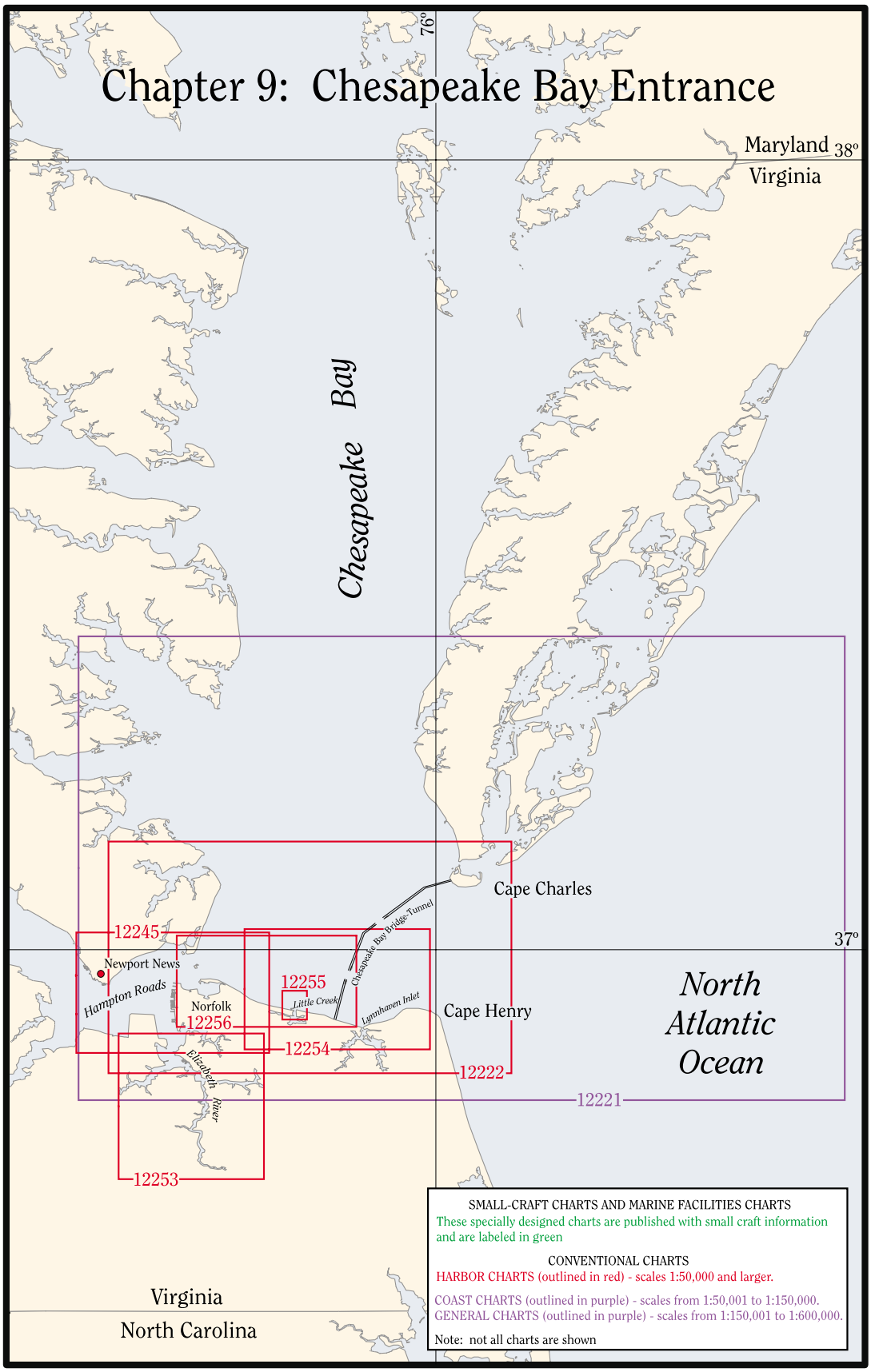
Chapter 9: Chesapeake Bay Entrance
76°
Maryland
38°
Virginia
Chesapeake Bay
Cape Charles
Chesapeake Bay Bridge-Tunnel
12245
37°
Newport News
Hampton Roads
Norfolk
12255
Little Creek
Lynnhaven Inlet
Cape Henry
North Atlantic Ocean
12256
12254
12222
Elizabeth River
12221
12253
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown
Virginia
North Carolina

Chesapeake Bay Entrance

(1) This chapter describes the deep-draft southerly entrance to Chesapeake Bay from the Atlantic Ocean; the waters of Lynnhaven Roads, Lynnhaven Inlet, Little Creek, Hampton Roads, Willoughby Bay, Lafayette River, and Elizabeth River, including Western, Eastern, and Southern Branches; and the ports of Hampton, Newport News, Norfolk, Berkley, Portsmouth, and Chesapeake.

COLREGS Demarcation Lines

(2) The lines established for Chesapeake Bay are described in **80.510,** chapter 2.

Weather

(3) This summary provides climatological information applicable to the entire Chesapeake Bay. From November through April Chesapeake Bay, particularly the southern portion, is rough sailing. Storms moving up the Atlantic coast generate winds out of the northeast quadrant ahead of their centers; speeds often reach 30 to 50 knots. Several days of strong and gusty northwest winds may follow. Strong cold fronts from the west can generate 25 to 45 knot gusts over open water. Waves associated with strong winds can be rough and bad chop develops when these winds oppose strong tidal currents. Northerlies of 25 knots or more, over a long fetch of the bay, can easily build 8 to 10 foot seas in the central portion and 5- to 7-foot (1.5 to 2.1 m) seas in the south. Seas of 8 feet (2.4 m) or more occur about 2 to 4 percent of the time from fall through early spring, in the bay. Gales can occur from September through March.

(4) Another problem during this period is poor visibilities. Fog forms most often when warm, moist air moves across the bay's cold waters from the southeast through south. Most of the 30 to 40 dense fog days each year develop from January through April. Dense fog is more common offshore and should be expected on unusually warm, humid winter and spring days. Fog over particularly cold waters with winds less than 10 knots may drop visibilities to near zero. Precipitation, particularly snow, may also hamper visibilities.

(5) When temperatures drop below about 28°F (-2.2°C) and winds are blowing at 13 knots or more, there exists a potential for moderate superstructure icing. This potential exists in the bay from November through March; January and February are the worst months when the potential exists about 3 percent of the time.

(6) During March and April, cold fronts often trigger fast-moving narrow bands of thunderstorms. Preceding the cold front these bands move eastward at 10 to 30 knots generating lightning and gusty winds of gale force. Thunderstorms are also a bay-wide threat during spring and summer when they develop about 6 to 9 days each month. They may develop over land during the afternoon as warm, humid air is forced aloft by surface heating. The thunderstorm may precede a cold front. When a cold front passes during a period of maximum afternoon heating thunderstorms may be severe. In spring and early summer they usually develop to the west of the bay and move toward the northeast at speeds of 25 to 35 knots. Occasionally thunderstorms will approach from the northwest; these are often severe, tend to move very fast, and can pack winds reaching 70 to 90 knots. Severe squall lines can also generate tornadoes which may move over the bay developing waterspouts; winds can exceed 200 knots in these systems. By midsummer, fronts become weaker and less frequent and thunderstorms are mainly the air mass type which move at 10 to 20 knots and usually do not organize into a squall line. Thunderstorms are likely to occur on 8 to 9 days in July compared to 6 to 7 days in August.

