## Splimber 1966 - International assoc. Ports + Harbirs Port of Anchorage

## Alaska's Newest and Largest Port

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Nature conspired with a maximum tide range of 40-feet and an ice-choked Cook Inlet to make Anchorage one of the most challenging spots in the world to locate a municipal sea port. Doubting Thomases had plenty of reasons to scoff but a devoted City Council and Port Commission, citizens with courage, and skilled engineers and construction people teamed up to establish the Port of Anchorage. The need was so great for service to central Alaska that a way had to be found to provide a port, and the voters authorized many millions in bonds with faith that it could be done.

Alaska is a big land, with 571,-000 square miles to equal a combined France, Spain and Sweden. It is also equal to about one-fifth of the Continental United States, and big enough to swallow Texas and have lots of land left over.

Captain James Cook first discovered the long inlet in 1778 but the Russians took over from the English flag until Alaska was purchased in 1867 for the well-publicized \$7,200,000, a sum that has been repaid to the nation many times over.

Over a century later, President Woodrow Wilson's order to build the Alaska Railroad created a need for a facility to receive materials for the extension of the rails to Seward and Fairbanks. Ocean Dock was built for this purpose in 1917. Later it was operated by the U.S. Army for the receipt of military freight, mainly petroleum products. The City of Anchorage was in- against the wharf. Ice also freezes

but it was still many years before block of ice and posing additional it would build its own port facililoads on the piles. It was, thereties. Our records show that in 1927 fore, necessary to design the wharf the City was negotiating with the Alaska Railroad to build a 100-foot dock. However, the total cost, \$2,257.49, for labor and materials was too high and the first official dream in this regard was delayed. necessary to give safe designs. Other and larger wooden mooring facilities were built by private industry during the 1930's, 1940's and

1950's, though few totally survived 16-inches to 42-inches with angular winter ice damage. bearing plates near the bottom of A modern dock at the Port of Anchorage was first conceived in 1946 when a far-sighted City Administration appointed its first Port Commission. After 12 years of studying the financial and engineering aspects and three years of construction, City Dock, a \$8.2 million facility was proudly commissioned. (Note: As federal and State funds were unavailable, financing was

entirely with City of Anchorage bonds). On April 12, 1961, the 117-foot tug SHINN was the first ship to call at the new terminal and paid a dockage fee of \$3.50 (in cash).

Environmental conditions posed unusual problems for design of the port facilities. Since the maximum tidal range in Knik Arm is about 40-feet, and 30-feet of water had to be provided alongside the wharf for berthing fully loaded ships at low tide, the wharf deck had to be set at about 75-feet above harbor bottom—equivalent to the height of a seven story building. During the winter, large ice floes impinge

foundations for higher loads than would be carried by most wharves. Difficult soil conditions compounded the problem and extensive soil boring and pile test programs were The piles supporting the wharf consist of cylindrical steel pipes or caissons ranging in diameter from

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the piles to spread the loads in the manner of a footing, thereby minimizing stresses in the soil. The piles along the perimeter of the wharf are filled with concrete and all ohtre piles are filled with sand.

The City Dock consists of a 600foot by 271-foot marginal wharf with a 150-foot by 350-foot transit shed, four dockside travelling cranes, railroad tracks and an access roadway. The wharf and its approach trestle consist of reinforced concrete deck supported on 1150 steel piles. Two railroad tracks are provided on the 46-foot wide apron at the outboard side of the wharf for direct loading of all cargo from ships to rail. Land-ward of the transit shed, which is also used for temporary storage, sorting and processing of cargoes, two additional railroad tracks and truck loading accommodations are provided for pick-up and delivery of cargo. For transfer of cargo between ship and the wharf, two 40-ton cranes with five ton level luffing jibs and two 71/2-ton level luffing cranes built for corporated on November 23, 1920, on the piles, giving almost a solid high speed operation, are installed



on the wharf apron. The 40-ton cranes are used for the handling of truck trailers, heavy containers and other heavy lifts. When not so used, their jibs may be used together with the 7<sup>1</sup>/<sub>2</sub>-ton cranes for handling general cargo. The use of high speed dockside cranes is very beneficial for efficient operations at the wharf inasmuch as ships gear used at most mainland ports can be used \*ceeded at an amazingly fast rate. only a few hours a day because of large tidal variations at Anchorage. Although tonnage increased steadily in 1961, 1962, 1963, there was much doubt about the success of the City's new facility. There is little doubt that it took the Great Alaskan Earthquake of Good Friday 1964, to guarantee financial suc-

cess to the City Dock. Although damage to the Municipal Terminal was in excess of \$3,-000,000, the Corps of Engineers and Federal, City and State agencies working in close cooperation with local construction and electrical companies and "outside" consultants, produced remarkable results immediately after the quake. Within 96 hours, achievements

included the roadway made passable, telephone communications resumed, temporary repairs made to the wharf, emergency generators for power to the terminal building and

feet long can be accommodated with

35-feet of water at MLLW. Heated

fresh water lines will permit ballast-

ing tankers during winter operations.

