



U.S. Department
of Transportation
**Maritime
Administration**

Report on Survey of U.S. Shipbuilding and Repair Facilities

1995

INTENTIONALLY LEFT BLANK

CONTENTS

	<u>PAGE</u>
Introduction	1
General	3
Major Shipbuilding Base	4
Descriptions and General Arrangement Drawings for 18 Major U.S. Shipbuilding and Repair Facilities	5
Alabama Shipyard, Inc.	6
Exhibit 1 - Yard Drawing	7
AMFELS, Inc..	8
Exhibit 2 - Yard Drawing	9
Avondale Industries, Inc - Avondale Shipyards Division	10
Exhibit 3 - Yard Drawing	11
Bath Iron Works Corporation	12
Exhibit 4 - Yard Drawing	13
BethShip Sparrows Point Yard	14
Exhibit 5 - Yard Drawing	15
Erie Marine Enterprises, Inc.	16
Exhibit 6 - Yard Drawing	17
Fraser Shipyards, Inc.	18
Exhibit 7 - Yard Drawing	19
Gunderson, Inc..	20
Exhibit 8 - Yard Drawing	21
Halter Marine, Inc., Moss Point Division	22
Exhibit 9 - Yard Drawing	23
Ingalls Shipbuilding, Inc.	24
Exhibit 10 - Yard Drawing	25

	<u>PAGE</u>
Intermarine USA	26
Exhibit 11 - Yard Drawing	27
Marinette Marine Corporation	28
Exhibit 12 - Yard Drawing	29
National Steel and Shipbuilding Company	30
Exhibit 13 - Yard Drawing	31
Newport News Shipbuilding	32
Exhibit 14 - Yard Drawing	33
Peterson Builders Inc.	34
Exhibit 15 - Yard Drawing	35
Portland Shipyard\Cascade General	36
Exhibit 16 - Yard Drawing	37
Tacoma Boatbuilding Company	38
Exhibit 17 - Yard Drawing	39
Todd Pacific Shipyards Corporation - Seattle Division	40
Exhibit 18 - Yard Drawing	41
Ship Repair Industry	42
Repair (with Drydocking) Facilities	42
Major Topside Repair Facilities	42
Shipbuilding Industry and Activities - 1995	43
Major Shipbuilding Facilities in the United States - Map (Exhibit 19)	44
Major U.S. Shipbuilding Facilities - Number of Building Positions by Maximum Length Capability (Exhibit 20)	45
Major U.S. Ship Repair Facilities - Number of Floating Drydocks by Maximum Length Capability (Exhibit 21)	46

	<u>PAGE</u>
Shipbuilding Industry Workload Projection (Exhibit 22)	47
Commercial Ship Construction (Exhibit 23)	48
U.S. Shipbuilding Orderbook (Exhibit 24)	49
New Shipbuilding Orders - 1995 (Exhibit 25)	50
Commercial Ship Deliveries - 1995 (Exhibit 26)	51
Navy Ship Deliveries - 1995 (Exhibit 27)	52
Navy's T-Ship Program (Exhibit 28)	53
Projected Navy Shipbuilding Plan (Exhibit 29)	54
Capital Investment (Exhibit 30)	55
Total Employment in Private Shipyards (Exhibit 31)	56
Average Earnings in U.S. Private Shipyards (Exhibit 32)	57
Table 1 - Ship Construction Capability by Ship Type	59
Table 2 - Number of Shipbuilding Positions by Length	77
Appendix A - Standard Form 17 - Facilities Available for the Construction or Repair of Ships	79
Appendix B - Major U.S. Shipbuilding, Repair, and Topside Repair Facilities	89

INTENTIONALLY LEFT BLANK

Introduction

In compliance with the Merchant Marine Act of 1936, as amended ^{1/}, the Maritime Administration (MARAD) conducts an annual survey to obtain information from the shipbuilding and ship repair industry to be used primarily to determine if an adequate mobilization base exists for national defense and for use in a national emergency. This report on the 1995 survey of U.S. shipyard facilities was prepared by the Division of Cost Analysis and Production, Office of Ship Construction, and is for general use within the Maritime Administration and other Government agencies.

^{1/} Section 210

"It shall be the duty of the Secretary of Transportation to make a survey of the American merchant marine, as it now exists, to determine what additions and replacements are required to carry forward the national policy declared in Section 101 of this Act, and the Secretary of Transportation is directed to study, perfect, and adopt a long-range program for replacements and additions to the American merchant marine so that as soon as practicable the following objectives may be accomplished: ...Fourth, the creation and maintenance of efficient shipbuilding and repair capacity in the United States with adequate numbers of skilled personnel to provide an adequate mobilization base."

Section 211

"The Secretary of Transportation is authorized and directed to investigate, determine, and keep current records of ... (g) The number, location, and efficiency of the shipyards existing on the date of enactment of this Act or thereafter built in the United States;"

Section 502(f)

"The Secretary of Transportation with the advice of and in coordination with the Secretary of the Navy, shall, at least once each year, as required for purposes of this Act, survey the existing privately owned shipyards capable of merchant ship construction, or review available data on such shipyards if deemed adequate, to determine whether their capabilities for merchant ship construction, including facilities and skilled personnel, provide an adequate mobilization base at strategic points for purposes of national defense and national emergency."

The statistical data accumulated by the survey are a major input into the Shipyard Evaluation Analysis System Model (SEAS), a quantitative assessment of the Nation's ship construction and ship repair capability. This capability is periodically compared with Department of Defense scenarios involving various contingency attrition rates and emergency civilian shipping requirements to assess the adequacy of the shipbuilding mobilization base, including ship repair and reactivation of the Maritime Administration reserve fleet and the U.S. Navy reserve fleet.

The survey also provides a database that is used to evaluate the feasibility of proposed shipbuilding programs. Determinations are made as to which existing shipyards might construct proposed ships consistent with ship size and delivery date requirements. The need for construction of new facilities to meet the demands of proposed shipbuilding programs can be also identified. The data gathered by the annual survey also are used extensively in MARAD responses to queries received from a variety of interests, including members of Congress, the Secretary of Transportation, the Department of Defense, the Office of Management and Budget, and other Government agencies.

Each year in late spring, Standard Form 17, "Facilities Available for the Construction or Repair of Ships," is mailed to some 280 U.S. shipbuilding and ship repair facilities. The survey form was developed jointly by MARAD and the Navy. A completed Form 17 represents a detailed description of a shipbuilding or ship repair facility, which is not available from any other source on a continuing and structured basis. The information requested, and available for official use, can be reviewed on a blank Form 17 shown herein as Appendix A. A graving dock characteristics summary and floating drydock characteristics summary are appended to Standard Form 17 to better identify the characteristics of the facilities.

Upon receipt of a completed Form 17 from a shipyard, MARAD forwards a copy to the Naval Sea Systems Command, Industrial Planning Division, which maintains records of available facilities and capacities of various shipyards and repair plants. This would enable the Department of Transportation and the Department of Defense to use such facilities to the best advantage in the event of national emergency.

The annual shipyard survey of 1995 has been completed. The information collected has been organized and condensed in the following narratives, exhibits, and tabulations to focus attention on those elements that are most often requested from this office.

GENERAL

A major shipbuilding and repair facility is defined in this report as one that is open and has the capability to construct, drydock, and/or topside repair vessels with a minimum length overall of 122 meters, provided that water depth in the channel to the facility is at least 3.7 meters. Appendix B is a statistical abstract of data gathered from 92 companies responding to MARAD's annual survey which meet these criteria. It lists the facilities sorted on a coastal basis and displays information with respect to the size and type of each building position, drydock, berth space, employment, and remarks regarding principal shipyard activities.

Table 1 has been prepared to answer the frequent question as to the number of shipbuilding positions available to build a complete specified ship. With the exception of the mobilization ship, the ship types listed in Table 1 are those historically delivered to commercial service. Length overall and beam are given for all ships and, in addition, deadweight tonnage is indicated for the bulk carriers. A single shipway or graving dock may have several building positions depending on the size of the ships being constructed. For example, the 365 meter by 59 meter graving dock at BethShip's Sparrows Point Yard can accommodate one 265,000-dwt tanker or four of the smaller general cargo ships. The total number of building positions varies from 85 for the small cargo ship to five for a huge 265,000-dwt tanker. An important consideration that is not addressed in Table 1 is the common shipbuilding practice of laying a keel on a building position already occupied by another ship. For example, in a 213-meter graving dock, a complete 186-meter containership and the stern section of a second ship could be constructed simultaneously. This production procedure maximizes the use of shipbuilding facilities, minimizes the construction period, and increases the number of ships that can be produced in a given period of time. Table 1 addresses only the number of complete ships that can be constructed simultaneously in each building position(s).

Table 2 is a somewhat different presentation of shipyard capability. In lieu of actual ships, maximum ship length is used to determine the number of shipways or graving docks available. In this tabulation, the emphasis is on the number of individual facilities available and not on the number of ships that can be constructed. Again, using the BethShip Sparrows Point Yard as an example, Table 2 lists the 365 meter by 59 meter graving dock as one facility regardless of what type of ship is constructed in it. Table 1 indicates that there are six building positions for a ship 145 meter LOA at the Sparrows Point Yard, whereas Table 2 indicates that the yard has three individual building positions capable of constructing a ship about that length. Exhibit 20 is a histogram displaying the reduction in the number of available building positions as the maximum ship length increases.

MAJOR SHIPBUILDING BASE

The Major Shipbuilding Base (MSB), as identified by the Navy and MARAD, is comprised of 19 privately owned U.S. shipyards that are open, having at least one shipbuilding position capable of accommodating a vessel 122 meters in length or over. In addition, these shipyards must own or have in place a long-term lease (1 year or more) on the facility in which they intend to accomplish the shipbuilding work, there must be no dimensional obstructions in the waterway leading to open water (i.e., locks, bridges), and the water depth in the channel to the facility must be a minimum of 3.7 meters. Exhibit 19 of this report identifies and graphically locates these 19 yards.

As of October 1995, the MSB shipyards employed roughly 66 percent of the U.S. shipbuilding and repair industry's total workforce, as reported by the Bureau of Labor Statistics under SIC 3731. At the same time 88 percent of the production workers in these 19 shipyards were engaged in Navy or Coast Guard ship construction and repair work.

As of year's end, seven of the 19 shipyards were engaged in construction and/or conversion of major combatant and auxiliary ships for the Navy. Three of the yards were engaged primarily in ship construction work provided by the Navy's T-Ship program. Ten of the yards had only repair and overhaul work, smaller Navy vessel orders, and non-ship construction work.

Employment projections for production workers are shown by Exhibit 22 of this report. These data are generated by overlaying Navy projected five-year shipbuilding and conversion programs onto the estimated work force required to complete a current orderbook.

The following is a brief description of 18 of the major U.S. privately-owned shipbuilding facilities. Exhibits 1 through 18 are general arrangement drawings of each yard's facilities. Exhibit 19 illustrates the geographical location of these shipyards in addition to the General Dynamics Corp.'s Electric Boat Division which, although a major privately-owned shipyard, is engaged exclusively in construction of submarines for the U.S. Navy.

DESCRIPTIONS
AND
GENERAL ARRANGEMENT DRAWINGS
FOR
18 MAJOR U.S. SHIPBUILDING FACILITIES

1. Alabama Shipyard, Inc.

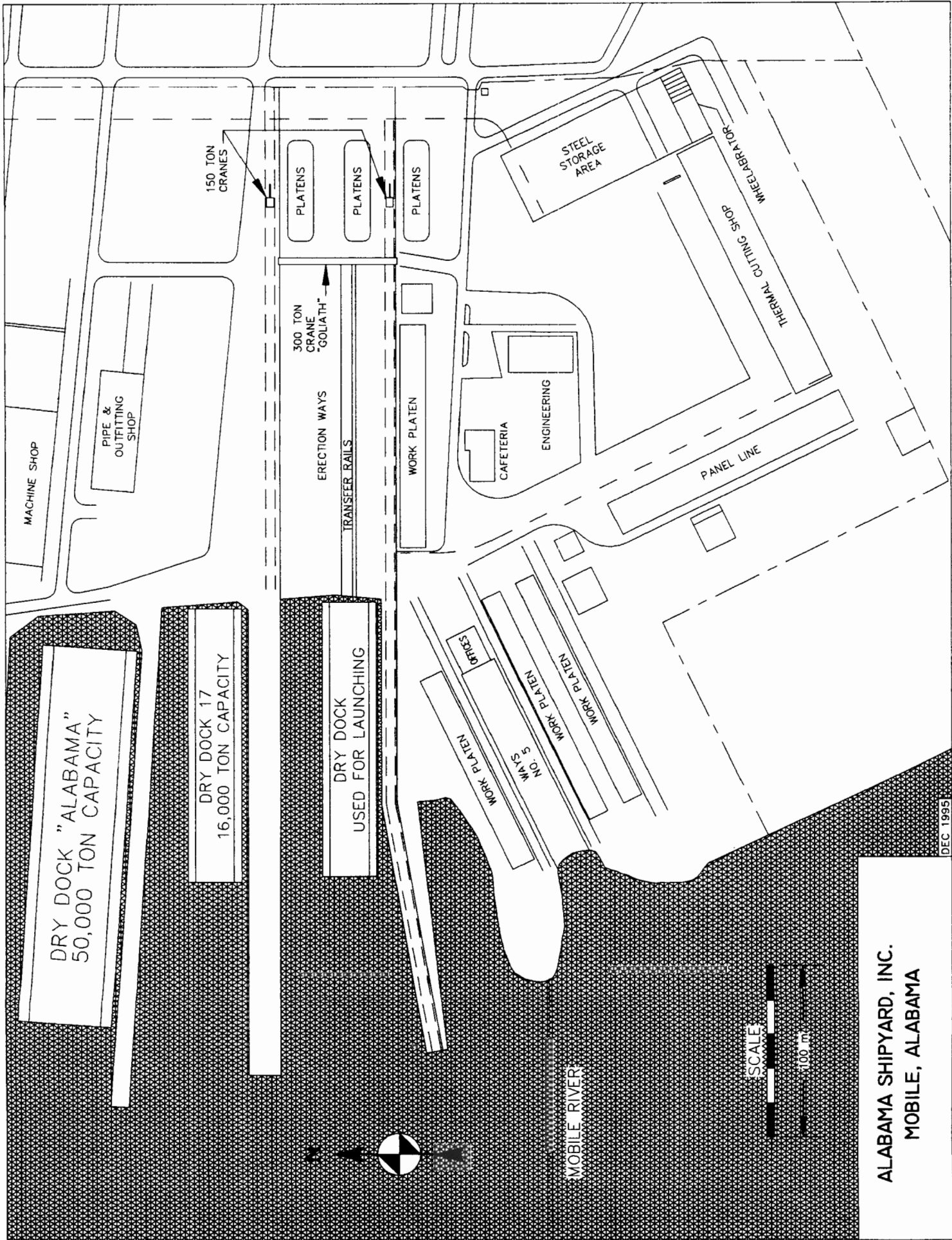
Alabama Shipyard, Inc. (ASI), is a wholly owned subsidiary of Atlantic Marine Holding Company of Jacksonville, FL. Alabama Shipyard, Inc., (formerly ADDSCO's Alabama Maritime Corp.), is a new construction facility located on the Mobile River, across the river from Mobile, AL, about 47 kilometers from the Gulf of Mexico, with no obstructions to open water. The shipyard occupies approximately 61 hectares of the 263 hectares available on Pinto Island. Acquired by Atlantic Marine in 1989, the yard has been in existence since 1916, and has constructed a variety of ships (both commercial and naval), barges and off-shore drill platforms and semi-submersible drill rigs.

Alabama Shipyard, Inc., is capable of constructing ships up to a maximum size of 290 meters by 50 meters. The shipyard has 46,080 square meters of manufacturing space, 7,043 square meters of covered warehouse space and two finger piers with total usable pier space of 1,218 meters. A 250-metric ton bridge crane and two 136-metric ton gantry cranes service the 335 meter by 69 meter wide erection area.

Recent additions to the facilities include a 27 meter by 12.2 meter panel line shop which has a modified series arc submerged one sided butt welding station capable of welding up to 19.05 mm thick plates, a new steel storage area serviced by a 18-metric ton bridge crane and a new fabrication platen area. The shipyard has invested \$40 million in facility upgrades in the past 5 years, and has budgeted another \$40 million for future expansion.

Future expansion items include an enclosed paint and touch-up building, automatic stiffener welders (8 leads), a new pipe fabrication facility, bow and stern shops and additional warehouse space.

As of mid-1995, Alabama Shipyard's employment totaled 218, down from 330 a year earlier.



ALABAMA SHIPYARD, INC.
MOBILE, ALABAMA

DEC 1995

2. AMFELS, Inc.

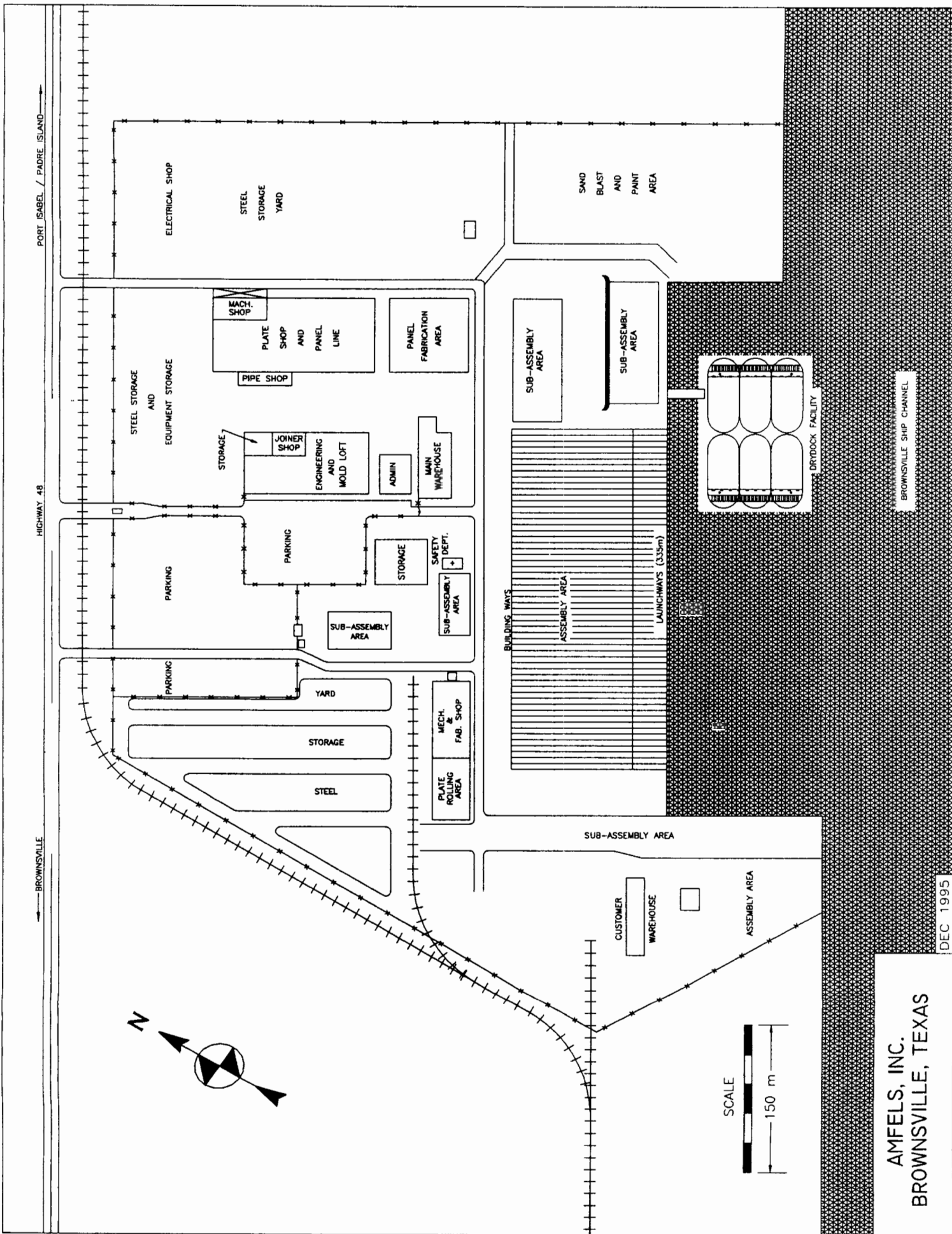
AMFELS, Inc., is a wholly owned subsidiary of Far East Levingston Shipbuilding Ltd. (FELS) of Singapore, located 22 kilometers up the Brownsville Ship Channel from the Gulf of Mexico in Brownsville, TX. AMFELS is a full service shipyard that serves the marine and offshore industry, possessing the necessary capability and experience in the design, engineering, construction, conversion and repair of various types of marine offshore vessels.

AMFELS operates a variety of marine equipment including a 711-metric ton floating crane and two 135-metric ton derrick barges, assisted by tugboats. By the end of 1995, AMFELS expects to have a fully operational 30,000 ton floating drydock, leased from the Port of Brownsville, that is capable of drydocking both marine vessels and offshore oil rigs.

AMFELS operates a 54 hectare facility with 12,700 square meter steel fabrication shop, 110 square meter of pipe fabrication shop, 127 square meter of machine shop and another 73,256 square meters of open space used for assembly and erection. Another major component of the yard is the 335 meter side launchway.

Since its inception in 1992, AMFELS has completed a variety of topside repairs, including the deactivation and repairs of five MARAD vessels. AMFELS has also been active in the repairs, life enhancement programs and conversions of over 45 offshore drilling rigs and platforms. AMFELS' new construction record includes 3 platform rigs, 2 drill barges, a skimmer boat, a 76 MW self-contained power barge facility and a 10,160 metric ton molten sulphur carrier barge.

In mid-1995, the total workforce was about 650.



AMFELS, INC.
 BROWNSVILLE, TEXAS

DEC. 1995

3. Avondale Industries, Inc. - Shipyards Division

Avondale's Shipyards Division is located on the west bank of the Mississippi River approximately 22 kilometers upriver from New Orleans, LA. Avondale, previously a wholly owned subsidiary of Ogden Corp., was sold in 1985 to its employees in an Employee Stock Ownership Plan (ESOP). Since 1938, Avondale has constructed a full range of Navy and commercial ships, as well as Coast Guard cutters and offshore drilling rigs, platforms, jackets, and production modules. It has the distinction of being the only American shipyard to have constructed LASH vessels.

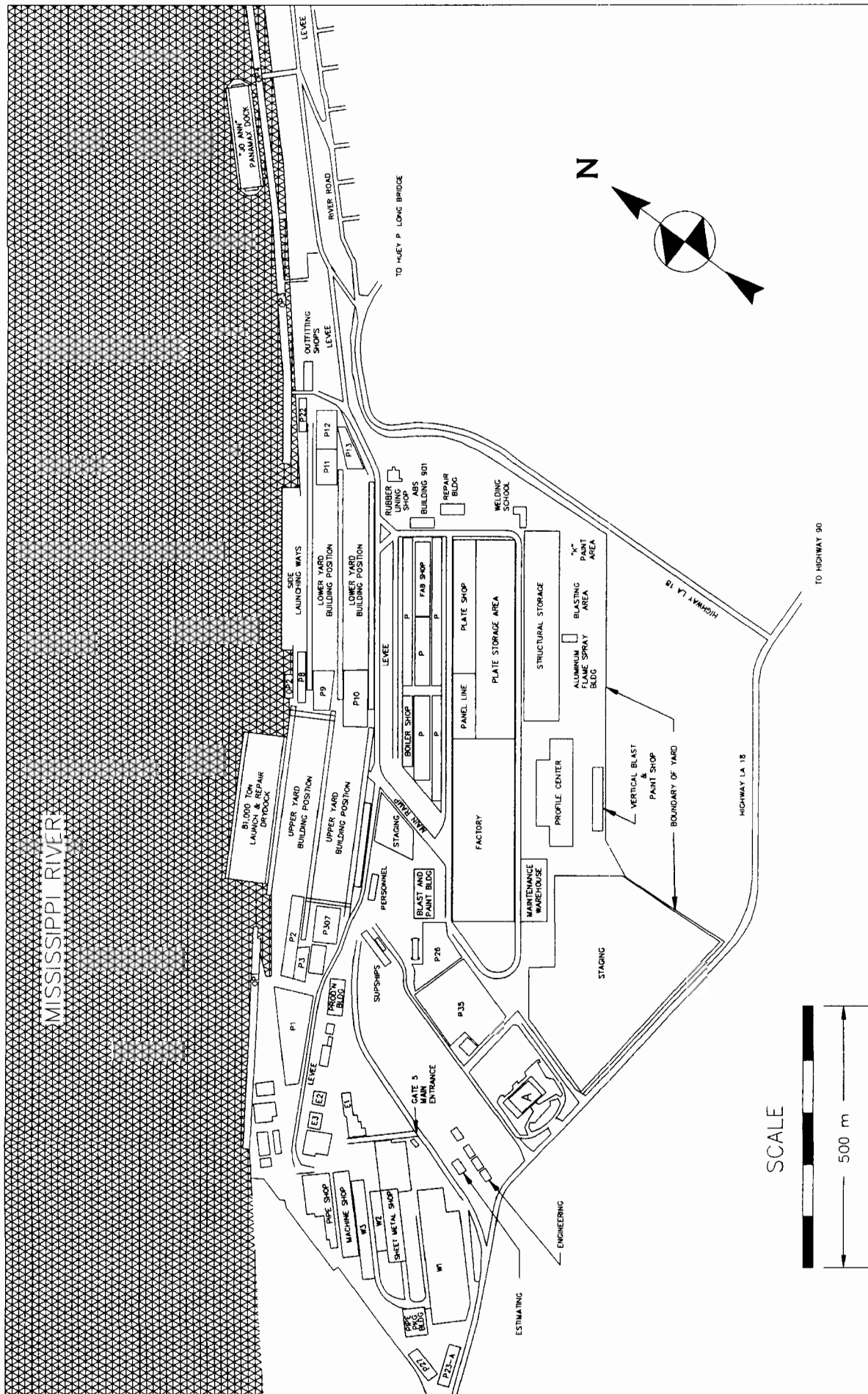
Avondale also maintains an active repair operation for commercial and naval vessels. Ships and offshore drilling rigs are repaired by Avondale's Shipyards Division. Inland waterway and offshore oil vessels are repaired by Avondale's Algiers Yard.

Avondale's orderbook as of December 31, 1995, consisted of one double-hull fleet oiler (T-AO), two dock landing ships (LSD's), one Coast Guard WAGB polar icebreaker, four military sealift ships with an option for two more, three fiberglass mine hunters (MHCs), fifty river hopper barges and a paddlewheel gaming vessel. Also included in the orderbook is the reconstruction of four double-hulled oil tankers.

Avondale's Shipyards Division totals 108 hectares and contains three outfitting docks equipped with supporting shops and over 1,431 meters of pier space. The upper yard shipbuilding area has two large positions to accommodate vessels of up to 311 meters in length by 53 meters beam. The major part of one ship can be erected along with the stern section of a second ship on position No. 1, while a third hull is being completed on position No. 2. Ships constructed in the upper yard move laterally in three positions for launching by Avondale's 81,000-ton floating drydock, which can accommodate ships as large as 305 meters by 66 meters, with a lifting capacity of 82,296 metric tons. Avondale's lower yard has a side-launching construction area that has three large positions to accommodate ships as large as 366 meters by 38 meters. Ships built in the lower yard move laterally toward the river and parallel to the river in five positions. Up to five large vessels, greater than 213 meters LOA, can be constructed simultaneously in the lower yard. A 20,000-ton Panamax floating drydock, which can accommodate ships up to 229 meters by 35 meters and has a lifting capacity of 20,320 metric tons, is moored in this area.

