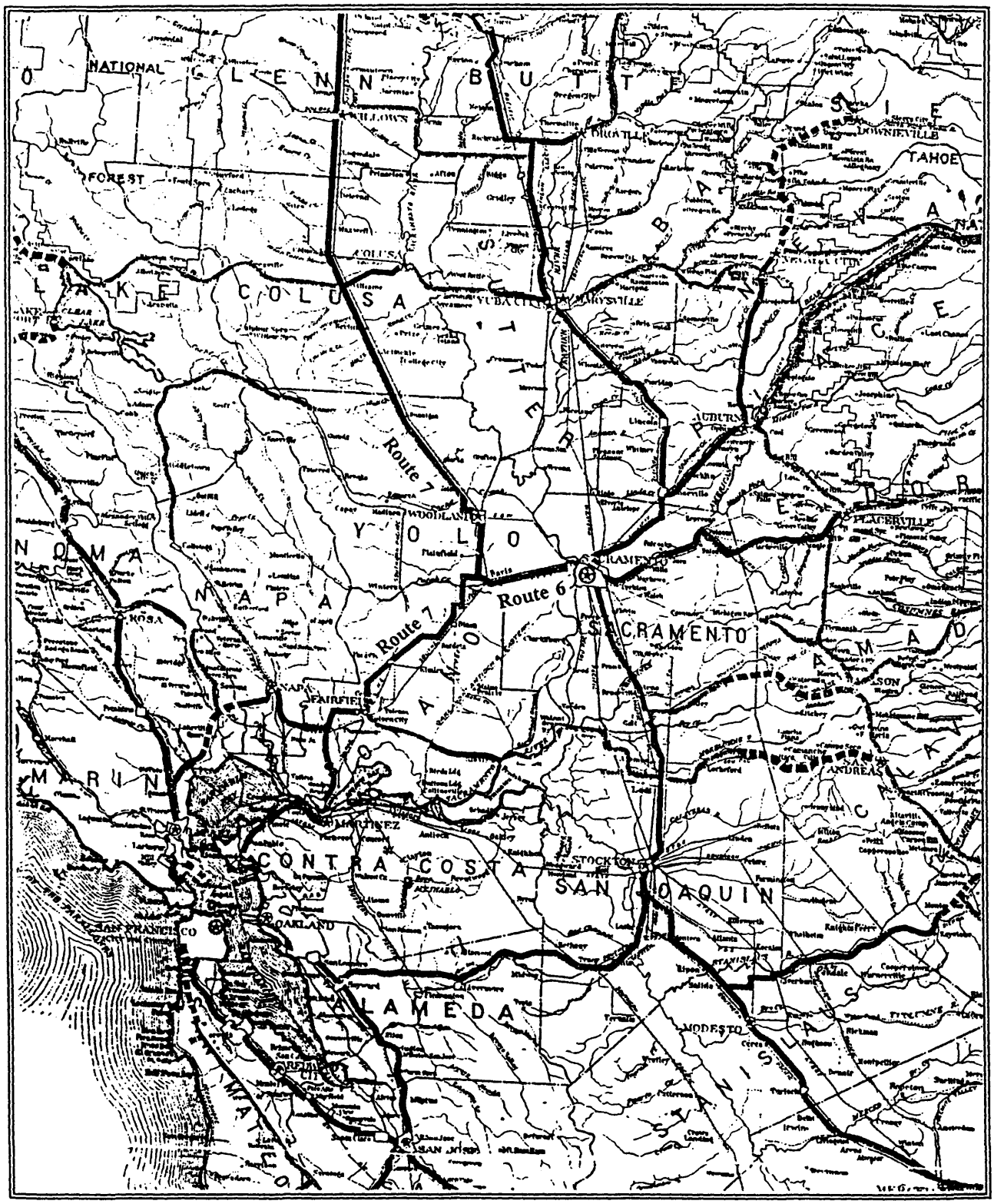
SECTION THROUGH ABUTMENTS

Scale: $\frac{1}{8}$ in. = 1 ft.

I. Detail from "Plan and Profile of Proposed Undergrade Crossing of Southern Pacific R.R. at Davis, Yolo County," California Highway Commission, 1915
Davis Subway, Yolo County, California



J. Sheet 3 from "Plan and Profile of Proposed State Highway in Yolo County through Davis"
California Highway Commission, 1915
Davis Subway, Yolo County, California



Portion of "Road Map of the State of California,"
California Highway Commission, 1922.

K. Davis Subway, Yolo County, California