City of SACRAMENTO

Report to
PRESERVATION COMMISSION
City of Sacramento

915 I Street, Sacramento, CA 95814-2671
www. CityofSacramento.org

PUBLIC HEARING
August 17, 2016

Members of the Preservation Commission:

Subject: Nomination of the Sacramento Railyards Water Tower, located at 236 5th Street in the Railyards project area, for listing in the Sacramento Register of Historic and Cultural Resources as a Landmark (M16-012)

Location/Council District:

Location: 236 5th Street, north of the Sacramento Valley Station and the railroad tracks, south of Railyards Boulevard, and east of I-5.

Assessor's Parcel Number: 002-0010-056-0000

Council District 3

Recommendation: 1) Review and consider the Draft Subsequent Environmental Impact Report for the Sacramento Railyards Specific Plan Update, KP Medical Center, MLS Stadium & Stormwater Outfall; and 2) Pass a motion to recommend to the city council it adopt an ordinance adding the Sacramento Railyards Water Tower as a landmark to the Sacramento Register of Historic and Cultural Resources and specifying its significant features and characteristics.

Contact: Teresa Haenggi, Associate Planner, (916) 808-7554; Roberta Deering, LEED AP, Preservation Director (916) 808-8259

Applicant: Jay Heckenlively, Downtown Railyard Ventures, LLC

Owners: Downtown Railyards Ventures, LLC
3140 Peacekeeper Way, McClellan, CA 95652
(LLC Members: Larry D. Kelley, Denton Kelley, Jay Heckenlively, Frank Myers, and Alan Hersh)

City of Sacramento, 915 I Street, Sacramento, CA 95814

State of California, 455 Golden Gate Ave. #8, San Francisco, CA 94102

SMUD, P.O. Box 15830, Sacramento, 95852

Summary: The applicant requested the nomination of the Sacramento Railyards Water Tower ("Water Tower") for listing as a landmark in the Sacramento Register of Historic and Cultural Resources. Evaluation forms (attached) were prepared for the property, including evaluation relative to the Sacramento Register eligibility criteria. At a Public Hearing held on July 28, 2016, the City of Sacramento's Preservation Director made a preliminary determination that the property is eligible for listing as a Landmark in the Sacramento Register of Historic and Cultural Resources pursuant to the City's eligibility criteria, developed recommendations for significant features and characteristics of the property for the Preservation Commission's consideration, and forwarded the nomination of the property to the Commission for its consideration.

Background Information:

On July 5, 2016, the City of Sacramento received an application for the nomination of the Water Tower (M16-012), at the northwest corner of 5th Street and Camille Lane, for listing in the Sacramento Register of Historic and Cultural Resources ("Sacramento Register") as a landmark.

The Water Tower was recorded and evaluated by Architectural Resources Group (ARG). Registration forms (attached) were prepared for the property, involving research on and evaluation of the property's eligibility relative to the Sacramento Register's eligibility criteria.

After reviewing the Draft Subsequent EIR for the Sacramento Railyards Specific Plan Update, KP Medical Center, MLS Stadium, & Stormwater Outfall, review of the consultants' report, on July 28, 2016, the City of Sacramento's Preservation Director held a public hearing, as required by section 17.604.220 of the city code, and made a preliminary determination that the subject property is eligible for listing in the Sacramento Register as a landmark, with the significant features and characteristics set forth in this report. As required by section 17.604.220 of the city code, the Preservation Director is now forwarding her recommendation for listing to the Preservation Commission for its consideration.

Notice of the Preservation Director's eligibility determination on the Water Tower and recommendations on its significant features and characteristics were mailed to the property owner/applicant.

Eligibility Criteria

The Preservation Director has made the preliminary determination that the Water Tower is eligible for listing as a landmark on the Sacramento Register under section 17.604.210.A of the city code because it satisfies the following requirements:

1. **Criterion i: It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation (City Code section 17.604.210.A.1.a.i)** – "The water tower appears eligible under City of Sacramento Criterion i / California Register Criterion 1 (Events) for the role it played in supporting the operation of the Sacramento railyards by providing a crucial suly of water. With its large storage capacity, the water tower delivered a constant and reliable source of water used throughout the facility daily and during emergencies such as fires. In turn, this allowed the Sacramento shop yard to run continually and efficiently and its employees to manufacture, maintain, and repair steam locomotives and rail cars that contributed greatly to the local, state, and national economy. With the demolition of the majority of the Sacramento shop yard's buildings and infrastructure following its closure by the [Union Pacific Railroad], the water tower is a rare structural remnant of what was one of the nation's largest railroad manufacturing and repair facilities." Architectural Resources Group, Sacramento Railyards Water Tower DPR 523L, Page 7, June 22, 2016.)

2. **Criterion iii: It embodies the distinctive characteristics of a type, period or method of construction (City Code section 17.604.210.A.1.a.iii) –** "The water tower also appears eligible under City of Sacramento Criterion iii / California Register Criterion 3 (Design/Architecture) as a distinctive example of an hemispherical-bottom steel water tower from the early twentieth century. It possess[es] the hallmark components of this specific type of water tower, including a cylindrical water tank, hemispherical bottom, conical cap, and metal truss legs. These elements were left exposed rather than enclosed in a brick or wood tower to visually emphasize its structural and engineering design. With its slender form and tall height, the structure is also a visual landmark on the landscape and currently maintains a visual connection with the Central Shops Historic District. While hemispherical-bottom water towers were widely constructed from the 1890s through the 1940s, most have been demolished. Therefore, the water tower at the Sacramento railyards is regarded as a rare example of this type of water tower and as the last structural remnant of the former SPRR heavy repair and manufacturing facility." Architectural Resources Group, Sacramento Railyards Water Tower DPR 523L, Page 7, June 22, 2016.

3. **(Integrity Considerations) The property retains integrity of location, design, setting, materials, workmanship and association (City Code section 17.604.210.A.1.b) –** "The water tower retains sufficient integrity to convey its historic significance. The water tower has not been significantly altered since its construction in the early 1930s; it retains its original, cylindrical water tank, hemispherical bottom, conical roof, four truss supports, and central riser. It also retains its original ladder, catwalk, finial, balcony and railing, tie rods, and horizontal set of struts. The most substantial alteration appears to be the removal of the exterior black paint, as indicated in the Chicago Bridge & Iron Works drawings for the structure. Therefore, the water tower maintains integrity of design, materials, workmanship, and condition. It also maintains integrity of

location having never been moved. Its integrity of setting has been diminished due to the loss of the majority of the buildings as the Sacramento shop yard. However, the water tower currently retains a visual and spatial connection with the Central Shops Historic District, the surviving core of eight buildings that still stand approximately 500 feet southwest of the structure." Architectural Resources Group, Sacramento Railyards Water Tower DPR 523L, Page 8, June 22, 2016.