Avondale's Boat Division, located at nearby Westwego, LA, facility is capable of building vessels 137 meters long by 27 meters beam. In 1988, Avondale executed a long-term lease of the ex-Todd Shipbuilding Corp.'s New Orleans yard which is now called the Avondale Algiers Repair and Overhaul Facility and is used for ship repair, conversion, and overhaul.

In mid-1995, the total employment was about 5,150, down slightly from 5,700 a year earlier.



KEY

A	ADMINISTRATION
E#	ENGINEERING
OP#	OUTFITTING PIER #
P#	PLATEN #
W#	WAREHOUSE

DEC 1995

AVONDALE INDUSTRIES, INC.
 SHIPYARDS DIVISION
 AVONDALE, LOUISIANA

4. Bath Iron Works Corporation

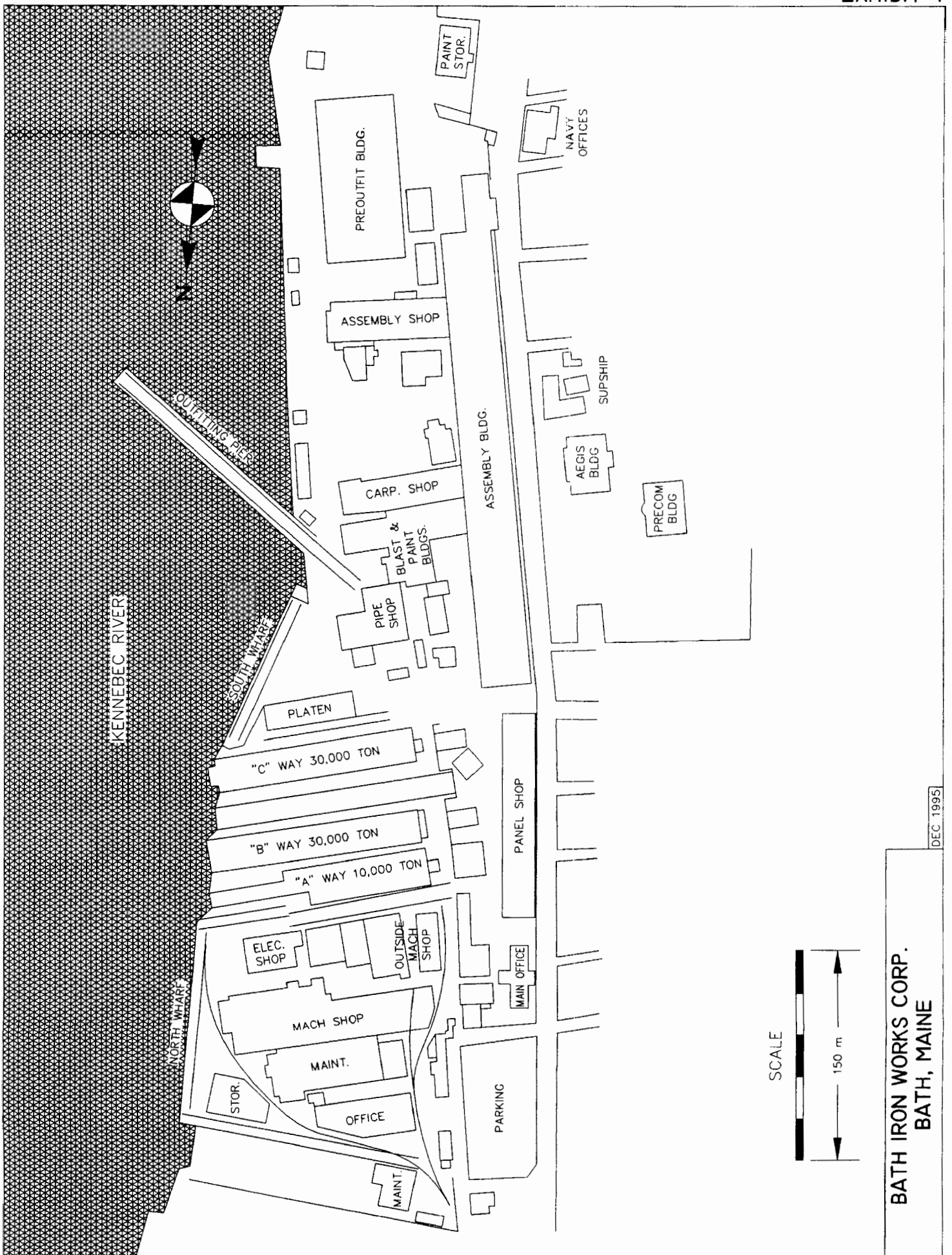
Bath Iron Works Corporation (BIW), a wholly owned subsidiary of General Dynamics Corporation as of September 1995, is located on the Kennebec River in Bath, ME. The original iron foundry was established in 1826; it became Bath Iron Works Ltd in 1884, and the first ship was delivered in 1890. Since then, this shipyard has built over 230 U.S. Navy surface combatants and more than 160 commercial ships, including product tankers, containerships, roll-on/roll-off ships, private yachts and fishing vessels.

Since 1968, BIW has delivered 22 commercial ships and 39 U.S. Navy warships. In 1973, BIW became the lead yard for the FFG-7 PERRY class frigate and delivered 24 of these ships. In 1982, the Navy selected BIW as the second-source shipbuilder for the AEGIS cruiser program. The company built eight CG-47 TICONDEROGA class cruisers and delivered the last one in 1993. Finally, in 1985, BIW won the competition for the design and construction of DDG-51 ARLEIGH BURKE class AEGIS destroyers, the U.S. Navy's newest surface combatant. The lead ship and seven follow-on ships have been delivered since 1991. At present, 10 more DDG's are under contract and the last delivery is scheduled for year 2000.

The new construction facilities at the main shipyard feature three shipways; Two can accommodate ships of 220 meters in length, one with a maximum beam of 34 meters and the other a maximum beam of 39 meters. These ways are serviced by a 200-metric ton level-luffing crane capable of erecting maximum weight units on both shipways. The third shipway, which can handle a 210 meter ship with a beam of 26 meters, is serviced by a 270-metric ton crane. Two principal structural assembly buildings have 28 unit work stations: the larger building, which also houses the panel line, is 390 by 40 meters and the smaller one is 135 by 28 meters. The 130 by 65 meter pre-outfit building has 18 work stations and is used for equipment installation after units are blasted and painted. Three piers have an overall waterfront length of 680 meters.

BIW also operates three other industrial facilities. Two are located 5 kilometers away in East Brunswick. The Hardings Fabrication Plant, covering 15 hectares with 18,000 square meters of covered area, houses structural fabrication and sub-assembly operations. The adjacent East Brunswick facility has a total area of 24 hectares and includes two main buildings. One is a 113,000 cubic meter, climate-controlled, high-bay pallet-stacking warehouse. The other is a combination pipe and sheet metal fabrication center, with over 11,000 square meters of covered work space. The BIW-operated Portland (Maine) overhaul and repair facility is 50 kilometers from Bath and has a 61,000-metric ton floating dry dock which can accommodate a vessel up to 257 meters by 41 meters.

As of mid-1995, the company employed about 8,300 compared to 8,500 a year earlier.



BATH IRON WORKS CORP.
 BATH, MAINE

DEC. 1995

5. BethShip Sparrows Point Yard

The BethShip Sparrows Point Yard is located on the Patapsco River in the port of Baltimore, MD. Established in 1891, the yard became a part of the Bethlehem organization in 1916 and served as a major shipbuilder during two world wars. During World War II, Sparrows Point constructed 101 vessels of 16 different classes. During the 1950's, 1960's and 1970's, the yard was among the most active in the nation, specializing in series construction of standard size tankers up to VLCCs, freighters, and containerships.

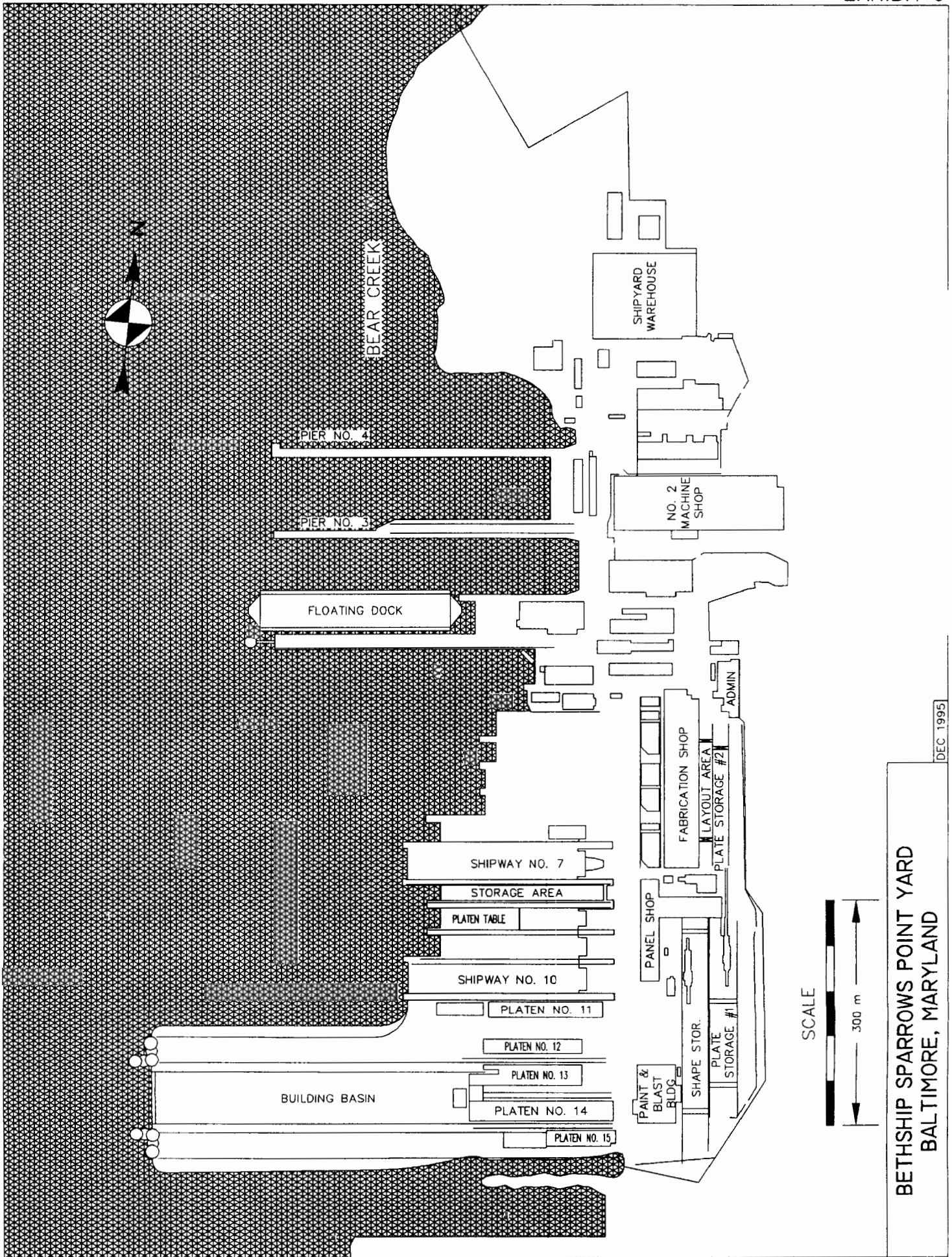
Since the beginning of 1981, the yard has constructed six integrated tug barge (ITB) tankers, six offshore drilling rigs, three container feeder barges, and two oceanographic survey ships for the U.S. Navy. During this same period the yard has adapted to changing markets by increased efforts in ship conversion, repair and industrial fabrication. In addition to numerous drydockings and repairs on commercial and naval ships, three RO/ROs have been converted to Maritime prepositioning ships, 12 RO/ROs have been reflagged, and tunnel sections for a new Interstate 664 Hampton Roads tunnel complex and tunnel sections for the new Interstate 90 project in Boston have been completed.

Contracts at the yard as of the fourth quarter of 1995 included the drydocking and repair of one tanker for MOC, one tanker for Ocean Ships, Inc., one cable ship for AT&T, one bulk carrier for Central Gulf, three cruise ships, conversion of LKA's EL PASO and MOBILE for MSC and construction of four deckhouses for product tankers at Newport News.

The major component of this shipyard is the graving dock (the second largest in the U.S.) for construction or repair of ships as large as 365 meters by 59 meters up to about 300,000 dwt. A two-position intermediate gate has been installed to increase the flexibility of the graving dock by dividing it into two sections. In one position the graving dock sections are 274 meters and 91 meters in length. In the second position, the sections are 208 meters and 157 meters in length. In 1995, new pumps were installed in the graving dock to reduce pump out time.

Complementing the large graving dock, which is served by four 181-metric ton revolving cranes, the shipyard has a floating drydock capable of lifting 44,735 metric tons. The drydock can accommodate vessels up to 274 meters in length with a beam of up to 40 meters and a draft up to 9 meters. The entry channel to the yard has a depth of 9 meters. Four outfitting berths are available with a combined length of 1,210 meters. The berths are served by five cranes with lifting capacities up to 45 metric tons. Several mobile cranes of various capacities are also available.

As of mid-1995, the total labor force at the BethShip Sparrows Point Yard was 242, down from 828 a year earlier.



DEC. 1995

BETHSHIP SPARROWS POINT YARD
BALTIMORE, MARYLAND

6. Erie Marine Enterprises, Inc.

The Erie Marine Enterprises, Inc. 18 hectare shipyard is located on the protected waters of the Presque Isle Bay in Erie, PA. This Great Lakes shipyard has a history of new construction, repair and industrial work. The yard built the first Great Lakes 305 meter self-unloading ore carrier and a second 305 meter self-unloading ore carrier.

This shipyard has the longest U.S. drydock on the Great Lakes and can accommodate ships up to 375 meters in length with a maximum beam of 35 meters. The facility consists of three interconnected buildings containing over 18,581 square meters of production space, enabling raw material coming into the facility to be totally processed in an environmentally controlled production setting. The drydock extends into a 6,600 square meter assembly building, both of which are served by 91-metric ton and 18-metric ton cranes. The complex contains machine, electrical and outfitting shops with warehouse and office spaces.

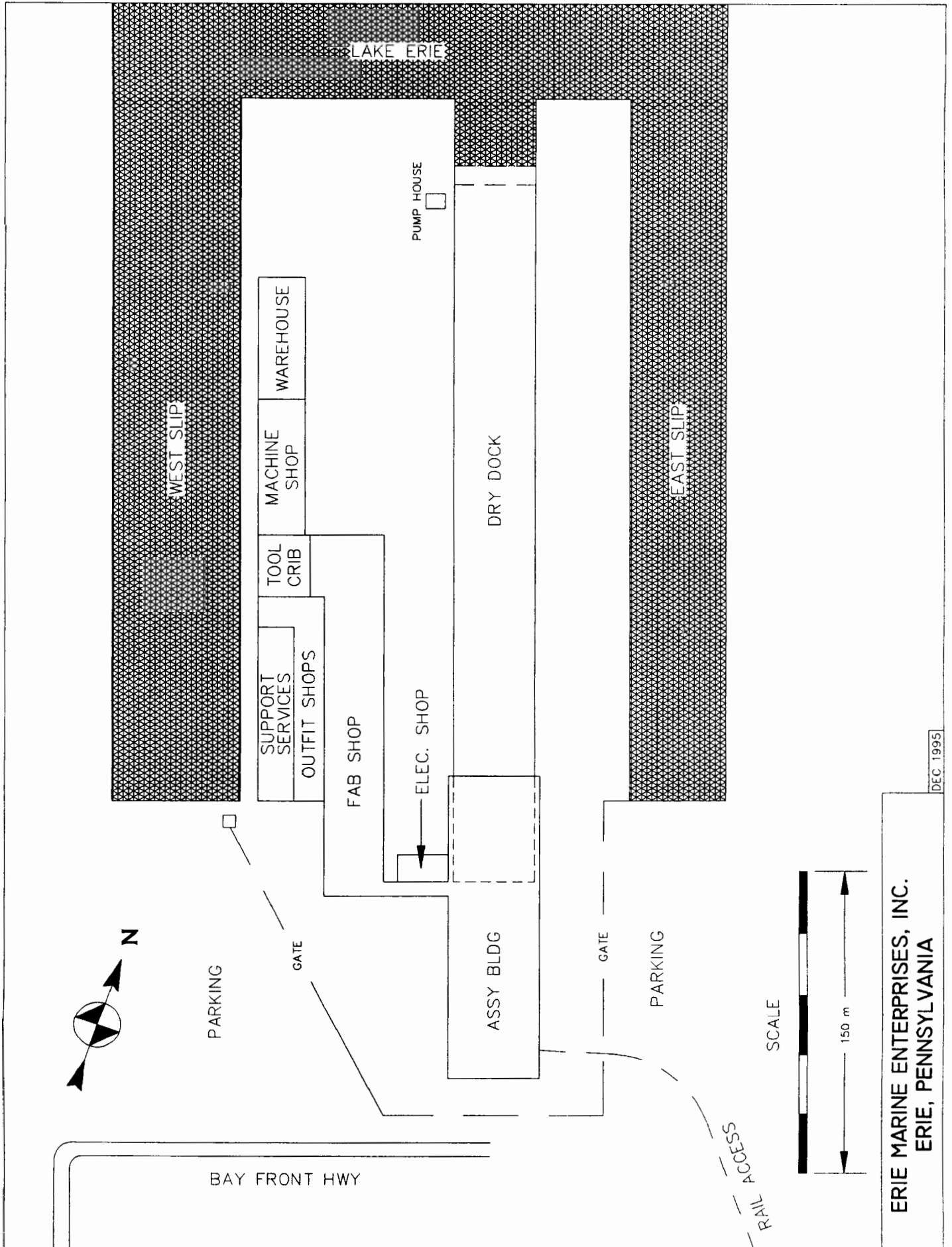
Three overhead cranes service the 5,700 square meter fabrication shop. There are 1,129 meters of pier space at the shipyard with full dockside services. Auxiliary pier spaces are available for four additional ships. The shipyard has mobile cranes with capacities up to 113 metric tons. Also, there is a 270-metric ton stationary revolving crane.

In recent years, the company has invested about \$2.6 million in rehabilitating and upgrading the facility and equipment. The company has plans to install an intermediate drydock gate to allow new construction and ship repair to be conducted simultaneously, in addition to further upgrading of equipment.

The shipyard has access to and, as needed, uses several industrial companies and subcontractors located in the Erie industrial community. An unfortunate, but unique attribute is there are several thousand skilled craftspeople from other industries presently unemployed in the Erie and Tri-City surrounding areas.

In addition to repair and industrial work, the company is actively pursuing and contemplates new construction in 1996.

As of mid-1995, the company employed a total of 42 compared to 49 a year earlier.



DEC 1995

ERIE MARINE ENTERPRISES, INC.
ERIE, PENNSYLVANIA

7. Fraser Shipyards, Inc.

The Fraser Yard, the only major American shipyard and drydock operation on the western end of the Great Lakes, is located on Howards Bay in Superior, WI. From 1900 to 1926, Superior Shipbuilding Co. operated the yard and built more than 50 large Great Lakes ore carriers. The yard became a repair facility of the American Ship Building Co. from 1926 to 1945 and then became known as Knudsen Brothers Shipbuilding and Dry Dock Co. Fraser-Nelson Shipbuilding and Dry Dock Co. took over the plant in 1955, and the present name was adopted in 1964. In August 1977, the yard was sold to Reuben Johnson & Son, Inc., a Superior, WI, contracting and construction firm, but business continues under the Fraser name.

Since World War II, Fraser Shipyards, a complete shipbuilding and ship repair facility, has specialized in vessel repair and ship modernization. In the past 25 years, Fraser has performed most of the major ship lengthening work on the Great Lakes. In recent years, however, general ship repair has been its primary source of revenue.

In the early 1980's, the Fraser yard instituted a major renovation of its fabrication capabilities, including a 40 percent increase in its platen table capacity and extension of its railroad trackage to increase steel unloading capabilities by 300 percent. An all-new steel cutting process with hydraulic loading and unloading tables was installed, as well as major repowering of the shipyard to support the expanding facilities and to improve existing capacity. New automated welding equipment and related modern techniques also were introduced to increase productivity. In 1990 Fraser installed a new metal-forming brake as well as a new shear.

Fraser maintains two graving docks suitable for ship construction, repair, and conversion work. One basin can accommodate a vessel 252 meters by 23 meters, and the other a vessel 189 meters by 17 meters. A small graving-type dock was added in 1973 to build new midbody sections for the lengthening of bulk-ore freighters under contract at that time.

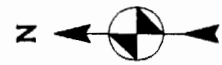
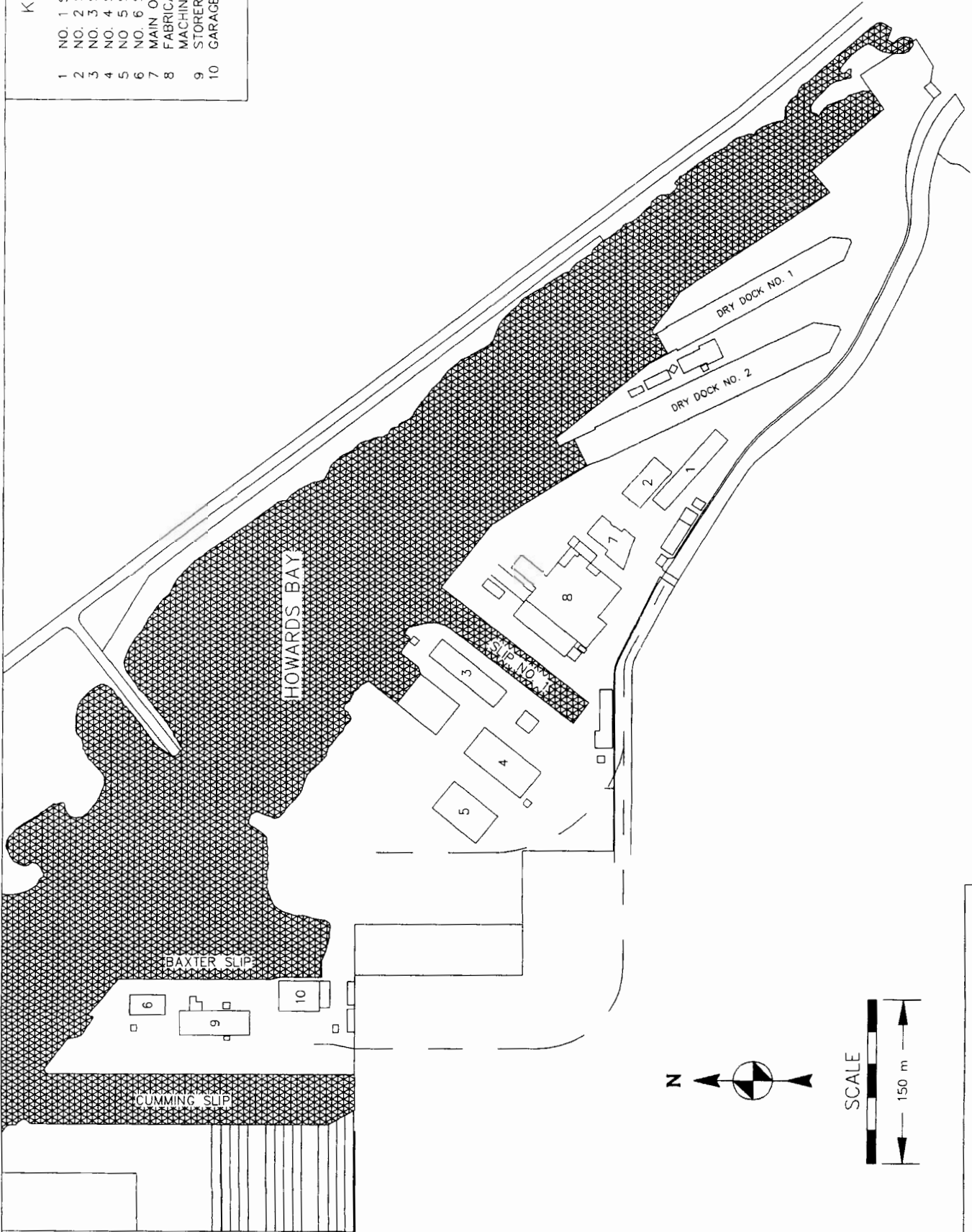
Fraser's 10 mobile cranes, ranging from 14 to 136 metric tons can service all building docks, as well as outfitting and repair berths, and also can be floated on a crane lighter for work afloat. The company also operates an "outside" repair fleet totaling 12 units -- tugs, work launches, and barges -- capable of performing repairs on vessels while they are loading or unloading cargoes in Duluth-Superior harbor and adjacent ports.

Work underway includes a stern thruster installation, cargo hold bulkhead renewal and cargo hold slope renewals on various Great Lakes self unloaders. Pre-fabrication is taking place currently with final installation during winter lay up.

In mid-1995, employment was about 50 people, down from 90 a year earlier.

KEY

- 1 NO. 1 SLAB
- 2 NO. 2 SLAB
- 3 NO. 3 SLAB
- 4 NO. 4 SLAB
- 5 NO. 5 SLAB
- 6 NO. 6 SLAB
- 7 MAIN OFFICE BLDG
- 8 FABRICATION AND MACHINE SHOP BLDG
- 9 STOREROOM
- 10 GARAGE



FRASER SHIPYARDS, INC.
SUPERIOR, WISCONSIN

DEC 1995

8. Gunderson, Inc.

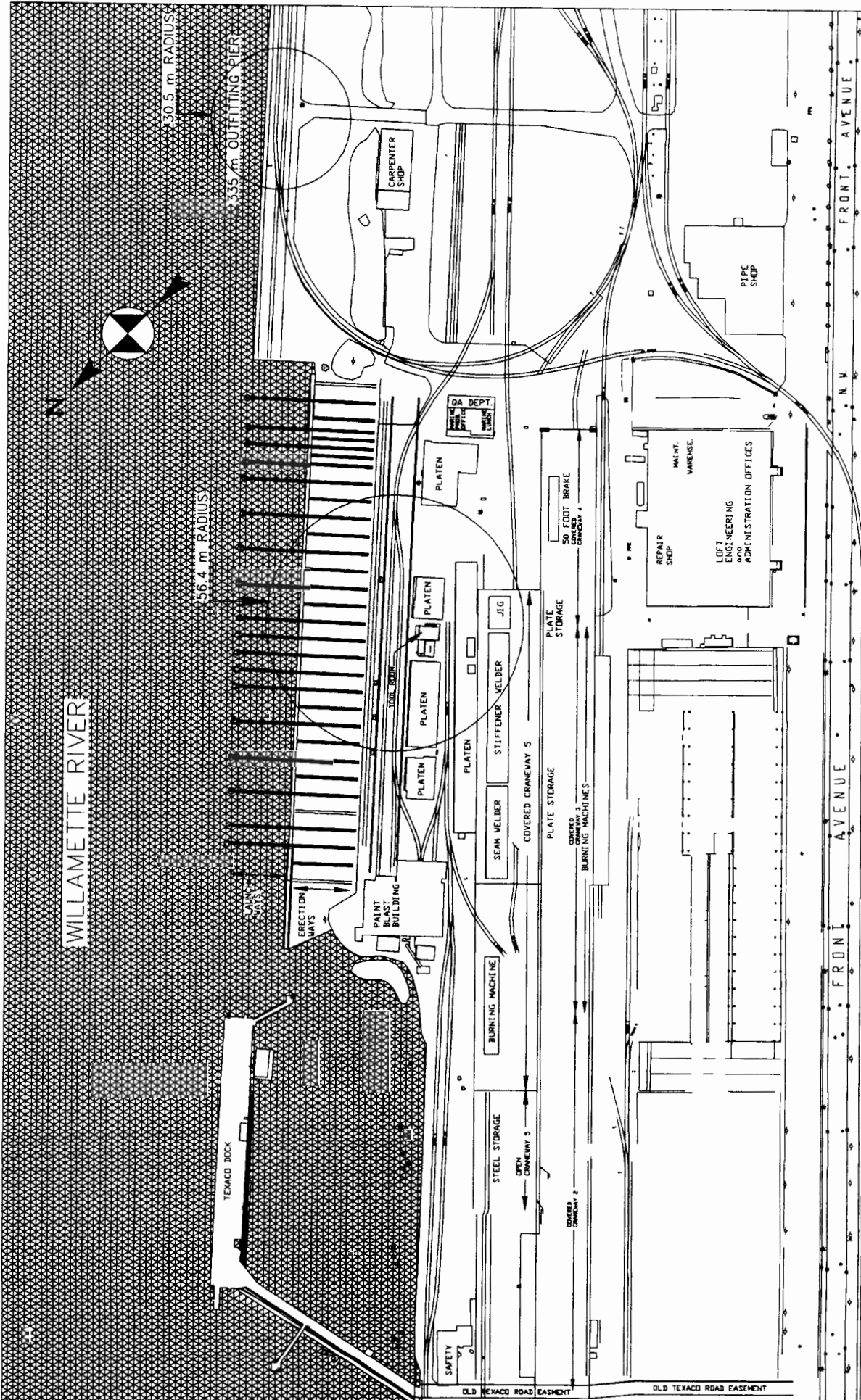
Established in 1919 as a steel fabricator, Gunderson has been a ship and barge builder since 1942. The primary marine work at Gunderson marine yard since the early 1970's was building oceangoing barges. From 1973-1977, the company built five double-hull, gas turbine-electric drive oil tankers for Chevron Shipping Company, San Francisco. After those tank ships, 38 barges, all oceangoing, and most exceeding 122 meters in length, were built. They include four of the world's largest triple-deck RO/RO barges, 177 meters by 32 meters, several 32 meters by 122 meters deck cargo and tank barges, four 76 meter split hull hopper barges, and a 128 meter crane barge equipped with a 500-ton helipad. Gunderson has also built military boats, landing craft, lifeboats, tugs, deckhouses, hopper and tank barges and a variety of other specialized marine craft.

