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United States Department of the Interior
National Park Service

National Register of Historic Places Multiple Property Documentation Form

This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900-a). Type all entries.

A. Name of Multiple Property Listing

Light Stations of California

B. Associated Historic Contexts

Maritime Transportation in California, 1840-1940

C. Geographical Data

State of California

☐ See continuation sheet

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.

Kathryn Gualtieri — 11-5-90
Signature of certifying official — Date

California Office of Historic Preservation
State or Federal agency and bureau

I, hereby, certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

for See letter dated 7/22/91 Entered in the National Register — 9/3/91
Signature of the Keeper of the National Register — Date

for federal Pres. officer signature

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

MARITIME TRANSPORTATION IN CALIFORNIA
1840-1940

The history of California is intertwined with its history of maritime exploration, settlement, and commerce. From its European discovery by the Spaniards, California and its history have been strongly influenced by its strategic location on the Pacific Ocean. Because of the 19th century's dependence on ships and water transport, California, by its very location, became the crossroads for man's conquest of new frontiers. California's maritime heritage is the record of its contribution to the opening up of the Pacific coast and, indeed, all of the lands of the Pacific Ocean.[1]

The rise to world prominence in less than a century attests to California's phenomenal opportunities and resources. Much of this rapid development can be directly attributed to the state's early dependence on, and its exploitation of, maritime resources and maritime commerce. This is no less remarkable when one considers that California's shoreline is, in many ways, very inhospitable. For the early settlers the most noticeable difference between the East Coast and the coast of California (and indeed of the entire West Coast) was the latter's lack of natural harbors. In the 1300 miles between the Mexican and Canadian borders, only San Diego, San Francisco, and the Strait of Juan de Fuca provided natural harbors sufficient to ride out a winter storm.[2] In addition, the rocky, irregular coastline abounded with unmarked dangers in the form of reefs, ledges, offshore rocks, islands, and spectacularly tall points of land jutting far out into the surrounding ocean. Navigation was further hampered by frequent ocean fogs (especially in the summer) and destructive Pacific winter storms. The fact that California has spawned three major world seaports and a host of minor ones in spite of these shortcomings, attests to the extraordinary dynamism that has occurred in the state in such a relatively short period of time.

The Pre-American Period

The first residents to utilize the sea in California were the Native Americans. The sea provided a bounty of food for the coastal tribes, and a means of transportation for the fledgling Paleo-Indian trading economy. A number of trading port villages served to exchange goods between coastal populations and those located further inland. In Southern California, for instance, traders would come to the coast from as far away as Arizona, bringing pottery and turquoise to exchange for steatite, abalone shell, asphaltum, and other coastal products.[3]

The Spanish period in California began in 1542 with the voyage of Juan Cabrillo. Cabrillo and his men sailed north from Navidad, Mexico in search of the fabled route to the Atlantic. The expedition reached as far north as the Russian River and then, after the captain's death, it continued northward to the present California-Oregon border.[4]

Thirty-five years later, an Englishman, Sir Francis Drake, landed in California as a result of his raids on the Spanish galleons from Manila to Mexico.[5]

In 1602, a second Spanish expedition led by Sebastian Vizcaino sought out safe harbors for the galleons. The Bay of Monterey was located and plans made to colonize it.[6] The lapse of 60 years between Cabrillo and Vizcaino, and of another 167 years later between Vizcaino and actual Spanish settlement of California, illustrates the isolation of, and the relatively low regard the leaders of New Spain had for, California.[7]

In 1812, the Spanish claim of exclusive right to settlement of California was challenged by the establishment of a Russian-fortified village on the Sonoma Coast north of San Francisco. Fort Ross, as it was called, had several purposes. It was intended

[X] See continuation sheet

to produce food not only for itself but for the company's operation in Alaska; to serve as a headquarters for the hunting of sea otter in Northern California waters; and also to serve as a possible station of trade with the Spanish California settlements.[8] The venture was not a successful one and was abandoned in 1841.

The Mexican period in California (1821-1848) saw that country even less able than Spain to concern itself seriously or effectively with the distant northern region. Throughout this period, American traders, trappers, and settlers were infiltrating the province. In 1821 the Mexican revolutionary regime opened the ports of San Diego and Monterey to foreigners. Soon yankee ships were anchored along the California coast exchanging New England manufactured goods for hide and tallow from the great California ranchos. Most of the hide depositories had inadequate harbors and the ship had to be anchored as much as three miles offshore. Sailors loaded the cargo into small off-shore boats by walking through the surf with the hides held over their heads. A hide would spoil if it got wet. The hide and tallow trade was significant not only because it influenced the economic history of California and New England, but also because it increased the interest of Americans in a distant region with great potential.[9]

Throughout the Mexican period, both the United States and Great Britain had been vying for acquisition of a port in California. The United States felt it imperative to have a foothold on the Pacific to help preserve its westward expanding territory. A Pacific squadron of the Navy had been established in 1821, but with no port to base it in. Mexico steadfastly refused to relinquish any port territory to England or the U.S. Given this stalemate, both the British and the American navies were deployed off the Pacific Coast during the 1840's so as to deter each other from taking California by force. In 1840, the U.S. declared war on Mexico and during the course of the war American military forces occupied California. On June 7, Commodore Sloat sailed into Monterey Bay and raised the American flag with nary a shot being fired. The next day he sailed into the village of Yerba Buena (soon to be San Francisco) aboard the Portsmouth and proclaimed that settlement for the U.S. as well. By mid-July the American flag flew over every port city in California. With the U.S. Navy in control of the California coast and port cities, the chances of Mexican resistance to the occupation was extremely limited. Within 6 months all hostilities were over, and in May 1848 the Treaty of Guadalupe Hidalgo ceded California to the United States.[10] The Navy wasted little time establishing its influence in the area. A base was

established on Mare Island in San Francisco Bay and the fleet was expanded to eight ships.

The Gold Rush and the Clipper Ship

The discovery of gold near Sutter's Mill on January 24, 1848 set in motion the chain of events that became known as the Gold Rush. Starting in 1849 tens of thousands of people from all over the world poured into the mining fields of the Sierra Nevada. Although many later would arrive by land, the sea routes drew the heavy traffic in the first months of the great rush in the winter and early spring of 1849 because they were open year round. Before 1849 the Cape Horn route had been the most traveled one, but it covered a distance of about 18,000 nautical miles and took 5 to 8 months, and thus the Panama shortcut suddenly became more attractive to thousands who feared that all the gold might be gone before they could arrive. Early in 1848 the federal government had contracted with the newly formed Pacific Mail Steamship Company to deliver mail from New York to Panama and from Panama to Astoria. The first of these new ships, the California, left its dock in New York on October 8, 1848.[11] By the time it had gone around the Horn (the first American steamship to do so) and arrived in the Pacific port of Panama, word of the gold rush had spread and seven hundred eager gold seekers were clamoring for passage. On February 28, 1849 the California became the first American steamship to enter the Golden Gate. The Pacific Mail Steamship Line continued to provide regular mail and passenger service to San Diego, Monterey, San Francisco, and Astoria until 1867. During most of 1849 the average time from New York to San Francisco by this route was 3 to 5 months, though by 1850 increased service in the Pacific had reduced it to 6 to 8 weeks.[12]