4. **The property has significant historic or architectural worth and its designation as a landmark is reasonable, appropriate and necessary to promote, protect, and further the goals and purposes of chapter of 17.604 of the city code** – As explained above, the property has significant historic or architectural worth and its designation as a landmark is reasonable, appropriate and necessary to further the goals of the city's preservation program to preserve the City's rich and diverse historic resources.

The Preservation Director further considered the factors identified in section 17.604.A.2 of the city code and determined they are inapplicable to the Water Tower.

Property's Character-Defining Features:

The Preservation Director recommends that the property's significant features and characteristics include:

1. Riveted steel plate construction
2. 100,000-gallon cylindrical tank with a hemispherical bottom and conical roof with a spherical finial
3. Metal truss supports reinforced with one set of horizontal struts and tie rods and resting on trapezoidal, board form concrete foundations
4. Balcony with metal "IXIXIXI" railing
5. Central riser
6. Three-inch overflow pipe
7. Metal ladder with cylindrical cage and catwalk extending underneath the water tank base
8. Tall, narrow form with an approximate 100-foot height
9. Visual relationship to the Central Shops Historic District
10. All metal parts painted, in either one or the other color: primer – international orange; finish – black.

Proposed Ordinance:

The proposed ordinance, to be forwarded to the city council upon the Preservation Commission's recommendation, to add the Water Tower to the Sacramento Register and listing its significant features and characteristics is attached as Attachment 3 to this report.

Policy Considerations: This proposed action is consistent with the Historic and Cultural Resources Element of the 2035 General Plan, the City's Strategic Plan Focus Area of "sustainability and livability," and title 17 of the city code, including chapter 17.604 related to historic preservation.

Economic Impacts: None.

Environmental Considerations:

California Environmental Quality Act (CEQA): As part of compliance with the California Environmental Quality Act (CEQA), the City has prepared a Draft Subsequent Environmental Impact Report for the Sacramento Railyards Specific Plan Update, KP medical Center, MLS Stadium, and Stormwater Outfall (RSPU DSEIR) that discussed the Water Tower as a potentially eligible individual landmark that would remain at its current, original location instead of relocating it into the historic district as discussed in the 2007 Railyards Specific Plan. Additionally, the RSPU DSEIR discussed the alteration of the Central Shops Historic District boundary. This document can reviewed at the following link:

http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

The RSPU DSEIR along with a Final Subsequent Environmental Impact Report (FSEIR) and appropriate Findings (pursuant CEQA Guidelines Section 15091) will be provided to the City Council prior to final action on the project.

Sustainability: Not applicable.

Recommendation:

The Preservation Director recommends the Commission: 1) Review and consider the Draft Subsequent Environmental Impact Report for the Sacramento Railyards Specific Plan Update, KP Medical Center, MLS Stadium & Stormwater Outfall; and 2) Pass a motion to recommend to the city council it adopt an ordinance adding the Sacramento Railyards Water Tower as a landmark to the Sacramento Register of Historic and Cultural Resources and specifying its significant features and characteristics.

Respectfully submitted by: _____

TERESA HAENGGI
Associate Planner

Recommendation Approved:

_____

ROBERTA DEERING, LEED AP
Preservation Director

Table of Contents:

Attachments

1 Vicinity Map

2 Registration/Evaluation Form

3 Recommended Ordinance

Attachment 1: Railyards Water Tower Vicinity Map

Attachment 2: Registration/Evaluation Forms

(See next page.)

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

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 ***Resource Name or #** Sacramento Railyards Water Tower

P1. Other Identifier:

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

and

***b. USGS 7.5' Quad:** Sacramento East **Date:** 1992 **T** 9N, **R** 4E **of Sec** unsectioned; **B.M.** Mt. Diablo

c. Address: City: Sacramento Zip: 95814

d. UTM: Zone: 10S; 630833.47 mE/ 4272265.76 mN

e. Other Locational Data: The water tower is located on the west side of the newly constructed 5th Street (running north-south) and approximately 300 feet south of the intersection of 5th Street and Railyards Boulevard. The structure also stands approximately 600 feet northeast of the Paint Shop, which is a contributing building within the Central Shops Historic District.

***P3a. Description:**

The steel water tower is comprised of a 100,000-gallon tank supported approximately 72 feet above the ground by four lattice truss legs. The tank is constructed of riveted metal panels and has a cylindrical shaft with a 22-foot diameter, hemispherical bottom, and a conical roof capped by a 12-inch tall round finial. A metal walkway with a handrail and balustrade featuring an "IXIXIXI" pattern encircles the base of the tank. The four angled legs rest on trapezoidal, board formed foundations and are reinforced with diagonal tie rods and one set of horizontal support struts. A metal ladder enclosed by a cylindrical steel cage is attached to the northwest leg and rises to the base of the conical roof at a height of approximately 100 feet. A metal catwalk extends from the ladder underneath the base of the tank. A riser pipe enclosed by a frost case extends from the ground to the bottom of the tank, while a 3-inch overflow pipe extends from the tank down the length of the northeast leg.

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

***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo or Drawing

P5b. Photo:
View northeast toward the water tower (June 23, 2016).

***P6. Date Constructed/Age and Sources:**
☒Historic ☐Prehistoric ☐Both
Constructed ca. 1931. Source: Chicago Bridge & Iron Works, drawings for Contract No. 2481.

***P7. Owner and Address:**
Downtown Railyard Venture, LLC
3140 Peacekeeper Way
McClellan, CA 95652

***P8. Recorded by:**
Architectural Resources Group (ARG)
Pier 9, The Embarcadero, Suite 107
San Francisco, CA 94111

***P9. Date Recorded:** June 22, 2016

***P10. Survey Type:** Intensive

***P11. Report Citation:**
None; this is a standalone set of DPR 523 forms prepared for the City of Sacramento, Community Development Department, Planning Division in support of the structure's nomination as an individual landmark for inclusion in the Sacramento Register of Historic and Cultural Resources.

***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):

***NRHP Status Code** 3CS
***Resource Name or #** Sacramento Railyards Water Tower

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: water tower
B4. Present Use: water tower
***B5. Architectural Style:** hemispherical bottom water tower
***B6. Construction History:** Constructed ca. 1931.
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** Central Shops Historic District
B9a. Architect: Chicago Bridge & Iron Works
b. Builder: Unknown
***B10. Significance: Theme:** Rail Transportation, Manufacturing, and Repair **Area:** Southern Pacific Sacramento Shops
Period of Significance: ca. 1931 - 1937 **Property Type:** water conveyance **Applicable Criteria:**
Sacramento Register Criteria i (Events), iii (Design/Architecture)
California Register Criteria 1 (Events), 3 (Design/Architecture)

HISTORIC CONTEXT

Development of the Southern Pacific Sacramento Shops

During the rise of the "Locomotive Age" in the mid-nineteenth century, hundreds of miles of railroad tracks were constructed throughout the United States, and the idea of the transcontinental railroad, uniting the country together with a "gigantic sash of iron," took hold. In 1862, President Abraham Lincoln signed the Pacific Railway Act to construct such a railroad traversing the country between the Missouri River and the Pacific Ocean. The act authorized the Central Pacific Railroad (CPRR), which incorporated the previous year, to build the transcontinental tracks from Sacramento heading east across the Sierra Nevada, and the Union Pacific Railroad (UPRR) to build the tracks from the Missouri River heading west. The groundbreaking for the CPRR, which was controlled by its dominant investors—the "Big Four"—Collis P. Huntington, Mark Hopkins, Leland Stanford and Charles Crocker, occurred on January 8, 1863 in Sacramento. (See continuation sheet.)