From 1965 to 1985, Gunderson was owned by FMC Corporation, now based in Chicago, IL, and operated under the name of the Marine and Rail Equipment Division of FMC until The Greenbrier Companies bought the facility in February 1985. In February 1995, Gunderson launched its first barge built since 1984, a 3,823 cubic meter capacity oceangoing split hull hopper barge. Gunderson's yard is located on a 30 hectare parcel with approximately 0.8 kilometers of frontage on the west bank of the Willamette River, about 3.2 kilometers downstream of the downtown Portland waterfront. As such, Gunderson has access to all three drydocks available at Portland Ship Yard/Cascade General and the services of the ship repair and outfitting contractors who regularly utilize this facility.

Gunderson's facilities and production workforce, which averages some 1,200 skilled and semi-skilled workers, can be and are utilized to build both marine equipment and railroad freight cars, including the most advanced designs in double-stack railcars. Capable of launching vessels up to 229 meters in length, 32 meters in breadth and weighing as much as 9,000 tons, Gunderson is currently seeking work in the construction of large oceangoing deck cargo (open and closed) hopper barges, deckhouses, cranes and double hulled petroleum tank barges of up to 20,000 dwt capacity. Gunderson's launch capacity can be readily increased to accommodate vessels weighing as much as 10,000 metric tons and its steel throughput capacity for all products is currently 1,016 metric tons per month. Gunderson is also well equipped to effect vessel modifications afloat alongside its 335 meter, crane served, outfitting pier.

The present backlog is one 3,000 cubic yard split hull bottom dump barge and three 5,000 cubic yard barges. During 1992-1993, a \$5 million expansion program added 91 meters to the marine panel line, a 50 ton overhead crane, 8 head burning machines, auto gantry welder for stiffeners, and renovation of the vessel launching facility.

As of mid-1995, total employment at Gunderson Shipyard averaged 1,200 people, with approximately 80 of these producing marine equipment. The remainder of the workforce was involved in the construction of railroad cars.



WILLAMETTE RIVER

30.5 m RADIUS

56.4 m RADIUS

535 m RADIUS

TEKACO BOCK

PAINT BLAST BUILDING

CARPENTER SHOP

PLATEN

PLATEN

PLATEN

PLATEN

PLATEN

PLATEN

PLATEN

PLATEN

PLATEN

SEAM WELDER

STIFFENER WELDER

JIG

BURNING MACHINE

STEEL STORAGE

COVERED CRANEWAY 3

BURNING MACHINES

PLATE STORAGE

COVERED CRANEWAY 5

BURNING MACHINES

30 FOOT BRAKE CONCRETE CHIMNEY

REPAIR SHOP

MAINT. WAREHOUSE

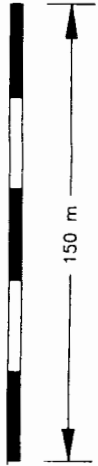
LOFT ENGINEERING ADMINISTRATION OFFICES

OA DEPT. OFFICE

PIPE SHOP

FRONT AVENUE

FRONT AVENUE



GUNDERSON, INC.
PORTLAND, OREGON

DEC. 1995

9. Halter Marine, Inc., Moss Point Division.

The Halter Moss Point (HMP) facility is located on the Escatawpa River in Moss Point, MS, a short distance from the Gulf of Mexico and Interstate 10. Significant features of the HMP yard include: a protected, deep-water location; large module fabrication and assembly platens; two launchways; lift capacity of up to 272 metric tons; full range of outfitting services; and full-service warehousing facilities. The original 30 acres of developed land has been substantially increased in size by the acquisition of approximately 10 acres of adjacent property which includes the existing marine fabrication shops, platens and offices, along with a 60 meter launchway.

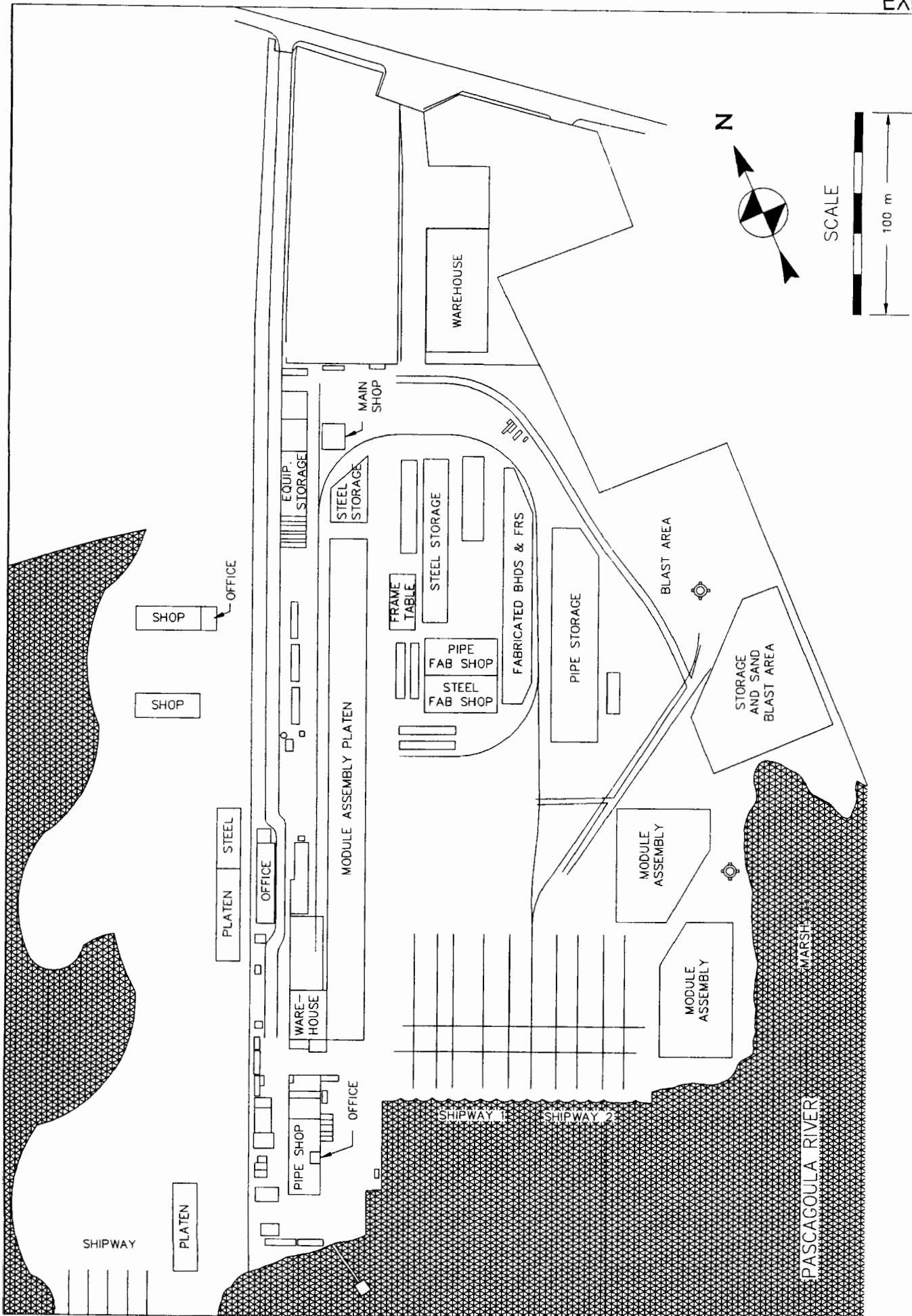
During 1995, HMP delivered the T-AGS 60 and T-AGS 61 ocean survey ships for the Navy. HMP is currently constructing two additional T-AGS 60 class ocean survey ships, three AGOR 23 oceanographic research ships and one T-AGOS 23 class ocean surveillance ship.

The Halter Moss Point facility is equipped and staffed to handle fabrication, assembly and delivery of high complexity ships up to 146 meters in length by 20 meters beam. The shipyard maintains moveable heavy-lift crane capacity of up to 272 metric tons.

The four-story main fabrication shop contains 929 square meters and is fitted with a five-metric ton overhead crane serving its entire length plus an extension at each end, and a nine-metric ton gantry crane. The pipe shop covers 855 square meters. The building is serviced by four one-ton jibs and a five-metric ton overhead crane and contains a standard outfit of pipe fabrication tools and equipment, including six pipefitter work stations. The combined carpenter shop and electric shop contains 465 square meters. The carpenter shop and electric shop carry a full range of standard tools and equipment necessary to support the production effort. The main warehouse contains 1,858 square meters of modern receiving and weatherproof storage space. Environmentally controlled warehouse space for the stowage and test of sensitive equipment is available on site.

The HMP yard has a steel fabrication throughput capacity of 400 tons per month. The pipe shop has the capacity to provide up to 22,859 meters of pipe per year. These capacities will increase as activation of the newly acquired adjacent facility takes place.

As of mid-1995, employment at Halter Moss Point was 342, up from 330 a year earlier.



HALTER MARINE, INC.
 MOSS POINT, MISSISSIPPI

DEC 1995

10. Ingalls Shipbuilding, Inc.

Ingalls Shipbuilding, Inc., a division of Litton Industries, Inc., is located on the Gulf of Mexico in Pascagoula, MS. Ingalls is a diversified shipbuilding facility experienced in the design, engineering, construction, modernization, conversion, overhaul and fleet support of Navy warships and auxiliaries. Since 1975, Ingalls has designed, built and delivered to the U.S. Navy 70 major surface combatant ships. Ingalls also delivered three SAAR 5 corvettes to the Government of Israel.

As of October 1, 1995, the company held orders for two Ingalls-designed multi-purpose amphibious assault ships (LHDs) for the Navy, as well as 7 new DDG-51 class guided missile destroyers. The Ingalls backlog also includes the order for the conversion of LPH 12 USS INCHON to a mine countermeasure support ship.

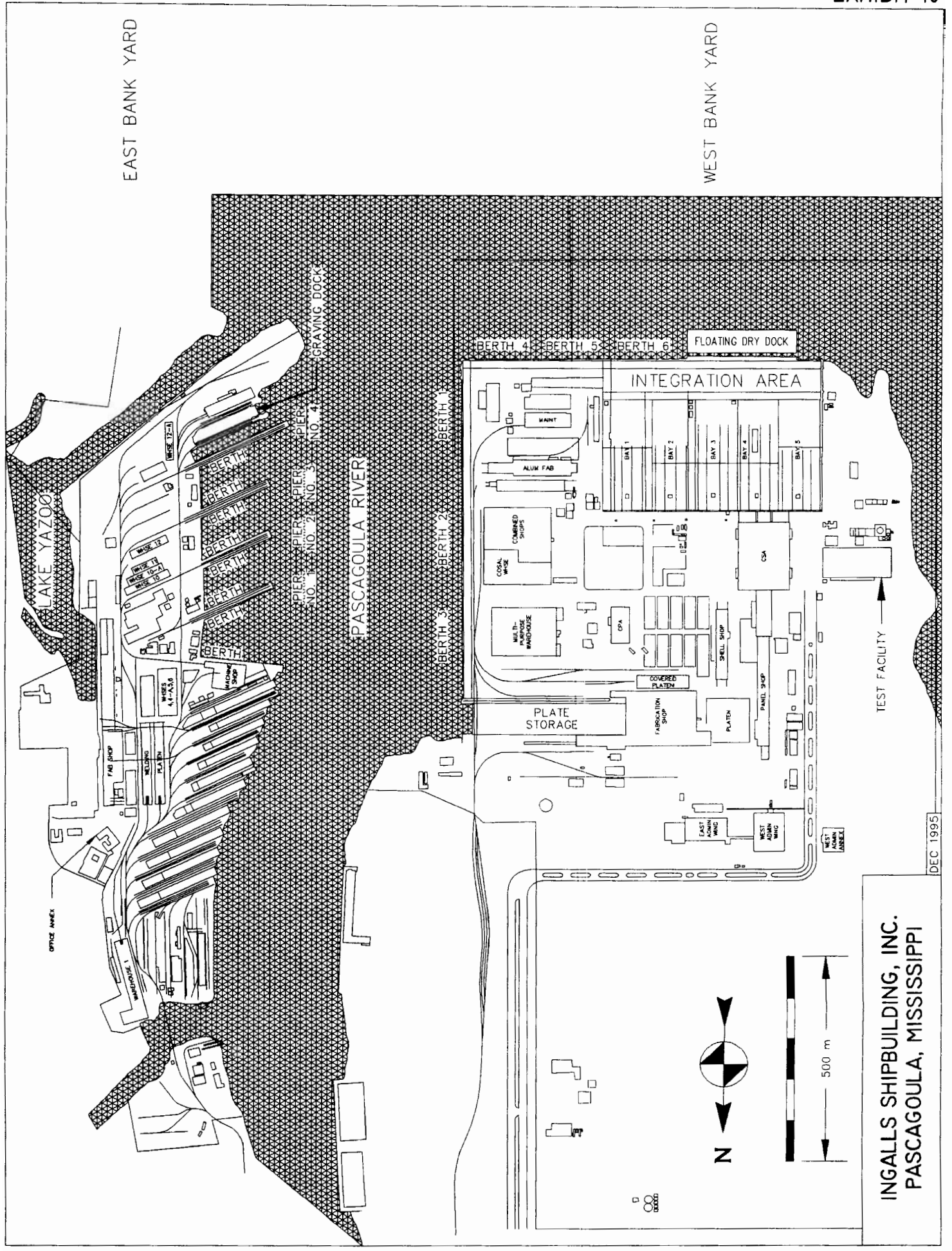
Ingalls' 243 hectare West Bank facility, completed in 1970, does not have conventional inclined shipbuilding ways but is geared to assembly-line construction. Fabricated steel and subassemblies are brought from the various shops to the subassembly area where they are erected and pre-outfitted, then moved to the module assembly area. These areas are divided into five bays, each of which can produce 5,447 metric ton modules. After assembly and outfitting, the modules are moved to the integration area where they are erected into a complete ship. The ship is then moved to a floating drydock (resting on a submerged grid) which is subsequently floated and moved to a deep-water area where it is ballasted and the ship launched. The drydock can launch or recover a maximum ship size of 259 meters by 53 meters. Approximately 1,432 meters of berthing space, serviced by cranes up to 272 metric tons, are available for outfitting. In August 1988, about 16,721 square meters of the shipyard's slab area were brought under roof to increase the amount of early outfitting performed. Improved pipe production facilities, a machinery packaging facility, and a new blast and paint station in the steel fabrication complex have been added.

Ingalls' older East Bank facility has been in operation since 1938, engaged primarily in the construction of commercial cargo ships and tankers. Although there are six inclined shipways and a graving dock at East Bank, they were all taken out of service in 1989, along with three piers. Refurbishment of these facilities is anticipated to take at least two years. One pier remains providing 457 meters of berthing space serviced by cranes with up to 54 metric tons of capacity for outfitting and topside repair.

As of mid-1995, Ingalls employed a total labor force of 14,081, down slightly from 14,733 a year earlier.

EAST BANK YARD

WEST BANK YARD



INGALLS SHIPBUILDING, INC.
PASCAGOULA, MISSISSIPPI

DEC 1995

11. Intermarine USA

Intermarine USA was established in 1987 following a U.S. Navy contract to build large minehunters using composite materials. Intermarine completely renovated a shipyard in Savannah, GA, and converted it into a modern composite manufacturing facility.

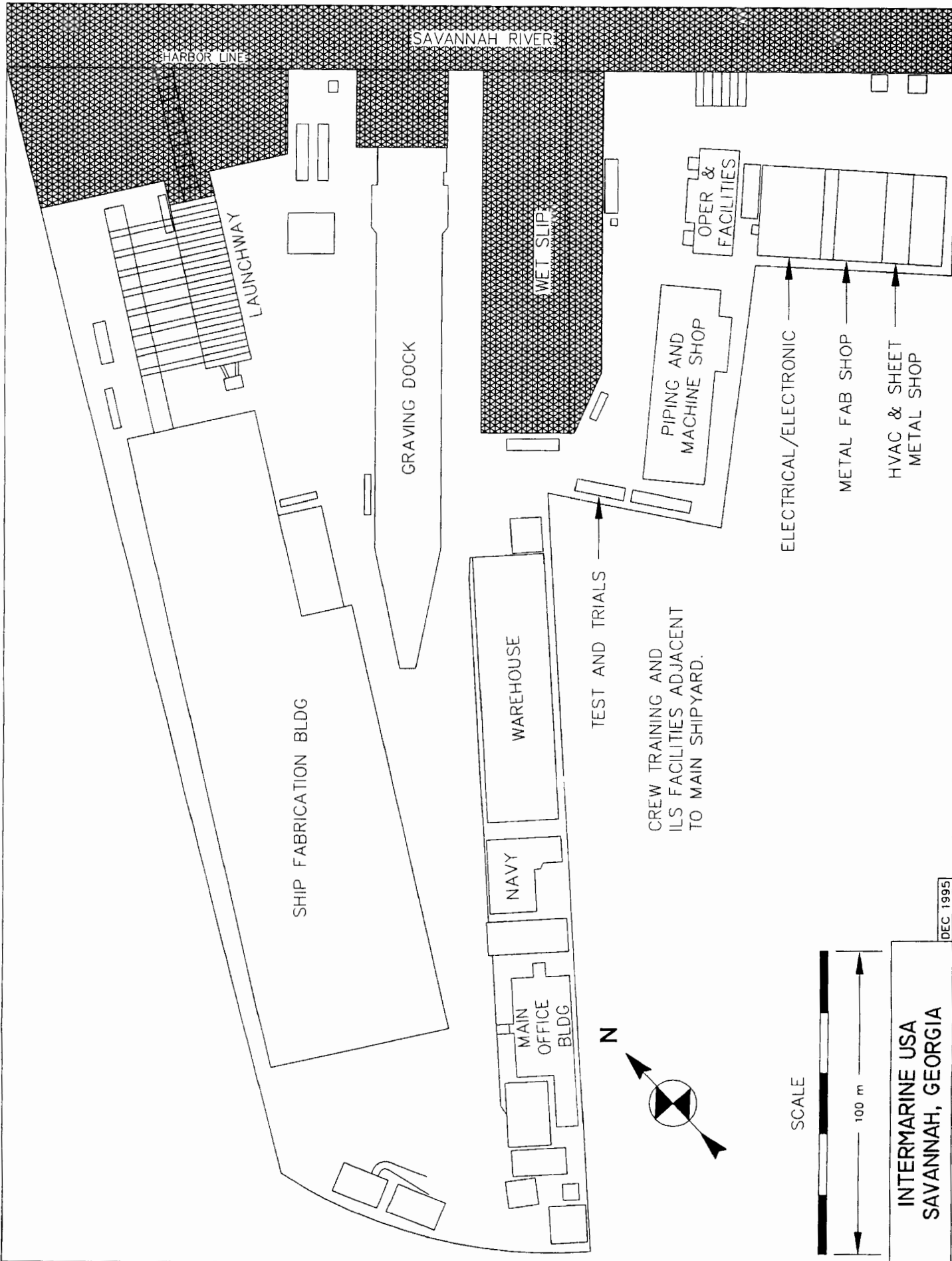
Intermarine USA started construction of OSPREY, lead ship of the MHC-51 Coastal Minehunter class, in May 1988, only one year after the original contract award. The class is 57 meters in length and a full load displacement of 900 metric tons. OSPREY was launched in March 1991 and delivered in August 1993. Seven additional MHC-51 class vessels have been awarded to Intermarine since 1987. These awards ensure continuous ship production through 1999. Through 1995, three of these coastal mine hunters had been delivered.

The company continues to contribute to U.S. Navy advanced composite materials studies in support of marine structural designs up to 73 meters in length. Intermarine also constructed a 20 meter catamaran yacht tender for service in the America's Cup competition. In addition, Intermarine has continuous ongoing naval and commercial ship repair work and is entering the super yacht market.

Intermarine USA has all the facilities necessary for military and commercial ship construction, including a certified 162 meter long graving dock and a 1,016 metric ton marine railway. The composite materials fabrication building has an area of over 14,860 square meters and is equipped with six semi-automatic resin/glass impregnators on fully-articulated bridge cranes. Materials storage areas and environmental controls have been specifically designed to meet all composite materials storage and manufacturing requirements. The facility is large enough to house six minehunter vessels or molds, all under cover, simultaneously. There are 4,180 square meters of shop space, in addition to the composite materials fabrication areas, and ample warehouse space on-site.

In support of the ongoing construction programs, Intermarine has established technical and integrated logistics support departments staffed with experienced engineers, designers and logisticians.

As of mid-1995, Intermarine USA employment totaled 470, down from 489 a year earlier.



12. Marinette Marine Corporation

Marinette Marine Corporation (MMC) is a privately-owned shipbuilding company founded in 1942. Since inception, the yard has built nearly 1,300 vessels, including tugs, ferries, buoy tenders, research vessels, torpedo weapon retrievers, mine counter-measure ships and yard patrol craft and a variety of landing craft.

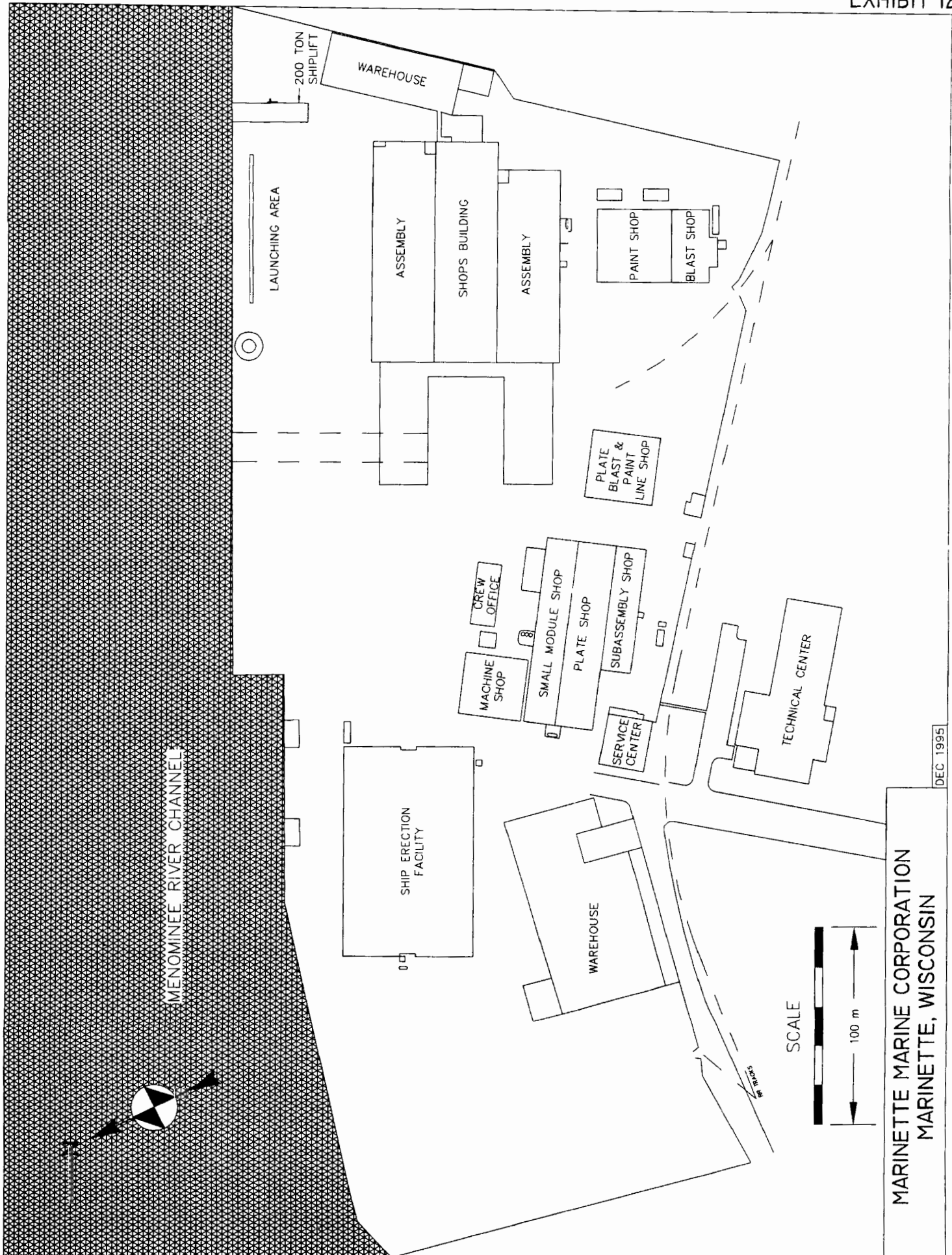
As of October 1995, MMC was engaged in the detail design and construction phases of two contracts with the U.S. Coast Guard. One contract is to design and construct three (with options for two more) 69 meter oceangoing buoy tenders, the other to design and construct four (with options for 9 more) 53 meter coastal buoy tenders. During 1995, MMC completed construction and delivery of a 30 meter catamaran to be utilized as a passenger ferry for a local commercial business.

The shipyard covers 23 hectares and has approximately 150,000 square meters of enclosed workspace permitting year-round, uninterrupted construction of vessels. A modern design and administrative building, large fabrication shops and erection areas, a 200 metric ton ship lift, three launchways, and numerous berthing spaces along the 651 meter dockwall provide what is needed to satisfy multiple ship construction projects in assembly line fashion.

