

HABS No. CA-2406

Grove Street Pier (Charles P. Howard Terminal)
1 Market Street
Oakland
Alameda County
California

HABS
CAL
1-OAK,
23-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**Historic American Buildings Survey
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107**

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Location:

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U.S.G.S. Oakland West Quadrangle (7.5')
Universal Transverse Mercator Coordinates:
10.563350.4183140

Present Owner:

Port of Oakland
530 Water Street
Oakland, California 94607

Present Use:

Break-bulk and general storage
To be demolished 1995

Significance:

The Grove Street Pier, a transit shed with pier understructure, is the oldest surviving municipal port building on the Oakland waterfront. It is one of two pre-World War II port buildings to have survived the Port of Oakland's intensive conversion from break-bulk to container cargo handling. As such, it represents a rare and rapidly disappearing building type on the Oakland waterfront, the break-bulk transit shed. The structure derives further significance from its association with Port of Oakland administration (as an office building) over a 30-year period. As a work of architecture, the Grove Street Pier is characteristic of dockside transit sheds of the early 20th century. Its steel and concrete construction, including the pier understructure, is typical for the period. The embellished facade is a fine example of the once-widespread practice of beautifying utilitarian/industrial buildings. Although most of the structure has been demolished, the remnant is comparable in size and appearance to other prewar transit sheds built by the Port of Oakland.

PART I. HISTORICAL INFORMATION

A. Physical History

1. Date of erection: Construction of the Grove Street Pier extended from December 1926 to June 1928. The sequence of work was as follows: dredging, filling, and principal pile driving (Dec. 1926-July 1927); constructing reinforced-concrete deck (April-Sept. 1927); constructing timber apron (Aug.-Sept. 1927); erecting steel frame (Sept.-Oct. 1927); pouring reinforced-concrete walls and office floors, installing doors and windows, mechanical systems, finish work, track-laying and paving (Oct. 1927-June 1928). The building shell was complete by February 1928, and the facility was first placed in operation in April 1928. [Photographs 21-26.]

2. Engineer designers: The Grove Street Pier was designed by Port of Oakland staff engineers under the direction of Port Manager/Chief Engineer Gustave B. Hegardt and Assistant Port Manager Arthur H. Abel. The original drawings, dated 1926, 1927, and 1928, are labeled "Submitted by A. H. Abel" and they bear the signature of Hegardt as port manager. Among the several sets of initials for plan checkers are those of Joseph G. Bastow. [Photographs 29-36.]

a. Gustave B. Hegardt (1859-1942), a native of Sweden, came to the United States as a boy. A graduate of various technical and engineering colleges, Hegardt began his career with the U. S. Army Engineering Corps. In this capacity, he oversaw the construction of locks and dams on the Illinois River, and locks, jetties, and fortifications on the Columbia River. He entered private practice in Portland, Oregon, at the turn of the century. In 1910, Hegardt was appointed as manager and chief engineer of the newly established Port of Portland, and he oversaw that city's \$10 million port development program until 1926. In 1924-25, he served as one of the consulting engineers who drafted the *Report on Port of Oakland*, and in March 1926 was hired as the first manager and chief engineer of the Port of Oakland. Hegardt retired from those positions in March 1932. At the time of his death, *Pacific Marine Review* described him as "one of the West's most outstanding port engineers."

b. Arthur H. Abel (1882-1961) was born in Washington and received a degree in civil engineering from Washington State College. He began his career as a railroad surveyor. In 1908, Abel entered private practice with Hegardt in Portland. He served as Hegardt's assistant at the Port of Portland from 1910 to 1926, as Hegardt's assistant at the Port of Oakland from 1926 to 1932, and as manager and chief engineer of the Port of Oakland from 1932 until his retirement in 1952. In 1950, Abel served a term as president of the American Association of Port Authorities.

c. Joseph G. Bastow (1892-1960), a native of Utah, received a degree in civil engineering from the University of California in 1923. In April 1926, he

was hired by the Port of Oakland as a structural designer. Bastow held the position of assistant port manager from 1935 until his retirement in 1959. At the time of his retirement, the *Oakland Tribune* credited Bastow with supervising the design of "many of the piers and warehouses" of the Port of Oakland, with specific mention made of the Outer Harbor Fourteenth Street Unit and the Ninth Avenue Pier. It seems likely that Bastow carried out designs conceived by Hegardt and Abel.

3. Original and subsequent owners: Port of Oakland
4. Builder, contractor, suppliers: Three separate building permits were issued by the City of Oakland for the Grove Street Pier, totaling \$739,557:
 - a. Permit No. A22600
December 4, 1926
Clinton Construction Co. (San Francisco, CA)
\$514,500 for pier structure
 - b. Permit No. A29658
September 26, 1927
California Steel Co. (Oakland and San Francisco, CA)
\$37,717 for steel frame of transit shed
 - c. Permit No. A30738
November 28, 1927
Clinton Construction Co.
\$187,340 for remaining work on transit shed
5. Original plans and construction: See Part III, Section A, for a chronological list of original plans; see Part III, Section B, for a listing of selected early views.
6. Alterations and additions: The Grove Street Pier received relatively minor alterations and additions prior to the 1980s. The principal changes are described below:
 - a. Offices (1931): The two mezzanine office floors (one in each section of the transit shed) were adapted for use as the administrative headquarters of the Port of Oakland. Alterations included the installation of partitions, addition of shelves and counters, and the enclosure of the corridors with steel-sash windows overlooking the shed interiors. [Photographs 16-19.]
 - b. Pedestrian bridge and elevator (1931): As part of the office improvements, an 80' steel-truss pedestrian bridge was erected between the two mezzanine floors, and an elevator was installed in the west section of the shed. [Photograph 27.]

c. Central enclosure (1959): During the tenancy of a private terminal operator, the railroad tracks in the depressed area between the two sections of the transit shed were removed and the area was roofed over, adding 26,000 square feet of enclosed storage space.

d. Partial demolition (1980-81): Between September 1980 and March 1981, most of the Grove Street Pier was demolished for the Port of Oakland's Charles P. Howard Terminal. The demolished portions included the west section of the transit shed (section "B"), the south transverse wing joining the two sections, five structural bays at the south end of the east section (section "A"), the pedestrian bridge, and the roofed-over central area. The floor area of the remnant (excluding mezzanine offices) is approximately 51,000 square feet, or 35 percent of the original. Most of the underlying pier structure was also demolished in 1980-81, leaving in place the northeast corner, measuring approximately 200'x460'. [Photographs 1-20.]

e. South wall (1982): Following the demolitions of 1980-81, a new wall was built at the south end of the remnant of the transit shed. The wall has corrugated steel siding, rolling steel door, and clerestory windows. It is supported by a steel-frame "cage" set within the original walls and structurally independent of them. [Photographs 3, 9.]

f. Loading dock (1982-83): A concrete loading dock with steel canopy was added at the building's northwest front corner for break-bulk operations. [Photographs 1, 2, 8, 9.]

B. Historical Context

The primary historical context of the Grove Street Pier is the development of municipal port facilities in Oakland in the early 20th century. Secondary contexts include general shipping and port activities on and near the Oakland waterfront, on San Francisco Bay and its tributaries, and on the Pacific Coast. In this section, following a brief overview of the regional context, the phases of development of Oakland's port and harbor are addressed in chronological sequence: the era of monopoly (1852-1909), the first phase of municipal control (1910-1925), the development of the Port of Oakland as a representative break-bulk facility of its period (1926-1961), and its subsequent redevelopment as a leading container port (1962-present). Prior to 1962, Oakland's most intensive period of municipal port development occurred between the years 1910 and 1941, with most construction taking place between 1926 and 1931.