B11. Additional Resource Attributes: None

***B12. References:** See continuation sheet.

B13. Remarks: None

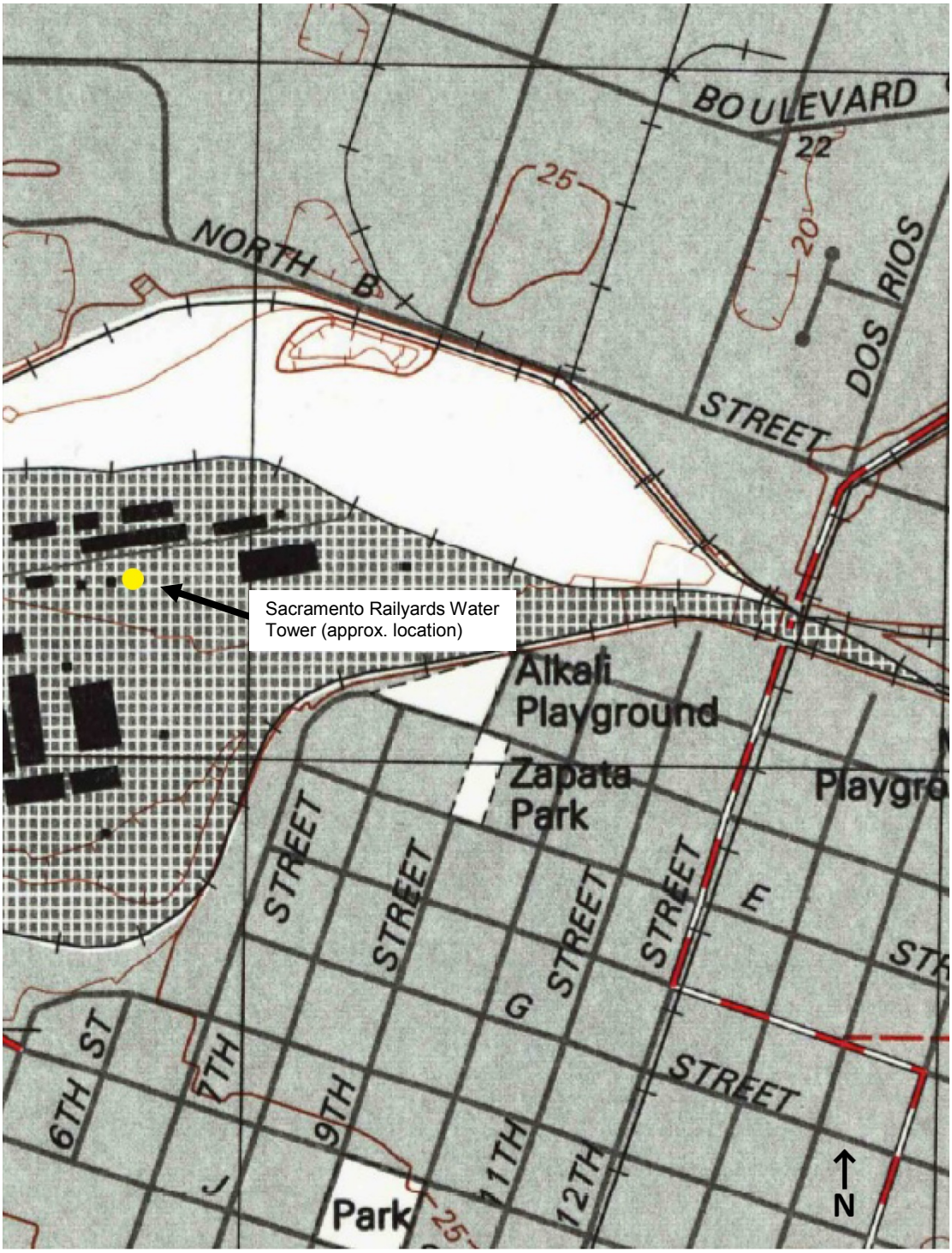
***B14. Evaluator:** Architectural Resources Group (ARG)

***Date of Evaluation:** June 22, 2016

(This space reserved for official comments.)

Sketch Map

(Google Earth, annotated by author)



(USGS Historical Topographic Map Explorer, annotated by author)

Continuation of B10. Significance:

Tracks were laid eastward over the next six years as the Big Four used their extensive political connections to secure advantageous federal land grants and federally funded loans. On May 10, 1839, officials ceremoniously drove the last spike of the Transcontinental Railroad at Promontory Summit, Utah, signaling the completion of the nearly 2,000-mile rail line.[1]

The CPRR quickly established a shop yard at its Sacramento headquarters to manufacture its own rail cars instead of shipping them from the East Coast. The first frame building measured 20 by 150 feet and employed 10 to 12 workers. In 1867 it hired Woolaver and Wilkinson to expand the complex on 30 acres of swampland north of downtown Sacramento; the new shop yard was largely completed by the time the Transcontinental Railroad became operational. It consisted of a roundhouse, machine shop, planing mill, car machine shop, blacksmith shop, a powerhouse, and other structures. The CPRR would be subsumed by the Southern Pacific Railroad (SPRR) empire as the shop yard continued to expand over the next several decades, becoming the largest industrial complex west of the Mississippi River at approximately 200 acres. Within this self-contained complex, employees were able to build, repair, and maintain a wide array of rail cars, including steam locomotives, freight and passenger cars, and cabooses, along with boilers and other parts for Southern Pacific's ferries and a variety of pumps and machines for private and public entities. In 1937, SPRR workers rolled out the last Sacramento-built steam locomotive, having manufactured nearly 200 locomotives at this location.[2]