Of the gold seekers who chose to travel around the Horn, many were organized in joint stock companies, both for the voyage and in the expectation of working together in mining operations after their arrival. These companies usually purchased old ships, which they supposed they could sell in California. Actually, most of these vessels joined the fleet of several hundred hulks that were abandoned to settle gradually into the mud of San Francisco Bay. The removal from service of the hundreds of obsolete old vessels, at the same time that the Gold Rush was stimulating the building of the clipper ships, made the early 1850's the golden age of the American merchant

marine.[13]

The new California clippers were designed to carry premium freight at maximum speed.[14] The clipper ships had been developed in 1844 for the tea trade with the Orient (the China clipper). However, soon after the Gold Rush the emphasis shifted to developing clippers for the California trade. Because no one knew how long the gold would last, everyone wanted to get there as soon as possible. Shipyards from New York to Maine competed in turning out the fastest and largest ships.[15] In 1851, the maiden voyage of the Flying Cloud set a record of 89 days from New York to San Francisco, a record that no other sailing ship has broken until 1989.[16]

Just as rapidly as the clippers ascended to the peak of dominance in maritime commerce, demand for them ceased as the gold fields worldwide declined. Overinvestment and overbuilding by eager shipbuilders resulted in major financial losses for the American shipbuilding industry. Further adding to their decline was the completion of the Panama Railroad over the isthmus. Serviced by steamship on both the Atlantic and Pacific, the railroad cut shipping time by about 60 days by even the fastest clippers.[17]

Ocean-Going Commerce

Sailing Ships

Following the Gold Rush period (1849-1855) there began a depression in the country in 1856. The discovery of the Comstock lode in 1859 bolstered the local California economy, but before the country could fully recover, it found itself immersed in the Civil War. Because of its isolation, California was relatively untouched by the war and was able to recover more quickly than the rest of the country. The completion of the transcontinental railroad in 1869 ended California's isolation. This shrunk coast-to-coast travel time from months to days. The building of the railroad from the West toward the East by the Central Pacific Railroad required massive shipments of machinery and iron rails from the Eastern United States using ships. It is ironic that the ships that brought the railroad equipment were, in effect, putting themselves out of business, as the railroad cut coast-to-coast shipping times so drastically that only the low priority, non-perishable, bulk cargoes--which could be transported more cheaply by ship, were left to the oceangoing trade.[18]

The main foreign exports from California during this period were

grain and lumber, while coal and iron products became the imports.[19] During and after the Gold Rush, cattle ranching had provided California's largest share of exportable products. A disastrous two-year drought from 1862 to 1864, however, decimated the herds and the industry. Beginning with the crop year 1866-1867, a generous rainfall made possible the discovery of the potentialities of dry land grain farming. It was an ideal crop for wide, flat valley lands in a time of distant markets and a sparse rural population with limited capital. For about 30 years, from the early 1860's until the Panic of 1893, wheat was California's largest and most profitable agricultural commodity.[20]

Grain farming was especially well suited to the Sacramento and San Joaquin Valleys, but it flourished in many coastal valleys as well. During this period, for instance, Ventura County was a prime wheat growing region and Port Hueneme was a prosperous grain moving port. Many agricultural artifacts from this period can be viewed today in the outdoor display area of the Ventura County Museum.

As California grew rapidly during the latter half of the 19th century, her needs for manufactured goods to support her burgeoning agricultural industry as well as her rapidly expanding population made her a major focal point of foreign trade. An abundance of surplus grain and other agricultural products developed. This in turn led to the need for even more machinery, cement, steel rails, coal, and guano to help grow and transport those farm products to market. These bulk cargoes were ideally suited to sailing ships, where economy rather than speed of shipment was most important. Hoping to stay competitive with the rapidly developing (and faster) steamship, the sailing ships of, first, iron, and later, steel, were designed to be larger than their clipper ship predecessors.[21] This class of sailing ship has become known by several names. "Down-Easters," or "Four-Posters" were common names as was the term, "Cape Horner" (as they were specifically designed to overcome the stormy conditions involved in sailing around Cape Horn). But the term that has persisted the longest and that conjures up the most romantic associations is that of the "Windjammer." Today, two of these tall-ship windjammers are preserved in California as floating museums: the Balclutha in San Francisco, and the Star of India in San Diego.

After California began producing large quantities of exportable grain, the question arose as to just who would carry and distribute this valuable product to the national and international market. After the Civil War was over, the American merchant marine had to begin

anew. Some of the famous clippers had been sunk by confederate raiders, along with most of the whaling fleet. Many fine ships had been sold abroad to lessen the risk of capture. The American ocean-going fleet was not rebuilt to any great degree. Entrepreneurial money went into foreign shipping or into the railroads and the development of the American West. From carrying 72% of our foreign trade in 1861, our country's share of deep sea commerce declined to 6% in 1898.[22] The bulk of our foreign trade was carried in foreign ships, primarily British.[23]

In 1881 when British domination of bulk cargo trade reached its peak, a total of 345 out of 559 ships docked in San Francisco that year were British. Only 149 were American. The other 65 were German, French, Norwegian or Italian.[24] The routing of the ships was highly efficient. Ships would load general cargo from England for Australia. From Newcastle, Australia a load of coal was shipped to San Francisco. There, a shipment of grain consigned to Liverpool, England, was loaded. As the grain was in transit it was sold to bidders in England, Germany, Belgium or Holland for delivery to the highest bidder. California's wheat was in great demand in Europe during this era as its hard texture allowed it to be transported with little damage and yet be ground into a flour superior to that available elsewhere.[25]

Trans-Pacific Steamships

By 1890 the grain export trade in California had begun to wane as increased competition developed from other grain growing areas of the world. Increased irrigation in California also allowed other, more diversified crops, to be grown to satisfy the growing domestic market.[26] While maritime commerce with Europe therefore ebbed, a new maritime commerce was developing with the Orient. Trade pacts with China, Japan, and the Hawaiian Islands, as well as the development of Australia, New Zealand, the Philippines, and other Pacific Islands, led to a boom in trade across the Pacific Ocean. Because of its location, San Francisco rapidly became the hub of this Trans-Pacific maritime commerce.

From 1870 onward new developments in steamboat technology further stimulated Trans-Pacific trade. In the 1870's and 1880's, over 20 steamship lines serving the Pacific were founded. Six American companies were started--five of them based in San Francisco. The American lines thrived as they became extensions of the

transcontinental railroad, allowing shipments of mail and goods to places inaccessible by rail. Besides the pioneer Pacific Mail Steamship Company, which began trans-Pacific service in 1867, there was the Occidental & Oriental Steamship Company, founded in 1875 by the Central Pacific and Union Pacific Railroads.[27]

After a reciprocity treaty with the Hawaiian Islands was signed in 1876, the Oceanic Steamship Company was founded by the Spreckels family--pioneer sugar barons from the islands. The company also served Australia in competition with Pacific Mail. Other lines in operation included the Planters Line and the Matson Navigation Company.[28]

A number of international developments occurred in the 1890's that would spur further development of trans-Pacific maritime commerce. First, the United States annexed the Hawaiian Islands in 1897. Following the Spanish-American War in 1898, the U.S. acquired Guam and the Philippine Islands. In that same year, gold was discovered in Alaska, causing a new stampede of gold seekers. China and the U.S. signed new treaties, opening two new ports in Manchuria to world trade. Korea also became a U.S. trading partner. These events would assure a thriving trans-Pacific trade for San Francisco well into the 20th century. The era drew to a close during World War I when most of the ships of the Pacific coast were sold to the U.S. government, ending up as transports either across the Atlantic or in the English Channel.[29]