1. Overview: Port Development on San Francisco Bay

San Francisco Bay is the most important natural harbor on the Pacific Coast. San Francisco Bay proper merges on the north with San Pablo Bay, which is linked on the east by Carquinez Strait to Suisun Bay and the Delta, where the bay's two great tributaries, the Sacramento and San Joaquin rivers, converge after flowing through the Central Valley. This setting

gave rise in the 19th century to rich traditions of waterborne transportation and shipping. Ports have played a central role in the region's growth and development.

A "harbor" refers to a sheltered body of water of sufficient depth to enable a ship to enter and find refuge. A "port" is a section of a harbor that has been developed with terminal facilities for the transfer of freight and passengers. Terminal facilities include wharves, docks, quays, and piers for the berthing of vessels; mechanical equipment such as cranes for the transfer of cargo from ship to shore and vice versa; and rail lines and vehicular roads for the movement of freight and passengers to and from the terminal. The traditional "break-bulk" port is a labor-intensive operation in which general freight is broken down into small units and stored in transit sheds (dockside warehouses). Bulk cargo like oil, coal, and grain requires specialized mechanical systems and storage structures. Since the late 1950s, cargo handling has been revolutionized by the use of sealed containers which can be carried unopened by rail, truck and ship. This system has transformed shipping throughout the world, rendering the mechanical equipment and warehousing facilities of break-bulk terminals obsolete. San Francisco was the region's great break-bulk port; Oakland is its great container port.

Historically, ports in the San Francisco Bay region developed in tandem with population growth, agricultural and industrial productivity, and the creation of a roadway and railroad system. Toward the end of Spanish and Mexican colonial period (1776-1846), the principal landing on the bay was Yerba Buena Cove on the San Francisco peninsula. The mercantile hamlet of San Francisco, formerly known as Yerba Buena, was transformed by the Gold Rush (1848-54) into a city of 50,000 residents. The city continued to grow, numbering 150,000 inhabitants in 1870, 300,000 in 1890, and more than 600,000 in 1930. In 1870, the combined population of the nine counties bordering on San Francisco Bay was about 265,000; by 1930, it exceeded 1.5 million.

San Francisco's rise as a port began suddenly with the Gold Rush shipping boom and was sustained in its early years by merchants and private investors who built the wharves and warehouses. In 1863, the state legislature passed a bill establishing the Board of State Harbor Commissioners, vesting it with the power to build and regulate public wharves along the San Francisco waterfront. Over the following century, the commissioners would spend in excess of \$120 million developing the Port of San Francisco. Major construction projects included a continuous stone seawall, roadway, and belt-line railroad curving around the waterfront for a distance of six miles (1877-1914), the Ferry Building (1895-1903), and several dozen substantial piers and transit sheds (1908-1936). By the 1950s, the Port of San Francisco comprised 18 miles of ship berthing space, 42 piers, and two deep-water channels. It maintained its supremacy among the ports of San Francisco Bay through the 1960s, when it was surpassed by the newly containerized Port of Oakland.

The first railroads in the bay region were built in the 1860s, culminating with the completion of a transcontinental line into Oakland in 1869. By 1910, Oakland was served by two transcontinental lines, and Richmond was the railhead for a third (which maintained a branch line into Oakland.) Oakland and Richmond both began ambitious port development programs in the years prior to World War I, at a time when many cities on the Pacific Coast were undertaking similar projects in anticipation of the completion of the Panama Canal (which opened in 1914). By the 1930s, Oakland had developed into a general cargo port second only to San Francisco. Other cities in the bay region with significant port developments included Stockton and Redwood City, whose ports were established shortly before World War II.

2. Era of Monopoly: 1852-1909

The early history of Oakland's waterfront was marked by monopolistic control, initially exercised by an individual and later by railroad companies. With the exception of the railroads, private port developments were rudimentary and municipal facilities almost nonexistent. The federal government undertook an ambitious program of harbor improvements throughout much of this period.

Oakland's western shoreline fronts directly on San Francisco Bay; its southern shoreline borders the Estuary, a winding inlet separating Oakland from Alameda. The first wharves were built on the Estuary for boats plying between Oakland and San Francisco. With the arrival of the railroads in the 1860s, Oakland's role as a shipping center expanded to include the export of agricultural products from California's interior to many parts of the world. However, the peculiar circumstances of Oakland's history inhibited widespread development of the waterfront until the second decade of the 20th century, and the modern port did not begin to assume shape until the late 1920s and early 1930s.

Horace Carpentier, an attorney who acquired the townsite with two associates, secured passage of an act in the state legislature in 1852 incorporating the Town of Oakland. The act authorized the town to build and maintain bridges, ferries, wharves, docks, piers, and slips. Lands "lying between high tide and ship channel" were granted to the town, which could dispose of them for the aforesaid purposes. At the first meeting of the town trustees, an ordinance was passed "for the disposal of the waterfront belonging to the town of Oakland, and to provide for the construction of wharves." Later that year, Carpentier was granted the Oakland waterfront "in fee simple forever."

In 1868, as a means of inducing the Central Pacific Railroad to locate the terminus of the transcontinental line in Oakland, Carpentier formed the Oakland Waterfront Co. in partnership with the railroad. All waterfront land previously deeded to Carpentier was transferred to the new company. Transcontinental rail service commenced late in 1869. Two years later, the Central Pacific completed an immense freight and ferry pier on the

western waterfront known as the Long Wharf. Extending 11,000' into the bay off the end of Seventh Street, the Long Wharf incorporated train tracks, slips for passenger and freight ferries, and berths for deep-water vessels. The Oakland Mole, an earth-and-rock causeway for passenger trains and ferries, was constructed in 1880-82 along the south side of the wharf for about half its length. In spite of numerous lawsuits, the Oakland Waterfront Co. and the Central Pacific (reorganized in 1885 as the Southern Pacific) controlled the Oakland waterfront through the first decade of the 20th century.

Federal harbor improvements began in the 1870s. Between 1874 and 1876, parallel stone training walls, or jetties, were constructed from the mouth of the Estuary through the bar into deep water, followed by the dredging of shipping channels. By 1890, a 300' channel extended up the Estuary to Brooklyn Basin; by 1905, the channel was 400' wide and 20' deep to Chestnut Street, dividing into smaller channels to the east. The dredged material was pumped ashore to reclaim tracts of waterfront marshland on both sides of the Estuary. A related federal harbor project, undertaken between 1888 and 1902, was the excavation of the Tidal Canal from the Estuary to San Leandro Bay. This mile-long waterway, which transformed the Alameda peninsula into an island, was intended to enhance tidal flow and "scour" the Estuary shipping channels.

Oakland's port development through the turn of the century remained far below its potential. The city's major shipping facility was the Long Wharf on the western waterfront, which handled the transfer of freight (principally grain, lumber, iron, and coal) between rail cars, deep-water vessels, and transbay freight ferries for transshipment to San Francisco. On the Estuary were the pioneer landings at San Antonio, near present-day Thirteenth Avenue (1851), and Carpentier's wharves at the foot of Broadway (1852), Webster Street (1853), and Washington Street (1854). Beginning in the 1870s, lumber yards and fuel/feed depots, many of them equipped with wharves, proliferated along the Estuary between the First Street tracks and the shore; by 1900, they lined the waterfront from the vicinity of Market Street to the Lake Merritt slough. As late as 1909, there were only two private terminals on the Estuary with wharves and warehouses for general freight. Municipal port facilities were minimal. In 1868, the Oakland Waterfront Co. granted to the City of Oakland a small piece of the Estuary waterfront lying west of Webster Street. The first city-owned wharf was built between Franklin and Webster streets in 1872, and periodically modified over the following two decades. In 1909, two wharves and several small freight sheds adjoining the Webster Street Bridge comprised the municipality's total port development.