The extant 100,000-gallon water tower was constructed around 1931[3] during a period of growth in the Sacramento shop yard that began around 1910 and lasted through the 1930s. During these decades, the "Steel City," as it was dubbed locally, more than doubled in size, employed around 3,000 people, and produced an average of 15 locomotives and repaired around 350 locomotives and 800 passenger cars annually.[4] Chicago Bridge & Iron Works designed and manufactured the water tower using standard components, including the 100,000 gallon tank, hemispherical bottom, conical roof, and metal truss legs. The water tower's metal "IXIXIXI" railing at the balcony encircling the tower's base also was a common design feature used by Chicago Bridge & Iron Works engineers.[5] Drawings for the structure state that both the interior and exterior were painted with a coat of Dutch Boy red lead paint followed by a coat of carbon black.[6] Maps of the Sacramento shop yard also indicate that by the 1960s the water tower stood in a parking lot bordered by the fire house and central power plant to the west and long linear storage buildings to the north.[7]

The water tower stored a large amount of water under pressure, thereby creating a constant water supply that supported the daily operation of the shop yard as well as the SPRR's internal fire department. Since its inception, the railyard suffered from devastating, unpredictable fires that spread quickly, causing great destruction to buildings, equipment, supplies, and intellectual property such as patterns. Employees had to be diligent about cleaning and maintaining the buildings and enforcing fire safety rules, and they continually rebuilt destroyed structures using the latest building technology, such as firewalls, fireproof doors, and concrete and transite construction material. By the late nineteenth century, the shop yard had its own fire department, complete with inspectors, inspection guidelines, and equipment. However, a destructive fire in 1898 destroyed the Car Machine Shop and Planing Mill and highlighted the fire system's inadequacies, including the presence of mud in the water supply system that diminished water pressure and flow. Additionally its fire hydrants were not capable of connecting with the Sacramento Fire Department's hoses. Therefore, the City of Sacramento required SPRR to upgrade its private water supply to the municipal water supply system. A subsequent disastrous fire in 1916 later forced the railroad to replace its small pipes with larger ones. Constructed around 1931, the water tower stored a sufficient level of water that would be used for daily consumption as well as

[1] William Deverell, *Railroad Crossing: Californians and the Railroad, 1850-1910* (Berkeley: University of California Press, 1994), 10-15; Kevin W. Hecteman, *Sacramento's Southern Pacific Shops* (Charleston, South Carolina: Arcadia Publishing, 2010), 7-8.
[2] Hecteman, *Sacramento's Southern Pacific Shops*, 7-9; Historic Environment Consultants, *Central Pacific/Southern Pacific Railroad Railyards Historic Property Inventory and Evaluation Report*, prepared for Union Pacific Railroad Company (March 1998), 3-7.
[3] Drawings for the water tower prepared by Chicago Bridge & Iron Works have a date range of 1923 to 1931 indicating the structure was constructed after 1931. Chicago Bridge & Iron Works, drawings for 100,000-gallon Tank & Tower, for Southern Pacific Railroad, Sacramento, California, Contract No. 2481, ca. 1931, on file at the Sacramento State Railroad Museum Library, Box 300.8, ID 28798.
[4] Historic Environment Consultants, *Central Pacific/Southern Pacific Railroad Railyards*, 3-7.
[5] Gregory R. Mathis, *Steel Water Towers Associated with South Dakota Water Systems, 1894-1967, An Historic* Context, prepared by The 106 Group Ltd. and Short Elliot Hendrickson, prepared for South Dakota State Historic Preservation Office, September 2012, accessed June 17, 2016, http://history.sd.gov/preservation/otherservices/sdwatertowers.pdf, 49.
[6] Chicago Bridge & Iron Works, drawings for 100,000-gallon Tank & Tower.
[7] Plans of the Sacramento shop yard, 1965, revised to 1978, and 1971, on file at the California State Railroad Museum Library.

during emergencies, as smaller fires continued to occur at the Sacramento shop yard following the last major conflagration in 1916.[8]

Employment at the SPRR Sacramento Shops peaked during World War II when 7,000 people clocked in daily. However, he railroad company soon met difficulties as it transitioned from steam to diesel powered locomotives and as passenger service declined as more people traveled in automobiles and buses following the war. By 1971, it relinquished passenger traffic to Amtrak and began rebuilding diesel locomotives rather than constructing new cars in an effort to reduce costs over the next two decades. In 1989, the Denver and Rio Grande Western Railroad purchased SPRR, and while it kept operations under the historic name, it transferred repair work from Sacramento to Denver in 1992. Shortly thereafter, UPRR acquired the holdings of the SPRR and formally shuttered the Sacramento shop yard in 1999, thus ending 130 years of railroad manufacturing and repair at this location. Many buildings and structures were demolished, and only the water tower and a complex of eight buildings, including the Boiler Shop, Erecting/Machine Shop, Planing Mill, Car Shop No. 3, Blacksmith Shop, Car Machine Shop, Paint Shop, and privy, remain standing.[9]

Evolution of Steel Water Towers

Water towers serve two key functions within a water conveyance system: they store water ready for distribution and keep the water system under pressure, thereby eliminating the need for continually operating pumps. Since they operate via gravity, water towers do not require a constant source of power. Water towers feature an array of styles, but they generally are wood or metal tanks supported by a brick, stone, or concrete tower; by an open wood or metal trestle; or by a metal or concrete pedestal. The earliest water tanks in the United States date to the early 1800s and were generally constructed with a wood tank with a flat bottom and supported by a heavy timber structure or masonry base. Water towers became prominent components of water conveyance systems nationwide by the late nineteenth century, spurred by the establishment of professional water works organizations and the distribution of trade journals and published articles on advances in water tower construction.[10]

Engineers began revising steel water tower designs in the late nineteenth century, which resulted in the standardization of the traditional steel water tower supported by legs and featuring a streamlined design aesthetic that showcased its structural components. The first all-steel water tower constructed in the United States was erected in Laredo, Texas, in 1893. The following year, the first water tank with a hemispherical bottom was constructed and shortly thereafter improved upon by Horace E. Horton, founder of the Chicago Bridge & Iron Works. By 1905, the all-steel water tank with a hemispherical bottom was the dominant type of water storage structure in the United States, because curved bottoms required less steel and were more watertight than flat-bottomed tanks. Other new steel tank types, such as those ellipsoidal bottoms (which allow for a lower height) or spherical in shape (which were considered more aesthetically pleasing and required less material), and support structures were developed through the 1920s, as engineers sought to increase the capacity and design of steel water towers. By the time the water tower at the Sacramento shop yard was constructed in the early 1930s, steel water towers with vertical shafts and hemispherical bottoms had been erected throughout the American landscape for several decades.[11]