The first World War gave rise to the greatest shipbuilding spree the country had ever seen. The federal Emergency Fleet Corporation was formed to procure and build new ships for the war effort.[30] After the war was over, the government eventually sold off its fleet of new ships to private enterprise at bargain prices. Many shipping lines got their start or greatly expanded their operations in this manner. The Dollar Steamship Line, forerunner to the American President Lines, was able to begin around-the-world service. Likewise, Admiral-Orient Lines, predecessor to the American Mail Line, was able to expand its fleet quickly.[31]

The prosperity of the 1920's, stimulated by the Panama Canal and extensive development around the Pacific in Australia, New Zealand, Western Canada, Alaska, the Philippines, and Hawaii, created an atmosphere in which steamship travel reached an all-time high. Large, luxurious lines could be boarded from Los Angeles, San Diego, and San Francisco for major ports throughout the world. The late 20's saw another surge in building of trans-pacific liners as companies

endeavored to stay competitive. The new lines were larger and more luxurious than any before them.[32]

The 1930's marked the end of much of the shipping business. The continuing depression, the development of the automobile, the bus, and the Pullman railcar, all had their effect. Within the business, labor unrest created an uncertainty for sailing schedules. Trans-Pacific commerce continued but its days were numbered as World War II approached.

Coast-Wise Transport

In the late 19th century, San Francisco was the acknowledged center of ocean-going deep-water commerce on the West Coast. It was also the hub of coast-wise shipping interests as well. In 1879 the San Francisco Journal of Commerce stated the "The City of San Francisco with its magnificent harbor and central position...has no rival in commercial relations, and whatever other cities there are all pay her tribute. The coast-wise voyages, both north and south, all begin and end here."[33] There was no north-south rail connection in California until 1887 and many coastal communities were not connected by interior roads until well into the 20th century. Many communities and regions were therefore totally dependent on water transport and San Francisco for their entire livelihood. Many "ports" of the time were merely landings that serviced the surrounding agricultural or lumbering region. The San Francisco Journal of Commerce stated that "every little chute, roadstead, or landing sends its products to and receives its supplies from San Francisco, dealing with no other place and having no other connections."[34] For the most part, the north coast sent San Francisco its lumber, to be distributed elsewhere, and the south sent up its wool and produce. Fisheries and canneries were located everywhere and steamboat passenger service was provided throughout the coast as well. Most bulk cargo transport was done by sail as this was considerably cheaper than the faster but more expensive steamboat. In the summer months, northbound, coast-wise sailing craft stayed far offshore to avoid the strong southern current. Southbound sailings hugged the shoreline to take advantage of this same current. In the winter, this sailing pattern reversed itself as the southerly current became a northerly one.[35] Many lighthouses and fog signals were established in the late 19th and early 20th centuries to aid in the coast-wise maritime activity.

Lumber Schooners and Dog-Hole Ports

After 1850, due to the great demand for lumber, sawmills began springing up all along the Pacific Coast. This was especially true of the "Redwood Coast," roughly northern Marin County north to southern Oregon. Since there were no railroads or highways to the region for many years, the lumber was totally dependent on water transport to reach its markets. This presented a problem as the only suitable harbors were located at Humboldt Bay and Crescent City. The scenic northern California coast with its steep cliffs and picturesque coves, presented great obstacles in developing a sea-going economy. Nevertheless, in the latter half of the 19th century close to 100 landings and small ports were developed between Sonoma County and the Oregon border.[36] Most of these "dog-hole" ports were located in coves so narrow that, supposedly, only a dog could turn around in them (or, as another theory goes, coves so narrow that only an experienced "sea-dog" sailor would dare enter).[37] Many were too narrow to permit any docking at all. In these cases, ships were moored offshore and ingenious devices such as chutes, pulleys, and wires were used to load cargo. The shipping season was primarily in the summer months, as no captain wanted to find himself in a doghole port during a winter storm. If a storm should occur, the captain would often take the boat out to sea and "ride out" the storm. If he could not do this fast enough, the ship would inevitably crash against the rocks and reefs and be destroyed. Between 1865 and 1905, 184 shipwrecks occurred at the doghole ports.[38]

To meet the needs of these doghole ports, a specific type of ship--the lumber schooner--was developed. This was usually a small two-masted vessel fitted with fore and aft sails. Short in length, wide of beam, shallow in depth, and possessing great maneuverability, they were the answer to the many problems presented by the tiny doghole harbors. The smallest schooners usually carried a crew of four men while vessels of 100 tons had 6 or 7 on the payroll. As the 19th century waned, sailing schooners were gradually replaced with steam schooners which were then replaced by the railroad and truck. Ports became consolidated until gradually there were no doghole ports left. When lumber is transported by sea today, it is either by tug-towed barges or by huge diesel-powered tramps.[39] Many communities on the North Coast today got their start as dog-hole ports. Many more early dog-hole communities have vanished, however, as 20th century technology displaced their economic reason for being.

Passenger Steamships

Steam service was expanded in the latter quarter of the 19th century to provide fast, efficient passenger service to all areas of the coast. Prior to 1875, the very existence of the majority of coastal towns depended entirely on sail. Schooners brought in passengers, freight, and everything needed. They departed with lumber, wood products, farm produce, sometimes fish and game, and always passengers. As steam service became more available to more parts of the coast, passengers, produce, and livestock, were more likely to be transported by this faster means of transportation. Sailing ships maintained their place in coast-wise shipping, however, by providing inexpensive transport for durable, bulk cargo items. In 1879 the San Francisco Journal of Commerce noted that "canvas retains its supremacy in carrying trade in this part of the world."[40] It conceded, though, that passenger service was being increasingly met by steam. It also noted the steam service south of San Francisco was "more general, as many places to the north were never visited although there are more ports."[41]

The first steam-powered passenger service was provided during the Gold Rush by the aforementioned Pacific Mail Company line from Panama to Astoria, Oregon. While only three stops were made in California--San Diego, Monterey, and San Francisco--this was gradually expanded by this and other companies. The Pacific Mail changed its operation in 1867 to service only trans-Pacific routes.