(7) Good weather in late summer and fall is compromised mainly by the threat of a tropical cyclone, particularly from mid-August through the first week in October. A hurricane affects the Chesapeake Bay about once every 10 years on the average. Thunderstorms occur on 1 to 3 days per month in September and October and are usually associated with increasingly frequent and rigorous cold fronts. Fog becomes more of a problem, particularly north of Annapolis. This is a morning fog that forms on 1 to 4 days per month during September and October over the upper reaches of the bay; it usually lifts by noon. In late summer and autumn waterspouts may be sighted. These are short-lived and less severe than those associated with thunderstorms; maximum winds climb to about 50 knots. They are caused by cooler air overriding a body of warm moist air in association with a cloud build up over the bay; they usually occur in fair weather.

(8) (See page T-11 for **Chesapeake Bay meteorological table.**)

Chart 12221

(9) **Chesapeake Bay**, the largest inland body of water along the Atlantic coast of the United States, is 168 miles long with a greatest width of 23 miles. The bay is the approach to Norfolk, Newport News, Baltimore, and many lesser ports. Deep-draft vessels use the Atlantic entrance, which is about 10 miles wide between Fishermans Island on the north and Cape Henry on the south. Medium-draft vessels can enter from Delaware Bay on the north via Chesapeake and Delaware Canal, and light-draft vessels can enter from Albemarle Sound on the south via the Intracoastal Waterway.

(10) The waters surrounding a vessel that is carrying liquefied petroleum gas are a **safety zone** while the vessel transits the Chesapeake Bay and Elizabeth River. (See **165.506**, chapter 2, for limits and regulations.)

North Atlantic Right Whales

(11) Endangered North Atlantic right whales may occur within 25 to 30 miles of the Virginia coast in the approaches to the Chesapeake Bay (peak season: February through April and November through December). (See **North Atlantic right whales**, indexed as such, chapter 3.

Mileages

(12) Many of the distances in this and later Chesapeake Bay chapters are given in nautical miles above the **Virginia Capes,** or "the **Capes,**" which is a short way of referring to a line from Cape Charles Light to Cape Henry Light.

(13) **Chesapeake Light** (36°54'17"N., 75°42'46"W.), 117 feet above the water, is shown from a blue tower on a white superstructure on four piles, 14 miles eastward of Cape Henry. The name CHESAPEAKE is displayed on all sides. A fog signal and racon are at the light. A fish haven, consisting of sunken fishing-boat hulls and marked by private unlighted buoys, is about 0.4 mile southwestward of the light.

(14) **Cape Charles,** on the north side of the entrance, is low and bare, but the land back of it is high and wooded. **Wise Point** is the most southerly mainland tip of the cape. Low **Fishermans Island,** a National Wildlife Refuge, is 1 mile south of Wise Point.

(15) The southwest end of **Smith Island** is 2.4 miles eastward of Wise Point; the island is 6 miles long, low and sparsely wooded, and awash at half tide midway along its length.

(16) **Cape Charles Light** (37°07'23"N., 75°54'23"W.), 180 feet above the water, is shown from an octagonal, pyramidal skeleton tower, upper part black and lower part white, on the southwestern part of Smith Island. The ruins of the old lighthouse are in shallow water 0.7 mile eastward of the light.

(17) **Smith Island Shoal,** which breaks in heavy weather, has depths of 21 feet 7.5 miles east-southeast of Cape Charles Light. Depths less than 40 feet extend another 5 miles northeastward. Outer limits of the shoal area are marked by a lighted buoy.

(18) **Nautilus Shoal,** which extends 4 miles southeastward from Fishermans Island, has patches with depths of 6 to 11 feet. The buoyed channel along the southwest side of Nautilus Shoal, thence northward between Fishermans Island and **Inner Middle Ground,** had a controlling depth of about 16 feet in 1977-1980. The channel is used by local vessels drawing up to 12 feet. This channel is not recommended for strangers because of shifting shoals. In 1996, a 10-foot shoal was reported 1.5 miles S of Fishermans Island in about 37°03'31.2"N., 075°57'27.0"W.

(19) Breakers frequently occur along the axis of Inner Middle Ground, starting on the seaward side of the Chesapeake Bay Bridge-Tunnel and continuing the entire length of the shoal. This phenomenon appears to be associated with large swells rolling in from sea from the south-southeast to southeast.

Charts 12222, 12221, 12225

(20) **Cape Henry**, on the south side of the entrance, has a range of sand hills about 80 feet high.

(21) **Cape Henry Light** (36°55'35"N., 76°00'26"W.), 164 feet above the water, is shown from an octagonal, pyramidal tower, upper and lower half of each face alternately black and white, on the beach near the turn of the cape.

(22) The gray octagonal, pyramidal tower 110 yards southwest of Cape Henry Light is the abandoned 1791 lighthouse.

Local magnetic disturbance

(23) Differences of as much as 6° from the normal variation have been observed 3 to 17 miles offshore from Cape Henry to Currituck Beach Light.

(24) A **naval restricted area** extends northward and eastward from Cape Henry. (See **334.320,** chapter 2, for limits and regulations.)

(25) The summer resort of **Virginia Beach** is about 5 miles southward of Cape Henry Light. Many high-rise buildings, two water tanks, and an aerobeacon 2.8

miles inland are prominent. A hotel cupola, 3.4 miles south of Cape Henry Light, is distinctive.

(26) The **Chesapeake Bay Bridge-Tunnel** extends from Cape Charles across the bay entrance to a point 6 miles westward of Cape Henry. The 15-mile crossing has vehicular tunnels under Chesapeake Channel and Thimble Shoal Channel with fixed bridges over Fishermans Inlet and secondary channels. In addition to the channel buoys and lights, daybeacons and fog signals mark the openings at Chesapeake and Thimble Shoal Channels. At night the floodlighted tunnel houses are more prominent than the privately maintained lights marking the channels.

(27) **Caution.**–The Chesapeake Bay Bridge-Tunnel complex has on several occasions suffered damage from vessels. In every case, adverse weather prevailed with accompanying strong winds from the northwest quadrant generally related to a frontal system. Weather deterioration in the lower bay is quite often sudden and violent and constitutes an extreme hazard to vessels operating or anchoring in this area. The proximity of the bridge-tunnel complex to main shipping channels and anchorages adds to the danger. Currents in excess of 3.0 knots can be expected in the area.