Chicago Bridge & Iron Works

In 1889, Horace E. Horton merged his bridge engineering firm, based in Rochester, Minnesota, with the Kansas City Bridge & Iron Company to form the Chicago Bridge & Iron Works, headquartered in Chicago. The company continued to focus on bridge design and construction but also sought to capitalize on the oil and railroad industries' expanding need for high-capacity liquid storage containers. It quickly gained a reputation for engineering elevated water storage tanks, aboveground storage tanks for oil and other refined products, and other steel structures. In 1894, it began designing and constructing the earliest all-steel water tanks with hemispherical bottoms, and following a nationwide marking campaign, the company became the dominant manufacturer of water towers in the United States. In 1912, George T. Horton assumed control of the company following his father's death, and continued the company's successful path of market domination and innovation, such as constructing the first welded spherical water tank in Longmont, Colorado, in 1939. By the mid-twentieth century, the Chicago Bridge & Iron Works and the Pittsburg-Des Moines Steel were the two primary companies designing and manufacturing steel water tanks in the United States. The former Chicago Bridge & Iron Works currently operates under the corporate name CB&I Industries, maintains its headquarters in The Woodlands, Texas, with other offices and manufacturing facilities worldwide. CB&I Industries employs around 50,000 people who develop and manufacture technology and infrastructure more broadly for the energy industry.[12]

[8] Carolyn Daugherty, LeeAnn Bishop Lands, J. Lawrence Lee, and Camille Vicenti, Historic American Engineering Record, Southern Pacific Sacramento Shops, (Central Pacific Sacramento Shops), (Sacramento Locomotive Works), Sacramento, Sacramento County, California, HAER No. 303 (Washington, D.C.: Library of Congress, 2002), 131-133.
[9] Hecteman, *Sacramento's Southern Pacific Shops*, 119.
[10] Mathis, *Steel Water Towers*, 5, 31-38.
[11] Mathis, *Steel Water Towers*, 31-38.
[12] Mathis, *Steel Water Towers*, 42-43; CB&I, "125 Years of Excellence," accessed June 17, 2016, http://www.cbi.com/Who-We-Are/125-Years-of-Excellence.

SACRAMENTO REGISTER OF HISTORIC AND CULTURAL RESOURCES EVALUATION CRITERIA
To be eligible for listing in the Sacramento Register of Historic and Cultural Resources, the property must be at least 50 years old and meet one or more of the following criteria:[13]

i. It is associated with events that have made a significant contribution to the broad patterns of the history of the City, the region, the state or the nation.

ii. It is associated with the lives of persons significant in the City's past.

iii. It embodies the distinctive characteristics of a type, period or method of construction.

iv. It represents the work of an important creative individual or master.

v. It possesses high artistic values.

vi. It has yielded or may be likely to yield, information important in the prehistory or history of the City, state or region.

Additionally, overall issues related to integrity of location, design, setting, materials, workmanship and condition are considered.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES EVALUATION CRITERIA
The California Register of Historical Resources (California Register) is the authoritative guide to the State's significant historical and archeological resources. It serves to identify, evaluate, register, and protect California's historical resources. The California Register program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for historic preservation grant funding and affords certain protections under the California Environmental Quality Act (CEQA). All resources listed on or formally determined eligible for the National Register of Historic Places (National Register) are automatically listed on the California Register. In addition, properties designated under municipal or county ordinances are eligible for listing in the California Register. To be eligible for listing in the California Register, an historical resource must be significant at the local, state, or national level under one or more of the following criteria:[14]

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

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

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

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

In addition to meeting one of the four criteria listed above, a resource must also retain integrity, which is the "authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance."[15] Since integrity is based on a property's significance within a specific historic context, an evaluation of a property's integrity can only occur after historic significance has been established. To determine if a property retains the physical characteristics corresponding to its historic context, the California Register has identified seven aspects of integrity: location, setting, design, materials, workmanship, feeling, and association.

[13] City of Sacramento, *City Code, Title 17, Chapter 17.604, Historic Preservation*, accessed June 27, 2106, http://www.qcode.us/codes/sacramento/view.php?topic=17-vi-17_604&frames=off.
[14] California Office of Historic Preservation, *California Office of Historic Preservation Technical Assistance Series #6, California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)*, accessed June 27, 2016, http://ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.
[15] Ibid.

SUMMARY OF THE CENTRAL SHOPS HISTORIC DISTRICT

The water tower is associated with, but located outside of, the Central Shops Historic District, which was listed in the Sacramento Register of Historic and Cultural Resources in 2007 for its important role in the construction and initial operation of the Transcontinental Railroad, followed by the subsequent expansion of the railroad nationwide. The historic district's period of significance spans from 1868 when the shop yard was established to 1937 when the last steam locomotive rolled out of the complex. The property was also found to be significant, because it:

> served as the principal shops of the Pacific Lines of the Southern Pacific system between 1868 and 1990, overseeing subsidiary shops from Portland, Oregon, Ogden, Utah, San Francisco and Los Angeles, California; and east to El Paso, Texas, with additional major influence on the shops of the Atlantic Lines through Louisiana and New Orleans. During the first 80 years or so the Central Shops complex was recognized as the largest integrated industrial complex west of the Rocky Mountains, and perhaps west of the Mississippi River. As late as World War II they retained industrial capabilities found nowhere else in the West, such as the ability to produce the giant metal rollers for the wartime Kaiser steel plant in Fontana, California. The Central Shops were by far the largest single employer in the Sacramento region until after World War II, with workers playing a major part in the economic, social, cultural, and political development of the Sacramento region. The shops were a major center for early innovation, invention, and development of railroad and related technologies. Additionally, the shops became an early center for systematic standards, supported by testing, with regional and national impacts.
>
> Chief mechanical officers based at Sacramento, notably A. J. Stevens and his successor H. J. Small, gained national recognition, the former for innovation, the latter for standardization. But on the national scene, the most important personage following the original founders of the railroad was E. H. Harriman, who promoted the Sacramento-originated standards all across his railroad system covering over half the country, and who also instituted major capital improvements across the system including the last major expansion of the core historic shop buildings preserved today. Architecturally, the shop buildings qualify as being representative examples of typical mid-19th century to late Victorian industrial architecture, with some portions rebuilt in the early 20th century. They feature classic samples of decorative and architectural details from their various periods of construction.[16]

STATEMENT OF SIGNIFICANCE

The water tower appears eligible under City of Sacramento Criterion i/California Register Criterion 1 (Events) for the role it played in supporting the operation of the Sacramento railyards by providing a crucial supply of water. With its large storage capacity, the water tower delivered a constant and reliable source of water used throughout the facility daily and during emergencies such as fires. In turn, this allowed the Sacramento shop yard to run continually and efficiently and its employees to manufacture, maintain, and repair steam locomotives and rail cars that contributed greatly to the local, state, and national economy. With the demolition of the majority of the Sacramento shop yard's buildings and infrastructure following its closure by the UPRR, the water tower is a rare structural remnant of one of the nation's largest railroad manufacturing and repair facilities. Therefore, the water tower is recommended as eligible for listing in the Sacramento Register of Historic and Cultural Resources under Criterion i and for listing in the California Register of Historical Resources under Criterion 1 for its association with events that have made a significant contribution to the broad patterns of local, state, and national history.