The Pacific Coast Steamship Company came to dominate coast-wise passenger service in much the same way that the Southern Pacific came to dominate railroad interests.[42] The company had its beginning in 1860 when two partners purchased a barge and transported fresh water from a spring near Sausalito to ships anchored in San Francisco Bay. By 1872, the rapidly growing company had a capital stock of $2,000,000 and 18 vessels--15 of which were steam. The company became known for providing fast, efficient service, and for sailing up-to-date, well maintained vessels. In 1883, Sir Charles Russell, Chief Justice of England, remarked that "the Queen is a very fine and very fast ship. It is no exaggeration to say that expense and ingenuity have not been spared in making her the most luxurious boat I ever saw."[43] In 1913 the company's new $1,000,000 Congress was the largest coast-wise steamship ever built in America. Not all coast-wise travel was done in luxurious style, however. There were many ships that provided only cramped, austere quarters on boats that listed and swayed to every

stop along the way.[44]

Steam passenger service along the California coast reached its peak in the 1890's. This has sometimes been called the "Golden Age of Steamship Travel." Fully 20 ports were served as general passenger and cargo stops. Many communities vied with one another to become great harbor ports capable of docking the largest steamers.[45]

The 20th century brought many changes to coast-wise steam service. In 1916, one year after coast-wise traffic reached its all-time high stimulated by the Panama-Pacific Exposition in San Francisco, Pacific Coast Steamship sold its passenger business to Pacific Alaska Navigation Company to become the newly formed Pacific Steamship Company. For the next 15 years, this company came to dominate coast-wise travel much as Pacific Coast Steamship had done before. Pacific Steamship closed operation in 1936, one of the last coast-wise steamship companies still operating. The depression proved to be the undoing of coast-wise service after lines were weakened by rate wars. Also contributing to their demise was the rise of alternate forms of transportation--the automobile, trucks, buses, and airplanes. The last regularly scheduled coast passenger service was operated by the McCormick Steamship Line. It discontinued service in 1941. Some of the ships became used as transport ships during World War II. Others became used for passenger service in South America.[46]

The Rise of Southern California

Through the 1870's, the main movement of population into California was confined to its north central parts. The Gold Rush, and the maritime economy it spawned, was primarily a northern phenomenon. San Francisco, with its outstanding Bay harbor, acted as the hub city for all maritime activity north and south of the Golden Gate. From the 1880's onward, however, southern California grew at a more rapid rate than did the north. If this growth was not immediately reflected in increased southern maritime activity, it can be most attributable to the lack of natural protected harbors between San Francisco and San Diego. In the 1890's, many southern coastal communities vied to become major ports by instigating massive harbor improvements. Piers, wharfs, and breakwaters were developed to enable usage by deep water steamers. Long piers remaining today from these efforts include those at Santa Monica (Port Los Angeles), San Luis Obispo (Port Harford), and Redondo Beach. Still, some towns had only

a limited number of passengers and a small amount of cargo, making large ship stops impractical. Companies used smaller ships on the routes which were called "narrow gauge" due to their limited access and appeal. Narrow gauge ports included those at Santa Cruz, Monterey, San Simeon, Cayucos, Lompoc, Gaviota, Ventura, Hueneme, San Pedro, and Newport Landing. "Major" southern ports included those at Port Harford (San Luis Obispo), Santa Barbara, Port Los Angeles (Santa Monica), Redondo, and San Diego.[47]

The fight for a deep water port for Los Angeles in the 1890's pitted the City government and the local business community against the all-powerful Southern Pacific Railroad. The railroad interests desired the harbor to be built at Santa Monica. They felt their ownership of the surrounding land would enable them to dominate the new port in much the same way that they dominated the Port of San Francisco. The local business and governmental community, however, wanted no part of Southern Pacific's control. Their preference was for a harbor at San Pedro. In 1898 Congress passed an appropriation for whatever site a board of Army Engineers' survey would select. When the board chose San Pedro, the railroad's Colin P. Huntington managed to secure two more years of delay. Nevertheless, in April 1899, the first bargeload of rock was dumped to begin construction of the breakwater at San Pedro. In later years the breakwater would be extended eastward to protect the combined harbor of San Pedro and Long Beach. The ports benefitted from the opening of the Panama Canal in 19xx, being that much closer to the Canal itself than was San Francisco. Los Angeles surpassed San Francisco as the major port on the West Coast in 1924.[48] The port enabled Los Angeles to grow and become the largest city in California and the second largest metropolitan area in the United States.

Fishing and Whaling

The American whaling fleet was decimated after the Civil War. The whaling industry was also troubled by depletion of the Atlantic schools, and by competition from "mineral" oil (i.e., kerosene) replacing whale oil. These problems were partly resolved by the development of the faster, more efficient "steam whalers" and the relocation of the whaling industry to San Francisco from New England. The first steam whaler, the Mary and Ellen was launched in 1879. Sailing the Pacific for six months, she was able to harvest a cargo

that would have taken a sailing whaler over two years to capture.[49] As demand for whale oil was replaced by demand for petroleum products, whalebone was actually increasing in value toward the end of the century. By 1910, however, the price of whalebone had dropped to 4 cents a pound, thus ending the industry that had made San Francisco the "whaling capital of America" for a quarter of a century.[50]

In the 1880's, great numbers of salmon were discovered along the shores of Alaska, providing the basis for an industry of significant size. Access to the salmon was limited to the summer months only. The processing and canning of the salmon was done at shore stations along the Alaska coast. As there were not enough permanent residents living in Alaska at that time, labor and supplies had to be "imported" from further down the coast. San Francisco became the center of the salmon packers trade. Each summer a fleet of large sailing ships--former clippers, whalers and windjammers outmoded by newer, usually steam, vessels--would leave their winter home in the Oakland Estuary for a season of Alaska canning. The ships served as barracks and floating warehouses, remaining anchored off-shore for the summer. As winter approached, the workers would sail home with a shipload's cargo of canned salmon.[51]

The industry was so prosperous that by the 1890's over a dozen firms were operating salmon fleets. In 1893, the operators formed a cooperative, the Alaska Packers Association, which grew to operate a fleet that sent an average of 80 ships a year to their 14 Alaska canneries. By 1930 the APA had completely converted to steamships.[52] Two remaining examples of ships from this period can be found in California today. Both the Balclutha, docked at the San Francisco waterfront, and the Star of India, docked at the San Diego Maritime Museum, served at least part of their distinguished nautical careers as packing boats for the Alaska salmon fleet.

Ferries on the Bay

In 1852 the Contra Costa Navigation Company established the Fleet Ferry service across San Francisco Bay. Eventually 30 routes would come into existence, all disappearing with the advent of the automobile and bridges.

As shortline railroads were built around the Bay, ferries became an integral part of the transportation system, moving people and cargo from one side of the Bay to the other. As the transcontinental

railroad operated by Central Pacific was extended to Oakland, it too inaugurated ferry service on to San Francisco for its arriving passengers. Ferryboats grew in size and number into the 1930's as some 50 million commuters a year were being carried across the Bay. The Golden Gate and Bay Bridges caused a rapid decline in ferryboat usage. The last commuter service from this era was discontinued in February, 1941.[53]

The first ferry service across San Diego Bay was provided to the newly built Hotel del Coronado in 1886. Other ferries were eventually added across the Bay. The last ferry service was discontinued in 1938. Development of the San Diego Naval Air Station on North Island in 1929 required expanded ferry service to connect it to the mainland. Three ferries serviced the island until they were replaced by bridge.[54]

California's history is inextricably intertwined with its maritime heritage. The state's early dependence on maritime transportation shaped the course of its development. Later, as other forms of transportation came to play an equal role in shaping its future, maritime resources and maritime transportation continued to be exploited to enhance the state's prosperity and importance in the national and international community. Although the scope of this historical context statement ends in 1940, it should be stated that maritime considerations continue to play a critical role in the on-going development of the state. Maritime influences will especially play an integral role in the unfolding story of California's involvement with the Pacific Rim nations.

ENDNOTES

1. Martin P. Riegel, California's Maritime Heritage (San Clemente, California: Riegel Publishing 1987), iv.

2. "Pacific Coast Harbors" Supplement to the San Francisco Journal of Commerce, Jan. 22, 1879, 1.

3. Joseph Chartkoff, "The Pacific Period" found in James J. Rawls, New Directions in California History (New York: McGraw Hill 1988), 5.