3. First Phase of Municipal Control: 1910-1925

Oakland's first steps toward the creation of a municipal port came during a period of rapid growth and progressive government. The city's population increased from approximately 65,000 in 1900 to 150,000 in 1910; following World War I, it exceeded 200,000, and by the end of the 1920s it approached

300,000. Annexations in 1909 added 44 square miles to the city. By 1910, Oakland was served by three transcontinental rail lines (Southern Pacific, Santa Fe, and Western Pacific). The waterfront underwent intensive industrialization during World War I and the 1920s as Oakland became a major exporter of manufactured goods and processed foods. Under the administrations of two strong mayors, Frank K. Mott (1905-1915) and John L. Davie (1915-1931), the city undertook an ambitious program of public improvements which included a monumental city hall and civic auditorium, dozens of new schools, a vastly expanded park and recreation system, and the beginnings of a municipal port.

Oakland was one of a number of cities on the Pacific Coast (including San Diego, Los Angeles, Portland, and Seattle) to undertake extensive port improvements during these years in anticipation of the completion of the Panama Canal. On San Francisco Bay, the Port of San Francisco greatly expanded its facilities, and Richmond began to develop its port around World War I. Oakland, which had experienced a sharp increase in shipping after the 1906 earthquake (many vessels were diverted to Oakland from San Francisco), finally succeeded in acquiring, between 1909 and 1911, effective control of its waterfront through a combination of litigation, negotiation, annexation, and conveyance. Financed by bonds and general revenues, the city government undertook a program of port development unprecedented in its history. By the mid-1920s, city-owned port facilities included wharves on the western waterfront and piers, transit sheds, and a quay wall on the Estuary.

The catalyst for change was the Western Pacific Railroad (no relation to the old Central Pacific subsidiary), a transcontinental line seeking a terminus on San Francisco Bay. In 1906, the City of Oakland granted the Western Pacific a franchise and wharfing-out rights in a tideland area adjoining the north jetty of the Estuary. The Southern Pacific immediately sought an injunction in federal court. The court's decision, rendered in 1907, upheld an earlier ruling that set the outer boundary of the Oakland Waterfront Co.'s property at the low-tide line of 1852 (rather than the vague "shipping channel" stipulated in the original grant to Carpenter). Along the Estuary, extensive dredging and filling had placed the 1852 line well inland. The courts affirmed the right of the municipal government to control docks and other improvements on lands outside the 1852 line. To avoid further litigation in the form of countersuits and appeals, Mayor Mott negotiated a compromise with the Southern Pacific/Oakland Waterfront Co. in 1909. The railroad agreed to relinquish its claim to the waterfront in return for a 50-year franchise to continue its rail, ferry and shipping operations. The Southern Pacific further agreed to remove the Long Wharf by 1918 (thus providing clear access to the waterfront north of the Oakland Mole), and to grant rights of way for the extension of city streets beyond the railroad's right of way on the western shoreline.

This settlement, drawn up in a formal memorandum, was adopted by local voters as an amendment to the city charter in March 1909, and ratified by the city council in November 1910. (In August 1910, the Western Pacific

inaugurated service into Oakland along Third Street to its freight yard and mole at the mouth of the Estuary.) Another successful measure on the March 1909 ballot was the annexation of tidelands lying between the western shoreline and the San Francisco city boundary. Title to these tidelands, which comprised hundreds of acres encompassing the Southern Pacific and Western Pacific moles and Key Route Pier, was conveyed by the State of California to the City of Oakland in May 1911. (The Key Route Pier, a 3.25-mile streetcar/ferry pier near the Emeryville border, opened in 1903.) By 1911, the municipal government had succeeded in gaining control of most of its Estuary waterfront as well as the tidelands off its western waterfront, totaling more than 20 miles of shoreline.

On November 15, 1909 (a year before the city council formally approved the settlement), Oakland voters passed a bond issue in the amount of \$2,503,000 for municipal port improvements. The development program was placed under the direction of the city's Board of Public Works. (In 1911, voters adopted the commission form of government, with a mayor and four commissioners; the Board of Public Works came under the jurisdiction of the Commissioner of Public Works.) Plans adopted by the city called for three separate projects: a bulkhead and wharves on the western waterfront, a quay wall and transit shed on the Estuary west of Broadway, and a pier in Brooklyn Basin. The bonds were issued in January 1910, and the work begun under various contracts later that year. By 1915, the entire \$2.5 million had been expended.

The first project to be completed was the Livingston Street Pier, a reinforced-concrete pier measuring 124'x294'. This landing for lumber and general cargo was situated at the eastern end of the Brooklyn Basin. Construction began in September 1910 and was completed in April 1912 at a cost of approximately \$120,000 (not including dredging). This was the first reinforced-concrete pier on the Oakland waterfront.

The next project brought to completion was a bulkhead and wharves on the western waterfront, in a tideland area known as the "Key Route Basin" (lying between the Southern Pacific Mole/Long Wharf on the south and the Key Route Pier on the north). In 1911, an earth-and-rock bulkhead approximately one mile in length was constructed across the tidelands from the Oakland Mole/Long Wharf to the vicinity of the Key Route Pier. The bulkhead was situated approximately three-quarters of a mile from the shore, and enclosed nearly 400 acres of city-owned tidelands. In 1912, three apron wharves with creosoted timber piles and wood decks, totaling 2,137 linear feet of berthing space, were built parallel to the bulkhead. City Wharf No.1 (949') adjoined Seventh Street along the north flank of the Long Wharf (much of which had been filled in by the Southern Pacific in 1905-06). City Wharf No. 2 (1,077') ran along the bulkhead immediately north of Seventh Street. City Wharf No. 3 (301') was situated at the end of Fourteenth Street (which was extended by trestle across the tidelands to the bulkhead). Extensive dredging was required to create approaches to the wharves for deep-water vessels, and the dredged materials were used to begin reclamation of the tidelands behind the bulkhead. By 1915, the city

had expended in excess of \$700,000 for its western waterfront improvements.

The most costly of the projects was the quay wall, a massive concrete seawall/dock on the Estuary waterfront built in two phases in 1910-11 and 1912-14. The total cost for land, construction, and dredging was about \$1.4 million (land acquisition costs exceeded \$1 million). The quay wall was originally intended to extend 2,700', from Myrtle Street on the west to Broadway on the east; a recalcitrant property owner blocked construction east of Clay Street, and as completed the wall extended 1,927' between Myrtle and Clay. The concrete structure, measuring 40' from top to bottom, was 22' wide at the base, tapering to 18" at the top. The side facing the water was perpendicular, with bolted piles to provide a cushion against docking vessels. Between 1913 and 1915, a dredge purchased by the city excavated a basin 27' deep at low tide stretching from the front of the quay wall to the government shipping channel. The dredged materials were dumped behind the wall to create a continuous strip of city-owned land 150' feet wide. In 1914-15, this filled area was graded, paved, and equipped with spur tracks connecting with the Southern Pacific and Western Pacific tracks on First and Third streets. The final component of the project was a transit shed/warehouse, erected in 1915 along the quay wall between Grove and Jefferson streets. The steel-frame structure, with cladding of corrugated iron, measured 90'x400'. This berthing/storage area along the quay wall adjoining the transit shed was known as Municipal Dock No. 1 or Jefferson Street Dock.

Over the next ten years, the Oakland Board of Public Works undertook a variety of other port improvements financed by the city's general fund. In 1915-16, the old municipal wharf at Franklin and Webster streets was rebuilt, followed in 1917-18 by a new wharf and transit shed at the foot of Clay Street (known as Municipal Dock No. 2 or Clay Street Wharf). In 1922-23, a small wharf for lumber and general cargo was built off the end of Dennison Street in Brooklyn Basin, adjoining the Livingston Street Pier. The Market Street Pier of 1923-24 was the most ambitious of these later projects. Erected off the quay wall at a cost of approximately \$275,000, this facility consisted of a pier measuring 168'x 570' surmounted by a large transit shed.