The water tower also appears eligible under City of Sacramento Criterion iii/California Register Criterion 3 (Design/Architecture) as a distinctive example of an hemispherical-bottom steel water tower from the early twentieth century. It possess the hallmark components of this specific type of water tower, including a cylindrical water tank, hemispherical bottom, conical cap, and metal truss legs. These elements were left exposed rather than enclosed in a brick or wood tower to visually emphasize its structural and engineering design. With its slender form and tall height, the structure is also a visual landmark on the landscape and currently maintains a visual connection with the Central Shops Historic District. While hemispherical-bottom water towers were widely constructed from the 1890s through the 1940s, most have been demolished. Therefore, the water tower at the Sacramento railyards is regarded as a rare example of this type of water tower and as the last structural remnant of the former SPRR heavy repair and manufacturing facility.

[16] City of Sacramento, *Sacramento Register of Historical and Cultural Resources: Landmarks, Historic Districts and Contributing Resources*, updated through August 2015, accessed June 16, 2016, http://www.cityofsacramento.org/Community-Development/Planning/Urban%20Design/Preservation/Sacramento%20Register.

INTEGRITY ASSESSMENT

The water tower retains sufficient integrity to convey its historic significance. The water tower has not been significantly altered since is construction in the early 1930s; it retains its original, cylindrical water tank, hemispherical bottom, conical roof, four truss supports, and central riser. It also retains its original ladder, catwalk, finial, balcony and railing, tie rods, and horizontal set of struts. The most substantial alteration appears to be the removal of the exterior black paint, as indicated in the Chicago Bridge & Iron Works drawings for the structure. Therefore, the water tower maintains integrity of design, materials, workmanship, and condition. It also maintains integrity of location having never been moved. Its integrity of setting has been diminished due to the loss of the majority of the buildings as the Sacramento shop yard. However, the water tower currently retains a visual connection with the Central Shops Historic District, the surviving core of eight buildings that still stand approximately 500 feet southwest of the structure.

CHARACTER-DEFINING FEATURES

The water tower's period of significance spans from ca. 1931 to 1937, which corresponds with the approximate date of its initial construction through the end date of the Central Shops Historic District's period of significance, when the last steam locomotive was manufactured at this facility. The character-defining features of the water tower include the following:

- Riveted steel plate construction
- 100,000-gallon cylindrical tank with a hemispherical bottom and conical roof with a spherical finial
- Metal truss supports reinforced with one set of horizontal struts and tie rods and resting on trapezoidal, board form concrete foundations
- Balcony with metal "IXIXIXI" railing
- Central riser
- Three-inch overflow pipe
- Metal ladder with cylindrical cage and catwalk extending underneath the water tank base
- Tall, narrow form with an approximate 100-foot height
- Visual connection to the Central Shops Historic District

Additional Photographs:

Water tower, view northwest (ARG, June 22, 2016)

Water tower, view south (ARG, June 22, 2016)

Water tower, view northeast (ARG, June 22, 2016)

Detail of the tank, view northeast (ARG, June 22, 2016)

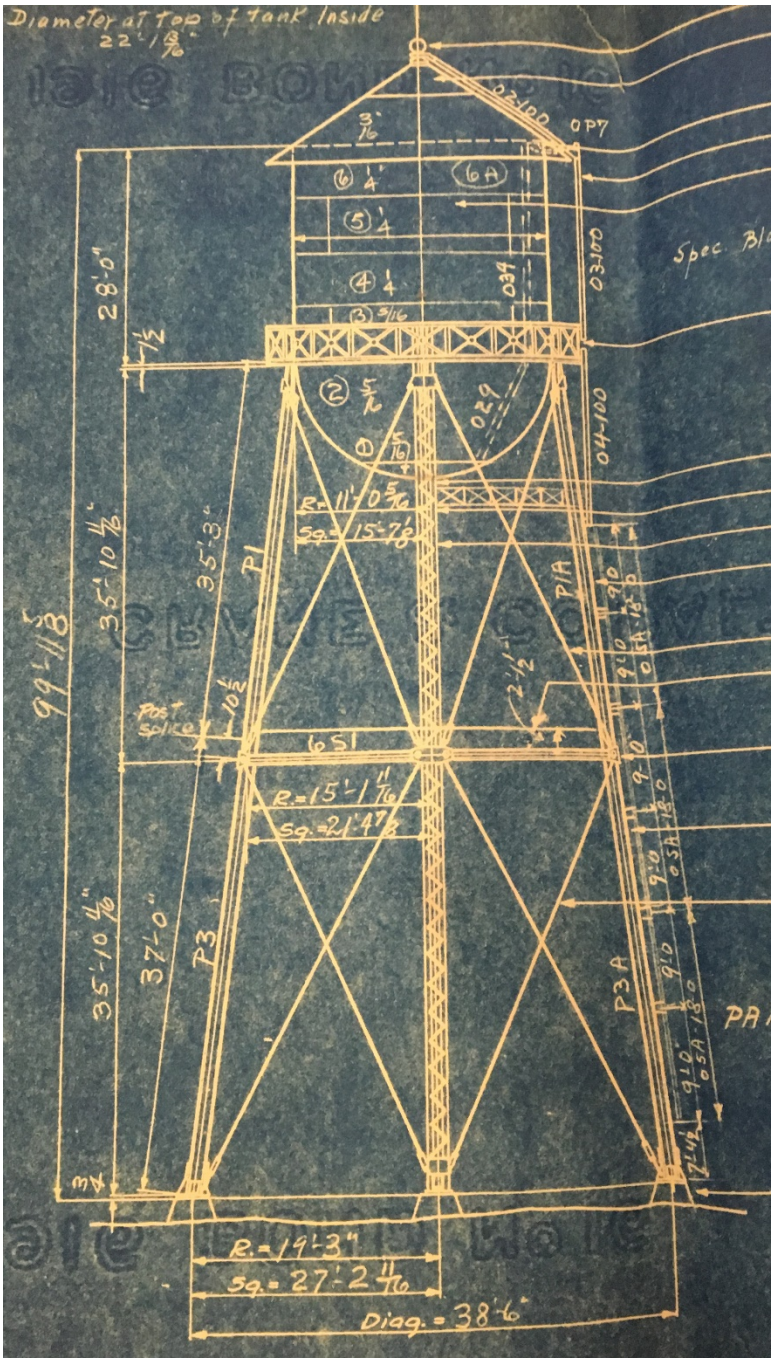
Detail underneath the tank, view southwest (ARG, June 22, 2016)

Detail of the southeast leg (ARG, June 22, 2016)