4. Rawls, 12.

5. Riegel, 2.

6. Riegel, 3.

7. Walton Bean and James J. Rawls, California, An Interpretive History (New York: McGraw & Hill, 1988), 17.

8. Ibid, 41.

9. Bean and Rawls, 58.

10. Riegel, 9-10.

11. Ibid, 13.

12. Bean & Rawls, 86-87.

13. Ibid.

14. Ibid.

15. Riegel, 16.

16. Bean & Rawls, 87.

17. Alexander Laing, Seafaring America (New York: American Heritage Publishing Co., 1974), 275-278, 296; see also Riegel, 17.

18. Riegel, 29; see also Bean & Rawls, 150.

19. Ibid.

20. Bean & Rawls, 186-187.

21. Riegel, 31.

22. Laing, 300.

23. Riegel, 31.

24. Ibid.

25. Ibid.

26. Bean & Rawls, 187.

27. Riegel, 29.

28. Riegel, 29.

29. Ibid, 45.

30. John and Alice Durant, A Pictorial History of American Ships (New York: Castle Books, 1986), 240.

31. Riegel, 60.

32. Ibid.

33. "Pacific Coast Harbors," a supplement to the San Francisco Journal of Commerce, January 22, 1879.

34. Ibid.

35. Ibid.

36. Walter A. Jackson, The Doghole Schooners (Mendocino: Bear & Stebbins, 1977).

37. Ibid.

38. Ibid, 21, 22.

39. Jackson, 5.

40. Journal of Commerce

41. Ibid.

42. Giles Brown, Ships That Sail No More (Lexington: Univ. of Kentucky Press, 1966), 8.

43. Ibid, 9.

44. Riegel, 46.

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48. Bean & Rawls, 190, 210-219; see also Riegel, 60.

49. Riegel, 29, 36.

50. Ibid.

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F. Associated Property Types

I. Name of Property Type Light Stations

II. Description

The light stations of California embody in both design and materials the technological and stylistic changes of the period 1850-1940. The largest number of light stations were constructed between 1854 and 1910. This was a period of great technological change and innovation. The light stations of California reflect these technological developments in a great variety of ways according to their dates of construction, their specified missions, and their geographic restraints. Examples of technologically innovative structures include Point Arena (first reinforced concrete lighthouse in the nation), Point Reyes, Cape Mendocino (prefabricated iron panel towers), Point Montara (prefabricated steel tower) and New Point Loma (steel skeleton tower).

III. Significance

Significance to Maritime Transportation in California 1840-1940

California's light stations have assumed significant roles in the growth and development of the state's maritime transportation network. Prominently located at important coastal, bayside, or offshore sites, these historic sites present a strong visual representation of the state's maritime heritage and of the aids that made navigation possible.

The development of California as we know it could not have occurred without a maritime transportation network. Prior to the railroad or connecting roads, California was completely dependent on maritime transportation for its connection to the outside world. Even after the transcontinental railroad arrived in 1869, there still was no north-south rail link until 1887. Until roads were adequately developed, many coastside communities were water dependent until well into the 20th century. Coastal California could not have been settled without the ever-important maritime transportation links.

IV. Registration Requirements

California's National Register-eligible light stations possess integrity of workmanship, materials, character, and design, as well as associative significance by virtue of their role in history and in their setting. Based upon association alone, light stations meet the National Register criteria, but additionally, the existence of a functioning complex implies necessary important relationships that are represented in the present day by the remaining buildings and structures of the station.

Historically, California light stations were composed, at a minimum, of a light tower, keeper's dwelling, and a fog warning device. Any number of additional ancillary buildings or structures could be original features (such as a cistern, or barn) or later additions (oil houses).

The minimum necessary requirements to adequately convey the historical function of a light station is the presence of a substantial lighthouse tower that was designed to hold a Fresnel lens, and one or more associated ancillary buildings.

Towers should be "substantial" to distinguish a lighthouse from the many "post beam" type structures that were erected in the late 19th and early 20th centuries. These were merely poles stuck in the ground with beacons stuck on top. They possess neither the necessary historical associations nor the architectural significance

[X] See continuation sheet

[ ] See continuation sheet for additional property types

This time period also saw a rapid turnover of architectural styles in the nation. Nearly every architectural fashion popular in this period is well represented somewhere in a California light station. The state is fortunate to have so many well preserved examples of these period styles remaining. Many structures in light stations have deteriorated or have been torn down over the years, but many remain--often in very good-to-excellent condition. Some remaining structures have been remodeled and some have been stripped of their distinguishing architectural features. But many more exist with a high (or intact) degree of architectural integrity remaining. Every effort should be taken to insure the preservation of these excellent examples of 19th and 20th century marine-related architecture.

The design of the individual buildings in the light stations was usually performed in Washington, D.C. California light stations therefore bear many similarities to light stations constructed elsewhere in the country. But there are often important differences to California light stations as well--both in terms of structure/materials, and in terms of design. To begin with, early lighthouse architects had to contend with geographical, climatic, and topographical features unique to California that were not present in the east. Through a process of trial and error, architects eventually found out what worked well in California and what did not. The first lighthouses, built in the 1850's, were typical Cape Cod structures with a tower rising through the center of the keeper's quarters. No attempt was made to adapt this Eastern design to the particularities of California.

These structures worked well where the geographical setting was similar to New England, as in Point Pinos near Monterey, or Battery Point near Crescent City. But they proved completely ineffective when placed high on a foggy headland as at Point Bonita and Point Loma, or when constructed on the sinking sands of Humboldt Bay. by the 1870's, light station "types" were beginning to evolve in California based on local factors. In addition to the Cape Cod type light, California also had several examples of "Middle Atlantic" lights--tall, slender towers located on flat coastal tables, with relatively little fog. Pigeon Point and Piedras Blancas are excellent examples of this type. The most uniquely California lights, however, were the squat, large-lens structures located on the sides of the major headlands. These land configurations were major hazards and, additionally, marked a turning point in coastal navigation. Powerful First and Second Order

Fresnel lenses were a necessity, but tall structures were not. Remaining examples of this type of light include Cape Mendocino, Point Reyes, Point Sur, and Point Bonita.

Another distinguishing characteristic of California light stations was the presence of landings. Landings were not needed as much in the densely settled East because of the presence of connecting inland roads. In the mid-19th century, California wilderness landings were often the only way to transport people into and out of a light station. Unfortunately, no intact examples of original landings remain in California.

Fog signals also played a greater role in California light stations than in most parts of the East. Many light stations, in fact, had their beginnings as fog signal stations. This was especially true of light stations in and around SF Bay. Remaining examples of fog station turned light station include Point Montara and Yerba Buena Island.

The Washington, D.C. Light House Service architect occasionally gave a purely "California" style to light station complexes. In the 1920's, for instance, the entire complexes at the Point Vicente and Anacapa Island light stations were designed in the locally popular Spanish Revival style. Both of these light stations remain today, their red tile roofs and stucco exteriors largely intact.