2, is now under construction and

will be operational in 1967. This

600-foot marginal wharf is an ex-

tension of City Dock but will have

no transit shed. It will provide

berthing for the oil exploration and

production supply vessels which

have more than tripled in number

during the past two years. These

The new dry cargo Terminal No.

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most important of all, the City Dock was receiving freight! Leakage of gasoline storage tanks in the Port area delayed the immediate restoration of permanent power to the dock, but this service was made available as soon as the area was deemed no longer hazardous. Additional repairs to the wharf, the terminal building and roadways pro-Of the Port's four level luffing Gantry cranes which looked as if a giant hand had played jack straws. with them, three were made operational and were bailing cargo within a week. Parts were utilized from the fourth crane to repair the other

three. The Port of Anchorage was the only deep water port in south central Alaska after the earthquake and tsunamis due to the ports of Seward and Whittier being inoperable. Consequently, all shipping for central Alaska, including Fairbanks, was diverted to our Port. Needless to say, cargo ships and tankers were required to anchor for many hours while awaiting an open berth at our single 600-foot dock. Knowing we could anticipate a

tremendous increase in the number of ships in the Port of Anchorage, not only the ones normally going to Whittier and Seward, but also the

Port of Anchorage Municipal Terminals and portion of Industrial Park. City Dock, Petroleum Terminal with condemned Ocean Dock on right. Texaco fuel farm on right (Shell Standard and Union not in picture), Sea-Land Terminal, Trans-World Alaska, Inc. in center, open storage on left. Approach trestle to new dry cargo Terminal No. 2 now under construction on far left.

additional traffic necessary to bring in reconstruction supplies, the Port Commission took steps for an immediate expansion program. The need for haste became even more obvious when the oil companies informed us they planned to have their major oil storage supply in the Port of Anchorage rather than rebuilding their smaller facilities at Whittier and Seward. This 300 per cent increase in storage capacity made it apparent that a new Petroleum Terminal would be required as soon as practicable to provide fuel for heating and the heavy equipment used in cleaning up the earthquake damage.

A temporary wooden tanker berth was constructed in record time with

more efficient modus operandi. The new terminal will also provide berthing facilities for the foreign trade which is expanding at a promising rate. Inbound cargo, mainly ferrous products, has increased and an enlarged interest in exporting Alaska's almost untouch-



(Continued From Page 12) Port. They are continually striving to provide adequate facilities for the best possible service at rates as economical as practicable. There is little doubt that timber and mineral products have not been exploited to



the first tanker, Richfield's FRANK A MORGAN, docking on July 20, 1964, less than four months after the quake. But as expected, the dock did not survive the ice of the winter of 1964-65. Substitute petroleum facilities were made available the following spring on the City conditions are concerned, Sea-Land Dock to handle the large amount of petroleum products.

In 1964, City Dock handled 815,- to heavy rifted ice. 000 tons of dry cargo and petroleum products as compared to less than 200,000 tons in 1963!

A goodly amount of this increase in dry cargo tonnage was due to Sea-Land Service, Inc., a new carrier to the Port of Anchorage. Sea-Land commenced their weekly year-round service with two C-4 cargo ships in May 1964, between Seattle and Anchorage. To accommodate the growing tonnages moving to south central Alaska, Sea-Land has converted its ships the SS ANCHORAGE and SS SEATTLE to a capacity of over 300 vans. The methods.

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vessels originally carried 188 eight by eight by thirty-five foot cargo vans plus loose stow cargo. The ships were also modified for yearround activity to operate in the ice. Although the last two seasons have been abnormally severe as far as ice has not, to date, had any ice damage and only two brief delays due

More recently the City installed a high-speed PACECO 271/2-ton currents, the ice is far from solid. container crane on City Dock especially for Sea-Land, which has reduced her ships' in-port time, enabling them to make calls to the Port of Anchorage approximately every 51/2 days rather than the previous seven-day schedule.

The advent of Sea-Land's container service has undoubtedly led to lower transportation costs in this area. Not only is there faster service than heretofore, but there is less damage and pilferage than in earlier and the possibility of its financial

271/2 ton PACECO high speed van crane offloading 300 vans from Sea - Land's SS AN-CHORAGE. Standard Oil tanker in center at Port of Anchorage Petroleum Terminal.