During this period, the city leased out most of its port facilities to private operators. Municipal Docks No. 1 and No. 2, together with the Market Street Pier, were operated by the V. O. Lawrence Company for general cargo. On the western waterfront, two of the three bulkhead apron wharves and adjacent property were leased to private concerns. In 1915, Albers Milling Company, one of the region's leading grain, feed, and flour distributors, leased a five-acre tract adjoining City Wharf No. 1, and in 1916-18 erected an eight-story, reinforced-concrete mill building with attached wood-frame warehouse--the first major shipping terminal after the Long Wharf on the western waterfront. (Albers became a subsidiary of Carnation in 1929; the mill was enlarged several times between 1934 and 1941, and substantially rebuilt following a fire in 1943.) In 1918, as the

remnants of the Long Wharf were being demolished, the Parr Terminal Company negotiated a lease for 70 acres of reclaimed tideland adjoining City Wharf No. 2. Its terminal facilities for general cargo, which opened in the summer of 1920, included a new quay wharf with a reinforced-concrete transit shed measuring 120'x500' (this was the first reinforced-concrete transit shed on the Oakland waterfront). In the mid-1920s, oil storage tanks and a pier for oil tankers were installed north of the wharf. Parr subleased much of its land to industrial tenants.

The other important private shipping terminal from these years was the Howard Company, operating on a 17-acre site on the Estuary waterfront at the foot of Filbert Street. The company began in 1900 as a coaling station and depot for building materials; during World War I, when it diversified to include general cargo, the terminal was enlarged with a second pier, transit sheds, and warehouses. More warehouses were added in the 1920s and 1930s. This was the only privately owned terminal in Oakland which also owned the land on which it operated (with the exception of 1.5 acres leased from the city at the west end of the quay wall).

4. The Port of Oakland: 1926-1961

The burgeoning population and industrialization of the 1920s were accompanied by an unprecedented boom in shipping. Trade of all types--European, intercoastal, transpacific, coastal, and river--increased dramatically. Tonnage handled by the Port of San Francisco doubled during the decade, soaring in value to \$1.6 billion in 1929 (twice the value of cargoes handled by all other ports in the bay region). Piers along the San Francisco waterfront were so congested that many laden vessels were diverted to ports in the East Bay.

Since Oakland's western waterfront remained largely undeveloped, most maritime traffic was concentrated on the Estuary, which by 1928 had been transformed into a harbor fully accessible to large ocean-going steamships. In 1923 the Southern Pacific's Harrison Street Bridge was removed, and that same year Alameda County voters approved a \$4.5 million bond issue for an underwater vehicular tunnel to replace the Webster Street Bridge. Completed in 1928, the Posey Tube was of sufficient depth to allow 35' of clearance in the channel overhead. Continual dredging by the federal government produced a shipping channel 600' wide and 30' deep west of Webster Street, with equally deep but narrower channels east into Brooklyn Basin. The increase in Estuary shipping gave rise to several private port developments, the most important of which was the California Packing Corporation's Encinal Terminals. Opened early in 1925 on a marshland site in Alameda east of Webster Street, the facilities included a berthing basin, quay wharves, and two large transit sheds.

By mid-decade, Oakland's municipal port facilities were strained to capacity. Between 1915 and 1925, the number of vessels arriving on the Oakland waterfront had increased fivefold, and cargo tonnage had

increased sixfold. It was in this context that the city appointed, in November 1924, a board of three consulting engineers to formulate a long-range plan for municipal port development. The board was composed of Gustave B. Hegardt, chief engineer and manager of the Port of Portland; Charles T. Leeds, consulting engineer to the Port of Los Angeles; and Charles D. Marx, a professor of engineering at Stanford University. *Report on Port of Oakland*, published in September 1925, presented an overview of existing port facilities, an analysis of problems, and detailed recommendations for future development. The report concluded that the Oakland's existing port facilities were wholly inadequate to handle current and projected cargo tonnages, and that new facilities with an annual capacity of 100,000 tons should be built immediately. Recommended construction included a long quay wharf and transit shed at the end of Fourteenth Street, on the western waterfront; two wide piers, each with a U-shaped transit shed, at the foot of Grove/Jefferson streets and Clay/Washington streets, on the Estuary; and a very large pier with U-shaped transit shed at Thirteenth/Fourteenth avenues, in Brooklyn Basin. Total cost of construction (including several smaller projects, dredging, and contingencies) was estimated at \$9,960,000. The report recommended that port management "be vested in a board or commission of competent, responsible men, serving without compensation and free from political interference."

These recommendations were followed with remarkable fidelity. On November 10, 1925, a bond issue of \$9,960,000 for the specified improvements was overwhelmingly passed by Oakland voters. The terms of the bond issue required the creation of a temporary Board of Port Commissioners composed of "five representative businessmen of the city." This temporary board, which took office in December 1925, became permanent under a charter amendment passed in December 1926. In February 1927, five commissioners were formally appointed to staggered six-year terms on the permanent Board of Port Commissioners. The board's jurisdiction, known as the Port of Oakland, was an independent arm of the city government with plenary power to build, equip, maintain, and operate port facilities. Revenues generated by the Port would be under the control of the board.

In March 1926 the temporary board hired Gustave B. Hegardt, a co-author of the *Report*, as manager and chief engineer of the Port of Oakland. Arthur H. Abel, Hegardt's longtime assistant at the Port of Portland, was hired at the same time as assistant port manager. (Hegardt, who served as port manager and chief engineer until 1932, and Abel, who held these positions from 1932 to 1952, were chiefly responsible for the development of the Port of Oakland during its first 25 years.) Hegardt and Abel, aided by a staff of engineers, began the design process immediately, and the first contract for construction was let in the summer of 1926.

Between 1926 and 1931, the Port completed most of the improvements recommended in the *Report*, along with other facilities (including an airport). Maritime facilities built during this first period of construction

consisted of two quay wharves and two piers with a total berthing space of 5,750 linear feet; six transit sheds comprising over 500,000 square feet; and four warehouses totaling nearly 650,000 square feet. In the ensuing 30 years (prior to the beginning of containerization), the Port built progressively fewer facilities. Between 1932 and 1941, new construction amounted to about 2,000 linear feet of berthing space, two transit shed additions totaling about 115,000 square feet, and two warehouses totaling 232,000 square feet. In the postwar period, through 1961, the Port added virtually no new berthing space, one transit shed addition of 90,000 square feet, and two warehouses. The original \$9.96 million was spent by 1938. The Port utilized federal emergency relief funds (prior to World War II), and a combination of its own revenues and bonds after the war, to finance its various projects

The Port of Oakland's new shipping facilities were located in three separate areas: on the western waterfront between the Southern Pacific Mole and the Key Route Pier; on the Estuary between Grove and Webster streets; and on the Estuary at Ninth Avenue (Brooklyn Basin). In 1927, the Port officially designated the western waterfront as "Oakland Outer Harbor" and the Estuary as "Oakland Inner Harbor."

The port facilities on the Oakland Outer Harbor, collectively known as the Outer Harbor Terminal, were grouped into the Fourteenth Street Unit (on the site of City Wharf No. 3), the Seventh Street Unit (the former Parr Terminal, on the site of City Wharf No. 2), and, between these two units, the Oil Pier complex. The Fourteenth Street Unit included a quay wharf (1926-27), two transit sheds (1927 and 1929-30), and five warehouses (1928-1934). The quay wharf and Transit Shed No. 2 were enlarged several times through 1936. The Seventh Street Unit and the Oil Pier complex consisted primarily of structures built by the Parr Terminal Co. and acquired by the Port of Oakland in 1932, when Parr gave up its lease. A warehouse/factory was added by the Port in 1940-41. The Outer Harbor Terminal was the Port's largest shipping complex prior to containerization.