Light stations are almost always multi-part structures. The most prominent component of a light stations is, of course, the tower. This is the structure that holds the lens and elevates it to the desired focal plan above sea level. It may be attached to the keeper's dwelling or it may be freestanding. Perhaps the majority of people think of only the tower and keeper's house when they think of lighthouses. But there are many other ancillary structures and buildings in a light station, each playing its own significant role in the operation of the station. Fog signal buildings contained the warning apparatus utilized during fogs, oil storage buildings housed the fuel used in the lamps, barns housed animals and equipment , cisterns collected fresh water for domestic and steam fog signal use, and landings provided what for many is their only connection to the outside world. Not every light station today contains all the buildings that once made up the complex. Enough examples of a variety of building types, though, have survived at different stations to give a representation of the nature of a complete light station complex.

Light Towers

California's light stations utilize towers of various shapes and sizes. They are also constructed of a variety of materials. As has previously been mentioned, the height and shape of a tower was often due to specific locational requirements. Construction material varied, though, depending on such factors as technological innovation and availability of local material. The first ten lighthouses in California in the 1850's were built entirely of brick. The material for the first eight of these--interior lumber and exterior brick--was shipped around the Horn in 1853. The supply boat sunk at the mouth of the Columbia River before all the lighthouses were constructed, however. Supplies were then requisitioned from local sources, based on the original specifications. The combined brick, tapered tower/Cape Cod residence bore no relationship to California conditions or heritage. It was a transplant taken intact from the shore of New England and set down on the wild California coast. Remaining examples of this period include Point Pinos, Point Conception, Point Loma, and Battery Point (Crescent City).

Brick, as a construction material, was used far less often after the 1850's. Out of 26 towers constructed after 1856 only four were made of brick: Pigeon Point (1870), Point Arena (1870), Trinidad Head (1875), and Piedras Blancas (1875). These were each built with a double wall of brick containing an insulating air pocket in the middle. Unreinforced masonry structures are notoriously weak during earthquakes. Although both Piedras Blancas and Pigeon Point have ridden out countless earthquakes with nary a crack, Point Arena was damaged so badly in the 1906 quake that it had to be torn down.

The replacement Point Arena tower was constructed of reinforced concrete--the first light house in the country to be built with this innovative material. A chimney contractor was hired from SF to erect the structure. Its straight, thin tower looks, not surprisingly, like a tall factory chimney (albeit a cleaner, more graceful version). Many reinforced concrete structures were built across the country following the success of Point Arena. Most had a wider shaft than the Point Arena chimney, however. All reinforced concrete lighthouses have straight vertical sides; none has the tapering shaft so familiar with brick and metal plated towers. Remaining examples of free-standing cylindrical reinforced concrete towers include Los Angeles Harbor (1913), Point Vicente (1926), and Anacapa Island (1929). In the 1930's and 40's a number of square, reinforced concrete, modern

styled towers were constructed in Alaska. Port Hueneme lighthouse in California (1942) is identical to these Alaska series concrete towers.

The most common building material of California lighthouse towers was that of wood. In the 19th century California, especially northern California, abounded in high quality, inexpensive, and readily accessible redwood. A total of ten lighthouse towers were constructed entirely of wood. Most of these were attached to wooden keeper's dwellings, but some were freestanding. All used the occasion of wood to display elaborate carvings and scrollwork typical of late 19th century period styles. In 1874 Point Fermin, Port Hueneme (first) and East Brother all were built from identical plans for a fanciful Stick/Eastlake combination tower/residence. Point Fermin and East Brother remain today. In 1890 San Luis Obispo, Ballast Point, and Table Bluff were constructed from equally fanciful, pure Stick-style plans. Only San Luis Obispo remains today. All wooden towers were, by necessity, square and not round structures.

Three lighthouse towers in California were constructed of prefabricated metal plates bolted together at the site. This allowed for fabrication at a distant location and a quick assembly once on the site. This was especially useful when dealing with isolated sites. Cape Mendocino (1868) and Point Reyes (1870) both employ iron plates. Point Montara (1929) employs steel plates.

Two lighthouse towers are constructed of stone. Point Sur (1889) is made from stone quarried on the site. When this station was constructed, it was extremely isolated and Morro Rock, the island-like configuration it sits on, is entirely treeless. Stone became the logical choice for construction. St. George's Reef (1898) island tower is also made of stone. It was quarried on the mainland near Point St. George. Massive stone construction is perhaps the only durable material that would have stood up to the adverse climatic conditions found on this wave-swept, two-acre rock lying 6 miles offshore.

Many lighthouses do not partake of any particular architectural period style found in residential and commercial buildings. They are often designed as utilitarian structures consisting of shaft, lamp room, lens room, and roof. As such, the lighthouse tower is often the least ornamented, most austere structure in the light station complex. There are many exceptions to this rather general rule, however. Many towers were designed to be an integral part of the other buildings at the station. The many fanciful wooden structures, as previously mentioned, exhibit all the stylistic characteristics of the

residential Stick and Stick/Eastlake structures on the site. Likewise the base of the Piedras Blancas and Pigeon Point lighthouses contain many fine masonry Gothic elements and the stone tower at Point Sur is as fine an example of Richardsonian Romanesque as ever graced a midwestern train station.

The lens room of the tower contained the Fresnel lens that directed the light out to sea. The lenses were made of highly polished crystal and were each imported from France. Each light had its own particularly "trademark" signal and color. Lens sizes in California varied from the largest First Order down to the smaller Fifth Order. The largest orders were used to mark capes and headlands, and to provide important navigational information far out to sea. The smaller orders were used to announce the entrance to harbors and to warn against local hazards. Many Fresnel lenses have been replaced over the years with modern aero-beacons. However, some are still operating with the high degree of efficiency that they had when they were installed. Some are still in place, though not operating. Some have been retired to museums and still others are simply missing. And one, the Piedras Blancas lens, is on display at the town square at nearby Cambria--exposed to the elements and would-be marksmen. In addition to their historical significance, the Fresnel lens' multi-faceted crystal configurations make them works of art in themselves.

Dwellings

After the lighthouse tower, dwellings form the most commonly found building type found at a light station. Dwellings were built for the keeper and assistant keeper(s). Any number of sizes, styles, materials, and building configurations were used. Some were built as single family houses, some--particularly for the assistant keepers' families--were built as duplexes and triplexes. As the 19th century progressed into the 20th, the trend was toward providing single family homes for everyone. A 1913 government pamphlet describing the workings of the U.S. Lighthouse Service stressed that "recent practice favors detached houses, insuring greater privacy, and giving better opportunity for yards and gardens."

Some dwellings were attached to the light tower while others were freestanding. Generally speaking, there was a tendency to detach towers and houses at the larger lights to lessen the potential for

fire. There was also a tendency in the East and Great Lakes to provide attached towers/dwellings to lessen the walking distances in the snow. In California, 20 lighthouses out of 39 were built as attached structures. All of the larger, more prominent lights were built as detached structures, however. Today, 14 of the attached tower-residences remain.

The keepers' dwellings were built in a variety of architectural styles in keeping with contemporary national architectural fashions. Nearly every residential style popular in the late 19th and early 20th century is represented somewhere in a California light station. Many residences were torn down in the early 1960's and replaced with modern ranch style houses. Many of the older homes remain, however, often with historic architectural features intact.

The first style of keeper's dwelling to be built in California was the aforementioned Cape Cod residence/tower built in the 1850's. Nine of these brick residences were built, three of which survive today: Point Loma, Point Pinos (Monterey), and Battery Point (Crescent City). The plan of this attached structure was lifted straight out of snowy New England. Those that survived are those that were placed in the most New England settings. Those that were replaced were those inappropriately located in unique California settings, i.e., Point Bonita (high on a foggy headland) or Humboldt Bay (located on sinking sand). Very few brick residences were built after this Cape Cod series of homes.