(28) Normal precautions dictated by prudent seamanship are expected of all vessels. Mariners transiting this area are, however, urged to be particularly alert in regards to the weather. To assist in this respect, the National Weather Service provides 24-hour weather broadcasting on 162.55 MHz. The local Marine Operator also transmits weather information at 0000, 0600, 1200, and 1800 local time on 2450 kHz and 2538 kHz. Information of a pending weather frontal passage should be met with advance preparations. Engines readied for short notice maneuvering and anchor details alerted are considered minimum prudent precautions. Maneuvering in close proximity of the bridge-tunnel complex is also discouraged.

(29) A **Regulated Navigation Area** has been established in the waters of the Atlantic Ocean and in Chesapeake Bay. (See **165.1 through 165.13, and 165.501,** chapter 2, for limits and regulations.)

(30) All vessels 300 gross tons and over, including tug and barge combined are required to obtain permission prior to entering, departing, and/or moving within the Regulation Navigation Area. To obtain permission, vessels shall contact the Joint Harbor Operations Center (JHOC) at least 30 minutes prior to entry or movement via channel 12, alternate 13/16 VHF-FM and relay vessel documentation number, IMO number or VIN for verification. This includes entries from offshore, James River, Chesapeake Bay or Intracoastal Waterway. Alternate JHOC phone numbers are 757-444-5210/5209. If the JHOC cannot be reached, the Captain of the Port (COTP) Command Duty Officer may be reached at 757-668-5555.

Traffic Separation Schemes

(31) **Traffic Separation Schemes (Chesapeake Bay Entrance and Smith Point)** have been established for the control of maritime traffic at the entrance of Chesapeake Bay and off Smith Point Light (37°52'47"N., 76°11'01"W.). They have been designed to aid in the prevention of collisions, but are not intended in any way to supersede or alter the applicable Navigation Rules. (See Traffic Separation Schemes, chapter 1, for additional information.)

Traffic Separation Scheme (Chesapeake Bay Entrance)

(32) The scheme provides for inbound-outbound traffic lanes to enter or depart Chesapeake Bay from the northeastward and from the southeastward. (See chart 12221.)

(33) A precautionary area with a radius of 2 miles is centered on Chesapeake Bay Entrance Lighted Whistle Buoy CH (36°56'08"N., 75°57'27"W.). A racon is at the buoy.

(34) The northeasterly inbound-outbound traffic lanes are separated by a line of four fairway buoys on bearing 250°–070°. The outermost buoy in the line is 6.4 miles 313° from Chesapeake Light and the innermost buoy is 4.5 miles 074° from Cape Henry Light.

(35) The southeasterly approach is marked by Chesapeake Bay Southern Approach Lighted Whistle Buoy CB (36°49'00"N., 75°45'36"W.). A racon is on the buoy. The inbound/outbound traffic lanes are separated by a **Deep-Water Route** marked by lighted buoys on bearings 302°-122° and 317°-137°. The Deep-Water Route is intended for deep draft vessels and naval aircraft carriers entering or departing Chesapeake Bay. A vessel using the Deep-Water Route is advised to announce its intentions on VHF-FM channel 16 as it approaches Lighted Whistle Buoy CB on the south end, and Lighted Whistle Buoy CH on the north end of the route. All other vessels approaching the Chesapeake Bay Traffic Separation Scheme should use the appropriate inbound/outbound lanes of the northeasterly or southeasterly approaches.

(36) The Coast Guard advises that upon entering the traffic lanes, all inbound vessels are encouraged to make a security broadcast on VHF-FM channel 13, announcing the vessel's name, location, and intentions.

(37) **Exercise extreme caution where the two routes converge off Cape Henry.** Mariners are also warned that vessels may be maneuvering in the pilotage area

which extends into the western part of the precautionary area.

Traffic Separation Scheme (Smith Point)

(38) The turn in the main channel in Chesapeake Bay off Smith Point is marked by a fairway buoy 1.5 miles 090° from Smith Point Light. Northbound traffic will pass eastward of the buoy, and southbound traffic will pass westward of the buoy.

Channels

(39) The deepest route to and from Chesapeake Bay is south of Chesapeake Light through the buoyed Deep-Water Route in the southeasterly approach. Federal project main channel depths are 50 feet from the Virginia Capes to Baltimore and 55 feet from the Capes to Hampton Roads. (See Notice to Mariners and latest editions of charts for controlling depths.)

(40) The well-marked channel to Baltimore is discussed further in chapters 11 to 15.

Tides

(41) The mean range of tide is 2.8 feet at Cape Henry.

Currents

(42) The current velocity is 1.0 knot on the flood and 1.5 knots on the ebb in Chesapeake Bay Entrance. (See the Tidal Current Tables for daily predictions.)

Pilotage, Chesapeake Bay

(43) Pilotage is compulsory for all foreign vessels and for U.S. vessels under register in the foreign trade. Pilotage is optional for U.S. vessels under enrollment in the coastwise trade if they have on board a pilot licensed by the Federal Government to operate in these waters.

(44) The Association of Maryland Pilots has an office in Baltimore (telephone: 410-342-6013, fax: 410-276-1364, telex: 87-574 MARPILOTS BALTIMORE, cable address: MARPILOT BALTIMORE). They provide service to any port in Maryland and service between Cape Henry, VA, to Baltimore. Transmit ETA 24 hours and 6 hours before arrival pilot station. Email ETA, speed, and draft to: dispatch@marylandpilots.com. The Virginia Pilots Association has an office in Norfolk (757-496-0995; cable address VAPILOT) and provides service to any port in Virginia. Vessels bound for Washington, D.C. may take a pilot from either association.

(45) The Maryland pilots maintain a Pilot Tower with the Virginia pilots at Cape Henry, just north of Cape Henry Light. The pilots monitor VHF-FM channels 11, 13, and 16. The pilot boats are stationed in Lynnhaven Inlet. They are 45 feet long with a black hull and white house displaying the "PILOT" on each side.

(46) The Virginia Pilots Association maintains a pilot station at Cape Henry, just north of Cape Henry Light. The pilots monitor VHF-FM channels 11, 16, and 74. Other channels are used on request. Email address: DISPATCH@PILOT.INFI.NET. Four pilot boats are stationed in Lynnhaven Inlet; two are in use at any given time. The pilot boats are 50 feet long with orange hulls and gray houses with the word “PILOT” on each side.

(47) The Chesapeake and Interstate Pilots Association offers pilot services to vessels engaged in the coastwise trade and public vessels between Cape Henry and various ports and places on the Chesapeake Bay and its tributaries. Arrangements for pilots are made through ships' agents or the pilot office in Norfolk (telephone, 757-855-2733). The pilots use commercial launch services. Pilots begin radio watches at the launch service on VHF-FM channel 16 one hour prior to last ETA. Advance pilot orders requested with 6-hour ETA update and any subsequent changes requested. The pilot office can also be contacted through the Maritel Marine Operator.

(48) Vessels are usually boarded at Chesapeake Bay Entrance Lighted Whistle Buoy CH, but with prior arrangement and if scheduling permits, vessels can be boarded at other places in the lower Chesapeake Bay.