Inner Harbor facilities included the Grove Street Pier, the Inland Waterways Terminal, and the Ninth Avenue Pier. The Grove Street Pier (1926-28) projected from the quay wall between Grove and Jefferson streets, adjoining the site of Municipal Dock No. 1. The Inland Waterways Terminal (1931), at the foot of Webster Street, occupied the site of the old municipal wharf. The Ninth Avenue Pier (1929-30), at the west end of Brooklyn Basin, included a quay wharf, transit shed, storage yards, and land for industrial tenants. Additional acreage was acquired in 1936, the wharf was enlarged in 1936-38, and the transit shed was extended in 1951-52. By the mid-1930s, the complex was known as Ninth Avenue Terminal.

The Port of Oakland received a steadily increasing volume of business in its early years. In 1929, the U. S. Treasury Department designated Oakland as a full port of entry with customs service. By the mid-1930s, Oakland was a regular port of call for nearly 30 steamship lines. Between 1928 and 1937, despite the worldwide depression, tonnage handled by Port more

than tripled, from 316,377 tons in 1928 to 1,166,664 tons in 1937. For the first 30 years of its history, the Port of Oakland operated most of its shipside facilities directly. Nearly all Port-owned warehouses were occupied by tenants, and a number of waterfront industrial plants were built on land leased from the Port.

The Port's first great era of growth ended in World War II. Oakland Naval Supply Depot and Oakland Army Base, both equipped with extensive shipping facilities, opened on the western waterfront on land acquired from the Port. The military took over the Outer Harbor Terminal, Ninth Avenue Terminal, Livingston Street Pier, and Oakland Municipal Airport, returning them to Port control after the war. Prior to the 1960s, the Port of Oakland made few changes to its shipping operations. Most of the Port's energies during these years were applied to waterfront tourism, industrial park development, and airport expansion. Annual tonnage grew slowly, totaling slightly more than 2.5 million tons in 1962. Oakland was a typical break-bulk/bulk cargo port of the period, its facilities representing a fraction of the capacity of the Port of San Francisco.

5. Containerization: 1962-1994

The container shipping system, in which sealed steel containers are carried unopened by ship, truck and rail, was developed in the 1950s as a means of providing more efficient handling and storage of cargo. The system was pioneered by Sea-Land in New Jersey in 1956, and by Matson Lines in association with Encinal Terminals in Alameda, California, in 1958. Container shipping was first fully in operation with the development of the first high-speed dockside container-handling crane at Encinal Terminals, in 1959. With the crane, the time required to unload a ship was reduced from up to three weeks to less than one day.

Oakland was the first major port on the Pacific Coast to recognize the potential of containerized shipping. Under Executive Director Ben E. Nutter (1962-77), the Port of Oakland was transformed from an average break-bulk port into the world's second largest handler of containers. Between 1962 and 1982, 10 container terminals opened on the western waterfront and along the Estuary. Annual tonnage handled by the Port increased from 2.55 million tons in 1962 to 6.5 million tons in 1972, surpassing 12 million tons in the early 1980s. The Port's operating revenues during this period grew fivefold, to about \$25 million.

Container terminals and traditional break-bulk terminals have very different functional requirements. Break-bulk terminals require large dockside transit sheds to protect cargo as it awaits shipment. Container terminals utilize immense dockside cranes and expanses of pavement for the stacking of containers and the circulation of loading vehicles and trucks. A site previously developed for break-bulk operations is incompatible with a fully containerized terminal (although some terminals may combine both types of cargo handling). When a complete conversion occurs, transit sheds and other structures on the site are

removed, and wharves and storage areas are rebuilt to withstand increased loads from cranes and stacked containers.

As late as 1975, most Port facilities from the period 1910-1925, and all except one facility from the period 1926-1941, were still standing. (The exception was the Inland Waterways Terminal, razed in the late 1950s for the Webster Street Tube.) By 1981, primarily as a result of containerization, few older structures remained. The Port's Outer Harbor Terminal was demolished between 1975 and 1979. The Seventh Street Unit and the Oil Pier complex were razed in 1975 for the Outer Harbor Container Terminal. The wharf, transit sheds and warehouses comprising the Fourteenth Street Unit were demolished in 1976-79 as part of an expansion of the Sea-Land Terminal. The Albers Milling Company (Carnation) property, the last historic shipping-related complex on the western waterfront, was acquired by the Port in 1985 and demolished in 1988 for the Mitsui Terminal. On the Inner Harbor, the new Charles P. Howard Terminal entailed the demolition a number of historic structures: the old Howard Terminal complex, razed in 1979-80; the Market Street Pier, razed in 1979-80; the Grove Street Pier, partially razed in 1980-81; and the quay wall, partially razed and buried in 1980-81. Demolitions unrelated to containerization included the Clay Street Wharf, razed to its piles in 1981 and reconstructed in 1982 as the public-access Franklin D. Roosevelt Pier; and the Dennison Street Wharf, razed in 1978 as part of the beautification of the Brooklyn Basin shoreline.

Extant Port facilities from the period 1910-1941 include the Livingston Street Pier (1910-12), largely intact and tenant-operated as a commercial fisherman's pier; the quay wall (1910-14), its extant east end functioning as a seawall and berth for the presidential yacht *Potomac*; the Grove Street Pier (1926-28), partially extant and tenant-operated for break-bulk, general storage, and berthage; and the Ninth Avenue Terminal (1929-30 and later), largely intact and tenant-operated as a break-bulk facility.

6. Grove Street Pier: Site-Specific History

The waterfront in the vicinity of the Grove Street Pier has been used for municipal port activities since the construction of the quay wall and municipal docks in the 1910s. Municipal Dock No. 1, with its large transit shed, adjoined the site of the Grove Street Pier. Generally, the vicinity began to develop as an industrial district following the completion of the transcontinental railroad line in 1869. A wide variety of industrial plants, warehouses, and storage yards were established in proximity to the shoreline and the First Street railroad tracks. The area immediately inland from the Grove Street Pier was occupied in the 1880s by the gas storage tanks and power plant of the Oakland Gaslight and Heat Company; by 1912, these facilities had been taken over by the Pacific Gas & Electric Company, which remains at this location. As early as the 1890s, a lumber yard with wharf occupied the shoreline site between Jefferson and Grove streets.

The design and construction history of the Grove Street Pier is discussed above (see Part I, Section A). In October 1931, the Port of Oakland moved its administrative offices to the Grove Street Pier from the Oakland Bank Building at 1212 Broadway (where it had leased space since 1927). In the *1932 Oakland Tribune Year Book* (p. 40), Port Manager Hegardt explained the reasons for the move: "During the Port's construction period, downtown offices were necessary, but with the completion of its terminal and the resultant change in the problems of Port administration from construction to operation, the new location was chosen in order that closer contact with the activities of the Port of Oakland might be maintained." The commissioners' board room and the offices of the port manager, assistant port manager, port attorney, and traffic department were located in the west section of the shed; the accounting, purchasing, and engineering departments occupied the east section. The Port's administrative offices remained at the Grove Street Pier until December 1961, when they were moved into a remodeled warehouse at 66 Jack London Square (in 1990 the Port occupied its current building at 530 Water Street). The Port's 30-year occupancy of the Grove Street Pier coincided with its fullest development as a break-bulk port.