Strategically positioned fabricating, assembly and trade shops allow smooth and efficient movement of material, prefabricated components, and small modules through the ship construction process. Most shops are equipped with overhead bridge cranes. Crawler cranes service the outdoor erection areas. Large modules and completed vessels are transferred to erection and launching sites using a dual walking beam ship transfer system that is capable of carrying up to 1,600 long tons.

Construction of the oceangoing buoy tenders began in late 1993. Construction of the coastal buoy tender commenced in mid-1994. MMC anticipates eight additional (six coastal and two oceangoing) buoy tenders will be awarded for construction in 1996. The two programs will accommodate a total of approximately 500 people when production is at full strength.

Total employment at the yard in mid-1995 was 450, compared to 165 a year earlier.



DEC 1995

MARINETTE MARINE CORPORATION
MARINETTE, WISCONSIN

13. National Steel and Shipbuilding Company

National Steel and Shipbuilding Co. (NASSCO), the largest shipbuilder on the West Coast, participates in both the commercial and the U.S. Navy shipbuilding, conversion, and repair markets. In the marine business since 1945, the company now occupies 59 hectares on the harbor in San Diego, CA. In 1989, NASSCO became an employee-owned company.

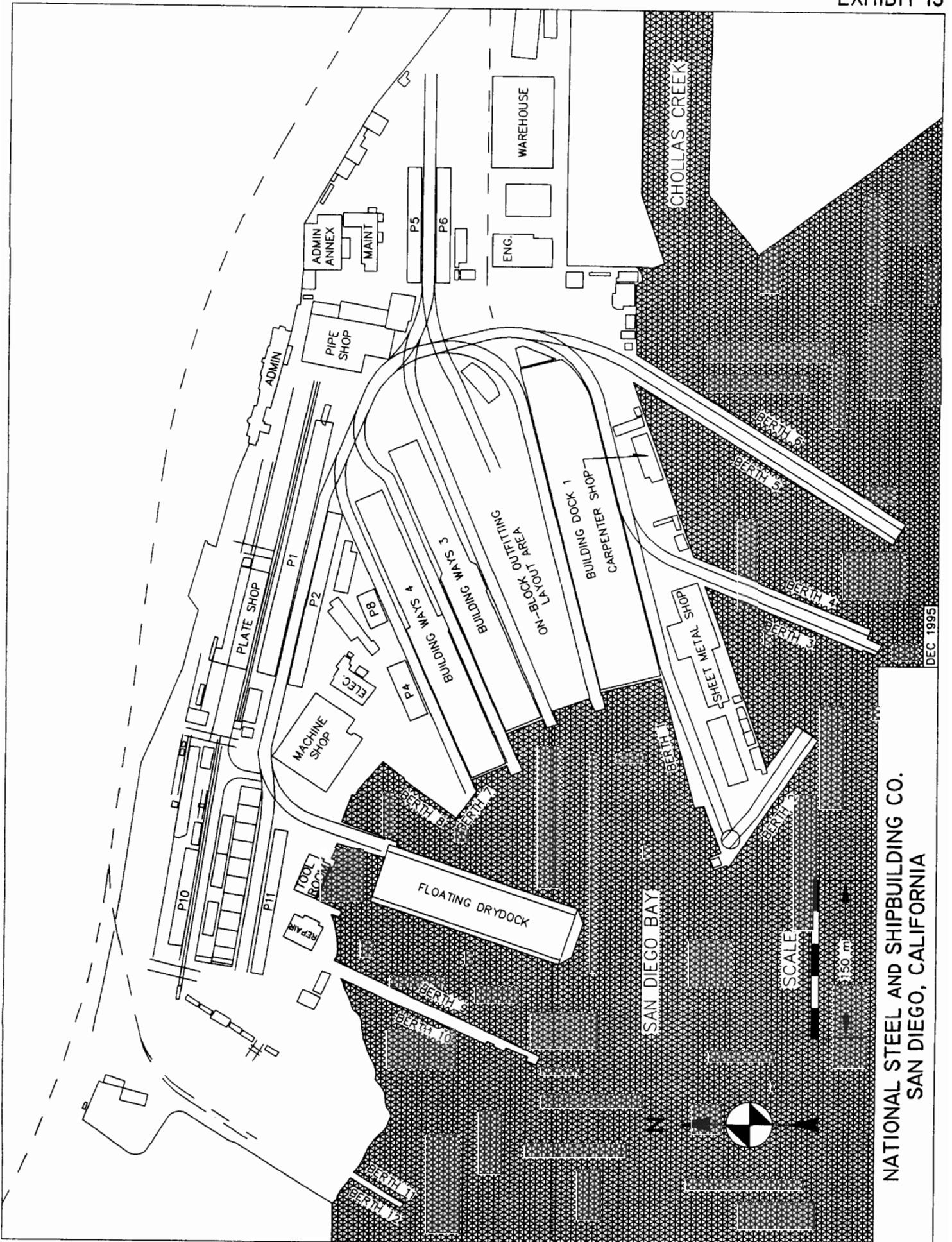
NASSCO has constructed tankers, ore-bulk-oil (OBO) carriers, very large crude carriers (VLCC) up to 209,000 dwt, product carriers, destroyer tenders, a large cable repair ship, a 1,910 TEU containership, special purpose ships and a variety of Navy vessels. NASSCO conversion projects have included the conversion of two 90,000 dwt tankers to 1,000-bed hospital ships (T-AH), three containerships to Maritime Prepositioning Ships (T-AKX), and the reconstruction of three former Sea-Land SL-7 containerships to Fast Sealift Ships (T-AKR) for the Navy. Repair and overhaul work during the past few years consisted principally of Navy contracts.

NASSCO has contracts to design and construct a series of AOE class Fast Combat Support Ships for the Navy (one is currently under construction and three have already been delivered). NASSCO also has contracts to convert three containerships to military sealift ships and to design and construct six new (three firm and three options) military sealift ships for the Navy.

NASSCO's facilities include a building dock in which ships up to 303 meters by 52 meters can be constructed. In addition, the company operates two inclined building ways. Both can accommodate a maximum size ship of 274 meters by 34 meters. Cranes are available that can provide lifts up to 159 metric tons and multi-lifts up to 236 metric tons. Berthing is available at 12 full-service berths that can accommodate ships with drafts up to 11 meters and lengths up to 305 meters. NASSCO also operates a 25,400-metric ton floating drydock with a beam of 41.5 meters.

NASSCO has a full-service machine shop, carpenter shop, sheet metal shop and pipe shop with an automated pipe silo. The company's steel fabrication and assembly capacity is over 1,800 metric tons per week. There is also an automated line for blasting and priming steel plates and shapes. In addition, NASSCO has two electrical shops: one for electrical work and one for intricate electronics work. NASSCO offers full-service marine engineering and naval architecture, utilizing the latest technology, such as Computer-Graphics Augmented Drafting and Manufacturing System (CADAM) and TRIBON.

As of mid-1995, the total labor force was 4,500, up 1,200 from a year earlier.



DEC 1995

NATIONAL STEEL AND SHIPBUILDING CO.
SAN DIEGO, CALIFORNIA

14. Newport News Shipbuilding

Newport News Shipbuilding, located at the Port of Hampton Roads in Newport News, VA, is the largest shipbuilding complex in the nation. The company, founded in 1886, is a subsidiary of Tenneco, Inc. Newport News has delivered 26 aircraft carriers, 51 nuclear-powered submarines, and over 120 other surface ships for the U.S. Navy. Commercial vessels delivered by the yard include 71 cargo ships, 85 tankers, 61 passenger ships, (most notably the famed superliner UNITED STATES), and more than 50 other self-propelled vessels. Newport News was a pioneer in the field of jumboizing ships, and since 1957, has completed 34 such operations.

Newport News is the nation's foremost builder of Navy nuclear warships. As of December 31, 1995, the yard was at work on two Nimitz class aircraft carriers and two LOS ANGELES-class submarines. Newport News is also involved in the overhaul and repair of nuclear-powered submarines and surface ships for the Navy as well as commercial repair work. On July 5, 1995, Fleves Shipping Corporation of Greece exercised an option to construct two 46,500 dwt "Double Eagle" double hulled product tankers as a follow-on to the two already in its orderbook.

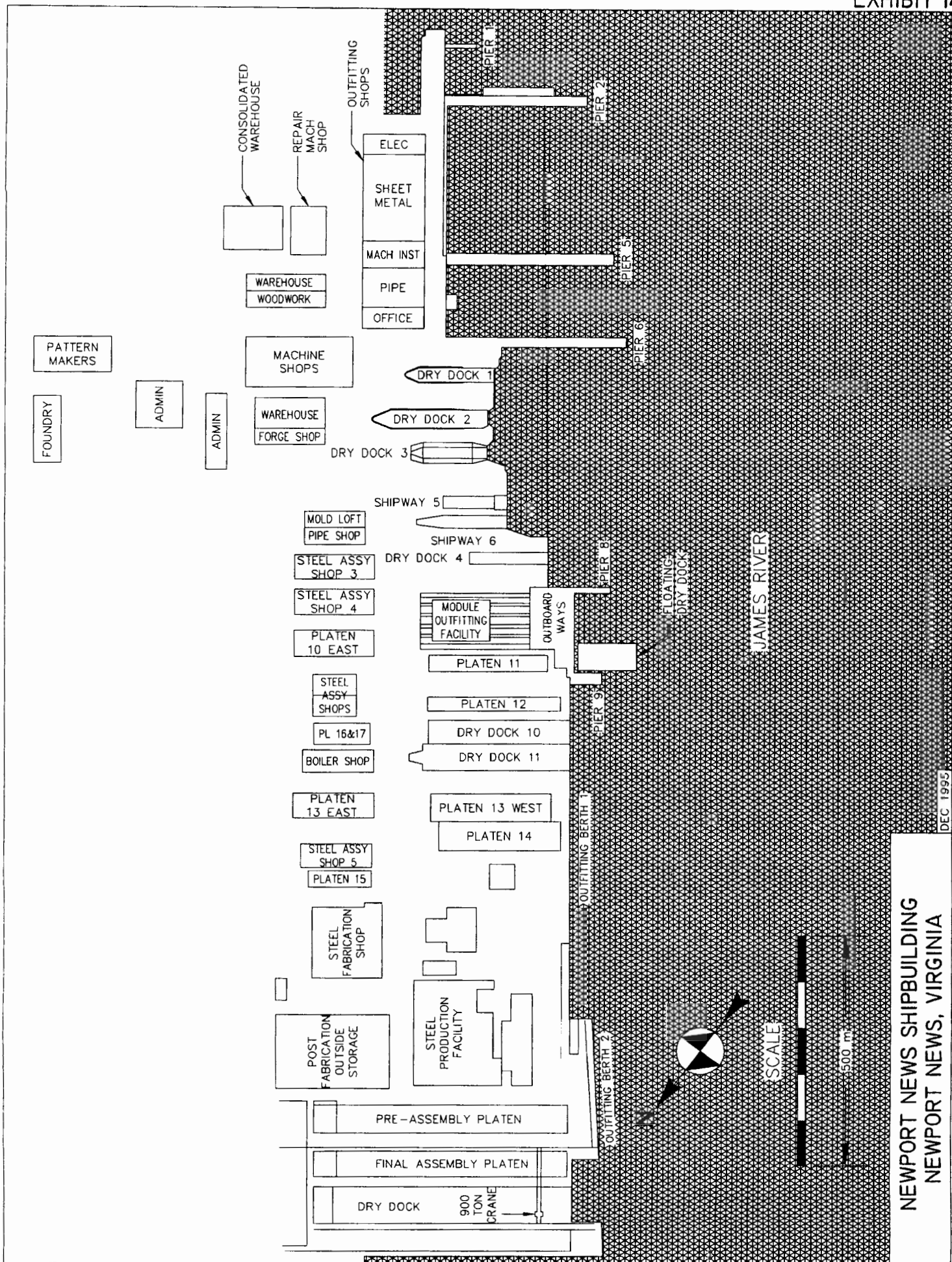
Included in Newport News major facilities are:

Docks - There are eight docking facilities. Drydock 12, the largest building basin in the nation, can accommodate vessels up to 490 meters in length by 75 meters beam. It is currently being lengthened to 663 meters (project to be completed in 1996) and an intermediate gate will permit the simultaneous construction of two major ships in the dry dock. A 900-metric ton gantry crane, one of the largest in the western hemisphere, can handle completely outfitted assemblies. Dry Docks 10 and 11, which are serviced by a 315-metric ton gantry crane, can be used for construction work, but are used primarily for ship overhaul, repair and deactivation. Dry Docks 1-4 are used mainly for ship repair and overhaul, and the floating dry dock, which is 195 meters by 41 or 42 meters, supports ship construction from the module outfitting facility and repair work.

Vessel Berthing - Newport News has two outfitting berths totaling 799 meters each serviced by 30-metric ton cranes. There are three piers totaling 1,944 meters of berthing space and serviced by cranes with capacities of up to 50 metric tons, plus two small piers at the module outfitting facility.

Manufacturing - A \$68 million "World-Class Shipbuilder Project" is currently underway to add robotics and updated computer systems to Newport News fabrication process.

The labor force at Newport News in mid-1995 was about 19,500, compared to 20,900 a year earlier.



DEC 1995

**NEWPORT NEWS SHIPBUILDING
NEWPORT NEWS, VIRGINIA**



15. Peterson Builders Inc.

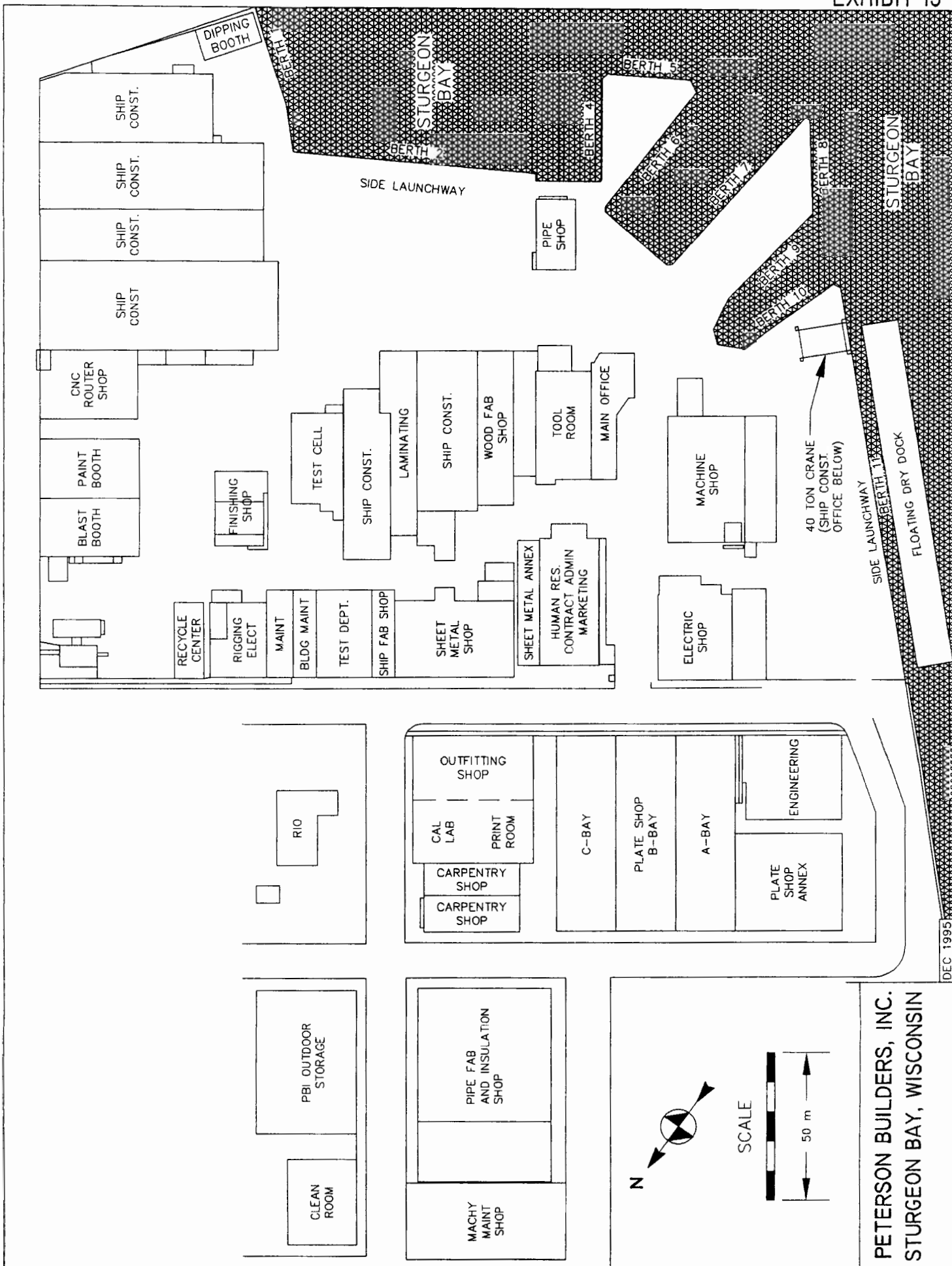
Peterson Builders, Inc. (PBI), of Sturgeon Bay, WI, established in 1933, is a privately owned, full service, construction and repair shipyard, which serves the government, commercial and service industries with its construction capabilities in wood, steel, fiberglass and aluminum, as well as design and production expertise. Over the years, PBI has constructed a diversity of commercial vessels including super tuna seiners, research ships, large passenger/car ferries and tugs of various sizes. Notable with respect to construction of Navy vessels was PBI's completion in 1994 of an 11 vessel mine countermeasures ship program.

The main yard, with about three hectares of buildings, provides inside construction and production facilities; total area is about five hectares. Extensive waterfront facilities provide berthing for vessels up to 152 meters in length. PBI operates two side launching shipways; one can accommodate a maximum ship length of 125 meters and the other 69 meters. Also, inside ship construction capabilities for vessels up to 70 meters by 18 meters are available. PBI's floating drydock has the capacity to accommodate a vessel up to 110 meters by 12 meters and is Navy-certified for 1,118 metric tons.

The Ingleside Division of Peterson Builders, Inc., is a two hectare shipyard on the Jewell-Fulton Canal in Ingleside, TX. This yard supports warranty and repair services for the mine countermeasure ships homeported at the Ingleside Naval Base, as well as offering commercial marine repair services.

Under a contract with the Department of the Navy, three 13 meter aluminum coastal patrol craft (PCCs) were delivered in 1995. In addition, as add-on's to this contract, three 14.6 meter PCC-HSV's (high speed variants) were under construction. Also constructed and delivered in 1995 was a 46 meter floating crane barge for the U.S. Army Corps of Engineers. Drydock/repair work included the U.S. Coast Guard ships BUCKTHORN and SUNDEW.

Mid-1995 the company's average total employment was 318, compared to 380 a year earlier.



DEC 1995

PETERSON BUILDERS, INC.
STURGEON BAY, WISCONSIN

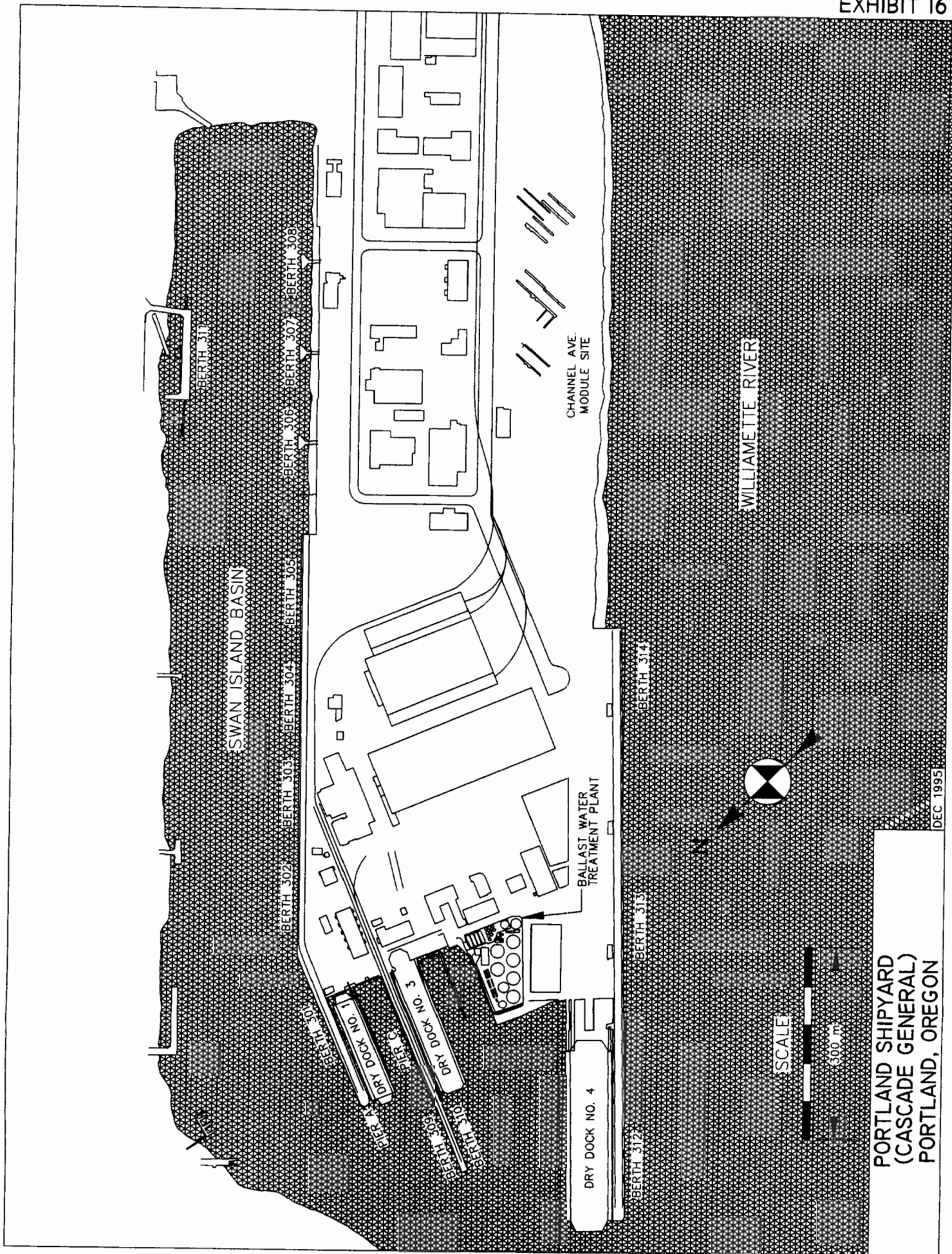
16. Portland Shipyard / Cascade General

This 57-hectare shipbuilding and ship repair facility is located in Portland, OR, on the Willamette River. The yard was developed from the World War II Swan Island Shipbuilding facilities which delivered 1,076 oceangoing ships. Today's facility includes Dry Dock 4, the largest floating drydock in the Americas.

Projects in 1995 included repairing the STAR PRINCESS after it ran aground in Alaska resulting in removal and replacement of over 210 tons of damaged steel in just 21 days and repair/refurbishing of Holland America Cruise Lines' NOORDAM, ROTTERDAM, RYNDAM and STATENDAM. Both the M/S NOORDAM and RYNDAM included passenger embarkation and/or disembarkation at Cascade General. Additional work consisted of extensive repair and overhaul of the USNS ANDREW J. HIGGINS, American Seafoods fishing vessels, B.T. ALASKA, CHESAPEAKE, CHEVRON OREGON, OVERSEAS CHICAGO, OMI COLUMBIA, OREGON, OVERSEAS NEW YORK, CORNUCOPIA, SIERRA MADRE and various other tankers and cargo vessels.

Cascade General operates three drydocks. The largest two (No. 3 and No. 4) can accommodate vessels up to 247 meters by 33 meters, and 351 meters by 55 meters, respectively. A total of 3,078 meters of fully serviced pier space with 17 whirley-type cranes are employed for outfitting. In 1986, a layberth facility was added which can accommodate two 335-meter VLCCs in lay-up status. The yard has 46,500 square meters of fully enclosed service shops and warehouse space.

As of mid-1995 the shipyard employed about 1,000 people, down slightly from a year earlier.



PORTLAND SHIPYARD
 (CASCADE GENERAL)
 PORTLAND, OREGON

DEC 1995

17. Tacoma Boatbuilding Company

In operation since 1926 in Tacoma, WA, this shipyard has designed, constructed, and repaired vessels for commercial customers, the Navy and Coast Guard, and foreign governments. Tacoma Boat's overall facilities consist of eight hectares located on the Hylebos Waterway adjacent to Commencement Bay.

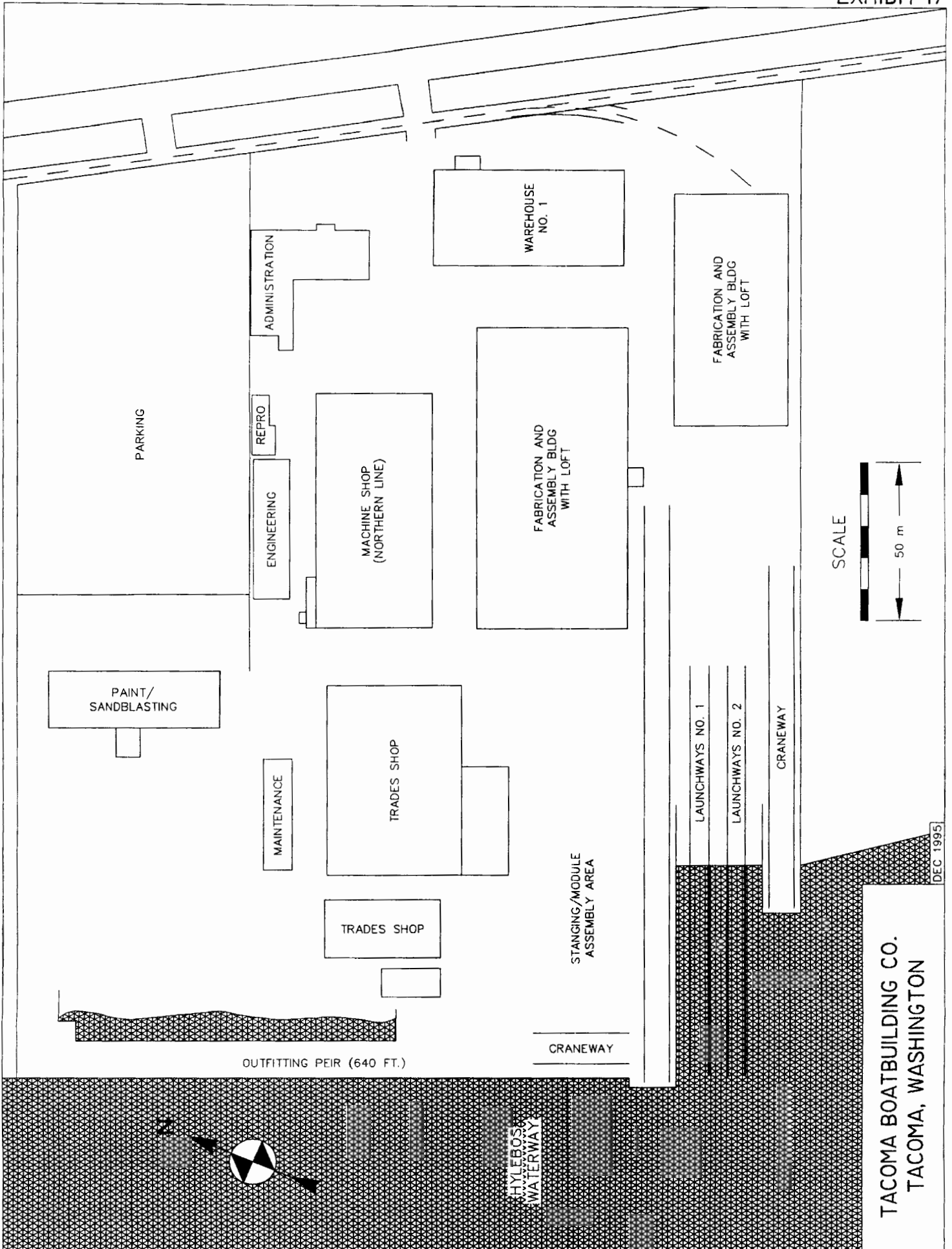
Tacoma Boat has constructed a variety of standard-class tuna purseiners, a semi-submersible offshore oil-drilling rig, barges and tug/supply vessels for the offshore oil industry, WYTM icebreaking tugs and WMEC cutters for the Coast Guard, revolutionary-design tractor tugs, and high-speed patrol ships, gunboats, and minesweepers for the Navy and/or foreign governments. The company also helped design and build an 80 knot surface effect ship (SES).