There is ice in Cook Inlet five months of the year. However, with the average tidal range of 28-feet at the Port and accompanying strong As stated above, Sea-Land, with its large powerful ships, has been very successful in maintaining its schedule throughout the year. Smaller ships and tugs towing barges have used the Port many years during the winter but have experienced damages and delays.

Seeing the large number of oceangoing ships in Knik Arm, the citizens of Anchorage became aware of the importance of their new Port success. Too, they could see from

their homes and the numerous viewpoints in the City, the ships at anchor awaiting an empty berth. Expansion of the Municipal Terminal was indeed a necessity! Consequently, in March 1965, the voters authorized bonds in the

crane.

7<sup>1</sup>/<sub>2</sub> ton high speed level luffing

amount of \$1.75 million for a new tanker facility, which was started in April of the same year. In October at another election, the voters approved bonds for a second dry cargo wharf. These were General Obligation bonds on the City of Anchorage with no Federal or State aid.

The Petroleum Terminal was built of concrete and steel, substantially the same design as the original City Dock, and was completed in record time in November 1965. Because of lack of water at the face of the dock, a breasting barge is now used to place tankers in deep water. However, when dredging, now in are using smaller facilities permitprocess, is completed, tankers 640- ting half-tide operations only, a

ed natural resources should prove valuable to all concerned in the near future.

Earlier, I mentioned that Ocean Dock was operated by the U.S. Army. This wooden structure was condemned for dry cargo prior to the earthquake and totally thereafter. Military supplies now arrive from "The South 48" States via the Municipal Terminal of the Port of Anchorage and the Ports of Whittier and Seward, which have been rebuilt. Elmendorf Air Force Base and the Army's Fort Richardson are sizable and require many tons of supplies. Revenues from the cargoes for these nearby installations are, obviously a great assist to the Port's budget. On the other hand, the Port Terminals assist them in maintaining their military posture.

In addition to the 1812-feet of berthing space of the Municipal Terminals, the Port has an Industrial Park adjacent to the wharves. Approximately half of the nearly 100 acres of this land has been leased to Sea-Land, oil companies, and Trans-World Alaska, an import-export firm. The remaining areas are available for staging, open storage or short term lease. City voters also authorized, in 1965, \$0.75 million for an expansion of the domestic water, fire protection and other utilities in this area.

craft move supplies and personnel Concurrent with expansion facilito rapidly developing oil fields in ties, the Anchorage Port Commis-Cook Inlet 50-100 miles below the sion, chaired by Wallace E. Port of Anchorage. Over \$500 Martens, recommended a \$40,000 million has been spent in the last study for the development of the few years by the several oil com-City's tidelands amounting to appanies who are just beginning to put proximately 265 acres. Full utilization of this area will add sizable oil and gas ashore from their new platforms. There is little doubt that revenues to the Port and taxes to this industry will expand trementhe City. dously in the near future. Our new The Anchorage Port Commission,

facility plus those now being built composed of five energetic old-time in lower Cook Inlet will certainly Alaskans appointed by the City give these fleets, which are 65-foot Council, are most optimistic about to 165-foot in length and presently the future of our State, City and

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any great degree as yet. "State-side as well as foreign representatives are frequent visitors to the Port to determine the feasibility of exporting the State's natural resources.

Also, tremendous interest has been shown in the need for a south central Alaska capable of performing repairs to the numerous oil boats and fishing boats in the area. Present practice is to make temporary repairs on the mud flats of Cook Inlet and then take the vessels to Seattle, some 1695 nautical miles for complete repairs. Obviously this is a very costly and time consuming process.

Another possible new facility in the Port of Anchorage is a bulk handling facility for gravel. At present there is a very small reserve of gravel in the Anchorage area. However, some of the finest and readily accessible gravel is only a few miles up the Knik River. Fortunately the Port of Anchorage does have space and an ideal situation for the installation of a bulk handling plant to handle the gravel barged down the river.

The writer admits to being a member of the Greater Anchorage Chamber of Commerce. Typical of their aims, beliefs, and actions, there is little doubt in my mind of the future potential and certainty of growth of this entire State. Anchorage is not only the center of population and finance of the State, but is strategically located in a manner to serve the greater portion of the population. As such, Anchorage is

bound to grow as will the Port of Anchorage.

"The ultimate potential of the Port of Anchorage and the role that it will play in the development of Alaska are both far beyond the initial steps and stages of current day operations". This succinct statement was made in the fall of 1963, when our financial success was far from assured. However, it has been and is the philosophy of those concerned with the present and future of our dynamic City and íts Port.

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