The Grove Street Pier remained in operation as a break-bulk facility for about 60 years. As early as 1935, the Grove Street Pier, Market Street Pier, Clay Street Wharf, and quay wall were being operated as a single unit known as the Grove Street Terminal. During World War II, when most operations of the Port of Oakland were taken over by the military, the Grove Street Terminal was the only facility to remain under Port control. In 1956 the Port began leasing out its facilities to private operators, and Grove Street Terminal came under the management of Howard Terminal. Howard remained through the late 1970s, operating the terminal in conjunction with its own historic terminal at the foot of Myrtle Street, adjoining on the west. Beyond routine maintenance, the Grove Street Pier underwent few physical changes during these years. The open trackage area between the shed sections was roofed over by Howard in 1959--a reflection of the diminished importance of rail compared to trucking in postwar shipping. The mezzanine offices remained empty or very lightly used after being vacated by the Port in 1961.

In 1978, Howard Terminal was purchased by the Port of Oakland for a planned expansion of container facilities. The historic private terminal--piers, transit sheds and warehouses--together with the Port's Market Street Pier, were demolished between July 1979 and July 1980. Between September 1980 and March 1981, the Grove Street Pier was partially demolished. Dredging and filling of the container yard and construction of a concrete wharf were completed late in 1981. (About 75 percent of the quay wall, comprising that portion east of the Grove Street Pier, was partly razed and buried during this phase of the work). The 49-acre Charles P. Howard Terminal (named in honor of the founder of the old Howard Terminal) was dedicated in October 1982. The new terminal combined container and break-bulk operations. The remnant of the Grove Street Pier, incorporated into the northeast corner of the new terminal,

continued in use as a transit shed for break-bulk cargo under two successive tenants: Indies Terminal Co. (1982-ca. 1984) and Stevedoring Services of America (ca. 1984-present). The building is currently lightly used by the tenant for break bulk and general storage. The Port also uses part of the building for general storage. For the past several years, American Navigation Co. has rented Berth 69 on a month-to-month basis for mooring tugboats (this berth utilizes the apron from the old pier).

PART II. ARCHITECTURAL INFORMATION

A. General Statement

The Grove Street Pier is a composite structure consisting of transit shed and pier. The pier was designed to serve as the foundation, floor, and shipside loading dock of the transit shed. The intent of this report has been to treat the Grove Street Pier as a building with pier understructure rather than as a pier with building superstructure. Hence, the written and photographic documentation has followed the guidelines of the Historic American Buildings Survey, not the Historic American Engineering Record. [The principal sources of information for Part II are architectural drawings, historic views, contemporary views, and field notes. See Part III, Sections A and B, for listing of drawings and historic views.]

1. Architectural character and context: As built, the Grove Street Pier was representative of prewar shipping facilities erected by the Port of Oakland. These facilities shared common features of design and construction. Efficiency, durability, and fire resistance were paramount concerns. All terminals were served by shipside rail spurs and paved roads. All pier structures had reinforced-concrete decks and perimeter wood aprons, with understructures utilizing reinforced-concrete, concrete-jacketed, and creosoted-timber piles. Most transit sheds and warehouses were of steel-frame and reinforced-concrete construction. All buildings were equipped with automatic sprinklers. Due to type of construction and fire protection, the Port was able to secure extremely low fire insurance rates (the *Port of Oakland Compass*, Jan./Feb. 1937, claimed that these rates were "the lowest in the United States"). To these practical concerns was added a concern for architectural beauty. The *Report on Port of Oakland* recommended that "for aesthetic and advertising value, the shore and pierhead ends of sheds should be finished with some regard for architecture" (p. 25). The Grove Street Pier was the largest single facility erected by the Port of Oakland prior to containerization, and the remnant is equivalent in size and appearance to smaller transit sheds built by the Port.

In terms of its method of construction, the Grove Street Pier was typical for its period. The region's first reinforced-concrete pier and transit shed were built in 1908 by the Port of San Francisco, where such structures became standard in the 1910s, 1920s, and 1930s. On the Oakland waterfront,

the first reinforced-concrete pier was the Livingston Street Pier of 1910-12 (extant), and the first reinforced-concrete transit shed was the Parr Terminal of 1919-20 (demolished). The remnant of the Grove Street Pier is Oakland's oldest surviving pier/transit shed built of these materials; many older examples survive on the San Francisco waterfront. As for quality of design, the "beautification" of utilitarian/industrial structures was a widespread design practice in the first four decades of the 20th century. Notable examples in northern California include the "beautiful" substations and power plants erected by the Pacific Gas & Electric Co. In Oakland, diverse examples include a PG&E substation adjoining the project site and the Posey Tube Portal Building several blocks to the east. The region's outstanding examples of "beautiful" port buildings are found on the San Francisco waterfront, where, between 1908 and 1936, several dozen transit sheds were erected with Neoclassical, Mission Revival, and Tudor Revival facades, many of which survive. Oakland's only other surviving prewar transit shed (Ninth Avenue, 1930) has a facade closely resembling that of the Grove Street Pier.

2. Condition of fabric: Following the partial demolition of 1980-81, the remnant of the Grove Street Pier was maintained in good condition. The structure sustained damage in the Loma Prieta earthquake of October 17, 1989. In the months following the earthquake, inspectors from the Federal Emergency Management Agency, the State Office of Emergency Services, and the Port of Oakland analyzed the damage and estimated repair costs. These findings were presented in three Damage Survey Reports prepared by FEMA in November 1989, February 1990, and August 1991. Principal damage consisted of cracking and occasional displacement in 449 reinforced-concrete and concrete-jacket piles under the pier; cracking and spalling of six reinforced-concrete beams under the pier; horizontal separation along expansion joints (between the old and new piers) and along the interface of the wood apron and concrete deck of the old pier; cracking and displacement of the quay wall; and cracking and spalling at the base of the front wall of the transit shed (directly above the quay wall). Repairs consisted of the following: piles were sealed and strengthened by the injection of epoxy resin; beams were patched with grout; the gap along the expansion joint was partially closed by welding new steel along the edge of the cover plate; and a wood spacer was inserted into the gap between the wood apron and concrete deck. Substantial repair of the quay wall has been hindered by the massive transit shed resting atop it; as a result, damage to the shed caused by the weakened wall has not been repaired. Otherwise, the general condition of the transit shed is good.

B. Description of Exterior

As built in 1926-28, the Grove Street Pier was a composite structure consisting of a U-shaped transit shed with pier understructure. The pier was shaped like a parallelogram, with parallel sides angling out from the quay wall and an angled end nearly parallel to the quay wall. The transit shed was composed of two long sheds parallel to the sides of the pier,

connected by a transverse section at the harbor end. The fronts of the shed sections rested on the quay wall. Two sets of railroad tracks ran along a wood apron on the pier's east side and harbor end; a single set of tracks ran along the apron on the west side; and three sets of depressed tracks ran down the pier's center between the east and west sheds. The shore front of each shed contained a mezzanine story for offices. As described in Part I, Section A, No. 6, the pier structure and shed have been partially demolished, leaving in place the northeast corner of the pier and most of the east section of the transit shed.

1. Overall dimensions: The original pier, including apron, extended 566'1" on the east, about 570' on its south harbor end, and about 580' on the west (the pier's southwest corner was acutely rounded, preventing exact measurements of the south and west sides). Running around the perimeter of the pier was a wood apron 32' wide on the east side and 24' wide on the west side and harbor end. The section-line width from east to west was 419'. Total area covered by the pier was about 240,840 square feet, or slightly over 5.5 acres. The surface of the pier was 12' above Mean Lower Low Water (MLLW), and the outer apron piles extended below the 35' MLLW dredged depth of the Estuary floor; thus, the height of the pier along its perimeter was 47' from Estuary floor to deck. The demolition of 1980-81 left standing the pier's northeast corner, adjoining the quay wall, a section measuring about 200'x460'. This remnant was incorporated into the east end of the Charles P. Howard Terminal. [Photographs 27, 29.]