During the 1984 to mid-1991 period, Tacoma delivered 12 ocean surveillance ships (T-AGOS) to the U.S. Navy. This T-AGOS contract was a focal point for zone outfitting in which various portions or "zones" of a ship were built separately as virtually complete units and then assembled at the launchway.

New construction underway consists of one 3-section modular barge and a deck cargo barge. The company's activity in the area of ship repair includes both commercial and Government contracts with increased activity in the Northern Line Machine & Propeller Division for deck equipment construction and repair and propulsion system fabrication and repair.

Tacoma Boat's facilities include two end-launch ways which can accommodate new construction vessels up to 130 meters by 30 meters and the haulout of barges up to 28 meters and 4,000 tons. Available for outfitting and repair work are 212 meters of berthing space.

The total work force at Tacoma Boat at mid-1995 was 105, compared to 89 a year earlier.



18. Todd Pacific Shipyards Corporation - Seattle Division

Todd Pacific Shipyards Corporation is located at the Northwest corner of Harbor Island in Elliot Bay, less than 10 minutes from downtown Seattle, WA. The shipyard has been located here since 1916. Todd Pacific has repaired or converted thousands of vessels of all types in this period while building almost 300 new vessels.

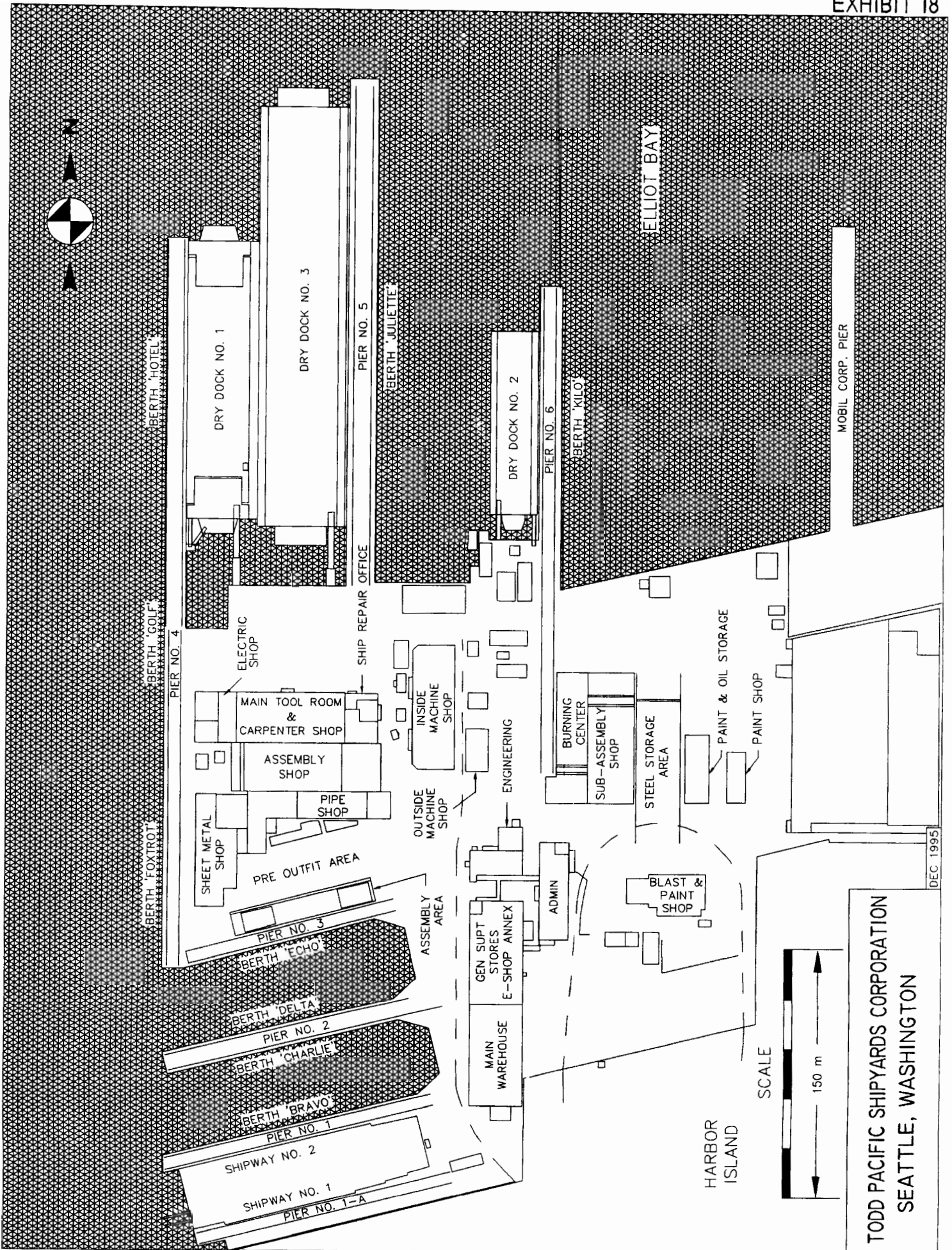
As of December 31, 1995, work in the yard included the construction of three 150 meter car ferries for the Washington State Ferry System. This contract was signed in January of 1995 with deliveries over 4 years. Todd Pacific will use this opportunity to transfer modern shipbuilding methods from IHI of Japan. In addition, Todd is currently occupied with the repair and overhaul of numerous factory trawlers, containerships, barges, tugs, and ferries, as well as drydocking at least 100 vessels a year and long-term phased maintenance work on AOE's.

Todd Pacific has a dual shipway for simultaneous construction of two ships with a maximum length of 168 meters by 18 meter beam. Combining the two shipways, a ship up to 168 meters by 29 meters can be built. Todd operates three floating drydocks, rated at 41,290, 17,780 and 5,791 metric tons respectively. The largest of the drydocks can accommodate ships up to 287 meters by 41 meters.

Two wharves and five piers provide a total of 1,834 meters of berthing space for outfitting and repair. The yard is serviced by 15 whirley traveling cranes with lifting capacities ranging from 23 metric tons to 136 metric tons.

During a two-year period starting in August of 1993 the company undertook a major site reorganization and extensive capital improvements focused at improving overall efficiency in new construction and repair. The stores/warehouse function was consolidated into a more central location. Additional facility changes have been made to allow Todd to adopt a Japanese-style group technology construction process. A Company wide LAN computer system has been installed which is inclusive of AutoCad work stations in both design and lofting. All pipe shop activities have been consolidated in a larger space and restructured to accommodate pipe piece family manufacturing and the palletization of finished pipe pieces. The west steel shop has been outfitted with additional cranes and pin jigs and is now a block assembly shop. A new plasma arc burning machine has been installed. The former east steel shop has been reconfigured as a sub assembly shop. A second enclosed paint facility was added for the pre-outfitted blocks and units without impacting on capacity for ship repair. The former ordnance building has been converted to a module assembly shop for engine room modules. The area containing the former sheet metal loft has been razed, piped for services and black-topped to provide a block outfitting area.

In mid-1995, total employment at the Seattle plant was 800, up from 700 a year earlier. Total manning at the peak of the ferry construction is expected to be over 1,000.



TODD PACIFIC SHIPYARDS CORPORATION
 SEATTLE, WASHINGTON

DEC 1995

SHIP REPAIR INDUSTRY

While over 200 privately owned firms of varying capabilities are involved in repairing ships in the United States, only 31 yards are capable of drydocking vessels 122 meters in length and over. For ships this size, the U.S. shipbuilding and repair industry is currently operating a total of 43 floating drydocks, 31 graving docks, and 2 marine railways. However, some of these graving docks are committed to new construction. The large organizations which have drydocks generally have extensive waterfront acreage and are capable of all types of ship repair and maintenance. Major shipyards usually combine repair, overhaul, and conversion with shipbuilding capabilities, and employment usually numbers in the thousands. It is difficult to draw a sharp line between shipbuilding yards and ship repair yards, as many of the two engage in both types of work.

Repair (with Drydocking) Facilities

Major drydocking facilities are defined as those yards having at least one drydocking facility that can accommodate vessels 122 meters in length and over, provided that water depth in the channel to the shipyard itself is at least 3.7 meters. These facilities may also be capable of constructing a vessel less than 122 meters length overall. Exhibit 21 is a histogram displaying the reduction in the number of available floating drydocks as the maximum ship length increases.

Appendix B tabulates information updated through 1995 on 31 of these repair yards by geographical location. Additional information is available in the Office of Ship Construction.

Major Topside Repair Facilities

Major topside repair facilities are those that have sufficient berth/pier space for topside repair of ships 122 meters in length and over, provided that water depth in the channel to the facility itself is at least 3.7 meters. These facilities may also have drydocks and/or construction capability for vessels less than 122 meters in length. Services rendered by these firms vary from a simple repair job to a major topside overhaul, particularly when the work on oceangoing ships can be accomplished without taking the ships out of the water. It is common practice for a shipyard to send its personnel and equipment to provide voyage repairs while the ship is at anchor or working cargo at a commercial marine terminal. There is an increasing trend worldwide to send ship repairers to the ship rather than to bring the ship to the shipyard, thus calling for greater mobility of ship repair personnel.

Appendix B also tabulates information through 1995 on the topside repair yards' facilities (berth/pier space). The yards' building ways, drydocks, marine railways, etc., are not addressed herein as they cannot accommodate vessels 122 meters in length and over. However, detailed data for these facilities were obtained during the MARAD annual shipyard survey and are available in the Office of Ship Construction.

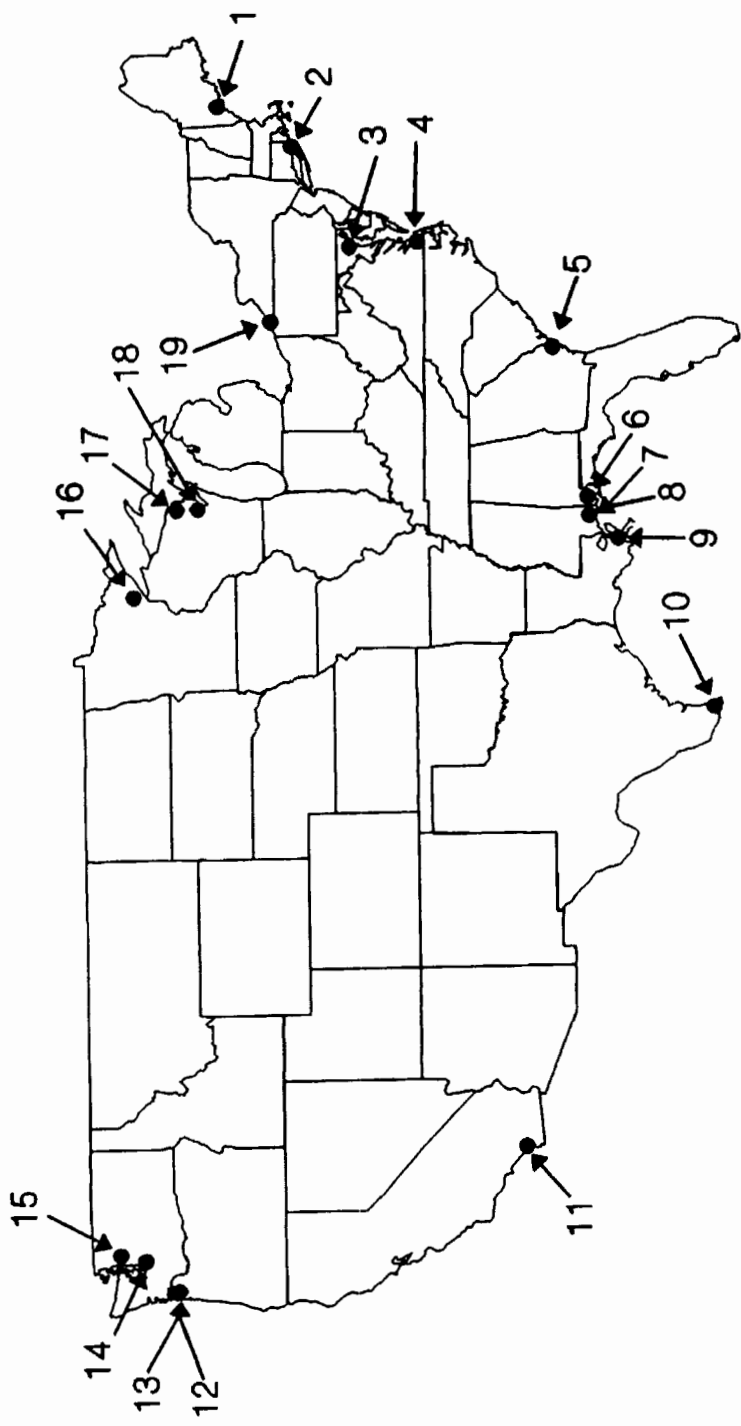
SHIPBUILDING INDUSTRY

AND

ACTIVITIES

1995

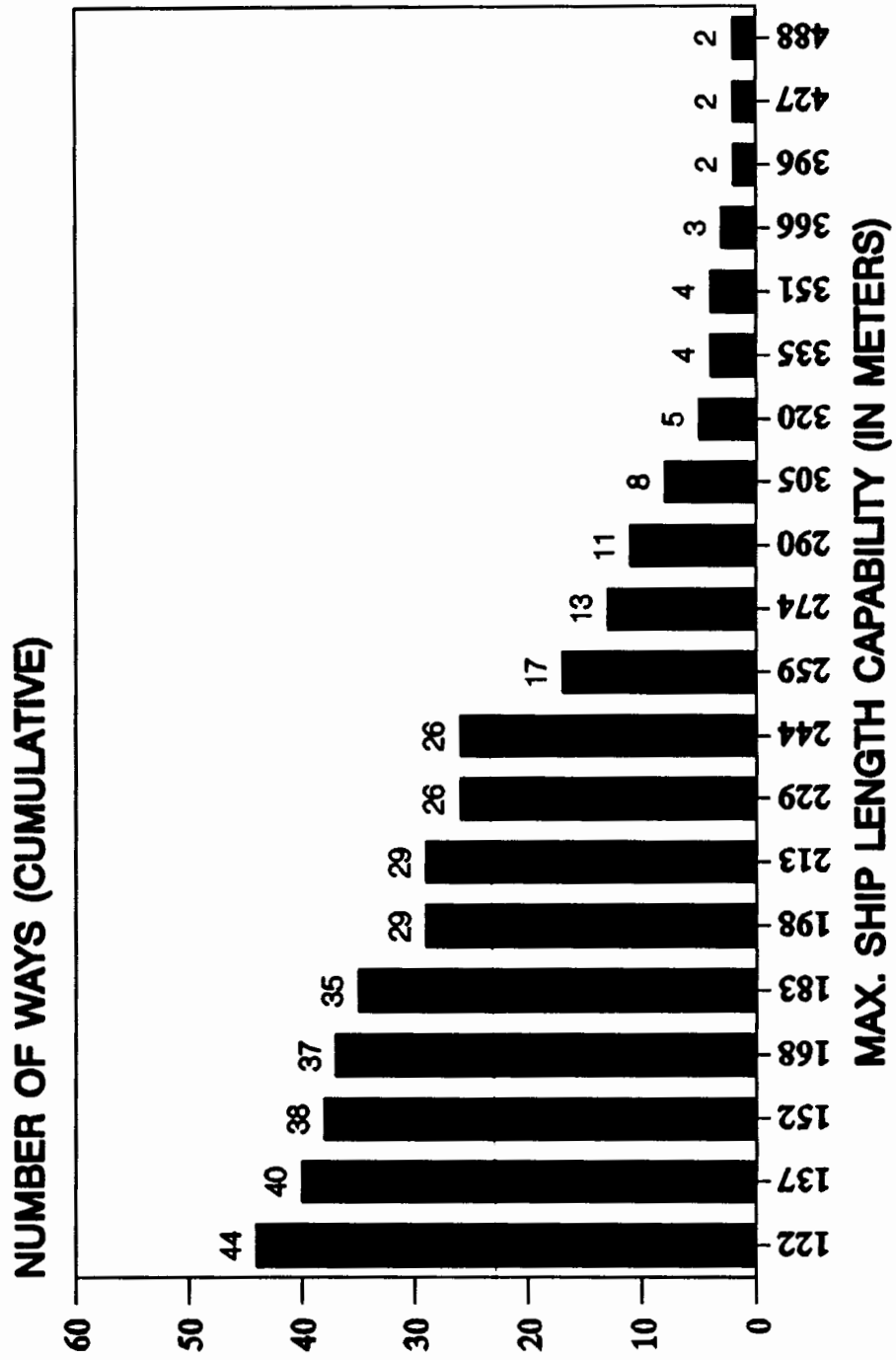
MAJOR SHIPBUILDING FACILITIES IN THE UNITED STATES



- | | |
|--|---|
| 1. Bath Iron Works Corp. | 10. AMFELS, Inc. |
| 2. General Dynamics - Electric Boat Div. | 11. National Steel and Shipbuilding Co. |
| 3. BethShip, Sparrows Point Yard | 12. Gunderson, Inc. |
| 4. Newport News Shipbuilding | 13. Portland Ship Yard |
| 5. Intermarine USA | 14. Tacoma Boatbuilding Co. |
| 6. Alabama Shipyard, Inc. | 15. Todd Pacific Shipyard Corp. |
| 7. Halter Marine, Inc., Moss Point Div. | 16. Fraser Shipyards, Inc. |
| 8. Ingalls Shipbuilding, Inc. | 17. Marinette Marine Corp. |
| 9. Avondale Industries, Inc. | 18. Peterson Builders, Inc. |
| | 19. Erie Marine Enterprises, Inc. |

1995

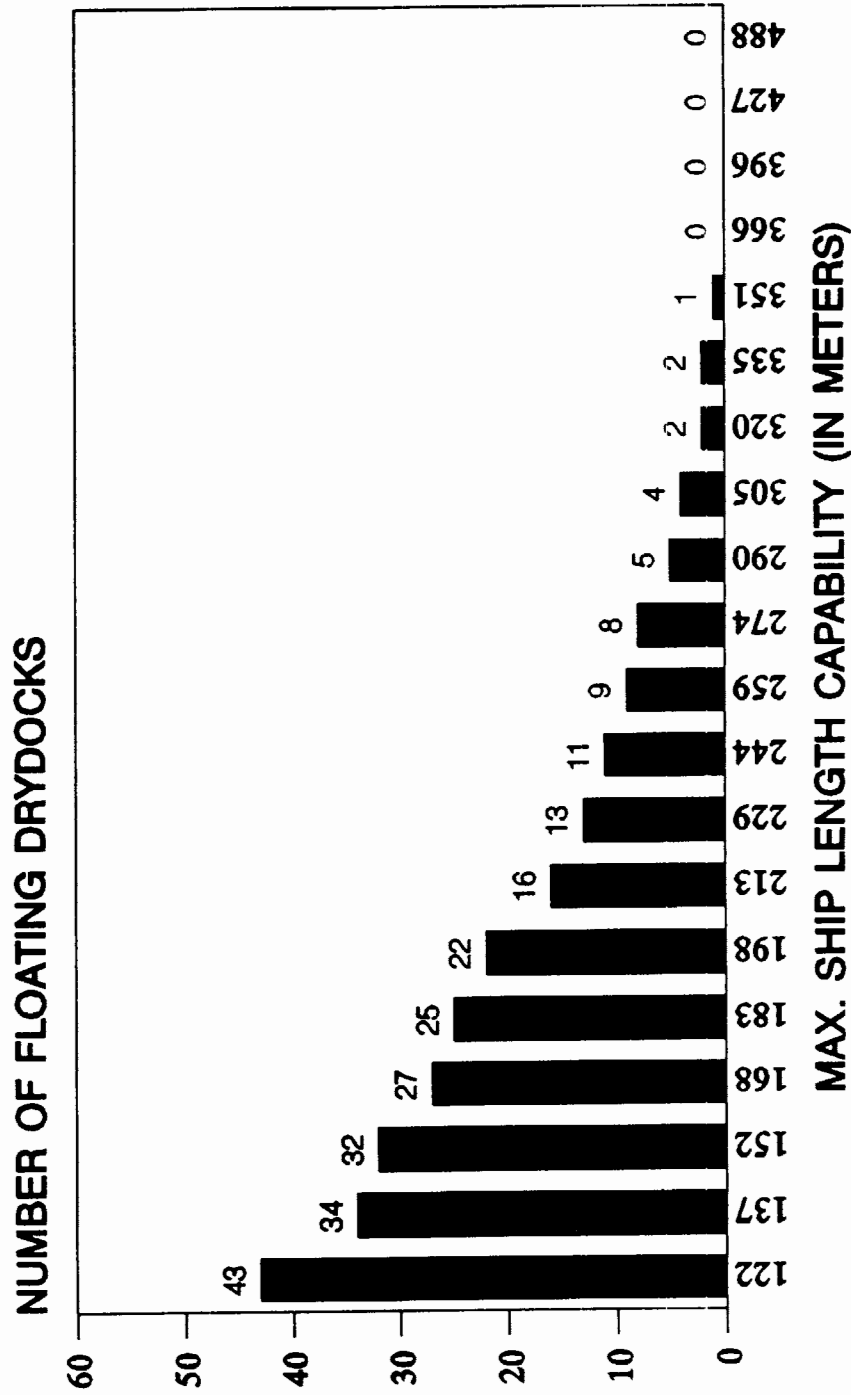
**MAJOR U.S. SHIPBUILDING FACILITIES *
 NUMBER OF BUILDING POSITIONS
 BY MAXIMUM LENGTH CAPABILITY
 (OCTOBER 1, 1995)**



* Shipways, Graving Docks and Land Level Positions

MAJOR U.S. SHIP REPAIR FACILITIES *

NUMBER OF FLOATING DRYDOCKS BY MAXIMUM LENGTH CAPABILITY (OCTOBER 1, 1995)

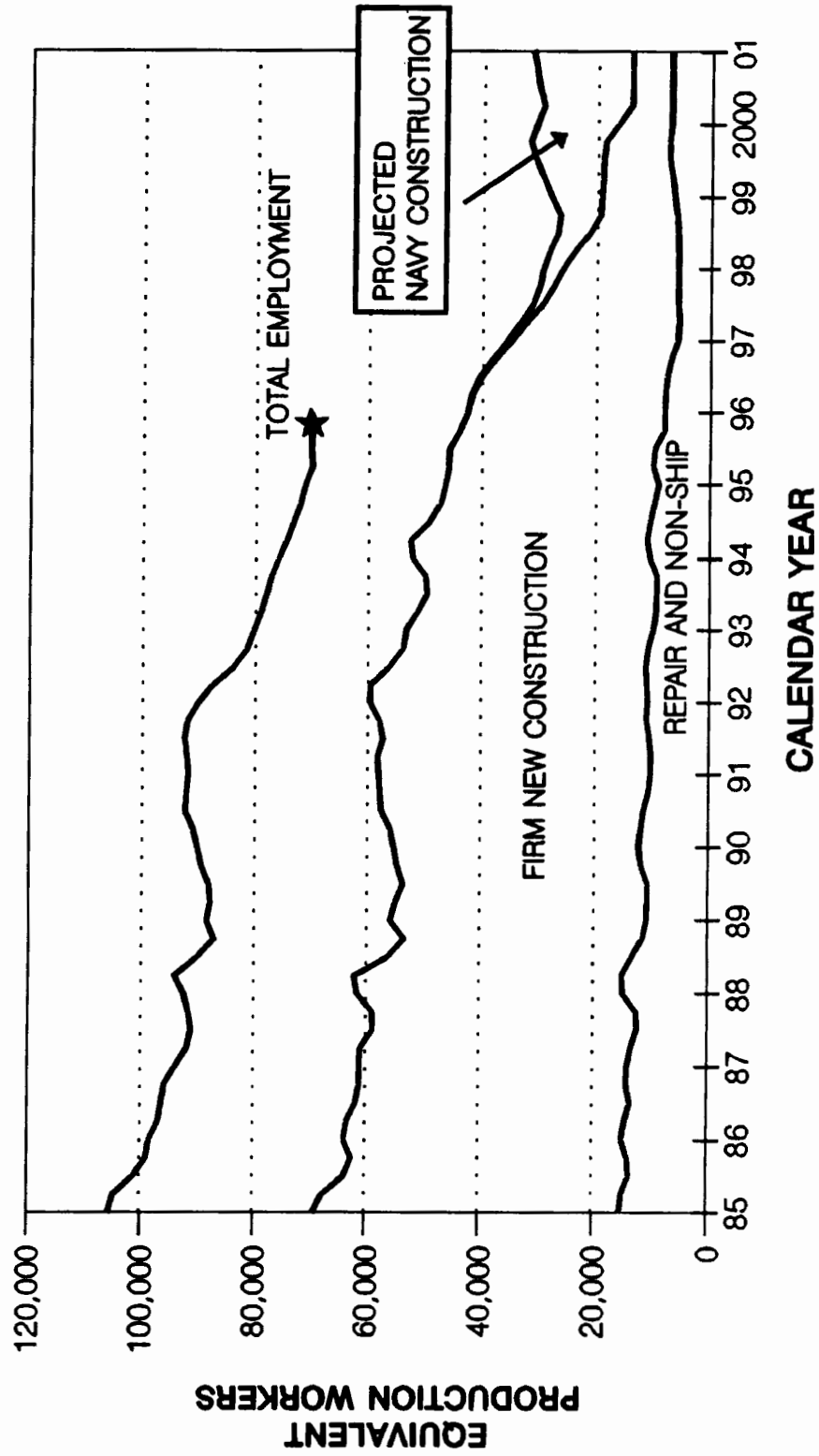


* Includes Major Shipbuilding and Repair Yards with Drydock Facilities

SHIPBUILDING INDUSTRY WORKLOAD PROJECTION

MAJOR SHIPBUILDING BASE SUMMATION

NUMBER OF YARDS = 19



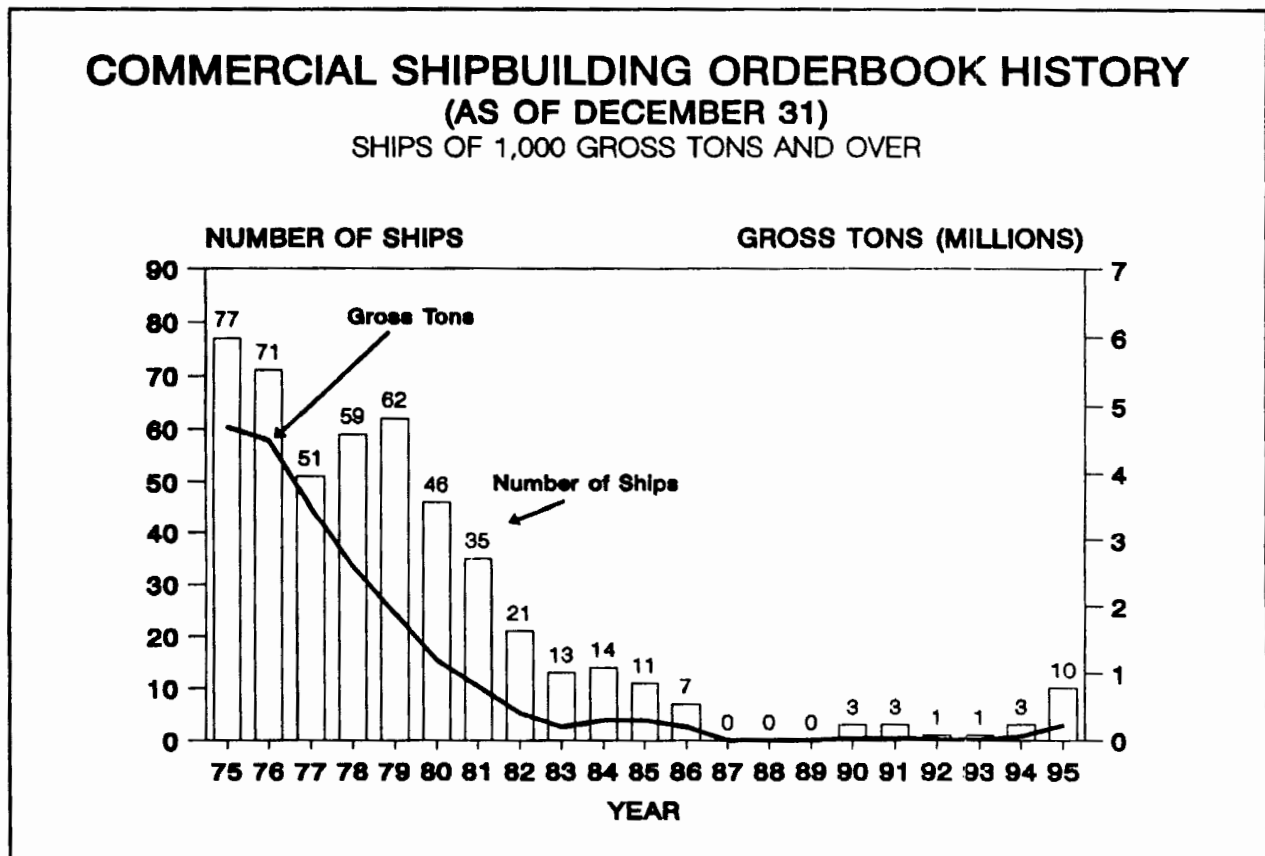
SOURCE: SHIPYARD DATA FROM FORM MA832 WHEN PROVIDED
OFFICE OF SHIP CONSTRUCTION; MARITIME ADMINISTRATION

OCTOBER 1995

COMMERCIAL SHIP CONSTRUCTION

The end of 1995 saw the U.S. orderbook for commercial shipbuilding consisting of four 30,340 gross ton (GT) tankers at Newport News Shipbuilding, four (two 17,822 GT and two 20,507 GT) tanker reconstructions at Avondale Industries, and two 11,000 GT chemical tankers at Alabama Shipyard. The four tankers at Newport News were ordered by the Fleves Shipping Corporation of Greece for delivery in 1997/1998. These were the first commercial vessels ordered by a foreign owner since 1957 and were made possible with the help of the U.S. Maritime Administration's Title XI Federal Ship Financing Program. The Title XI program also facilitated the four tanker reconstructions, ordered by American Heavy Lift, at Avondale Industries, and the two chemical tankers at Alabama Shipyard for Danneborg Rederi AS of Denmark. The reconstructions involve the cutting of each tanker in two, removing the existing forebody of the vessel, constructing and attaching a new 155 meter double hulled forebody. The reconstructed vessels will be the first U.S.-flag ships to qualify under the Oil Pollution Act of 1990. Additionally, there are three 4,350 GT non-oceangoing passenger/car ferries under construction at Todd Pacific's Seattle shipyard. The end year orderbook since 1975 is illustrated in Exhibit 23.