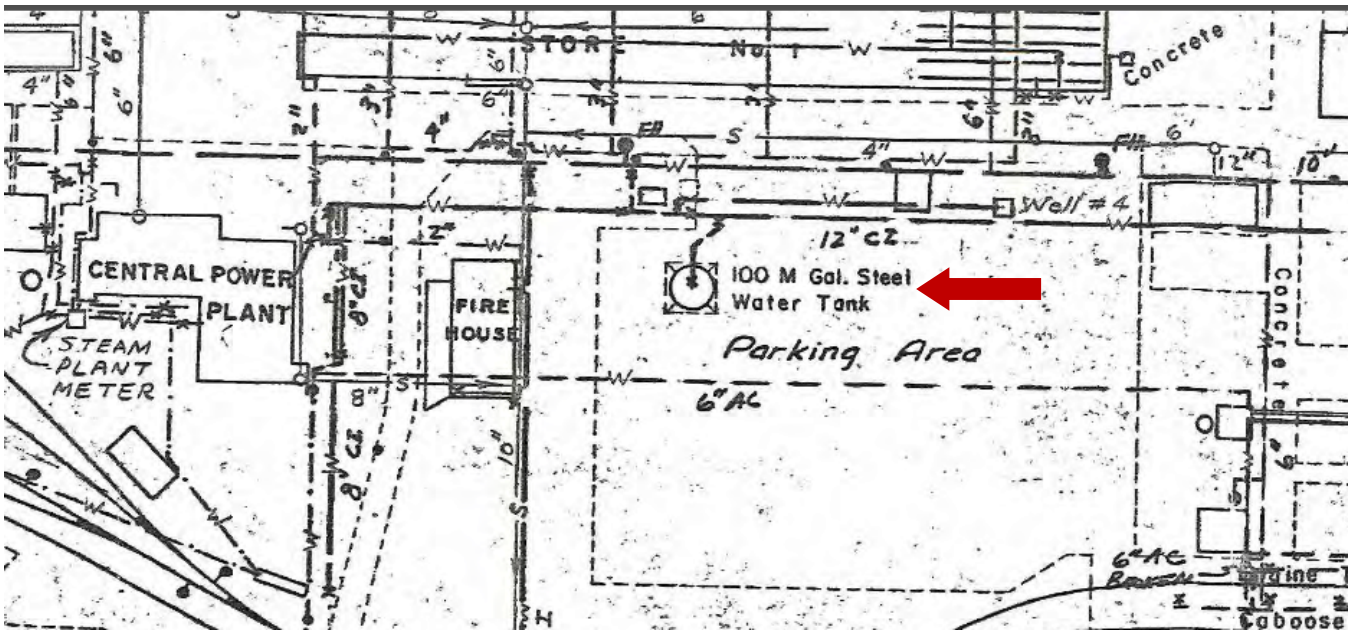
Detail of the concrete foundation of the southwest leg, view southwest (ARG, June 22, 2016)

Central riser pipe extending from the ground (ARG, June 22, 2106)

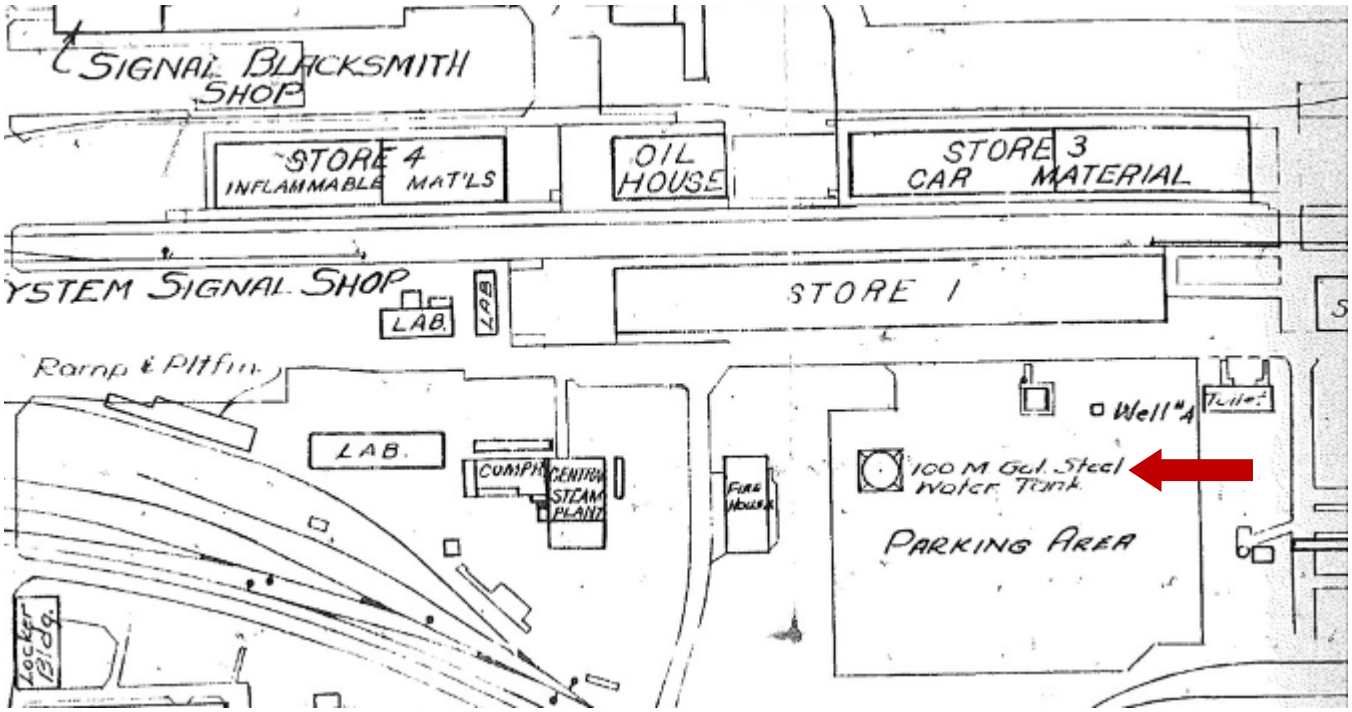
Additional Images:



Drawing of the water tank by Chicago Bridge & Iron Works, ca. 1931
(California State Railroad Museum Library, Box 300.8, ID 28798)



Plan of the Sacramento Railyards, 1965 (revised to 1978); the arrow indicated the location of the water tower
(California State Railroad Museum, annotated by author)



Plan of the Sacramento Railyards, 1971; the arrow indicated the location of the water tower
(California State Railroad Museum, annotated by author)

Photograph of the water tower, ca. 2002, view northeast (Library of Congress, Historic American Engineering Record HAER No. CA-303-J)

Continuation of B12. References:

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Daugherty, Carolyn, LeeAnn Bishop Lands, J. Lawrence Lee, and Camille Vicenti. Historic American Engineering Record, Southern Pacific Sacramento Shops, (Central Pacific Sacramento Shops), (Sacramento Locomotive Works), Sacramento, Sacramento County, California, HAER No. 303. Washington, D.C.: Library of Congress, 2002.

Deverell, William. *Railroad Crossing: Californians and the Railroad, 1850-1910.* Berkeley: University of California Press, 1994.