The next surge of lighthouse construction in California occurred in the postwar period, 1868 to 1875. Twelve light stations were built in this period. The predominant national residential architectural modes of the time were Victorian Gothic and Stick/Eastlake. Each is well represented in remaining dwellings in California light stations. Gothic keepers' quarters can be found at Yerba Buena Island and Point Montara. Both structures have the characteristic high, steep rooflines, multiple cross gables, elaborate gable trim, and massive corbeled chimneys. Curiously, the Yerba Buena Island residence, with its more simplified, symmetrical facade, is more characteristic of the Gothic Revival style found in the East at a slightly earlier time period (1830-1860). This building is perhaps the best preserved keeper's residence of any California light station and presently serves as the home of the Commanding Officer, 12th District Coast Guard. The keeper's house at Point Montara, on the other hand, is more representative of the later, more complicated Victorian Gothic style (1865-1890).

Other late 19th century keepers' quarters include the previously mentioned Stick and Stick/Eastlake style lighthouse/residence combinations and the Richardsonian Romanesque keepers' quarters and assistant keepers' quarters of the Point Sur light station. These latter structures were built of massive stone walls and had the characteristic Richardsonian semicircular arches.

The 20th century saw the construction of many Craftsman, Gambrel Roof, Neo-Classical, and Bungalow style keepers' quarters. Unfortunately, the only remaining examples from this period are the three substantial craftsman dwellings at the Point Cabrillo light station. Two light stations in Southern California--Point Vicente and Anacapa Island--were built in the prevailing Spanish Revival style of the 1920's and 30's. Both stations still contain dwellings of white stucco and red tile roofs.

Some lighthouses built on small islands contained bachelor living quarters inside the light tower. Family housing was provided on shore, but the man stayed in the tower when on duty. Mile Rock and St. George's Reef are examples of combined towers and bachelor residences.

Fog Signal Buildings

Fog was a continuing navigational problem along the California coast, especially in summer when the warm interior air pulls the colder ocean air toward the land. Some light stations, especially in and around San Francisco Bay, were actually fog stations before they were light stations. Fog signals were whistles, sirens, diaphragm horns, or diaphones. The equipment to run the fog signal was housed in a separate building. Most of the early fog signals were steam powered. Maintaining an adequate supply of water for the fog signal steam was sometimes a problem in summer-dry California.

The design of the fog station building shows a remarkable chronological consistency from the first structures built in the 1860's to those built in the early 20th century. They were utilitarian structures and their basic, unadorned appearance reflected their purpose. A few fog station buildings were designed in period styles, however. The fog signal building at San Luis Obispo was designed to relate to the nearby Stick style Victorian light tower/keeper's residence, and the fog signal building at Piedras Blancas is an unusual hybrid of Neo-Classical and Renaissance Revival motifs.

The layout of the fog signal building usually consisted of one large room containing the mechanical equipment and one or more side rooms containing the watch room, tack room, office, or store room. The most common arrangement was to have two smaller rooms, each flanking the central large room on opposite sides. double doors were always found on the front facade, and sometimes on the rear as well. The interior of the central room always contained an open-beam ceiling with exposed trusses. The fog signal buildings were always one-story, peaked roof structures and they were constructed of brick or wood, or in rare instances, stone.

Oil House

In the mid-19th century, whale oil and lard oil were used as illuminants for the lens lamp. Toward the end of the century the much cheaper kerosene (then known as "mineral" oil) gradually came to replace other materials. Kerosene was, however, a volatile fuel. It was necessary to construct a separate, fireproof structure to store the oil drums. The oil houses were built close enough to the tower to be convenient, but far enough away to prevent hazards. Beginning in 1888 the Lighthouse Service began constructing oil houses for new lighthouses and for conversions of existing lighthouses. The conversion process went slowly and was not completed until 1917.

The oil house was usually a small, one-story, rectangular building measuring 12′ x 16′. It was of fireproof construction, usually brick or reinforced concrete, and usually had one iron door. In most of the U.S., the roofs were peaked to shed the snow. However, in California roofs were often flat because many were built of reinforced concrete. The design of oil houses was usually very plain and austere, reflecting the utilitarian nature of their use. Occasionally though, a very stylish oil house emerges, such as the Stick style building at San Luis Obispo.

Barns

Many California light stations were so isolated when first built that all fresh meat and produce consumed by the keepers' and assistant keepers' families had to be produced on site. As time went on and light stations became connected to the outside world by roads,

the need for on-site barns decreased. Most barns have not survived to the present day. Of those remaining, the barns at Point Sur and Point Cabrillo are among the best preserved.

Cisterns and Catch Basins

Assuring an adequate supply of fresh water was always a concern in summer-dry California. Fresh water was needed not only for domestic use but also for the steam-generated fog signals. Finding a water supply on a small rock island was especially difficult. To solve these problems, one or more cisterns with paved concrete catch basins were created. Sometimes the catch basin covered the entire site as at East Brother Island. Cisterns were usually constructed of brick and appeared above ground as domed "igloos." Many were covered with cement in later years. Among the best preserved light station water collection systems are those at Point Sur, Point Reyes, and San Luis Obispo.

Other Buildings

A variety of other structures and buildings were frequently found at light stations. Oftentimes, funicular and incline railways were constructed to haul supplies up from the landing. Neither rail systems nor landings have survived intact to the present day. Another building often found at light stations was the Carpenters'/Blacksmiths' Shop. This was especially important at the more isolated stations. Very few of these have survived. The shop at Point Sur is perhaps the best preserved. Other buildings include storage buildings, sheds (particularly coal sheds), storage buildings, and garages. These buildings vary considerably in their size, shape, and building material.

Physical Condition

California's light stations often occupy some of the most adverse weather locations in the state. Many of these complexes are constantly exposed to moisture and winds which test the endurance of their construction. Documentary descriptions of the stations found in

the Annual Reports clearly reveal the constant process of renewal and upkeep which the various components required. This maintenance was originally performed by the lighthouse keeper. When automation occurred in the 1950's, 60's, and 70's, the removal of the keeper resulted, in some cases, in decreased regular maintenance--especially in ancillary buildings no longer needed for domestic use. In many cases, also, vandals and squatters destroyed significant amounts of property. Today, new uses and new owners are being found for the excess light station property no longer needed by the Coast Guard for navigational aids. In recent years much renovation and restoration work has been occurring in former California light stations.

Physical Setting

An important characteristic of California light stations is their physical setting. Generally speaking, California light stations occupy five kinds of sites: high capes and headlands, low coastal plains and beaches, harbor entrances, islands, and coastal mesas and tables. The shape and size of the light station tower varies according to the specific requirements of the site. Generally speaking, higher elevation sites have short, squat light towers with large, powerful lenses. This configuration characterizes the most typically "California" style light station. Light stations build closer to shore typically have more of the tall, slender, cylindrical towers found in New England and the Middle Atlantic states. Light stations, by their very nature, are usually found in very picturesque settings. In terms of the public's recognition of the beauty and historical association of California's light stations, the importance of the buildings and the physical sites are often inextricably linked.