Exhibit 23

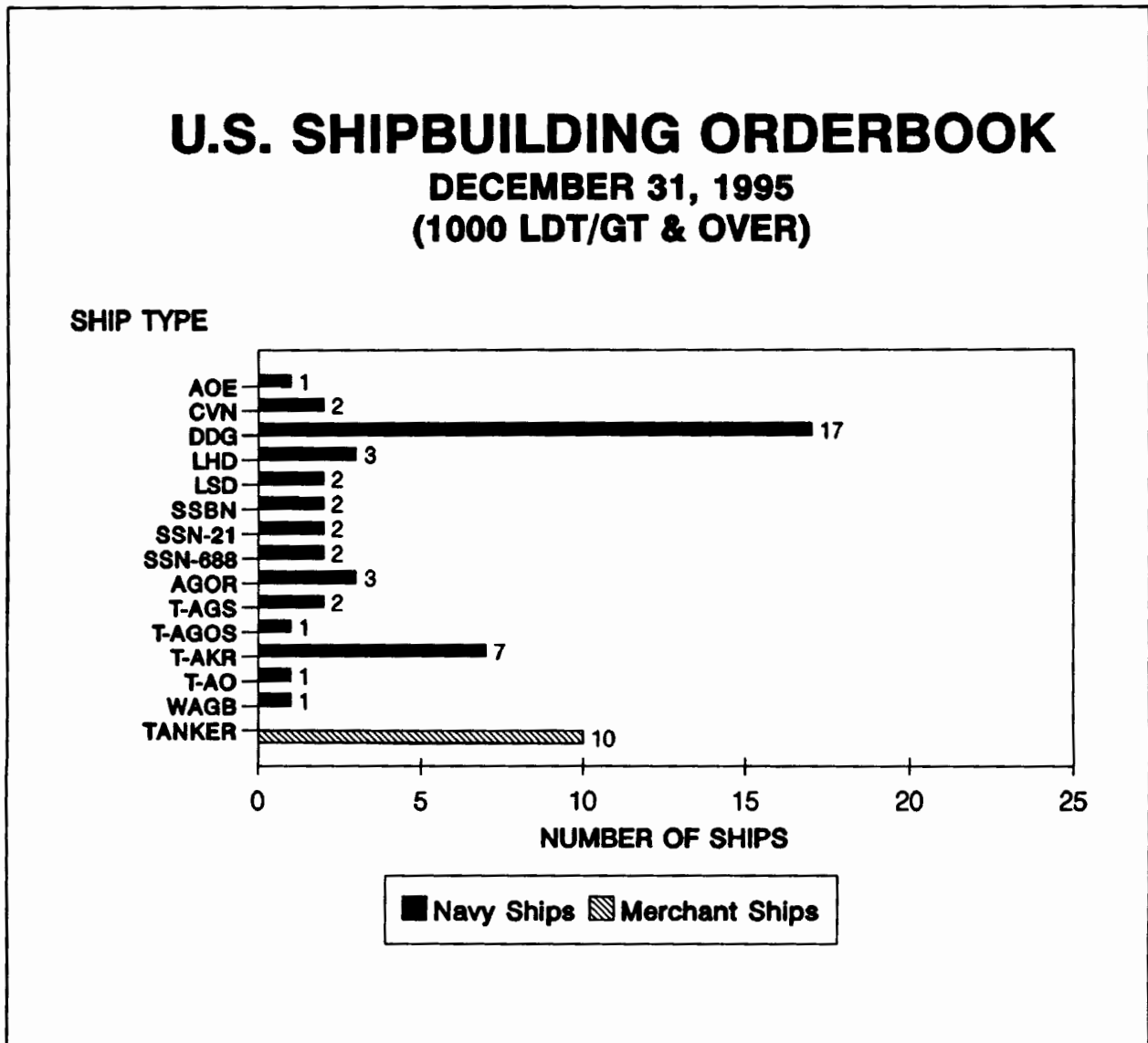


U.S SHIPBUILDING ORDERBOOK

As of December 31, 1995, ships on order or under construction (naval vessels 1,000 light displacement tons (LDT) and larger and commercial oceangoing ships 1,000 GT and larger) in U.S. private shipyards totaled 46 naval and 10 commercial vessels (Exhibit 24).

Ten shipyards had contracts for the construction of naval and commercial vessels. The naval shipbuilding orderbook includes 34 ships scheduled for delivery in 1997 and later. Three shipyards had orders for a total of 10 commercial ships, including the four tanker reconstructions at Avondale, which are scheduled to be delivered during 1996 - 1998. The naval orderbook is comprised of 14 different types of vessels.

Exhibit 24



NEW SHIPBUILDING ORDERS - 1995

In 1995, U.S. shipyards received orders for the construction of eight new commercial and five new naval vessels (Exhibit 25). The commercial vessels ordered were two oceangoing double hulled tankers and two oceangoing double hulled chemical carriers, for export, and an order for four tanker reconstructions. Todd Pacific's Seattle Shipyard received orders for three non-oceangoing passenger/car ferries at a cost of approximately \$182 million. Contracts were placed for the construction of one guided missile destroyer (DDG) at Bath Iron Works Corporation, Bath, ME; two guided missile destroyer (DDG) and one amphibious assault ship (LHD) at Ingalls Shipbuilding, Pascagoula, MS; and one military sealift ship (T-AKR) at Avondale Industries. One ocean surveillance ship (T-AGOS) was assigned to Halter Marine, Inc., Moss Point, MS by Tampa Shipyards, Tampa, FL. The total contract value for these ships was approximately \$2.5 billion.

Exhibit 25

NEW SHIPBUILDING ORDERS - 1995 (1,000 GT or LDT and OVER)

SHIPYARD	SHIP IDENTIFICATION	APPROXIMATE CONTRACT PRICE (in Millions)	ESTIMATED LDT / GT	CONTRACT AWARD DATE	ESTIMATED DELIVERY DATE
<u>COMMERCIAL SHIPS</u>					
Avondale Industries	TANKER	\$39.8	27,854 GT	05/12/1995	07/18/1996
Avondale Industries	TANKER	\$39.8	27,854 GT	05/12/1995	10/17/1996
Avondale Industries	TANKER	\$39.8	24,474 GT	05/12/1995	01/16/1997
Avondale Industries	TANKER	\$39.8	24,474 GT	05/12/1995	04/17/1997
Newport News Shipbuilding	TANKER	\$38.2	30,340 GT	07/05/1995	09/30/1997
Newport News Shipbuilding	TANKER	\$38.2	30,340 GT	07/05/1995	02/28/1998
Alabama Shipyard	TANKER	\$37.5	11,000 GT	12/28/1995	05/28/1997
Alabama Shipyard	TANKER	\$37.5	11,000 GT	12/28/1995	09/28/1997
	<u>8 Ships</u>	<u>\$310.6</u>	<u>187,336 GT</u>		
<u>NAVAL SHIPS</u>					
Ingalls Shipbuilding	DDG 80	\$369.4	6,640 LDT	01/06/1995	04/03/2000
Bath Iron Works	DDG 81	\$479.9	6,640 LDT	01/06/1995	08/25/2000
Ingalls Shipbuilding	DDG 82	\$369.4	6,640 LDT	01/06/1995	11/27/2000
Avondale Industries	T-AKR 303	\$208.4	34,408 LDT	12/27/1995	07/30/1999
Ingalls Shipbuilding	LHD 7	\$771.7	28,233 LDT	12/29/1995	12/31/2000
	<u>5 Ships</u>	<u>\$2,196.8</u>	<u>82,561 LDT</u>		
* Halter Marine - Moss Point	T-AGOS 23	\$60.0	3,289 LDT	04/20/1995	12/31/1998

* NOTE: Contract assigned to Halter Marine by Tampa Shipyards

COMMERCIAL SHIP DELIVERIES - 1995

One commercial oceangoing ship was delivered by U.S. shipyards during 1995 (Exhibit 26). North American Shipbuilding of Larose, LA, delivered a 1,599 GT breakbulk container vessel, which was chartered by the Military Sealift Command. Additionally, McDermott Shipyards of Morgan City, LA, delivered an inland paddlewheel steamboat, the largest overnight passenger vessel (3,707 GT) built in a U.S. shipyard since the 1950s.

Exhibit 26

COMMERCIAL OCEANGOING VESSELS DELIVERED - 1995 (1,000 GT and OVER)

SHIPYARD	DESIGN TYPE	VESSEL NAME	GROSS TONS	DELIVERY DATE	CONTRACT PRICE (in Millions)
North American	Breakbulk <u>Container</u> 1 Ship	MARGARET B. CHOUEST	<u>1,599</u> 1,599	11/02/1995	<u>\$17.0</u> \$17.0

NAVY SHIP DELIVERIES - 1995

During calendar year 1995, U.S. private shipyards delivered 17 new naval vessels, 1,000 LDT and larger. The naval vessels delivered totaled approximately 221,000 LDT and had an initial contract value of approximately \$5.3 billion (Exhibit 27). By comparison, U.S. shipyards delivered 15 new naval vessels valued at approximately \$3.5 billion in 1994.

Eight different types of naval ships were delivered by seven shipyards during 1995: 1 - fast combat ship (AOE); 1 - nuclear aircraft carrier; 7 - guided missile destroyers (DDG); 1 - dock landing ship (LSD); 1 - ballistic missile submarine (SSBN); 3 - attack submarines (SSN); 1 - coastal hydrographic survey ship (T-AGS); and 2 - fleet oilers (T-AO).

Exhibit 27

NAVY NEW CONSTRUCTION VESSELS DELIVERED - 1995 (1,000 LDT and OVER)

SHIPYARD	SHIP CLASS and HULL NUMBER	VESSEL NAME	ESTIMATED LDT	DELIVERY DATE	APPROXIMATE CONTRACT PRICE (in Millions)
Newport News	SSN 769	TOLEDO	6,000	01/26/1995	\$306.0
Bath Iron Works	DDG 60	PAUL HAMILTON	6,640	03/10/1995	\$256.0
Ingalls	DDG 59	RUSSELL	6,640	03/27/1995	\$204.7
Ingalls	DDG 61	RAMAGE	6,640	05/08/1995	\$204.7
National Steel	AOE 8	ARTIC	20,732	05/11/1995	\$197.6
Halter Marine	T-AGS 61	SUMNER	2,815	05/30/1995	\$42.9
General Dyn. E.B.	SSBN 741	MAINE	12,500	06/21/1995	\$617.4
Avondale	T-AO 201	PATUXENT	14,586	06/21/1995	\$106.3
Newport News	SSN 770	TUCSON	6,000	07/19/1995	\$306.0
Ingalls	DDG 63	STETHEM	6,640	07/24/1995	\$204.7
Bath Iron Works	DDG 62	FITZGERALD	6,640	07/28/1995	\$256.0
Avondale	LSD 50 (CV)	CARTER HALL	11,890	07/31/1995	\$127.8
General Dyn. E.B.	SSN 771	COLUMBIA	6,000	08/18/1995	\$400.0
Avondale	T-AO 204	RAPPAHANNOCK	14,586	11/07/1995	\$97.5
Newport News	CVN 74	JOHN C STENNIS	79,000	11/09/1995	\$1,475.0
Ingalls	DDG 65	BENFOLD	6,640	12/04/1995	\$254.9
Bath Iron Works	<u>DDG 64</u>	CARNEY	<u>6,640</u>	12/08/1995	<u>\$256.5</u>
	17 SHIPS		220,589		\$5,314.0

NAVY'S T-SHIP PROGRAM

The Navy's T-ship program continued to be an important segment of ship construction and conversion activity for U.S. shipyards. T-ships are auxiliary vessels funded by the Navy budget but designed to be civilian-manned and under the control of the Military Sealift Command. Since mid-1979, 16 U.S. private shipyards have been awarded contracts for the construction of 63 new ships and the conversion of 36 existing vessels. The initial contract value for these vessels totaled approximately \$8.5 billion.

During 1995, there was one new T-ship contract placed with a U.S. shipyard. Avondale Industries, New Orleans, LA, received an order with an initial contract value of \$206.4 million to build one military sealift ship (T-AKR). Additionally, one contract, for the completion of the T-AGOS 23, a small waterplane area twin hull ocean surveillance ship, was assigned to Halter Marine, Inc., Moss Point MS by Tampa Shipyards, Tampa, FL. The value of this contract was \$60 million.

During 1995, deliveries included an ocean survey ship (T-AGS) by Halter Marine, Inc., Moss Point, MS and two fleet oiler (T-AO) by Avondale Industries, New Orleans, LA.

As of December 31, 1995, 11 T-ships were under construction or on order at three shipyards (Exhibit 28). The value of this orderbook is approximately \$1.8 billion.

Exhibit 28

T-SHIPS ON ORDER OR UNDER CONSTRUCTION

(as of December 31, 1995)

SHIPYARD	SHIP CLASS and HULL NUMBER	VESSEL NAME	ESTIMATED DELIVERY DATE	APPROXIMATE CONTRACT PRICE (in Millions)
Halter Marine	T-AGS 62	BOWDITCH	07/21/1996	\$42.9
Halter Marine	T-AGS 63	HENSON	02/20/1998	\$47.2
Halter Marine	T-AGOS 23	IMPECCABLE	12/31/1998	\$60.0
Avondale	T-AKR 300	BOB HOPE	10/30/1997	\$265.2
Avondale	T-AKR 301	- unnamed -	03/30/1998	\$210.0
Avondale	T-AKR 302	- unnamed -	09/30/1998	\$210.0
Avondale	T-AKR 303	- unnamed -	/ /1999	\$206.4
National Steel	T-AKR 310	- unnamed -	03/30/1998	\$269.1
National Steel	T-AKR 311	- unnamed -	10/16/1998	\$218.0
National Steel	T-AKR 312	- unnamed -	04/16/1999	\$218.0
Avondale	<u>T-AO 203</u>	LARAMIE	04/05/1996	<u>\$106.3</u>
	11 Ships			\$1,853.1

PROJECTED NAVY SHIPBUILDING PLAN

The U.S. Navy shipbuilding plan for fiscal years 1996 - 2000 includes the construction of 32 new ships, 8 ship conversions, 1 Service Life Extension (SLEP) and 1 carrier refueling, as illustrated in Exhibit 29. More than \$30 billion is proposed for this plan. Shipyard contract value accounts for about a third of this amount, while the remainder is attributed to Government-furnished equipment placed aboard the vessels and to other Government program costs.

The Navy's proposed FY 1996 - 2000 shipbuilding program represents a continued reduction in the amount of new shipbuilding work available to the nation's industrial base when compared with previous Navy programs. At an average of less than seven new ships per year, this program represents a 66 percent reduction in the quantity of ships to be procured compared with the 19 ships per year average for Navy programs during the 1980s.

The Navy's plan includes the construction of 13 guided missile destroyers (DDG-51), 3 attack submarines (SSN) and 5 amphibious transport/assault ships (LHD/LPD). These four shipbuilding programs will probably consume more than 85 percent of the available funding.

Exhibit 29

NAVY SHIPBUILDING PLAN Fiscal Years 1996 - 2000

Ship Class	1996	1997	1998	1999	2000	TOTAL
NEW ATTACK SUB	-	-	1	-	1	2
SSN	1 *	-	-	-	-	1
DDG-51	2	3	2	3	3	13
LHD	1	-	-	-	-	1
LPD	1	-	1	-	2	4
T-AGOS	-	-	-	1	-	1
TAGS/AGOR	-	-	-	1	-	1
T-AKR (Military Sealift)	2	2	2	2	-	8
ADCX	-	-	-	-	1	1
CVN (Refueling)	-	-	1	-	-	1
AOE SLEP	-	-	-	1	-	1
AE (Conversion)	2	2	2	-	-	6
AFS (Conversion)	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2</u>
Total	11	7	9	8	7	42

* This ship was only partially funded, it may slip to a FY-97 ship.
Ships listed for FY 97-00 represent the OSD/OMB Budget Submission.

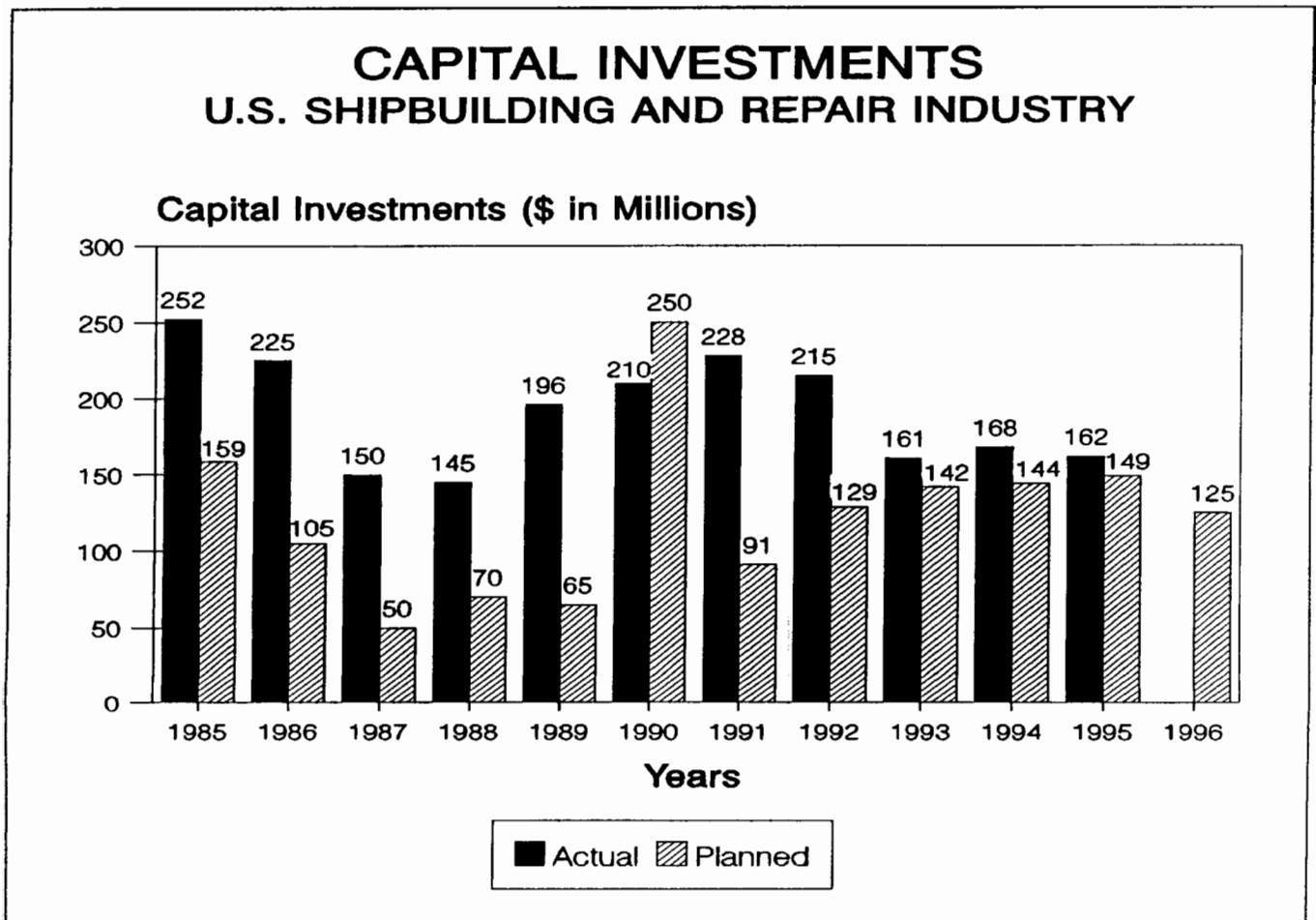
CAPITAL INVESTMENT

During FY 1995, the U.S. ship construction and ship repair industry invested more than \$162 million in the upgrade and expansion of facilities (Exhibit 30). Much of this investment was to improve efficiency and competitiveness in the Navy's construction, repair and overhaul projects, which are considered the most consistent and stable element in the industry's projected market.

In 1996, the industry plans to spend about \$125 million in the upgrade and expansion of facilities, according to data received by the Maritime Administration. The industry's capital investments since 1970 have totaled approximately \$5.6 billion. The actual expenditures between 1985 and 1995, with the exception of 1990, have consistently exceeded those planned.

These capital investments have included building basins, floating drydocks, cranes, automated equipment, and highly mechanized modular techniques - fabrication of large subassemblies and pre-outfitting of ship components.

Exhibit 30



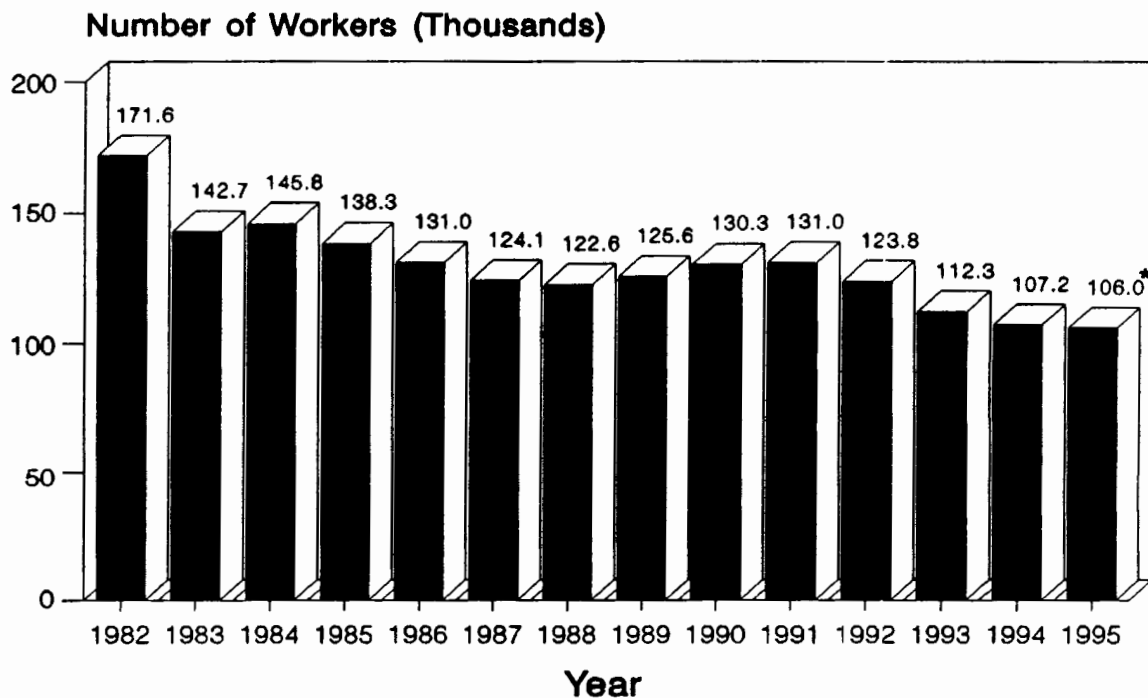
TOTAL EMPLOYMENT IN PRIVATE SHIPYARDS

According to preliminary employment data published by the Bureau of Labor Statistics (BLS), U.S. Department of Labor, under the Standard Industrial Classification (SIC) Code 3731 (Shipbuilding and Repairing), the average total employment in U.S. private shipyards for the first nine months of 1995 was 106,000 (Exhibit 31). This total reflects a decline of 1.1 percent from the reported total average employment for the shipbuilding and repairing industry for 1994.

According to the data published by the BLS, total average employment in the shipbuilding and repair industry increased slightly between 1989 and 1991, but is currently projected to be lower than any level in the past 40 years. Despite the fact that the employment level increased during 1989 and 1991, it has steadily decreased in the last few years and it has remained considerably lower than that reported in 1982 when 171,600 people were employed in the industry.