(49) It has been noted that sometimes considerable differences occur between a vessel’s ETA and her actual arrival due to conditions encountered between Cape Hatteras and Cape Henry. Revisions to the ETA of 1 hour or greater should be passed to the pilots especially if the vessel’s arrival will be sooner than previously advised.

Underkeel clearance policy, Hampton Roads

(50) In consultation with waterway users, and in accordance with **33 CFR 157** (in part, chapter 2). **Captain of the Port Hampton Roads** has established the following underkeel clearance policy for single hull tank vessels of 5,000 gross tons or more operating on the waters of the Captain of the Port Hampton Roads zone. Prior to transiting the Port of Hampton Roads, vessel masters are required to confer with their pilot regarding conditions which may affect underkeel clearance which include, but are not limited to; the vessel’s navigational draft, controlling depth of the channels, weather, and environmental conditions. Masters of vessels not requiring pilotage are required to follow the regulations established in **33 CFR 157.455 (c)**, chapter 2. Masters and pilots of vessels which transit the port are required to exercise an appropriate “standard of care.” As local waterway and shiphandling experts, pilots must continue to advise vessel transits. This underkeel clearance policy is but one of the items these professionals discuss when considering the transit and making a

determination regarding the safe passage of a vessel. Certain intangibles, such as shoaling, weather or traffic, may cause this underkeel clearance to be modified. Ultimately, any grounding of a vessel is unacceptable. This includes intentional "loading to the bottom." Groundings are marine casualties and must be reported to the Captain of the Port promptly in accordance with **46 CFR 4.05–1(a)** (not covered in this text) regardless of whether they occur while underway, moored or anchored.

Charts 12254, 12222, 12256

(51) **Thimble Shoal Channel**, the improved approach to Hampton Roads, begins 2.3 miles northwest of Cape Henry Light and extends 9.5 miles west-northwestward; a Federal project provides for a 55-foot-deep channel with a 32-foot-deep auxiliary channel on each side of the main channel. (See Notice to Mariners and latest editions of the charts for controlling depths.)

(52) **Naval** and **general anchorages** are south of Thimble Shoal Channel. (See **110.1 and 110.168**, chapter 2, for limits and regulations.)

(53) Thimble Shoal Channel is a **Regulated Navigation Area** and draft limitations apply. A vessel drawing less than 25 feet may not enter the channel, unless the vessel is crossing the channel. (See **165.501**, chapter 2, for limits and regulations.)

(54) **Lynnhaven Roads,** an open bight westward of Cape Henry, is protected from southerly winds and is sometimes used as an anchorage. The former dumping-ground area in the western part of the bight has shoals and obstructions with depths as little as 11 feet; elsewhere, general depths are 20 to 28 feet. Eastward of Lynnhaven Inlet, the 18-foot curve is no more than 0.3 mile from shore; westward of the inlet, the shoaling is gradual and depths of 18 feet can be found 0.8 mile from shore.

(55) There are two small-craft openings in the Chesapeake Bay Bridge-Tunnel south of Thimble Shoal Channel. Each fixed span has a clearance of 21 feet.

(56) **Lynnhaven Inlet,** 4 miles westward of Cape Henry Light, is subject to continual change. In July 2003, the controlling depth in the entrance channel was 7.0 feet (9.7 feet at midchannel). The inlet is marked by lights. The twin fixed bridges over the inlet have a clearance of 35 feet. Overhead power cables close southward of the bridges have clearances of 68 feet. **Lynnhaven Bay**, south of the inlet, has a large turning basin just south of the highway bridge over the inlet. The bay has depths of 1 to 10 feet.

(57) A dredged channel leads eastward from the north end of the large basin, and another dredged channel leads eastward from the south end of the basin; the southerly channel is marked by a light and daybeacons. The north and south channels converge near Daybeacon 10, and continue eastward to **Broad Bay.** The channel to Broad Bay is marked by daybeacons; a light is at the east end, in Broad Bay. In January 2002, the controlling depths were 6.9 feet (10 feet at midchannel) in the northerly channel, and 9.9 feet in the large basin, thence 10 feet in the southerly channel to Daybeacon 10, where the north and south channels meet; thence a controlling depth of 9 feet was in the channel eastward to Broad Bay. The Great Neck Road fixed highway bridge over the channel 1.2 miles from the twin bridges over the inlet has a clearance of 35 feet; nearby overhead power and telephone cables have a clearance of 55 feet. Twin fixed highway bridges with a 36-foot clearance are about 0.1 mile east of the Great Neck Road bridge.

(58) **Caution.–**It is reported that this channel has very heavy boat traffic and is especially congested on summer weekends.

(59) An alternate route to Broad Bay is through **Long Creek** which branches northeastward from the dredged channel in the vicinity of Daybeacon BL. In January 2002, the controlling depths in Long Creek were 7.5 feet (8 feet at midchannel) to Broad Bay. The 40-foot span of the Great Neck Road Bridge over Long Creek has a clearance of 20 feet. Nearby overhead cables have a clearance of 37 feet.

(60) Depths in Broad Bay are about 6 to 7 feet. A marked channel with a dredged section leads southeastward through **The Narrows** to the southern end of **Linkhorn Bay** near Virginia Beach. In November 2001, the reported controlling depth was 6.8 feet to head of the project at the northern entrance to Linkhorn Bay.

(61) Small-craft facilities are along the dredged channel from Lynnhaven inlet to Broad Bay, in Long Creek and the east fork of Linkhorn Bay.

(62) **Little Creek** is entered between jetties 8 miles westward of Cape Henry Light. Most of the creek comprises the **U.S. Naval Amphibious Base,** Naval Amphibious Base but the Virginia and Maryland Railroad operates car floats from the south end terminal to the town of Cape Charles on the Delmarva Peninsula; small craft use the west arm.

(63) A dredged channel in Little Creek leads to a basin off the railroad terminal, 1.2 miles south of the jetties. In 1998-March 2002, the controlling depth was 19.4 feet in the channel, thence 20 feet in the basin, except for minor shoaling to 18.8 feet along the south edge. The channel is marked by a **177°30'** lighted entrance

range and by lights. **Little Creek Coast Guard Station** is eastward of the railroad terminal.

(64) **Fishermans Cove,** on the west side of Little Creek, has fuel and berthing facilities for small craft. A **speed limit** of 5 knots is prescribed for Fishermans Cove.

(65) Naval **danger zones** and **restricted areas** extend northward from the vicinity of Little Creek to the edge of Thimble Shoal Channel. (See **334.310** and **334.370,** chapter 2, for limits and regulations.)

Chart 12245

(66) **Hampton Roads**, at the southwest corner of Chesapeake Bay, is entered 16 miles westward of the Virginia Capes. It includes the Port of Norfolk, encompassing the cities of Norfolk, Portsmouth, and Chesapeake, and the Port of Newport News, which takes in the cities of Newport News and Hampton.