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Mathis, Gregory R. *Steel Water Towers Associated with South Dakota Water Systems, 1894-1967, An Historic Context.* Prepared by The 106 Group Ltd. and Short Elliot Hendrickson. Prepared for South Dakota State Historic Preservation Office. September 2012. Accessed June 17, 2016. http://history.sd.gov/preservation/otherservices/sdwatertowers.pdf.

Attachment 3: Recommended Ordinance

(See next page.)

ORDINANCE NO. ___

Adopted by the Sacramento City Council
Date Adopted

LISTING THE SACRAMENTO RAILYARDS WATER TOWER LOCATED AT 236 5TH STREET WITHIN THE SACRAMENTO RAILYARDS PROJECT AREA AS A LANDMARK ON THE SACRAMENTO REGISTER OF HISTORIC & CULTURAL RESOURCES

BACKGROUND

A. The city council has found "that significant aspects of the city's rich and diverse historic resources deserve recognition and preservation to foster an understanding of our heritage, and to promote the public health and safety and the economic and general welfare of the people of the city. The preservation and continued use of historic resources are effective tools to sustain and revitalize neighborhoods and business districts within the city, enhance the city's economic, cultural and aesthetic standing, its identity and its livability, marketability and urban character." (Sacramento City Code section 17.604.100.A.)

B. To this end, the city code provides a mechanism for listing landmarks, historic districts, and contributing resources on the Sacramento Register of Historic and Cultural Resources ("Sacramento Register"). Listing properties on the Sacramento Register helps to maintain and revitalize the City of Sacramento and its neighborhoods by encouraging the use and reuse of historic building and protects buildings and neighborhoods from deterioration and inappropriate alterations, all of which enhance the City's economic, cultural, and aesthetic standing.

C. To be listed as a landmark on the Sacramento Register, the city council must make the findings required by section 17.604.210.A of the city code.

D. The Sacramento Railyards Water Tower located at 236 5th Avenue (APN # 002-0010-056-000) (referred to as the "Water Tower" or the "resource") is eligible for listing as a landmark on the Sacramento Register because it satisfies the following requirements:

1. (Criterion i) The Water Tower is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation (City Code section 17.604.210.A.1.a.i) – The Water Tower played a role in supporting the operation of the Sacramento railyards by providing a crucial supply of water. With its large storage capacity, the Water Tower delivered a constant and reliable source of water used throughout the facility daily and during emergencies such as fires. In turn, this allowed the Sacramento shop yard to run continually and efficiently and its employees to manufacture, maintain,

and repair steam locomotives and rail cars that contributed greatly to the local, state, and national economy. With the demolition of the majority of the Sacramento shop yard's buildings and infrastructure following its closure by the [Union Pacific Railroad], the Water Tower is a rare structural remnant of what was one of the nation's largest railroad manufacturing and repair facilities.

2. (Criterion iii) The Water Tower embodies the distinctive characteristics of a type, period or method of construction (City Code section 17.604.210.A.1.a.iii) – The Water Tower is a distinctive example of a hemispherical-bottom steel water tower from the early twentieth century. It possesses the hallmark components of this specific type of water tower, including a cylindrical water tank, hemispherical bottom, conical cap, and metal truss legs. These elements were left exposed rather than enclosed in a brick or wood tower to visually emphasize its structural and engineering design. With its slender form and tall height, the structure is also a visual landmark on the landscape and currently maintains a visual connection with the Central Shops Historic District. While hemispherical-bottom water towers were widely constructed from the 1890s through the 1940s, most have been demolished. Therefore, the Water Tower at the Sacramento Railyards is regarded as a rare example of this type of water tower and as the last structural remnant of the former SPRR heavy repair and manufacturing facility.

3. (Integrity Considerations) The Water Tower retains integrity of location, design, setting, materials, workmanship and association (City Code section 17.604.210.A.1.b) – The Water Tower retains sufficient integrity to convey its historic significance. The Water Tower has not been significantly altered since its construction in the early 1930s; it retains its original, cylindrical water tank, hemispherical bottom, conical roof, four truss supports, and central riser. It also retains its original ladder, catwalk, finial, balcony and railing, tie rods, and horizontal set of struts. The most substantial alteration appears to be the removal of the exterior black paint, as indicated in the Chicago Bridge & Iron Works drawings for the structure. Therefore, the Water Tower maintains integrity of design, materials, workmanship, and condition. It also maintains integrity of location having never been moved. Its integrity of setting has been diminished due to the loss of the majority of the buildings as the Sacramento shop yard. However, the Water Tower currently retains a visual and spatial connection with the Central Shops Historic District, the surviving core of eight buildings that still stand approximately 500 feet southwest of the structure.

4. The Water Tower has significant historic or architectural worth and its designation as a landmark is reasonable, appropriate and necessary to promote, protect, and further the goals and purposes of chapter of 17.604 of the city code – As explained above, the property has significant historic or architectural worth and its designation as a landmark is reasonable, appropriate and necessary to further the goals of the city's preservation program to preserve the City's rich and diverse historic resources.

E. The factors in section 17.604.210.A.2 of the Sacramento City Code, which are to be considered when determining whether to list a nominated resource on the Sacramento Register, are inapplicable to the Water Tower.

BE IT ENACTED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

SECTION 1.

The city council hereby finds the following:

A. The Water Tower is eligible for listing as a landmark on the Sacramento Register because it satisfies the following requirements:

1. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation (City Code section 17.604.210.A.1.a.i);

2. It embodies the distinctive characteristics of a type, period or method of construction (City Code section 17.604.210.A.1.a.iii);

3. The resource has integrity of location, design, setting, materials, workmanship and association when judged with reference to the first requirement (City Code section 17.604.210.A.1.b); and

4. The resource has significant historic or architectural worth, and its designation as a landmark is reasonable, appropriate and necessary to promote, protect and further the goals and purposes of this chapter (City Code section 17.604.210.A.1.c).

B. The city council has considered the factors in section 17.604.210.A.2 of the city code and determined they are inapplicable to the Water Tower.

SECTION 2.

The Water Tower is hereby listed on the Sacramento Register as a landmark.

SECTION 3.

In accordance with section 17.604.220.C.2 of the city code, the following are identified as significant features and characteristics of the resource:

1. Riveted steel plate construction
2. 100,000-gallon cylindrical tank with a hemispherical bottom and conical roof with a spherical finial
3. Metal truss supports reinforced with one set of horizontal struts and tie rods and resting on trapezoidal, board form concrete foundations
4. Balcony with metal “IXIXIXI” railing
5. Central riser
6. Three-inch overflow pipe
7. Metal ladder with cylindrical cage and catwalk extending underneath the water tank base
8. Tall, narrow form with an approximate 100-foot height
9. Visual relationship to the Central Shops Historic District
10. All metal parts painted, in either one or the other color: primer – international orange; finish – black.