Exhibit 31

AVERAGE TOTAL EMPLOYMENT IN U.S. PRIVATE SHIPYARDS



Source: Bureau of Labor Statistics

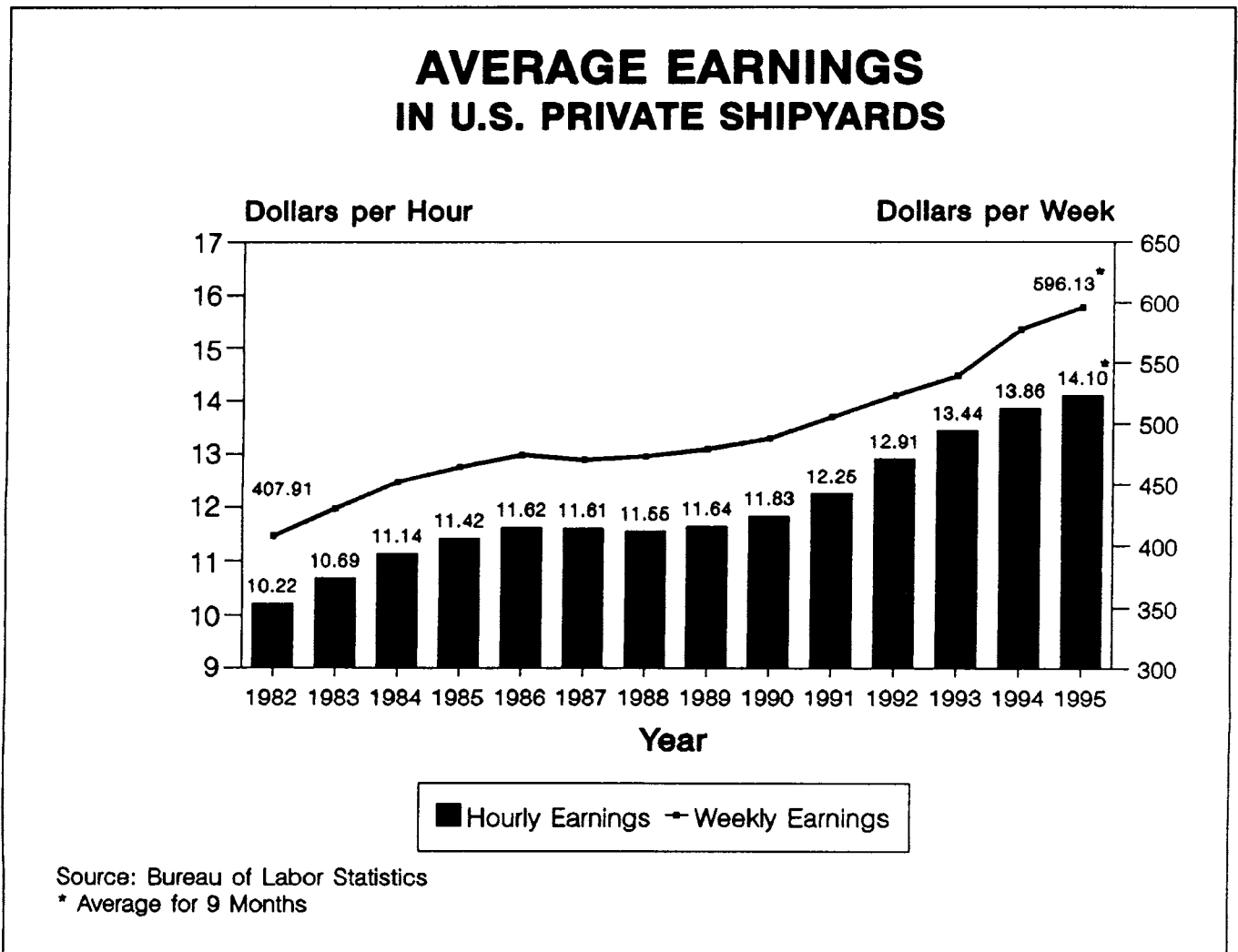
* Average for 9 Months

AVERAGE EARNINGS IN U.S. PRIVATE SHIPYARDS

Average hourly earnings in the U.S. private shipyards are presented on a "gross" basis, reflecting not only changes in basic hourly and incentive wage rates, but also such variable factors as premium pay for overtime and late-shift work, as well as changes in output for workers paid on an incentive plan. Averages of hourly earnings differ from wage rates. Earnings are the actual return to the workers for a stated period of time; rates are the amount stipulated for a given unit of work or time. Gross average weekly earnings are derived by multiplying average weekly hours by average hourly earnings. Therefore, weekly earnings are affected not only by changes in gross average hourly earnings, but also by changes in the length of the workweek.

The annual average earnings of the private shipyards in the United States from 1982 through the first eight months of 1995 show an increase from \$10.22 to an average of \$14.10 (Exhibit 32). During the same period, the average weekly earnings rose from \$407.91 to \$596.13.

Exhibit 32



INTENTIONALLY LEFT BLANK

TABLE 1

SHIPBUILDING POSITION CAPACITY

BY

SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

TABLE 1A: GENERAL CARGO AND DRY BULK

TABLE 1B: TANKER AND OBO

BUILDING POSITION DEFINITIONS

Maximum Ship Size (LOA x Beam)

SW = Shipway
GD = Graving Dock
FD = Floating Drydock
MR = Marine Railway
LL = Land Level Position

**TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE**

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	General Cargo						Dry Bulk DWT		
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
	Length (m)	145	221	186	208	272	289	174	183	274
	Beam (m)	21	32	27	31	30	32	23	32	32
<hr/>										
EAST COAST										
Bath Iron Works	219 X 34 SW	1	1	1	1	0	0	1	1	0
	219 X 39 SW	1	0	1	1	0	0	1	1	0
	213 X 26 SW	1	0	1	0	0	0	1	0	0
		3	1	3	2	0	0	3	2	0
BethShip Sparrows Point Yard	(2) 244 X 32 SW	2	2	2	2	0	0	2	2	0
	365 X 59 GD	4	1	3	2	1	1	4	2	1
		6	3	5	4	1	1	6	4	1
Intermarine USA	162 X 20 GD	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

		General Cargo					Dry Bulk DWT			
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
Length (m)		145	221	186	208	272	289	174	183	274
Beam (m)		21	32	27	31	30	32	23	32	32

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Quantity of Ships									
		292 X 37 GD	334 X 41 GD	490 X 75 GD	13	2	1	2	1	1	
Newport News Shipbuilding	292 X 37 GD	2	1	1	1	1	1	1	2	1	1
	334 X 41 GD	2	1	2	2	1	1	1	2	2	1
	490 X 75 GD	9	4	5	6	4	2	2	6	4	1
		13	6	9	6	4	4	10	7	3	

EAST COAST

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	General Cargo						Dry Bulk DWT		
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
	Length (m)	145	221	186	208	272	289	174	183	274
	Beam (m)	21	32	27	31	30	32	23	32	32
<hr/>										
	GULF COAST									
Alabama Shipyard	290 X 50 LL	4	1	1	1	1	1	2	1	1
		4	1	1	1	1	1	2	1	1
AMFELS, Inc.	335 X 122 LL	10	3	4	3	4	3	5	3	3
		10	3	4	3	4	3	5	3	3
Avondale Industries	(2) 311 X 53 LL	8	2	3	3	2	2	6	3	2
	(2) 265 X 38 LL	2	2	2	2	0	0	2	2	0
		10	4	5	5	2	2	8	5	2
Halter Marine - Moss Point	140 X 20 LL	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	General Cargo						Dry Bulk DWT		
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
	Length (m)	145	221	186	208	272	289	174	183	274
	Beam (m)	21	32	27	31	30	32	23	32	32
<hr/>										
<u>GULF COAST</u>										
Ingalls Shipbuilding	(5) 257 X 53 LL*	25	11	13	11	0	0	16	11	0
	469 X 53 LL*	3	2	2	2	0	0	2	2	0
		28	13	15	13	0	0	18	13	0

* Ship size constrained by maximum launching capability of 259 X 53 meters.

**TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE**

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	General Cargo						Dry Bulk DWT		
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
	Length (m)	145	221	186	208	272	289	174	183	274
	Beam (m)	21	32	27	31	30	32	23	32	32
WEST COAST										
Gunderson Marine, Inc.	229 X 32 SW	1	1	1	1	0	0	1	1	0
		1	1	1	1	0	0	1	1	0
National Steel & Shipbuilding	(2) 274 X 34 SW	2	2	2	2	2	0	2	2	2
	303 X 52 GD	4	1	1	1	1	1	2	1	1
		6	3	3	3	3	1	4	3	3
Portland Ship Repair Yard	183 X 30 LL	1	0	0	0	0	0	0	0	0
	305 X 55 LL	4	1	2	1	1	1	2	1	1
		5	1	2	1	1	1	2	1	1
Tacoma Boatbuilding	(2) 130 X 14 SW*	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0

* Vessel with beam up to 30 meters can be constructed by joining the two shipways.

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

		General Cargo					Dry Bulk DWT			
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
Length (m)	145		221	186	208	272	289	174	183	274
Beam (m)	21		32	27	31	30	32	23	32	32

SHIPYARD **BUILDING POSITION**
(Qty) / Metric Units (m) **Quantity of Ships**

WEST COAST

Todd-Seattle	(2)	168 X 18 SW**	1	0	0	0	0	0	1	0	0
			1	0	0	0	0	0	1	0	0

** Max ship size is 168 X 29 meters using two adjacent 168 X 18 meter SWs.

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	General Cargo					Dry Bulk DWT			
		Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
	Length (m)	145	221	186	208	272	289	174	183	274
	Beam (m)	21	32	27	31	30	32	23	32	32
<hr/>										
	GREAT LAKES *									
Erie Marine	375 X 35 GD	1	0	0	0	0	0	1	0	0
		1	0	0	0	0	0	1	0	0
Fraser Shipyards	189 X 17 GD	0	0	0	0	0	0	0	0	0
	252 X 23 GD	1	0	0	0	0	0	1	0	0
		1	0	0	0	0	0	1	0	0
Marinette Marine	122 X 24 LL	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0
Peterson Builders	125 X 21 LL	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0

* NOTE: Maximum size ship that can exit the St. Lawrence Seaway is 222 meters X 24 meters.

TABLE 1A
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

	General Cargo						Dry Bulk		
	Gen. Cargo	Mob. Cargo	Container	RO/RO	LASH	Container	21,300	51,000	100,000
Length (m)	145	221	186	208	272	289	174	183	274
Bearm (m)	21	32	27	31	30	32	23	32	32

REGION	Quantity of Ships									
EAST COAST	22	10	17	12	5	5	19	13	4	
GULF COAST	52	21	25	22	7	6	33	22	6	
WEST COAST	13	5	6	5	4	2	8	5	4	
GREAT LAKES *	2	0	0	0	0	0	2	0	0	
TOTAL BUILDING POSITIONS - ALL YARDS	89	36	48	39	16	13	62	40	14	

* NOTE: Maximum size ship that can exit the St. Lawrence Seaway is 222 meters X 24 meters.

**TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE**

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Tanker										OBO
		25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	160,000	(LNG)	
	Length (m)	189	210	272	280	284	335	335	270	304		
	Beam (m)	21	27	32	42	43	43	54	32	44		
<hr/>												
		1	1	0	0	0	0	0	0	0		
		1	1	0	0	0	0	0	0	0		
		1	0	0	0	0	0	0	0	0		
		3	2	0	0	0	0	0	0	0		
<hr/>												
<u>EAST COAST</u>												
Bath Iron Works	219 X 34 SW	1	1	0	0	0	0	0	0	0		
	219 X 39 SW	1	1	0	0	0	0	0	0	0		
	213 X 26 SW	1	0	0	0	0	0	0	0	0		
		3	2	0	0	0	0	0	0	0		
<hr/>												
BethShip Sparrows Point Yard	(2) 244 X 32 SW	2	2	0	0	0	0	0	0	0		
	365 X 59 GD	3	2	1	1	1	1	1	1	1		
		5	4	1	1	1	1	1	1	1		
<hr/>												
Intermarine USA	162 X 20 GD	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0		

**TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE**

	Tanker								OBO
	25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	
Length (m)	189	210	272	280	284	335	335	270	304
Beam (m)	21	27	32	42	43	43	54	32	44

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)		Quantity of Ships								
	(Qty)	(m)	25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	160,000
<u>EAST COAST</u> Newport News Shipbuilding	292 X 37 GD		1	1	1	0	0	0	0	1	0
	334 X 41 GD		1	1	1	0	0	0	0	1	0
	490 X 75 GD		6	4	2	1	1	1	1	2	1
			8	6	4	1	1	1	1	4	1

**TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE**

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Quantity of Ships								
		25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	160,000
		(LNG)								
	Length (m)	189	210	272	280	284	335	335	270	304
	Beam (m)	21	27	32	42	43	43	54	32	44
<hr/>										
<u>GULF COAST</u>										
Alabama Shipyard	290 X 50 LL	2	1	1	1	1	0	0	1	0
		2	1	1	1	1	0	0	1	0
AMFELS, Inc.	335 X 122 LL	5	4	3	2	2	2	2	3	2
		5	4	3	2	2	2	2	3	2
Avondale Industries	(2) 311 X 53 LL	3	3	2	2	2	1	1	2	1
	(2) 265 X 38 LL	4	3	0	0	0	0	0	0	0
		7	6	2	2	2	1	1	2	1
Halter Marine - Moss Point	140 X 20 SW	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0

TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Tanker							OBO	
		25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	160,000
		(LNG)								
	Length (m)	189	210	272	280	284	335	335	270	304
	Beam (m)	21	27	32	42	43	43	54	32	44
<u>GULF COAST</u>										
Ingalls Shipbuilding	(5) 257 X 53 LL *	16	13	0	0	0	0	0	0	0
	469 X 53 LL *	2	2	0	0	0	0	0	0	0
		18	15	0	0	0	0	0	0	0

* Ship size constrained by maximum launching capability of 259 meters X 53 meters.

TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Tanker										OBO
		25,000	38,000	89,000	120,000	125,000	125,000	225,000	265,000	80,000	160,000	
		(LNG)										
	Length (m)	189	210	272	280	284	335	335	335	270	304	
	Beam (m)	21	27	32	42	43	43	54	54	32	44	
<hr/>												
		Quantity of Ships										
<hr/>												
WEST COAST												
Gunderson Marine, Inc.	229 X 32 SW	1	1	0	0	0	0	0	0	0	0	
		1	1	0	0	0	0	0	0	0	0	
National Steel & Shipbuilding	(2) 274 X 34 SW	2	2	2	0	0	0	0	0	2	0	
	303 X 52 GD	2	1	1	1	1	0	0	0	1	0	
		4	3	3	1	1	0	0	0	3	0	
Portland Ship Repair Yard	183 X 30 LL	0	0	0	0	0	0	0	0	0	0	
	305 X 55 LL	2	2	1	1	1	0	0	0	1	1	
		2	2	1	1	1	0	0	0	1	1	

* Vessel with beam up to 30 meters can be constructed by joining the two shipways.

TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

		Tanker										OBO
SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	(LNG)										Quantity of Ships
		25,000	38,000	89,000	120,000	125,000	225,000	265,000	80,000	160,000		
	Length (m)	189	210	272	280	284	335	335	270	304		
	Beam (m)	21	27	32	42	43	43	54	32	44		
<u>WEST COAST</u>												
Tacoma Boatbuilding	(2) 130 X 14 SW*	0	0	0	0	0	0	0	0	0	0	
Todd-Seattle	(2) 168 X 18 SW**	0	0	0	0	0	0	0	0	0	0	

** Max ship size is 169 X 29 meters using two adjacent 168 X 18 meter SWs.

TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

SHIPYARD	BUILDING POSITION (Qty) / Metric Units (m)	Tanker										OBO
		25,000	38,000	89,000	120,000	125,000	125,000	225,000	265,000	80,000	160,000	
		(LNG)										
	Length (m)	189	210	272	280	284	335	335	335	270	304	
	Beam (m)	21	27	32	42	43	43	54	54	32	44	
GREAT LAKES *												
Erie Marine	375 X 35 GD	1	0	0	0	0	0	0	0	0	0	0
Fraser Shipyards	189 X 17 GD 252 X 23 GD	0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Marinette Marine	122 X 24 LL	0	0	0	0	0	0	0	0	0	0	0
Peterson Builders	125 X 22 LL	0	0	0	0	0	0	0	0	0	0	0

* NOTE: Maximum size ship that can exit the St. Lawrence Seaway is 222 meters X 24 meters.

TABLE 1B
SHIPBUILDING POSITION CAPACITY
BY
SHIP TYPES HISTORICALLY DELIVERED TO COMMERCIAL SERVICE

	Tankers										OBO
	25,000	38,000	89,000	120,000	125,000	125,000	225,000	265,000	80,000	160,000	
Length (m)	189	210	272	280	284	335	335	335	270	304	
Beam (m)	21	27	32	42	43	43	54	54	32	44	
Quantity of Ships											
EAST COAST	16	12	5	2	2	2	2	2	5	2	
GULF COAST	32	26	6	5	5	3	3	3	6	3	
WEST COAST	7	6	4	2	2	0	0	0	4	0	
GREAT LAKES *	2	0	0	0	0	0	0	0	0	0	
TOTAL BUILDING POSITIONS - ALL YARDS	57	44	15	9	9	5	5	5	15	5	

* NOTE: Maximum size ship that can exit the St. Lawrence Seaway is 222 meters X 24 meters.

TABLE 2

NUMBER OF SHIPBUILDING POSITIONS BY LENGTH
(MAXIMUM SHIP SIZE)

NUMBER OF SHIPBUILDING POSITIONS BY LENGTH (MAXIMUM SHIP SIZE) *

Length OA (In meters): 122 137 152 168 183 198 213 229 244 259 274 290 305 320 335 351 366 396 427 488

EAST COAST

Bath Iron Works	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1					
BethShip, Sparrows Point Yard	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1
General Dynamics, E. Boat **	1	1	1																	
Intermarine USA	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
Newport News Shipbuilding	14	14	14	13	13	9	9	6	6	4	4	4	3	3	2	2	1	1	1	1
TOTAL																				

GULF COAST

Alabama Shipyards	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
AMFELS, Inc.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Avondale Industries	6	6	5	5	5	5	5	5	5	2	2	2	2	2						
Halter Marine - Moss Point	1	1																		
Ingalls Shipbuilding	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
TOTAL	15	15	13	13	13	13	13	13	13	8	5	5	4	2	2	1	1	1	1	1

WEST COAST

Gunderson Marine Inc.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
National Steel & Shipbuilding	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1					
Portland Ship Repair Yard	2	2	2	2	1	1	1	1	1	1	1	1	1	1						
Tacoma Boatbuilding	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Todd-Seattle	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL	10	8	8	8	6	5	4	4	4	4	4	2	1	1	1	1	1	1	1	1

GREAT LAKES ***

Erie Marine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fraser Shipyards	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Marinette Marine	1																			
Peterson Builders	<u>1</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	5	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1

GRAND TOTAL ALL COASTS AND GREAT LAKES 44 40 38 37 35 29 29 26 26 26 17 14 12 9 6 5 4 3 2 2 2 2

* Including Shipways, Graving Docks and Land Level positions.
 ** Engaged exclusively in U.S. Navy submarine construction.
 *** Maximum size ship that can exit St. Lawrence Seaway locks is 222 meters X 24 meters.

APPENDIX A

STANDARD FORM 17

FACILITIES AVAILABLE FOR THE CONSTRUCTION

OR REPAIR OF SHIPS

Standard Form 17 (Rev. 3-93)
 DEPARTMENT OF THE NAVY
 (NAVSASYSCOM)
 & MARITIME ADMINISTRATION
 Coordinator for Ship Repair
 and Conversion (DOD-DOC)

FACILITIES AVAILABLE FOR THE CONSTRUCTION OR REPAIR OF SHIPS

Form Approved
 OMB No. 0703-0006
 Expires 2-28-96

Public reporting burden for this collection of information is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0703-0006), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send your completed form to the appropriate Department of Defense Office or Maritime Administration

DATE

TO: (Complete departmental address)

SHIPYARD AND ADDRESS

INSTRUCTIONS

Forward original copy to appropriate Department of Defense Office or Maritime Administration, Washington, D.C.

NO. OF WAY	LAUNCHING (X one)	DIMENSIONS	MAXIMUM SHIP SIZE (Ton 2,240 lbs.)	DEPTH OF WATER		CONDITION OF WAY	NO.	CRANES SERVING WAY	LIFT CAPACITY (Std. Tons)
				OVER WAY	AT DROP OFF				
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						
	End	Length	Length O.A.						
	Side	Width	Beam						
	Basin	Depth	Weight						

LENGTH OF LAUNCHING RUN	DEPTH OF RUN AT M.L.W.	TIDAL RANGE (Difference M.L.W.H.)	IS FIRE PROTECTION AVAILABLE ON BUILDING WAY?	IS SMUBBING NECESSARY?
			YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>

Merchant Marine Act of 1936, as amended

Previous editions are obsolete

SHIP'S BERTHS (PIERS, WHARVES, BULKHEADS, MOORING DOLPHINS (M.L.W.))										
NO.	TYPE	LENGTH (Actual and usable)	WATER DEPTH		HEIGHT OF DOCK	USE REPAIR AND/OR OUTFITTING	SERVICE AVAILABLE (Use abbreviations of services and units of measure notated under legend)	NO	CRANES SERVING BERTHS, ETC.	
			INBOARD	OUTBOARD					TYPE (Hook height above M.L.W.)	LIFT CAPACITY (Std Tons)
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach
		Act								Lift
		Use								Reach

DOCK NO.	MATERIAL CONSTD. OF TYPE FLOATING - (FD), GRADING - (GD), MARINE RAILWAY - (MR)	MAXIMUM SHIP SIZE ACCOMMODATED LENGTH OA-BEAM		LENGTH			CLEAR WIDTH			DEPTH / DRAFT			LIFTING CAPACITY (Ton 2,240/lbs.)	
		FW - GPM - PSI SW - GPM - PSI	S - PHR - PSI A - CFM - PSI	OVERALL	AT COPING (GD) ON PONTOONS (FD)	AT KEEL BLOCKS ON CRADLE (MR)	AT TOP CRADLE (MR)	AT KEEL BLOCKS	OVER SILL (GD)	OVER FLOOR	OVER KEEL BLOCKS	OVER FLOOR		OVER KEEL BLOCKS

LEGEND (Abbreviations of Services)	FW - GPM - PSI SW - GPM - PSI	S - PHR - PSI A - CFM - PSI	Steam Air	Electric power Electric power	E-V-AC-AMP E-V-DC-AMP	Fire protection Sanitary sewer	FP - GPM - PSI SS - Yes or No

PRINCIPAL SHOPS AND BUILDINGS							WEIGHT OF MATERIAL OR NUMBER AND SIZE OF UNITS PRODUCED PER 8 HOURS (See note)	ALL OTHER SHOPS (List names and dimensions, include mold loft, if any)
NAME OF SHOP OR BUILDING	DIMENSIONS OF SHOP OR BUILDING	MATERIALS PROCESSED (See note)	LARGEST EXIT			HEIGHT		
			WIDTH		HEIGHT			
FABRICATING								
PLATE								
SHEET METAL								
SUBASSEMBLY								
CARPENTER								
WOODWORKING								
BOAT ASSEMBLY OR MOLDING								
MACHINE								
ELECTRICAL								
ELECTRONIC								
PIPE								
GALVANIZING								
FOUNDRY								
RIGGER								

NOTE: Indicate materials as steel, aluminum, reinforced plastic, wood, plywood, sheet metal, etc.

SHOP OR YARD CRANES (5 tons or over)

CAP (stat tons)	MAX SPAN	BRIDGE TYPE			SHOP OR YARD CRANES (5 tons or over)			HGT. OF HOOK ABOVE BASE AT OUT REACH		
		HEIGHT OF HOOK	AREA / SHOP SERVICED	TYPE	CAP (stat tons)	MAX REACH	CAPACITY AT REACH		BOOM LENGTH	HEIGHT HINGE

MAJOR ITEMS OF MACHINE TOOLS AND EQUIPMENT (List briefly such of the large items as will indicate the capacities of all important shops in maximum work piece size, e.g., 30' plate bending rolls, 10' plate shears, 400 ton Hyd. press, 30' plate furnace, engine lathe 36" x 20" b.c., etc.)

STORAGE SPACE (Sq. ft.) FOR COMPONENTS AND MATERIALS (Less boat storage) (List dimensions for each area, plus type material stored)

RAW STEEL STORAGE (Sq. ft.)		WELDING AND ASSEMBLY (Sq. ft.)	
ACREAGE LEGALLY CONTROLLED			
IN USE	DEVELOPED (including in use)	TOTAL (including undeveloped)	
EXISTING LOCAL ORDINANCES LIMITING PRODUCTIVE USE			
LIMITATIONS IMPOSED BY PROPERTY ZONING CLASSIFICATION			
YARD LAYOUT - PLEASE FURNISH A PLOT PLAN OF YARD OR PLANT, IF AVAILABLE			

LOCATION OF PRODUCTION FACILITIES FOR PRODUCTS LISTED IN ITEM 8 OF STD. FORM 129 **ON WATERFRONT** **YES** **NO**

PROJECTS UNDER CONSTRUCTION WHICH WILL ALTER NAVIGATIONAL RESTRICTIONS (Specify projects and state effect and estimated completions)

DESCRIPTION OF TYPES OF WORK NORMALLY SUBCONTRACTED

EMPLOYMENT	CURRENT	CURRENT NO. SHIFTS	MOBILIZATION - SHIFTS	YES	NO
MANAGEMENT, ADMINISTRATION					
PROFESSIONAL, ENGINEERING					
PROFESSIONAL, TECHNICAL (all others)					
PRODUCTION, SKILLED					
PRODUCTION, SEMISKILLED					
PRODUCTION, UNSKILLED					
NONPRODUCTION					
TOTAL					

NUMBER OF PRODUCTION PERSONNEL PRESENTLY ENGAGED IN SHIP AND/OR BOAT CONSTRUCTION () ; REPAIR ()

APPROXIMATE TOTAL EMPLOYMENT OF ALL AFFILIATED CONCERNS ONLY LISTED IN ITEM 6, OF STD. FORM 129 (NOTE: An affiliate is a concern that directly, or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, the reporting firm. Common ownership of stock by individuals does not in itself, constitute affiliation.)