Aids to navigation played a vital part in this critical maritime link. Powerful first order Fresnel lighthouses were first placed on the major capes and headlands of the state. These points of land also represented major turning points in the state's coastline. These lights were important for all maritime traffic--coast-wise and deep ocean-going. Neither the trans-Pacific commerce, nor the coast-wise passenger and lumber fleet could have subsisted without them.

Another early group of light stations were constructed in and around San Francisco Bay. The Gold Rush of 1849 had produced a virtual maritime stampede to San Francisco Bay. Unfortunately, the Bay was completely unmarked when the first shiploads began to arrive. San Francisco Bay, despite its calm appearance, is in many ways a nautical nightmare. Rocks and islands, reefs and submerged ledges, tricky currents, erratic winds, and frequent fogs all contribute to give the Bay the potential for many accidents. From the beginning, it appeared that the establishment of navigational aids would be necessary to assure safe passage in and out of the Bay. Bureaucratic delay, and the sheer magnitude of organizing a massive construction effort on the other side of an unsettled continent, delayed the establishment of the first light stations for five years. Finally in 1854--many shipwrecks later--the first California lighthouse shone its beacon from atop the Alcatraz lighthouse.

The Gold Rush traffic slowed and finally declined but San Francisco Bay continued to grow and become the maritime hub of California until the mid-20th century. There eventually were light stations built in and around the Bay. Different light stations had different functions and duties. The Yerba Buena Island Light guided the many ferry boats that sailed past its shore. The Oakland Harbor lighthouse announced the entrance to Oakland Harbor. The East Brother light station warned of local navigational hazards and sounded a strong signal through the fog. Each had their own role to play and each operated in concert to insure that the Bay remained safe for water-going transport. Indeed, San Francisco Bay could not have risen to prominence without the aids that made its navigation possible.

Lesser navigational aids along the coast were also important to the livelihood of many smaller coastal communities whose contact with the outside world was often primarily by way of sea. The coastal communities also served as the marketing outlet for the surrounding agricultural regions. The establishment of a safe maritime link with San Francisco, therefore, allowed the development and settlement of vast areas of coastal California. An example of this pattern of

development includes the 5th order light established in Point Hueneme in 1874 which allowed the harbor to begin safely and consistently transporting agricultural products from the surrounding countryside. Soon, Ventura County had become developed as a prosperous grain growing region. The establishment of a light station at San Luis Obispo in 1890 likewise aided in the safe movement of ships in and out of Port Harford. This was instrumental in expanding the economy of San Luis Obispo and in promoting the settlement of the entire county.

Smaller lights established on the north coast were instrumental in allowing that region to develop its lumbering economy. As California grew, the demand for lumber increased. There was no way to get most of the lumber out except by sea. This was complicated by the fact that no suitable harbors existed between Sonoma County and Humboldt Bay. Close to 100 impromptu "doghole" ports were established in Sonoma, Mendocino, and Humboldt Counties. The north coast sea route of the lumber schooners was difficult because of the doghole ports and because the sea route hugged the rocky shoreline. Smaller light stations such as Point Cabrillo, Trinidad, and Punta Gorda greatly aided this effort.

The Panama Canal greatly increased the shipping potential of California. The Anacapa Island Light Station was established in 1912 to aid the expected increase of ships headed through the Santa Barbara Channel between San Francisco and Panama. A larger, more permanent lighthouse tower was erected there in 1931.

The Panama Canal very much aided the development of the southern California ports. Los Angeles overtook San Francisco as the leading port city on the west coast in 1924. The Lighthouse Harbor light (1913), Point Fermin light (1874), and the Point Vicente light (1926) all helped Los Angeles Harbor develop into the maritime commercial giant that it is today.

In sum, the establishment of light stations on the coast of California greatly aided the navigational requirements of maritime commerce and transport. Many facets of the state's economy and many geographical areas within the state could not have been developed as they were without the light stations that made safe maritime transport possible.

of a lighthouse tower. Also, excluded by this requirement would be the various "lens lanterns" that were hung on, or attached to, structures whose primary function concerned other areas of navigational aid. For instance, the Lime Point Fog Signal Station located underneath the Golden Gate Bridge is an outstanding example of a 19th century fog signal station. The fact that it had a small lens lantern hung on one side of it (since replaced by modern lighting) should not place it in the category of "light station," however. The substantial structure requirement would also eliminate the more modern aero-beacons attached to tall poles frequently found as operating replacements for obsolete historical towers. Most of these are presently too modern to be considered for National Register status anyway. In short, future nominations should consider this restriction. No attempt is therefore made to strictly define the term "substantial," as eligible light station towers were designed in many shapes and sizes. However, most exclusions to the substantialness requirement will fall into one of the three aforementioned categories: post beams, lens lanterns, and modern aero-beacon poles.

The requirement that a light tower have been designed so as to accommodate a Fresnel lens serves much the same purpose as requiring substantial structures: it eliminates from consideration those minor lights that are not really light towers. Fresnel lenses used in California were of five sizes: First Order (the largest) to Fifth Order (the smallest). The larger lenses were used to mark headlands and major navigational turning points. The smaller lenses were used to mark harbor entrances and warn of local navigational hazards. Many lenses have been removed from their settings in towers. Others are still in existence and a few are still operating on a daily basis. Although not a requirement of registration, the presence of a Fresnel lens in its original setting greatly enhances the interpretive importance of a light station tower. Where these occur, they may partially off-set any alterations or remodeling that may have reduced the structure's historical architectural integrity.

The requirement that an eligible light station contain at least one associative historical building type is necessary to convey the relationship that existed between the light tower and the supporting small "community" needed to run and maintain it. Typically, these buildings included a keeper's dwelling, assistant keeper's dwelling(s), fog signal building, oil house, and various ancillary buildings (barn, sheds, etc.). Very few remaining light stations contain anywhere near the full complement of surviving buildings

necessary to run the historic station. The mix of remaining building types varies from station to station. The keepers' houses were often the best constructed buildings on the site (after the tower); but these, too, were often the first to be replaced as the whims of architectural fashion changed the relative desirability of different residential styles. While the remaining components of building types are always different, it is important to have at least one structure remaining to show that a station did in fact once exist in conjunction with the light. The presence of additional buildings is desirable from an interpretive standpoint and their presence could serve to partially off-set alterations to the more major components.

The light station tower and associative buildings and structures should be architecturally intact on the exterior, or they should possess a high degree of architectural integrity.

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

The multiple property listing for light stations in California was based on a survey of the extant complexes in the state not presently listed in the National Register, and a thorough study of pertinent documentary materials located in a number of repositories. Each site considered for nomination was visited in person between July and October of 1989. In addition, many sites containing light stations already on the National Register were visited and studied as well. A thorough photo-documentation was made of each site visited. The National Register criteria were applied to each property and a determination of eligibility made on the basis of those criteria in conjunction with an understanding of the historic context.

The integrity of each light station was evaluated with respect to all others in the state and in relation to its particular design, materials, and location. Those that failed to meet the registration requirements as set forth above in part F, section IV, were excluded from consideration for National Register nomination. Altogether, several light stations met minimum registration criteria but were replaced from consideration by other light stations that more fully exemplified the character set forth in the registration requirements. Ten light stations are hereby presented for consideration to the National Register.

☐ See continuation sheet

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☒ See continuation sheet

Primary location of additional documentation:

- ☐ State historic preservation office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: National Archives Record Group 26, Washington, D.C.

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