(67) Hampton Roads is the world's foremost bulk cargo harbor. Coal, petroleum products, grain, sand and gravel, tobacco, and fertilizer constitute more than 90 percent of the heavy traffic movement by water, although an increasing amount of general cargo is handled by the Hampton Roads ports.

Channels

(68) The approach to Hampton Roads is through the 55-foot Thimble Shoal Channel. There are natural depths of 80 to 20 feet in the main part of Hampton Roads, but the harbor shoals to less than 10 feet toward the shores. Dredged channels lead to the principal ports.

(69) Two main Federal project channels, marked by buoys, lead through Hampton Roads. One channel leads southward along the waterfronts of Norfolk, Portsmouth, and Chesapeake to the first bridge across the Southern Branch of Elizabeth River; project depths are 50 feet through Entrance Reach; thence 55 feet through Craney Island Reach at Lamberts Point; thence 40 feet to the bridge. The other channel with a 55-foot project depth leads westward to the waterfront at Newport News at the entrance to James River. (See Notice to Mariners and latest editions of the charts for controlling depths.)

Anchorages

(70) Numerous general, explosives, naval, and small-craft anchorages are in Hampton Roads and Elizabeth River. (See **110.1 and 110.168,** chapter 2, for limits and regulations.) The areas are shown on charts 12245 and 12253.

Tides

(71) The mean range of tide is 2.5 feet in Hampton Roads. (See Tide Tables for daily predictions of tides at Sewells Point.)

Currents

(72) Information for several places in Hampton Roads and Elizabeth River is given in the Tidal Current Tables. The currents are influenced considerably by the winds and at times attain velocities in excess of the tabulated values. The current velocity is about 1.0 knot in Hampton Roads and about 0.6 knot in Elizabeth River.

Ice

(73) Hampton Roads is free of ice. In severe winters the upper part of Southern Branch, Elizabeth River, is sometimes closed for short periods.

Weather

(74) The National Weather Service maintains an office at Norfolk International Airport; **barometers** in the Hampton Roads area can be compared there or checked by telephone.

Pilotage

(75) **Pilotage** for Hampton Roads ports. (See Pilotage at the beginning of this chapter and chapter 3.)

Towage

(76) Vessels usually proceed from Cape Henry to points in the Hampton Roads port area under their own power and without assistance. A large fleet of tugs is available at Norfolk and Newport News to assist in docking or undocking and in shifting within the harbor.

Quarantine, customs, immigration, and agricultural quarantine

(77) (See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(78) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) The **quarantine anchorage** is southwestward of Old Point Comfort. The U.S. Naval Hospital is in Portsmouth.

(79) Hampton Roads is a **customs port of entry.**

Coast Guard

(80) A **Marine Safety Office** is in Norfolk. (See appendix for address.) (See **Captain of the Port underkeel clearance policy**, covered earlier in this chapter.)

Harbor regulations

(81) Port regulations are principally concerned with grain, coal handling, port charges, and pilotage and

stevedoring rates. Copies of these regulations may be obtained from the Hampton Roads Maritime Association, 236 East Plume Street, P.O. Box 3528, Norfolk, Va. 23514.

(82) **Anchorage regulations** are given in **110.1 and 110.168,**chapter 2.

Wharves

(83) The Hampton Roads area has more than 200 piers and wharves along more than 30 miles of improved waterfront; only the major deepwater facilities are described. Included are coal piers; containerized-cargo berths; oil storage and bunkering facilities; general-cargo, grain, and ore piers; and marine railways and drydocks. Available depths are 22 to 42 feet at the general-cargo, ore, and grain piers; 36 to 45 feet at the coal piers; and 20 to 42 feet. at the oil-storage and bunkering facilities. A 350-ton floating crane is available.

Supplies

(84) The principal coal-handling and bunkering piers are those of the Norfolk Southern Railway at Lamberts Point, Norfolk, and of the Chesapeake and Ohio Railway at Newport News. Bunker oil is available at Sewells Point, in Southern Branch of Elizabeth River, and at Newport News, or it can be delivered from barges in the stream. Freshwater is available on the principal piers and can be supplied from barges. The area also has numerous ship chandlers and marine suppliers.

Repairs

(85) Hampton Roads has extensive facilities for drydocking and making major repairs to large deep-draft vessels. The largest floating drydock at Norfolk has a capacity of 54,000 tons, and the largest marine railway can handle 6,000 tons. The shipyard at Newport News is one of the largest and best equipped in the United States; the principal graving dock has a length of 1,600 feet on the keel blocks. There are many other yards that are especially equipped to handle medium-sized and small vessels. More details on these repair facilities are given with the discussion of the waterway or port in which they are located.

Small-craft facilities

(86) Complete services and repairs are available at Hampton Roads ports. There are marine railways up to 11 tons and mobile hoists up to 60 tons for repairs. (See small-craft facilities tabulations on charts 12205 and 12206 for services and supplies available.)

Communications

(87) Hampton Roads ports are served by a terminal beltline, several large railroads, and by more than 50 motor carriers. In addition, over 90 steamship lines connect Hampton Roads with the principal U.S. and foreign ports; most of the lines have regular sailings, and others maintain frequent but irregular service. Three airlines offer prompt airfreight, express, and passenger service from Norfolk and Newport News to major U.S. cities with connecting service overseas.

(88) **Thimble Shoal Light** (37°00'55"N., 76°14'23"W.), 55 feet above the water, is shown from a red conical tower on a brown cylindrical pier on the eastern edge of the shoal; a fog signal is sounded from the station. The light is 12.3 miles from the Virginia Capes. Thimble Shoal is the southern edge of **Horseshoe,** described in chapter 11.

(89) The entrance to Hampton Roads is between Willoughby Spit and Old Point Comfort, 2 miles to the northward.

(90) A **bridge-tunnel complex** crosses Chesapeake Bay from Willoughby Spit to Hampton.

(91) **Old Point Comfort** is the site of historic **Fort Monroe.** The Chamberlin Hotel is an excellent landmark. **Old Point Comfort Light** (37°00'06"N., 76°18'23"W.), 54 feet above the water, is shown from a white tower. Only Government craft can tie up at the wharf on the south waterfront of Old Point Comfort.

(92) A naval **restricted area** extends eastward and southward of Old Point Comfort, and a **danger zone** of an army firing range extends to seaward from a point 1.5 miles northward of the point. (See **334.350,** and **334.360,** chapter 2, respectively, for limits and regulations.)

(93) **Hampton Bar** begins about 200 yards southwestward of Old Point Comfort and extends 2 miles southwestward; depths on the bar are 1 to 5 feet. The bar is marked by two lights and by a buoy and daybeacon along its southern edge. These lights, together with one on Hampton Flats, aid vessels in mooring in the naval and other anchorages northward of the main channel.

(94) A dredged channel, marked by a light and daybeacons, leads along the west side of Old Point Comfort to the fish wharves at **Phoebus** and has a federal project depth of 12 feet. (See Notice to Mariners and latest edition of the charts for controlling depths.) The wharves have depths of 8 to 12 feet at their outer ends, but are in poor condition. Small craft can anchor in depths of 8 to 20 feet along the sides of the channel. The Fort Monroe yacht piers are on the east side of the channel 0.4 mile above Old Point Comfort.