DISTANCE TO NEAREST RAILROAD CONNECTION **DISTANCE TO NEAREST AIRPORT - IDENTIFY**

LARGEST CONVEYANCE AVAILABLE AND MAXIMUM DIMENSIONS OF LOAD, FOR OVERLAND TRANSPORTATION OF FINISHED PRODUCTS (Not to exceed limitations imposed by local ordinances)

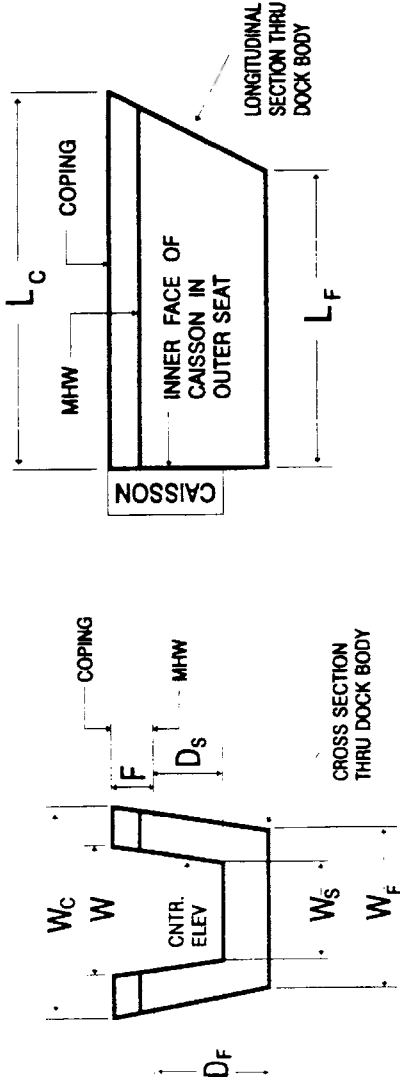
MINIMUM CHANNEL TO TIDEWATER **MINIMUM HORIZONTAL AND VERTICAL BRIDGE CLEARANCES TO TIDEWATER** (Identify structures)

NAVIGATIONAL RESTRICTIONS (INDICATE ALL AT M.L.W.)
MINIMUM HORIZONTAL AND VERTICAL BRIDGE CLEARANCES TO TIDEWATER (Identify structures)
LIMITING LOCK DIMENSIONS TO TIDEWATER (Identify locks)

PRODUCTION EXPERIENCE (List at least three of the largest and the most complex ships or boats constructed, indicating (1) date completed, (2) hull length, beam, and molded depth, (3) type propulsion unit (fully described), (4) horsepower, (5) electrical and/or electronic installation, (6) special piping features, (7) size and tensile strength of plates, if steel, or type hull material, if other than steel, (8) special annealing, heat treating, or stress relieving problems encountered, if steel, plus, (9) any other important problems resolved) (NOTE - if no previous construction experience give detailed description of major conversion or industrial manufacturing work considered comparable to ship or boat construction)

GRAVING DOCK CHARACTERISTICS SUMMARY

GRAVING DOCK NOMENCLATURE



KEY

- MHW - Mean High Water
- Df - Depth of Dock from MHW to Floor
- Ds - Depth of Dock from MHW to Sill
- Lc - Length of Dock at Coping
- Lf - Length of Dock at Floor
- W - Width of Dock at Top of Entrance
- Wc - Width of Dock at Coping or maximum clear width above Dock Floor
- Ws - Width at Dock Floor
- Wf - Width of Dock at Entrance (Sill)
- F - Freeboard. Distance from MHW to top of coping. Indicate if part of Freeboard may be superflooded.

GRAVING DOCK IDENTIFIER	ENTRANCE DIMENSIONS		DOCK BODY DIMENSIONS				SUPERFLOODING	STANDARD DEFINITION	AVAILABLE ELECTRICAL SERVICE (SHORE POWER TO VESSEL)			REMARKS	
	LENGTH	WIDTH		DEPTH		WIDTH			DEPTH	FREEBOARD	VOLTS		AMPS
FLOOR Lf	COPING Lc	SILL Ws	COPING W	MHW Ds	FLOOR Wf	COPING Wc	MHW Df	F	$L_c \times W_c \times \frac{D_s}{D_f}$	VOLTS	AMPS	HERTZ	(e.g. indicate dimensions of pite in dock floor)

FLOATING DRYDOCK CHARACTERISTICS SUMMARY

FLOATING DRYDOCK IDENTIFIER	MAXIMUM LENGTH OF PONTOON	MAXIMUM DEPTH OVER BLOCKS	CLEAR WIDTH BETWEEN WINGWALLS	LIFT CAPACITY (TONS)	NORMAL KEEL BLOCK HEIGHT	AVAILABLE ELECTRICAL SERVICE (SHORE POWER TO VESSEL)			REMARKS (Indicate existence of hauling blocks, if end selection can be lowered, and max. length of ship DD can accommodate).
						VOLTS	AMPS	HERTZ	

INTENTIONALLY LEFT BLANK

APPENDIX B

**MAJOR U.S. SHIPBUILDING,
REPAIR (WITH DRYDOCKING),
AND TOPSIDE REPAIR FACILITIES**

SHIPYARD CLASSIFICATION DEFINITIONS

CLASSIFICATION DEFINITIONS

- Shipbuilding: Facilities that are open, having at least one shipbuilding position capable of accommodating 122 meters in length and over. With few exceptions, these shipbuilding facilities may also be major repair facilities with drydocking capability.
- Repair (With Drydocking): Drydocking facilities for ships 122 meters in length and over. These facilities may also be capable of constructing vessels less than 122 meters in length.
- Topside Repair: Facilities with sufficient berth/pier space for topside repair of ships 122 meters in length and over. These facilities may also be capable of constructing and/or drydocking vessels less than 122 meters in length.

GENERAL REQUIREMENTS

The shipyard must own or have in place a long-term lease (1 year or more) on the facility in which they intend to accomplish the work.

There must be no dimensional obstructions in the waterway leading to open ocean (i.e., locks, bridges).

Water depth in the channel to the facility must be a minimum of 3.7 meters.

NOTE

The following criteria were developed to establish the maximum ship size that could be accommodated in each drydock:

For floating drydocks, the maximum ship length is as given by the shipyards. The maximum beam was determined by allowing a 0.6 meter clearance at each side between the ship and wing wall.

For graving docks, the maximum ship length was determined by allowing a 0.6 meter clearance at each end between the ship and the inside of the dock at the floor. The maximum beam was determined by allowing a 0.6 meter clearance on each side between the ship and each side of the dock entrance at the sill, unless the shipyard indicated more clearance is required.

There are several types of floating drydocks and graving docks, and under certain circumstances additional clearance would be necessary between the ship and the dock body. Permissible ship sizes requiring additional clearance may be determined by simple calculation from the above criteria.

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

EAST COAST

Shipbuilding Yards

Bath Iron Works Corp. 700 Washington Street Bath, ME 04530	213 X 26 SW 219 X 34 SW 219 X 39 SW	<u>259</u> 869	1/ Construction, conversion and repair - all types of vessels. 2/ 8,300
Bethlehem Steel Corp. BethShip, Sparrows Point Yard Sparrows Point, MD 21219	(2) 244 X 32 SW 365 X 59 GD 274 X 40 FD	<u>384</u> 1920	1/ Construction, conversion and repair of vessels. 2/ 622
General Dynamics Electric Boat Division 75 Eastern Point Road Groton, CT 06340-4989	(2) 162 X 23 SW (4) 171 X 14 LL 157 X 20 GD 197 X 26 GD 185 X 21 GD	<u>229</u> 1067	1/ Engaged exclusively in construction, conversion and repair of submarines for the U.S. Navy. 2/ 15,111* * Includes Groton & Quonset Point
Intermarine, USA 301 North Lathrop Avenue P.O. Box 3045 Savannah, GA 31402-3045	162 X 20 GD *	<u>244</u> 591	1/ MHC construction. 2/ 476 * Can accomodate ship up to 366 meters in length.
Newport News Shipbuilding 4101 Washington Avenue Newport News, VA 23607	292 X 37 GD * 334 X 41 GD * 197 X 27 GD ** 262 X 31 GD ** 139 X 21 GD ** 159 X 21 GD ** 490 X 75 GD * 195 X 41 FD (4) 183 X 12 LL	<u>418</u> 2596	1/ Construction, conversion and repair - all types of vessels. 2/ 19,500 * Used for construction. ** Used for repair and overhaul.

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway		1/ Type of work usually engaged in
	GD--Graving Dock		
	FD--Floating Drydock	<u>Longest</u>	2/ Employment - Mid-1995
	MR--Marine Railway	Total linear	
	LL--Land Level Position		
	SL--Syncrolift		
			Lengths are in Meters

EAST COAST

Repair Yards with Drydock Facilities

Atlantic Marine, Inc. 8500 Heckscher Drive Jacksonville, FL 32226-3311	137 X 23 MR	<u>310</u> 585	1/ Construction of small vessels. Repair and overhaul of small and medium sized vessels. 2/ 237* * Includes Atlantic Marine's Fort George Island employees.
Bath Iron Works Corp. 40 Commercial St. Portland, ME 04101	257 X 41 FD	<u>305</u> 457	1/ Ship repair and conversion. 2/ 690
Caddell Dry Dock & Repair Company, Inc. P.O. Box 327 Staten Island, NY 10310	137 X 25 FD	<u>169</u> 712	1/ General ship repair. 2/ 179
Colonna's Shipyard, Inc. 400 E. Indian River Rd. Norfolk, VA 23523	122 X 22 MR 198 X 25 FD	<u>274</u> 1399	1/ General ship repair. 2/ 336
Detyens Shipyard, Inc. 2383 Highway 41 Mt. Pleasant, SC 29464	152 X 25 FD 152 X 20 FD 226 X 34 GD*	<u>122</u> 539	1/ General ship repair and conversion. 2/ 319 * Leased from Charleston Naval Shipyard
Eastern Technical Enterprises MPN, Inc. Brooklyn Navy Yard Brooklyn, NY 11205	219 X 34 GD	<u>183</u> 512	1/ General Ship repair. 2/ 90

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

EAST COAST

Repair Yards with Drydock Facilities

GMD Shipyard Corp. Brooklyn Navy Yard, Bldg #386 Brooklyn, NY 11205	(2) 330 X 43 GD	<u>233</u> 503	1/ General ship repair. 2/ 127
General Ship Corp. 400 Border Street East Boston, MA 02128-2533	208 X 24 GD * 350 X 34 GD *	<u>274</u> 771	1/ Ship repair, overhaul and modernization. 2/ 5 * GD is long-term leased from Boston Marine Industrial Park in the former Boston Naval Annex.
Metro Machine Corp. P.O. Box 1860 Norfolk, VA 23501	201 X 29 FD	<u>239</u> 885	1/ Ship repair and conversion. 2/ 668
Norfolk Shipbuilding & Drydock Corporation P.O. Box 2100 750 Berkley Ave Norfolk, VA 23501-2100	218 X 29 FD 335 X 48 FD	<u>314</u> 2388	1/ Ship conversion and repair - all types of vessels. 2/ 1,524
North Florida Shipyards, Inc. P.O. Box 3255 Jacksonville, FL 32206	122 X 16 FD	<u>290</u> 966	1/ Ship repair and conversion. 2/ 459

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

EAST COAST

Topside Repair Yards

American Shipyard Corp. One Washington Street Newport, RI 02840-0943	<u>731</u> 1615	1/ General ship repair. 2/ 105 * Includes Quonset Point facility.
Associated Naval Architects, Inc. 3400 Shipwright Street Portsmouth, VA 23703	<u>137</u> 439	1/ General ship repair and overhaul. 2/ 60
Boston Graving Dock Corp. 256 Marginal Street East Boston, MA 02128	<u>311</u> 948	1/ General ship repair. 2/ 15
General Ship Repair Corp. 1449 Key Highway Baltimore, MD 21230	<u>133</u> 258	1/ General ship repair. 2/ 50
Hood Enterprises, Inc. One Little Harbor Landing Portsmouth, RI 02871	<u>366</u> 731	1/ General ship repair. 2/ 200
Marine Hydraulics International, Inc. 800 East Indian River Rd. Norfolk, VA 23523	<u>183</u> 396	1/ General ship repair. 2/ 210

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

EAST COAST

Topside Repair Yards

Metal Trades, Inc.
P.O. Box 129
Hollywood, SC 29449-0129

226
396

1/ General ship repair.

2/ 132

Metro Machine of Pennsylvania, Inc.
P.O. Box 200
Chester, PA 19016

198
198

1/ General ship repair.

2/ 20

Moon Engineering
Two Harper Avenue
Portsmouth, VA 23707

231
899

1/ General ship repair.

2/ 184

Norfolk Shipbuilding &
Drydock Corporation
Brambleton Division
Norfolk, VA 23501

183
1935

1/ Ship conversion and repair -
all types of vessels.

2/ 600

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size	Berths/Piers	Remarks
	(LOA--Beam)	Usable Length	
	SW--Shipway		<u>1</u> / Type of work usually engaged in
	GD--Graving Dock		<u>2</u> / Employment - Mid-1995
	FD--Floating Drydock	<u>Longest</u>	
	MR--Marine Railway	Total linear	
	LL--Land Level Position		
	SL--Syncrolift		
			Lengths are in Meters

EAST COAST

Topside Repair Yards

Promet Marine
 Services Corp.
 242 Allens Ave.
 Providence, RI 02905

183
 366

1/ General ship repair.
2/ 36

Reynolds Shipyard Corp.
 200 Edgewater Street
 P.O. Box 0500/10
 Staten Island, NY 10305

134
 134

1/ General ship repair.
2/ 15

Steel Style, Inc.
 401 South Water Street
 Newburgh, NY 12550

183
 335

1/ General ship repair.
2/ 30

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

GULF COAST

Shipbuilding Yards

Alabama Shipyard, Inc. P.O. Box 3201 Mobile, AL 36652	290 X 50 LL	<u>328</u> 642	1/ Ship construction, conversion and repair. 2/ 218
AMFELS, Inc. Hwy. 48, P.O. Box 3107 Brownsville, TX 78523	335 X 122 LL	<u>610</u> 610	1/ General ship repair. 2/ 650
Avondale Industries, Inc. P.O. Box 50280 New Orleans, LA 70150-0280	265 X 38 SW * 137 X 27 SW *** (2) 311 X 53 LL ** (2) 265 X 38 LL ** 305 X 66 FD ** 229 X 35 FD *	<u>521</u> 1431	1/ Modular ship construction, conversion, and repair - all types of vessels. 2/ 5,150 3/ Can accommodate ship up to 366 meters in length. * Upper main yard. ** Lower main yard. *** Westwego Plant.
Halter Marine, Inc. Moss Point Division P.O. Box 767 Moss Point, MS 39563	140 X 20 LL	<u>146</u> 178	1/ Construction, conversion and repair of ships, boats, barges. 2/ 342
Ingalls Shipbuilding, Inc. P.O. Box 149 Pascagoula, MS 39568-0149	259 X 53 FD * (5) 259 X 53 LL * 488 X 53 LL *	<u>792</u> 1920	1/ Construction, conversion, and repair - all types of vessels. 2/ 14,081 * West Bank can only launch ships up to 259 meters X 53 meters. Land Level Positions constrained by launching capability.

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

GULF COAST

Repair Yards with Drydock Facilities

Atlantic Marine, Inc. - Mobile P.O. Box 3202 Mobile, AL 36652	213 X 26 FD 305 X 49 FD	<u>345</u> 990	<u>1/</u> Ship repair and overhaul. <u>2/</u> 575
Bender Shipbuilding & Repair Co., Inc. 265 South Water Street Mobile, AL 36601	189 X 27 FD 165 X 35 FD	<u>258</u> 968	<u>1/</u> Construction of vessels up to 91.44 meters in length. Also repair and conversion. <u>2/</u> 669
Bludworth Bond Shipyard Inc. P.O. Box 5065 8114 Huckley Houston, TX 77262-5065	122 X 24 FD *	<u>244</u> 671	<u>1/</u> General ship repair. <u>2/</u> 160 * Two drydocks are combined.
International Ship Repair & Marine Services, Inc. 1616 Penny Street Tampa, FL 33605	168 X 27 FD 137 X 32 FD	<u>549</u> 1158	<u>1/</u> General ship repair. <u>2/</u> 230
Newpark Shipbuilding & Repair, Inc. 8502 Cypress Houston, TX 77012	122 X 22 FD	<u>710</u> 710	<u>1/</u> Small vessel construction and repair. <u>2/</u> 290

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

Lengths are in Meters

GULF COAST

Repair Yards with Drydock Facilities

Tampa Shipbuilding Company P.O. Box 1277 Tampa, FL 33601	165 X 22 GD * 273 X 44 GD * (2) 226 X 32 GD **	<u>258</u> 1130	<u>1/</u> Ship construction, conversion and repair. <u>2/</u> NA * Used for ship repair. ** Used for ship construction.
TDI Dockyard P.O. Box 1448 Port Arthur, TX 77641	274 X 36 FD	<u>213</u> 213	<u>1/</u> Repair of ships and offshore oil rigs. <u>2/</u> 228
Texas Drydock, Inc. P.O. Box 968 Orange, TX 77631-0968	168 X 37 FD	<u>549</u> 823	<u>1/</u> General ship repair. <u>2/</u> 350
Trinity Gulf Coast Fabrication, Inc. P.O. Box 539 Lakeshore, MS 39558	127 X 44 GD	<u>671</u> 671	<u>1/</u> Small vessel construction and repair. <u>2/</u> 166

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

GULF COAST

Topside Repair Yards

Avondale Industries, Inc. Algiers Division 3103 Patterson Drive New Orleans, LA 70114	<u>588</u> 1112	1/ Ship conversion, repair, and overhaul. 2/ 25
Boland Marine Manufacturing Co., Inc. P.O. Box 53287 New Orleans, LA 70153	<u>305</u> 305	1/ General ship repair and conversions. 2/ 157
Bollinger Machine Shop and Shipyard, Inc. P.O. Box 250 Lockport, LA 70374-0250	<u>1646</u> 3712	1/ Coast Guard vessel construction. 2/ 600 * Max ship = 122 meters LOA.
Buck Kreihs Co., Inc. P.O. Box 53305 New Orleans, LA 70153	<u>341</u> 341	1/ Ship repair and conversion. 2/ 152 * Max ship = 122 meters LOA.
Calcasieu Shipyard P.O. Box 129 Sulphur, LA 70664-0129	<u>137</u> 518	1/ Construction and repair of offshore vessels 2/ 115

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

GULF COAST

Topside Repair Yards

CBH Services 200 Pier Road Orange, TX 77630	<u>457</u> 457	<u>1/</u> General ship repair. <u>2/</u> 70
Coastal Marine Service of Texas, Inc. 1051 Houston Avenue Port Arthur, TX 77640	<u>0</u> 0	<u>1/</u> General ship repair. <u>2/</u> 51 (subcontracted) * Vessels as long as 274 meters LOA berthed alongside waterfront barges.
Dixie Machine Welding & Metal Works, Inc. 1031 Anunciation St. New Orleans, LA 70130	<u>406</u> 406	<u>1/</u> General ship repair. <u>2/</u> 264
Gulf Marine Repair Corp. 1200 Sertoma Drive Tampa, FL 36605	<u>152</u> 152	<u>1/</u> Ship repair and overhaul. <u>2/</u> 145
Halter Marine, Inc. Equitable Shipyards 4325 France Road New Orleans, LA 70126	<u>122</u> 402	<u>1/</u> Construction and repair of small vessels and barges. <u>2/</u> 270
Hendry Corp. 5107 S. Westshore Blvd. Tampa, FL 33611	<u>305</u> 610	<u>1/</u> General ship repair. <u>2/</u> 56

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	1/ Type of work usually engaged in 2/ Employment - Mid-1995 Lengths are in Meters

GULF COAST

Topside Repair Yards

Houston Ship Repair, Inc. Brady Island Ship Repair Facility 8510 Cypress Street Houston, TX 77012	<u>259</u> 259	1/ General ship repair and conversion. 2/ 250
Jay Blutworth, Inc. P.O. Box 2441 Corpus Christi, TX 78403	<u>122</u> 232	1/ General ship repair. 2/ 27
John Blutworth Marine, Inc. 1600 N. Witter Pasadena, TX 77506	<u>259</u> 750	1/ General ship repair. 2/ 131
TDI North 320 Houston Avenue Port Arthur, TX 77640	<u>290</u> 1265	1/ General ship repair. 2/ 114
Trinity Gulf Repair 3900 Jourdan Rd. P.O. Box 8126 New Orleans, LA 70182	<u>549</u> 549	1/ Construction and repair of offshore oil vessels and barges. 2/ 140
Vessel Repair, Inc. P.O. Box 2207 Port Arthur, TX 77643	<u>335</u> 640	1/ General ship repair. 2/ 55

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

1/ Type of work usually engaged in
2/ Employment - Mid-1995
Lengths are in Meters

WEST COAST

Shipbuilding Yards

Gunderson Marine Inc. 4350 N.W. Front Avenue Portland, OR 97210	229 X 32 SW	<u>335</u> 335	1/ Construction, conversion, and repair - all types of vessels. 2/ 80
National Steel & Shipbuilding Co. Harbor Drive & 28th St. San Diego, CA 92186-5278	(2) 274 X 34 SW 303 X 52 GD * 229 X 42 FD	<u>305</u> 2210	1/ Construction, conversion, and repair - all types of vessels. 2/ 4,500 * Graving dock and piers at U.S. Naval Station also leased, as required.
Portland Ship Yard (Cascade General) 5555 N. Channel Avenue Building 50 Portland, OR 97217	183 X 30 LL 305 X 55 LL 198 X 26 FD 247 X 33 FD 351 X 55 FD	<u>335</u> 4002	1/ Ship construction, repair and conversion - all types of vessels. 2/ 1,000
Tacoma Boatbuilding Co. 1840 Marine View Drive Tacoma, WA 98422	(2) 130 X 14 SW *	<u>207</u> 207	1/ Ship construction, repair, and conversion - all types of vessels. 2/ 105 * Vessel with beam up to 30 meters can be constructed by joining the two shipways.
Todd Pacific Shipyards Corp. 1801 16th Avenue, S.W. Seattle, WA 98134	(2) 168 X 18 SW * 128 X 19 FD 198 X 26 FD 287 X 41 FD	<u>427</u> 1834	1/ Ship construction, repair, and conversion - all types of vessels. 2/ 800 * Max. ship size is 168 X 29 meters using two 168 X 18 meter SWs.

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

WEST COAST

Repair Yards with Drydock Facilities

Dakota Creek Industries, Inc. 820 Fourth Street Anacortes, WA 98221	122 X 26 FD	<u>305</u> 477	<u>1/</u> General ship repair. <u>2/</u> 100
Giannotti Corp. 401 Alexander Avenue Building 9588 Tacoma, WA 98421	162 X 24 FD	<u>198</u> 533	<u>1/</u> Ship repair and conversion. <u>2/</u> 155
Lake Union Drydock Co. 1515 Fairview Avenue East Seattle, WA 98102	122 X 17 FD	<u>381</u> 750	<u>1/</u> Ship repair and conversion. <u>2/</u> 134
Maritime Contractors, Inc. 201 Harris Avenue Bellingham, WA 98225	122 X 17 FD	<u>366</u> 477	<u>1/</u> General ship repair. <u>2/</u> 160
San Francisco Drydock Co. Foot of 20th Street San Francisco, CA 94120-7644	290 X 44 FD 213 X 29 FD	<u>244</u> 533	<u>1/</u> Ship repair and overhaul. <u>2/</u> 450
Southwest Marine, Inc. P.O. Box 13308 Foot of Sampson Street San Diego, CA 92170-0308	203 X 31 FD 127 X 19 FD	<u>213</u> 589	<u>1/</u> Ship repair, overhaul, and conversion. <u>2/</u> 569 Graving dock at Naval Station can be leased as required.
Southwest Marine, Inc. San Pedro Division 985 So. Seaside Avenue Terminal Island, CA 90731-7331	122 X 17 FD 209 X 27 FD	<u>201</u> 569	<u>1/</u> Ship repair, overhaul, and conversion. <u>2/</u> 326

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

WEST COAST

Topside Repair Yards

Al Larson Boat Shop 1046 S. Seaside Aveue Terminal Island, CA 90731	<u>122</u> 293	1/ Ship and boat repair. 2/ 100
Campbell Industries P.O. Box 1870 501 E. Harbor Drive San Diego, CA 92112	<u>171</u> 338	1/ General ship repair and construction of vessels up to 91 meters in length. 2/ 148
Continental Maritime of San Diego, Inc. 1995 Bay Front Street San Diego, CA 92113-2122	<u>213</u> 1387	1/ General ship repair. 2/ 304
Foss Shipyard 660 West Ewing Street Seattle, WA 98119	<u>146</u> 788	1/ Vessel repair, alteration, and overhaul. 2/ 127
MAR-COM, Inc. P.O. Box 1029 Vancouver, WA 98666	<u>305</u> 1981	1/ General ship repair. 2/ 91

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

WEST COAST

Topside Repair Yards

Pacific Fishermen, Inc. 5351 24th Avenue, N.W. Seattle, WA 98107	<u>152</u> 254	<u>1/</u> Construction and repair of small vessels. Topside repair of large vessels. <u>2/</u> 32
Puglia Engineering, Inc. P.O. Box 651 1460 Thorne Road Tacoma, WA 98401	<u>183</u> 366	<u>1/</u> Construction and general ship repair. <u>2/</u> 45
San Pedro Boat Works Berth 44, Outer Harbor San Pedro, CA 90731	<u>189</u> 189	<u>1/</u> General ship repair. <u>2/</u> 90
Service Engineering Co. Pier 50 San Francisco, CA 94120	<u>335</u> 792	<u>1/</u> General ship repair and conversion. <u>2/</u> 317

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

GREAT LAKES

Shipbuilding Yards

(Maximum ship size that can exit the St. Lawrence Seaway locks is 222 meters X 24 meters)

Erie Marine Enterprises Inc. Div. of Jonathan Corp. Foot of Holland Street P.O. Box 1730 Erie, PA 16507-0730	375 X 35 GD	<u>366</u> 859	<u>1/</u> Ship construction, repair, and and conversion. <u>2/</u> 42
Fraser Shipyards, Inc. P.O. Box 997 Superior, WI 5488	252 X 23 GD 189 X 17 GD	<u>274</u> 527	<u>1/</u> Ship construction, repair, and conversion. <u>2/</u> 50
Marinette Marine Corp. Foot of Ely Street Marinette, WI 54143	122 X 24 LL	<u>651</u> 651	<u>1/</u> Ship construction, repair, and conversion. <u>2/</u> 450
Peterson Builders, Inc. 101 Pennsylvania St. P.O. Box 650 Sturgeon Bay, WI 54235-0650	125 X 21 LL	<u>168</u> 687	<u>1/</u> Ship construction, repair, and conversion. <u>2/</u> 263

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

1/ Type of work usually engaged in
2/ Employment - Mid-1995
Lengths are in Meters

GREAT LAKES

Repair Yards with Drydock Facilities

(Maximum ship size that can exit the St. Lawrence Seaway locks is 222 meters X 24 meters)

Bay Shipbuilding Corp. 605 North Third Ave. Sturgeon Bay, WI 54235	195 X 20 FD 351 X 41 GD 222 X 32 SW	<u>305</u> 2162	1/ Ship repair and conversion. 2/ 128
Toledo Ship Repair Co. 2245 Front Toledo, OH 43605	152 X 21 GD 222 X 22 GD	<u>183</u> 305	1/ Ship repair and conversion. 2/ 61

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	<u>Maximum Ship Size</u> (LOA--Beam)	<u>Berths/Piers</u> Usable Length	<u>Remarks</u>
		SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear

GREAT LAKES

Topside Repair Yards

(Maximum ship size that can exit the St. Lawrence Seaway locks is 222 meters x 24 meters)

H. Hansen Industries
Riverside Marine Industries, Inc.
2824 Summit Street
Toledo, OH 43611

226
451

1/ General ship repair.
2/ 48

Nicholson Terminal &
Dock Company
P.O. Box 18066
River Rouge, MI 48218

701
1097

1/ General ship repair.
2/ 98

MAJOR U.S. SHIPBUILDING AND REPAIR FACILITIES
(Vessels 122 m in Length and Over)

Name and Address	Maximum Ship Size (LOA--Beam)	Berths/Piers Usable Length	Remarks
	SW--Shipway GD--Graving Dock FD--Floating Drydock MR--Marine Railway LL--Land Level Position SL--Syncrolift	<u>Longest</u> Total linear	

1/ Type of work usually engaged in
2/ Employment - Mid-1995

Lengths are in Meters

NON-CONUS

Shipbuilding Yards

NONE

Repair Yards with Drydock Facilities

Marisco, Ltd. 91-607 Malakola Road Ewa Beach, HI 96707	152 X 24 FD	*	1/ General ship repair. 2/ 100 * Leased from Port Commission.
--	-------------	---	---

Perez Y Cia., De Puerto Rico., Inc. P.O. Box 2209 San Juan, PR 00903	191 X 24 GD	<u>305</u> 853	1/ General ship repair. 2/ 131
---	-------------	-------------------	-----------------------------------

Topside Repair Yards

Honolulu Shipyard, Inc. P.O. Box 30989 Honolulu, HI 96820		<u>183</u> 183	1/ General ship repair and overhaul. 2/ 190
---	--	-------------------	---