The original, U-shaped transit shed was composed of an east shed (Section "A"), a west shed (Section "B"), and a connecting south wing. The building extended 536'5" on the east, 561'6" on the west, and 506'4" on the south. Both shed sections were 150' wide; the connecting wing was 60' wide. The depressed trackage area between the shed sections was 40'6" wide, flanked by loading docks 11'3" wide. The angled, shore-facing fronts of the shed sections were each 203'11" wide. A mezzanine office floor extended across the front end of each shed section, tapering from about 31' wide on the west to about 26' wide on the east. Total floor area of the transit shed (excluding mezzanines) amounted to 168,900 square feet. East and west side walls were 30'10" high; the south harbor face was 39'6" high to the peak of the parapets; and the shed fronts were 37'10" high to the top of the end-bay parapets and 45'10" high to the top of the central parapets. The interior of each section of the transit shed was 29' high to the bottom chord of the central truss, and 18'4" high to the bottom chord of the side trusses; the connecting wing was 18'4" high to the level of the trusses. The demolition of 1980-81 left standing a portion of the east shed (Section "A") which is rectangular in plan except for its angled front. This remnant is 150' wide, measuring about 448' along its east side, about 313' along its west side, and 203'11" along its front. [Photographs 5, 8, 27, 29.]

2. Foundations: The entire pier, with the exception of the wood apron and the central trackage area, served as a foundation for the transit shed. The existing quay wall provided additional support for the front walls of the shed. The original pier was supported by 2,996 piles of three types:

reinforced-concrete piles, untreated wood piles ("green piles") with reinforced-concrete jackets, and creosoted wood piles. A total of 984 reinforced-concrete piles, ranging in length from 46' to 64', and 1,092 jacketed wood piles, ranging in length from 46' to 55', supported the reinforced-concrete deck and transit shed. Additional stabilization and protection were provided by a U-shaped rock dike enclosing a mound of dredged fill under the central portion of the pier. The mound sloped up to the height of the depressed tracks at the center of the pier; a riprap berm ran along the inner side of the dike at the base of the mound, and riprap encompassed the tracks at the top of the mound. Reinforced-concrete piles were utilized in the outer area, between apron and dike; jacketed piles, in the central portion of the pier, between dike and tracks. The reinforced-concrete deck slab varied in thickness from 8.5" to 10". The wood apron was supported by 920 creosoted wood piles ranging in length from 59' to 72', with a fender system consisting of 320 stub piles 16' long. The apron, equipped with mooring bits and cleats, served as a shipside loading dock and platform for train tracks as well as providing a resilient buffer against docking vessels. The train tracks at the center of the pier were underlain with filled material and supported by 192 untreated wood piles ("green piles"). A 2" layer of paving was uniformly laid over the concrete deck and timber apron. The remnant of the pier, with apron, retains about 900 piles of the creosoted wood, reinforced-concrete, and jacketed wood types. [Photographs 5, 21, 22, 30-32.]

3. Walls: The reinforced-concrete walls of the transit shed were finished on the exterior with smooth concrete, originally painted white and now painted blue with white trim. Except where noted, ornament was molded and cast concrete. Walls were essentially utilitarian along the east and west sides, lightly embellished on the harbor end, and embellished at the fronts. The east, west, and south elevations displayed a replicated series of cargo doors surmounted by clerestory windows. Ornament on these elevations was limited to corbelled cornices, gabled parapets at the south end of the shed sections, and buttress-like piers, with recessed panels, framing the gables and side end-bays. The embellished front elevation of each shed section was a symmetrical composition composed of five bays: a central bay flanked by lower and wider bays, with accentuated end-bays. The front walls were molded or scored in imitation of stone masonry construction. Buttress-like piers--identical to those mentioned above, but further adorned with inset panels of polychrome tile in the capitals--articulated the central bay and end-bays, and a heavy corbelled cornice with parapet extended across the front. (The side end-bays received nearly the same architectural treatment as the fronts.) Copper letters, 12" high and reading "PORT OF OAKLAND", were affixed to the high central parapet. Metal flagpoles 30' high surmounted the front and south parapets. (See Part I, Section A, No. 6, for a description of the reconstructed south end-wall of the shed remnant.) [Photographs 1, 2, 4-6, 8, 9, 24-27, 33, 35, 36.]

4. Structural systems, framing: The transit shed was a steel-frame and reinforced-concrete structure. The shed portion of the building was

framed in steel; the front (office) sections utilized a framing system of reinforced-concrete columns and beams. The reinforced-concrete curtain walls were 6" thick. As described above, the transit shed was structurally integral with the pier. The pier piling and deck served as the shed's foundation; the deck also functioned as the shed's floor. The columns of the steel frame were tied to the deck/floor by reinforcing bars encased in concrete footings. Two rows of steel columns, 24' on center, divided each shed section into three longitudinal bays 50' wide (the south wing consisted of one longitudinal bay 60' wide). All longitudinal bays were spanned by steel trusses supporting a wood-framed roof system. The office sections had wood-framed roofs resting on reinforced-concrete walls. [Photographs 15, 20, 29, 33, 34.]

5. Openings:

a. Doorways and doors: The transit shed had two types of doorways: large openings with rolling steel doors through which cargo and vehicles were moved, and smaller doorways for pedestrian use. There were 50 of the larger doorways, distributed for the most part in alternating structural bays around the building. Of these, 40 doorways measured 16'x16' and were distributed as follows: 10 in each of the outer walls of the shed sections, 9 in each of the inner walls of the shed sections, and 12 on the outer wall of the transverse wing. The outer doors communicated with the pier apron; the inner doors led to the loading docks flanking the central tracks. Each shed front contained five large doorways: a central opening for trucks (30'x19'4") flanked by four smaller openings (14'x10'). Pairs of pedestrian entries flanked the fronts' central openings. Each of these doorways contained metal-covered wood doors with wire-glass pane and transom, and was embellished with a molded concrete surround with peaked top and inset quatrefoil side panels. The shed remnant retains 21 original cargo/vehicular doors at the front and sides, and two pedestrian entries at the front. [Photographs 1-3, 5, 6, 8, 9, 24-27, 33.]

b. Windows: All windows were wire-glass and multi-paned with steel sash. All were rectangular in shape. A row of clerestory windows extended around the building above the cargo doors, and there were continuous bands of windows along the roof monitors. Office windows were set into the front section of the building below the cornice. The clerestory and monitor windows had fixed panes; the office windows incorporated operable casements. All of these window types survive in the shed remnant. [Photographs 1-3, 5, 6, 8, 9, 24-27, 33.]

6. Roof:

a. Shape, covering: The building utilized a variety of roof shapes. The shed sections had tripartite roofs composed of a gabled monitor flanked by lower shed roofs. The south connecting wing had a gable roof. The roofs over the office sections sloped slightly from front to back. All roofs were framed and clad in wood, with exterior sheathing of

composition material. Galvanized iron ventilators were distributed along the ridges of the monitor and south wing. [Photograph 27.]

b. Cornice, eaves: See No. 3 above.

C. Description of Interior

1. Floor plans: The well-lit interior was rationally organized for efficient operation. The U-plan shed portion of the building was essentially one large space open to the roof with unfinished walls and open framework. The sole partition within this unified space was a reinforced-concrete firewall with rolling steel door, located near the center of the south wing. Corrugated steel panels ("draft curtains") were suspended from steel beams and trusses at regular intervals for fire containment. A continuous driveway ran down the middle of both shed sections and south wing; trucks could enter the building through one shed section and exit through the other. Adjoining each entry ramp on the east side of the driveway was a small, wood-frame structure housing checkers' offices. A small, reinforced-concrete bathroom cubicle for employees bordered the outer wall of each shed section. At the front of each shed section, east of the driveway, a stairway led to the mezzanine offices (one mid-level office on the east, multiple upper-level offices extending across the full width of the front). The upper-level offices were served by a single-loaded corridor, and by adjoining men's and women's bathrooms. An attic accessible by ladder surmounted each mezzanine floor. (See Part I, Section A, No. 6 for alterations relating to office plan.) [Photographs 3, 10-20, 28.]