(95) **Hampton River,** 1.5 miles westward of Old Point Comfort, is entered by a marked channel through Hampton Bar and Flats to a point just below the highway bridge at Hampton. Federal project depths are 12 feet. (See Notice to Mariners and latest edition of the charts for controlling depths.) Some small craft also enter west of Hampton Bar. **Hampton,** on the west side of the river 2 miles above the channel entrance, is an important seafood center. Traffic on the river consists of seafood and petroleum products, sand and gravel, and building materials. The residential and commercial areas of Hampton are on the west side of Hampton River; **Hampton Institute** and a Veterans Hospital are on the east side.

(96) **Sunset Creek,** on the west side just above the Hampton River mouth, is entered by a marked dredged channel leading westward from the channel in the river and has a federal project of 12 feet. (See Notice to Mariners and latest editions of the charts for controlling depths.)

(97) The principal commercial wharves at Hampton, just below the bridge, have depths of 7 to 12 feet at their faces. The public landing 500 yards below the bridge has depths of 8 feet at the face; small boats anchor between the public landing and the bridge. The wharves along Sunset Creek have depths of 4 to 9 feet at their outer ends.

(98) Marine supplies, gasoline, diesel fuel, and a pump-out station are available at Hampton. A yacht club and several marinas here have berthing space. Repairs can be made; largest marine railway, 120 feet; lift, 35 tons.

(99) **Jones Creek,** on the east side of Hampton River 300 yards above the mouth, has depths of 8 to 11 feet. The bulkheads have depths of 3 to 10 feet alongside and are controlled by the Veterans Hospital on the south and Hampton Institute on the north.

(100) The 55-foot project channel to Newport News was discussed earlier. Depths along the edges of the dredged section are 19 to 25 feet. The currents do not always set fair with the channel, especially with strong winds, and deep-draft vessels sometimes find it difficult to stay in the channel.

(101) **Newport News Middle Ground Light** (36°56'43"N., 76°23'29"W.), 52 feet above the water, is shown from a red conical tower on a red cylindrical pier in 15 feet of water near the western end of the shoal.

(102) **Newport News Point** (36°57.8'N., 76°24.7'W.) on the north side of the entrance to James River, is 21.5 miles from the Virginia Capes. The city of **Newport News** extends several miles along the northeast bank of James River.

(103) **Newport News Creek,** just west of Newport News Point is a city-owned small-boat harbor used by fishing boats, pleasure craft and petroleum barges. In February 2002, the controlling depth was 11.4 feet (12 feet at midchannel) in the dredged channel to the head of the project. Fuel, supplies, and slips are available, and repairs can be made. A 75-ton marine railway and a 40-ton mobile hoist are available.

(104) Newport News Shipbuilding and Drydock Company is just below the James River Bridge on the east side of the river. A security zone is along the waterfront of the company property. (See **165.30, 165.33 and 165.504,** chapter 2, for limits and regulations.)

Wharves

(105) The deepwater piers and wharves at Newport News extend from Newport News Point for 2.5 miles up James River. Only the major facilities are described. All have access to highways and railroads, freshwater connections, and electric shore-power connections. Unless otherwise indicated, these facilities are owned by the Virginia Ports Authority. The alongside depths given for each facility described are reported depths. (For information on the latest depths, contact the operator.) For a complete description of the port facilities at Newport News, refer to Port Series No. 11, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.)

Chart 12245

(106) **Newport News Marine Terminal Pier B** (36°58'19"N., 76°26'02"W.): 550-foot face, 620 feet on upper and lower sides; 25-38 feet alongside; deck height, 15 feet; 270,000 square feet covered storage; 60 acres of open storage; receipt and shipment of conventional, containerized, and roll-on/roll-off general cargo; operated by Virginia International Terminals, Inc.

(107) **Newport News Marine Terminal Pier C:** about 150 yards southeastward of Newport News Marine Terminal Pier B; 540-foot face, 930 feet on upper and lower sides; 35-38 feet alongside; 137,000 square feet coverage storage; 182-ton capacity container crane; receipt and shipment of conventional, containerized, and roll-on/roll-off general cargo and heavy-lift items; operated by Virginia International Terminals, Inc.

(108) **Pier IX Terminal Co. Pier No. 9:** about 200 yards southeastward of Pier C; upper and lower sides 1,000 feet along; 43-50 feet alongside; deck height, 11½ feet; traveling gantry coal loader, belt-conveyor system with loading rate of 8,000 tons per hour; traveling gantry bulk-cement unloader, belt-conveyor system with unloading rate 880 tons per hour; receipt of cement and shipment of coal; owned by Ziegler Coal Handling Co.

and operated by Pier IX Terminal Co., Division of Ziegler Coal Handling Co.

(109) **Hampton Roads Wharf Co. Pier No. 14** (36°57'38"N., 76°25'13"W.): upper and lower sides 1,090 feet long; 40-45 feet alongside; deck height, 11½ feet; twelve 50-ton diesel, mobile cranes; receipt and shipment of conventional general cargo including steel and scrap metal; owned by CSX Real Property Inc. and operated by Hampton Roads Wharf Co.

(110) **Hampton Roads Wharf Co. Pier No. 15:** eastward of Hampton Roads Wharf Co. Pier 14; upper sides 1,000 feet long; 35-42 feet alongside; deck height, 9½ feet; twelve 50-ton, diesel, mobile cranes; receipt and shipment of conventional general cargo including steel and scrap metal; owned by CSX Real Property, Inc. and operated by Hampton Roads Wharf Co.

(111) **Koch Fuels, Newport News Tanker Dock:** about 200 yards eastward of Hampton Roads Wharf Co. Pier 15; offshore wharf, 203 feet with platform; 35 feet alongside; deck height, 13 feet; receipt and shipment of petroleum products; operated by Koch Fuels, Inc.

(112) The facilities of the Newport News Shipbuilding and Drydock Co. begin 1.7 miles northwest of Newport News Point and extend 2 miles upriver. The company operates four outfitting piers equipped with cranes, largest capacity 80 tons; 2 drydocks, largest 640 feet long, 30 feet alongside; three graving docks, largest 1,670 feet long, 40 feet alongside with cranes of 990- and 310-ton capacity; two inclining shipways with lengths to 60 feet; floating cranes up to 67-ton capacity available.

(113) **Willoughby Spit,** on the south side of the entrance to Hampton Roads, is a narrow barrier beach 1.3 miles long in an east-west direction. About midway between the spit and Old Point Comfort, on the opposite side of the entrance, is **Fort Wool,** which is on the south edge of the main ship channel; a light is shown from a small gray house on the north side of the island.

(114) The 45-foot-wide small-boat openings in the south approach bridge to Hampton Roads Tunnel have clearances of 10 feet.