2. Stairways: Stairways were reinforced concrete, plainly finished, with wood handrails and wood coping on the corridor balustrade-wall. In plan, they were U-shaped, comprising three flights and two landings. [Photograph 16.]

3. Flooring: Shed floors were concrete. Office floors were concrete covered with linoleum. [Photographs 11, 19, 28.]

4. Wall and ceiling finish: The painted shed walls were unfinished concrete displaying the markings from the forms. Painted office walls and ceilings were expanded metal lath and plaster. [Photographs 7, 17-19].

5. Openings:

a. Doorways and doors: See Part II, Section B, No. 7 for doorways and doors in shed area. Mezzanine office doors were wood-paneled with frosted glass panes and hinged transoms. Main floor office doors were wood-paneled with clear glass panes. All doorways had plain surrounds. [Photographs 14, 17, 18, 19.]

b. Windows: See Part II, Section B, No. 7 for most windows. Mezzanine office windows were trimmed with plain wood sills and surrounds. Mezzanine corridors were lined with steel-sash, multi-paned windows.

Main floor office windows were wood-sash, 2-over-2, double-hung. There were two skylights above each stairwell, and two skylights above each mezzanine corridor. [Photographs 3, 14, 16-18.]

6. Decorative features and trim: Wood trim in mezzanine corridors and offices was plain. The shed interior displayed no trim or decorative features. [Photographs 16-19.]
7. Hardware: Door and window hardware was unexceptional.
8. Mechanical equipment:
 - a. Heating and ventilation: The shed portion of the building has never been heated. Offices were heated by individual steam radiators linked to gas-fired boilers housed under the mezzanine floors. Ventilation in the shed area was achieved by galvanized iron ventilators on the roof. Operable windows vented the offices. The original heating and ventilation systems are still in place. [Photographs 18, 19, 27.]
 - b. Lighting: Electric lighting in the shed area was provided by simple metal fixtures suspended from the bottom chords of the roof trusses. Fixtures in the side bays and south wing were attached directly to the truss; those in the high central bays were hung from 5' rods. Offices and corridors had translucent white glass fixtures suspended from ceilings. All interior lighting is now achieved with modern fixtures, with the exception of several original glass fixtures in the mezzanine corridor. Exterior lighting was originally provided by a variety of metal and glass fixtures on the walls, and by floodlights atop the front parapets. All exterior fixtures have been replaced with modern floodlights. [Photographs 6, 8, 10, 11, 17-19, 26, 28.]
 - c. Plumbing: Water was fed to the Grove Street Pier in galvanized iron pipes. Water lines under the apron supplied dockside ship hydrants. Within the transit shed, pipes fed water to sprinklers, fire hoses, bathrooms, drinking fountains, and boilers. There were also gas lines for the boilers. [Photographs 15, 20.]

D. Site

1. General setting and orientation: The remnant of the Grove Street Pier is oriented northeast-southwest, at the east end of the Port of Oakland's Charles P. Howard Terminal, on the north shore of the Oakland-Alameda Estuary. The terminal is adjoined on the east by the Franklin D. Roosevelt Pier, the Port of Oakland administrative building, and Jack London Square. The Schnitzer Steel Co. adjoins on the west, with various industrial and commercial sites to the north. The Embarcadero (formerly First Street) borders the terminal. Jefferson Street and Martin Luther King Jr. Way (formerly Grove Street) terminate at the remnant of the Grove Street Pier. The main entrance to the Charles P. Howard Terminal is off the south end of Market Street, west of the old pier.

Part III. SOURCES OF INFORMATION

A. Architectural drawings

Principal drawings are listed below in chronological order. The following codes are used: IL (ink on linen), BL (blueprint on linen), BP (blueprint on paper). Drawings measure 24"x42", with the exception of No. 7 (11"x13"/13"x19") and No. 10 (22"x36"). All listed drawings are on file at the Port of Oakland, 530 Water Street, Oakland, California.

1. Pier structure: plans, sections, details
(IL, 20 sheets, Aug. 17-Sept. 23, 1926)
2. Pier structure: paving plan
(BL, 1 sheet, Dec. 9, 1926)
3. Transit shed: structural (footing, framing, truss details)
(BL, 6 sheets, April 25-May 26, 1927)
4. Transit shed: plans, elevations, sections, details
(BL, 11 sheets, June 15-July 25, 1927)
5. Transit shed: electrical
(BL, 2 sheets, Nov. 20/Dec. 15, 1927)
6. Transit shed: mezzanine offices (details and electrical)
(BL, 2 sheets, March 16/20, 1928)
7. Transit shed: main floor offices (plans, elevations, sections)
(BP, 2 sheets, April 21/30, 1928)
8. Pier structure and transit shed: water system, sprinklers, piping
(IL, 1 sheet, May 10, 1928)
9. Transit shed: office alterations, elevator, pedestrian bridge, heating
(BL, 6 sheets, June 6-July 16, 1931)
10. Transit shed: enclosure of open area between shed sections
(BP, 11 sheets, Feb. 16, 1959)

B. Historic Views

The Port of Oakland maintains an extensive collection of photographs dating from the late 19th century to the present, many of which have been helpful in documenting general Port history. Listed below are selected historic photographs pertaining to the Grove Street Pier. All are on file at the Port of Oakland, 530 Water Street, Oakland, California.

1. Grove Street Pier, construction-in-progress, Jan. 11, 1927-May 26, 1928 (59 views, 8x10, numbered and dated, Estey Photo Service, Oakland, CA)
2. Grove Street Pier, transit shed interior (section "A"), ca. 1935 (8x10, Clyde H. Sunderland, Oakland, CA)
3. Grove Street Pier, aerial view from southeast, ca. 1945 (8x10, Clyde H. Sunderland, Oakland, CA)

C. Interviews

Interviews were conducted at the Port of Oakland, Oakland City Planning Department, and by telephone, Dec. 1993-Jan. 1994, July-Oct. 1994:

Michael R. Beritzhoff, Senior Maritime Projects Analyst, Port of Oakland

Gary Knecht, Coordinator, Oakland Cultural Heritage Survey, City of Oakland

Dean Luckhart, Associate Port Environmental Planner, Port of Oakland

Betty Marvin, Surveyor, Oakland Cultural Heritage Survey, City of Oakland

Christopher S. Peterson, Wharfinger, Port of Oakland

James Putz, Senior Maritime Projects Analyst, Port of Oakland

Gerald M. Serventi, Supervising Civil Engineer, Port of Oakland

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"Bastow to Retire From Port Post," 7-7-59.
"Abel, Retired Port Chief, Dies at 79," 12-27-61.

PART IV. PROJECT INFORMATION

This documentation has been prepared at the request of the Port of Oakland, which is proposing to demolish the remnant of the Grove Street Pier for an expansion of the Charles P. Howard Terminal. Written documentation was prepared by Woodruff C. Minor, Berkeley, California. The photographer was David G. DeVries of Mesa Technical, Berkeley, California. Written documentation was based in part on the Historic Resources section of the *Charles P. Howard Terminal Extension Environmental Impact Report* (1994), prepared by Woodruff C. Minor in association with Brady and Associates, Berkeley, California.

Prepared by: Woodruff C. Minor
Title: Architectural Historian
Date: December 1994

ADDENDUM TO:
GROVE STREET PIER
(Charles P. Howard Terminal)
1 Market Street
Oakland
Alameda County
California

HABS CA-2406
HABS CAL, 1-OAK, 23-

FIELD RECORDS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001