(115) **Willoughby Bank,** with depths of 3 to 7 feet, extends east-northeastward along the edge of the main channel for about 2.5 miles from Fort Wool.

(116) **Willoughby Bay,** on the inner side of Willoughby Spit, has general depths of 7 to 12 feet. On the south side of the bay are the prominent buildings of the Norfolk Naval Base and the Naval Air Station. A marked channel, 0.4 mile westward of Fort Wool, leads to a small-boat harbor behind the hook of Willoughby Spit. In September 2002, the midchannel controlling depth was 4.5 feet to Daybeacon 3, thence 10 feet to the harbor. Some supplies, fuel, and berthing are available. Repairs can be made; largest marine railway, 40 feet.

(117) The western and southern part of Willoughby Bay is a **restricted area.** (See **334.300,** chapter 2, for limits and regulations.) The northern part of the bay is a **small-craft anchorage.** (See **110.1 and 110.168 (f) and (h)),** chapter 2, for limits and regulations.)

(118) A fixed highway bridge with a clearance of 25 feet crosses the yacht anchorage in the northern part of Willoughby Bay.

Charts 12245, 12253

(119) **Norfolk Harbor** comprises a portion of the southern and eastern shores of Hampton Roads and both shores of **Elizabeth River** and its Eastern, Southern, and Western Branches, on which the cities of Norfolk, Portsmouth, and Chesapeake are located.

(120) The harbor extends from off Sewells Point south in Elizabeth River to the seventh bridge over Southern Branch, a distance of 15 miles; it extends 1.5 miles up Western Branch to a point 0.5 mile above the West Norfolk highway bridge, and up Eastern Branch for 2.5 miles to the Norfolk Southern Railway bridge.

(121) The main part of Norfolk is on the east side of Elizabeth River north of Eastern Branch, with Berkley, a subdivision, to the southward between Eastern and Southern Branches. South of Berkley is the city of Chesapeake. Portsmouth is opposite Norfolk, and its waterfront extends along the west shore of Southern Branch and the south shore of Western Branch. These cities form practically a single community, united by the same commercial interests and served by the same ship channel.

(122) A **safety zone** is in effect in the Elizabeth River when a naval aircraft carrier transits the river to or from the Norfolk Naval Shipyard. (See **165.505,** chapter 2, for limits and regulations.)

Weather

(123) Norfolk, located in extreme southeastern Virginia, has an average elevation of 13 feet (3.96 m) above sea level and almost surrounded by water, has a modified marine climate. The city's geographic position with respect to the principal storm tracks is especially favorable, being south of the average path of storms originating in the higher latitudes and north of the usual track of hurricanes and other tropical storms. These features combine to place Norfolk in one of the favored climatic regions of the world. The winters are mild, while autumn and spring seasons usually are delightful. Summers, though warm and long, frequently are tempered by cool periods, often associated with northeasterly winds off the Atlantic. Temperatures of

100°F (37.8°C) or higher are very infrequent. Cold waves seldom penetrate to this area.

(124) The average temperature at Norfolk is 60.1°F (15.6°C). The average daily extremes are 68.5°F (20.3°C) and 51.2°F (10.7°C). January is the coolest month with an average temperature of 40.5°F (4.7°C) while July is the warmest month with an average temperature of 79.4°F (26.3°C). The warmest temperature on record is 104°F (40°C) recorded in August 1980 and the coolest temperature on record is -3°F (-19.4°C) recorded in January 1985. Each month, October through April, has recorded temperatures below freezing (0°C) while each month, May through August has seen temperatures in excess of 100°F (37.8°C). The average date of the last freezing temperature in the spring is March 23, while the average date of the first in autumn is November 18.

(125) The average annual precipitation of Norfolk is 44.83 inches (113.9 mm). Precipitation is uniformly distributed throughout the year except for a noticeable peak in July and August. November is the driest month averaging only 3 inches (76.2 mm) while, thanks to convective activity, August is the wettest month averaging 5.27 inches (133.9 mm). The greatest 24-hour precipitation was 7.41 inches (188.2 mm) which fell in August 1964.

(126) Occasional winters pass without a measurable amount of snowfall and when snow does occur, it generally occurs in light falls, which usually melt and disappear within 24 hours. Overall, snowfall is light and averages only 8 inches (203.2 mm) each year and has occurred in each month, November through April. The biggest 24-hour snowfall occurred when 13.6 inches (345.4 mm) fell in February 1989. (See Page T-7 **Norfolk climatological table**.)

(127) Twenty-one tropical cyclones have come within 50 miles (80.5 km) of Norfolk since 1950. Oddly enough, the approach has been made from all quadrants including from the north. Due mainly to geographic location, no direct hit by a hurricane has occurred since 1950.

Chart 12245

(128) **Sewells Point** (36°57.8'N., 76°19.6'W.), on the east side of the entrance to Elizabeth River, is 18 miles from the Virginia Capes. A breakwater, marked by a light on its outer end, extends about 0.3 mile westward from the point. The piers of the **Norfolk Naval Base** and its annex extend southward from the breakwater along the east bank of the river. General depths at the naval piers are 30 to 50 feet. A jettied basin at the naval base, 0.6 mile south of Sewells Point, affords protection for navy service craft in depths of 21 to 29 feet.

(129) **Sewells Point Spit,** covered 3 to 6 feet, extends north-northeastward from the point for 1.4 miles to the outer end of Willoughby Channel.

(130) A channel, marked by lights and daybeacons, extends eastward and southward through Sewells Point Spit for about 1.2 miles to an enclosed boat basin used by small navy boats. In 1988, the channel had a controlling depth of 9½ feet; depths of 7 to 10 feet were available in the basin.

(131) The approach to the naval piers is a **restricted area.** (See **334.300(b)(1),** chapter 2, for limits and regulations.)

Wharves

(132) Norfolk Harbor has numerous wharves and piers of all types, the majority of which are privately owned and operated; only the major deepwater facilities are described. These facilities are southward of Sewells Point, between the Norfolk Naval Base and Tanner Point; on Lamberts Point; on Pinner Point; and on Eastern Branch and Southern Branch of Elizabeth River. All have freshwater connections and access to highways and railroads, and most have electrical shore-power connections. Cargo is generally handled by ship's tackle; special cargo-handling equipment, if available, is mentioned in the description of the particular facility. The alongside depths given for each facility described are reported depths. (For information on the latest depths, contact the operator.) For a complete description of the wharves and piers in Norfolk Harbor refer to Port Series No. 11, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.)

Facilities southward of Sewells Point, between Norfolk Naval Base and Tanner Point (chart 12245):

(133) **Cargill, Norfolk Southern (North) Grain Elevator Wharf** (36°55'58"N., 76°19'36"W.): unloading berth face 450 feet, loading berth face 850 feet; 39 feet alongside; deck height, 9 feet; face of wharf is in line and contiguous with north side of Lambert's Point Docks, Sewell's Point Division, Pier B; 3¼-million-bushel grain elevator; carloading spouts and car dumper; three conveyor booms, marine leg, and conveyor system, combined loading rate 80,000 bushels per hour; receipt and shipment of grains; owned by Norfolk Southern Corp. and operated by Cargill, Inc., Commodity Marketing Division.

(134) **Lambert's Point Docks, Sewell's Point Division, Piers A and B** (36°55'53"N., 76°20'01"W.): 498-foot face, 32 feet alongside; Pier B (north side) 1,293 feet long, 32 feet alongside; Pier A (south side) 1,193 feet long, 32 feet alongside; deck height, 9½ feet; 230,000 square feet covered storage; cargo beam on north side

and 3-ton forklift trucks available; receipt and shipment of conventional general cargo and crude rubber; owned by Norfolk Southern Corp. and operated by Lambert's Point Docks Inc.

(135) **Lehigh Portland Cement Co., Norfolk Terminal Pier** (36°55'48"N., 76°19'53"W.): 40-foot face, 224 feet with dolphins; 29 feet alongside; deck height, 11 feet; 32,900-ton storage capacity; unloading rate 40 tons per hour, receipt of bulk cement; owned and operated by Lehigh Portland Cement Co.

(136) **Norfolk International Terminals:** 751,000 square feet covered storage; 120 positions for refrigerated containers; deck height, 9 feet; receipt and shipment of roll-on/roll-off conventional and general cargo; owned by Virginia Port Authority and operated by Virginia International Terminals, Inc.

(137) North Expansion, Berth 1 (36°55'32"N., 76°19'46"W.): 1,500-foot face; 41 feet alongside; three 40-ton traveling container cranes.

(138) North Berth (36°55'10"N., 76°19'42"W.): 900-foot face; 32 feet alongside; roll-on/roll-off berth.

(139) Pier 2 (36°55 '03"N., 76°19'57"W.): 334-foot face; north and south sides 1,328 feet long; 32 feet along north side, 33 feet along southside.

(140) Pier 1 (36°54 '55"N., 76°19'56"W.): 300-foot face; north and south sides 1,320 feet long; 30 feet along north side, 35 feet along south side.

(141) Container Berths 1, 2, 3, and 4: immediately southward of Pier 1; Berth 1 face 750 feet, Berth 2 face 830 feet, Berth 3 face 1,100 feet, Berth 4 face 1,550 feet; 35-41 feet alongside; 40-ton cranes.

Facilities at Lamberts Point (chart 12253):

(142) **Norfolk Southern Railway Co. Piers:** owned by Norfolk Southern Corp. and operated by Norfolk Southern Railway Co.; shipment of coal.

(143) Pier 6 (36°52 '47"N., 76°19'56"W.): 88-foot face; north side 1,850 feet, 50 feet alongside; south side 1,600 feet, 45-33 feet alongside; deck height, 11 feet; two electric coal-loading towers, loading rate 16,000 tons per hour on north side of pier.

(144) Pier 5: about 200 yards southward of Pier 6; 74-foot face; north side, 980 feet, south side, 1000 feet; 36 feet alongside; deck height, 11 feet.

(145) Lambert's Point Docks, Piers N, L, and P: 646,000 square feet covered storage; 24,000 cubic feet cold storage space; fumigation chambers; storage tanks totaling 3.2-million gallon capacity; forklift trucks and other portable mechanized cargo-handling equipment; cranes up to 50-ton capacity; receipt and shipment of general, conventional, containerized, roll-on/roll-off cargo, animal and vegetable oils, and latex; receipt of glyoxal and latex; owned by Norfolk Southern Corp. and operated by Lambert's Point Docks, Inc. and Norfolk Oil Transit, Inc.

(146) Pier N (36°51'57"N., 76°19'11"W.): 390-foot face, north and south sides 1,100 feet long, 32 feet alongside; deck height, 10½ feet.

(147) Pier L: about 200 yards southward of Pier N; 183-foot face; north side 756 feet, 32 feet alongside; deck height, 9 feet.

(148) Pier P: about 600 yards southeastward of Pier N; 398-foot face; north and south sides 1,196 feet long; 32 feet alongside; deck height, 11 feet.

Facilities at Port Norfolk (chart 12253):

(149) **Portsmouth Marine Terminal Wharf** (36°51'28"N., 76°19'33"W.): 3,535-foot face; 40 feet alongside; deck height, 12 feet; 50,000 square feet covered storage; 199 acres open storage; cranes to 110 tons; container cranes to 40 tons; fumigation chambers receipt and shipment of general, containerized and roll-on/roll-off cargo; receipt of automobiles; shipment of tobacco; owned by Virginia Ports Authority and operated by Virginia International Terminals.

(150) **Sea-Land Portsmouth Terminal Wharf** (36°51'29"N., 76°19'06"W.): 1,000 foot-face; 38 feet alongside; deck height, 12 feet; open storage for 1,300 containers; receipt and shipment of general and containerized cargo; owned and operated by Sea-Land Service, Inc.

Facilities in Eastern Branch of Elizabeth River (chart 12253):

(151) **Allied Terminals Wharf and Moorings** (36°50'20"N., 76°16'20"W.): 50-foot wharf face with 625 feet of berthing space; 26 feet alongside; deck height, 9 feet; storage tanks, 50,000-barrel capacity; receipt of asphalt, liquid fertilizer, methanol, and caustic soda; owned and operated by Allied Terminals, Inc., Subsidiary of Allied Marine Industries, Inc.

Facilities in Southern Branch of Elizabeth River, Berkley, Chesapeake, and Portsmouth (chart 12253):

(152) **United States Gypsum Co., Norfolk Wharf** (36°49'18"N., 76°17'22"W.): 40-foot face, 470 feet berthing space; 28-29 feet alongside; deck height, 10 feet; storage shed, 47,000-ton capacity; open storage for 100,000 tons; receipt of gypsum rock; owned and operated by U. S. Gypsum Co.

(153) **Crown Central Petroleum Corp., Chesapeake Barge Dock** (36°49'15"N., 76°17'22"W.): 40-foot face, 145 with dolphins; 25 feet alongside; deck height, 6 feet; 160,000-barrel storage capacity; receipt and shipment of petroleum products; operated by Crown Central Petroleum Corp.

(154) **Mobil Oil Corp. Chesapeake Terminal, Tanker Wharf** (36°49'08"N., 76°17'23"W.): 75-foot face, 540 feet with platforms; 35 feet alongside; deck height, 10 feet; receipt and shipment of petroleum products, bunkering vessels; 839,600-barrel storage facility, owned by Mobil Oil Corp., and operated by Mobil Oil Corp. and Unocal Corp.

(155) **Roanoke Cement Co., Ohio St. Terminal Wharf** (36°48'52"N., 76°17'22"W.): 24- to 27-foot platforms with 500 feet of berthing space; 35 feet alongside; deck height, 10 feet; silos, 18,500-ton capacity; receipt of bulk cement and cement clinker; owned by Tarmac Mid-Atlantic, Inc., and operated by Roanoke Cement Co. and LaFarge Calcium Aluminates.

(156) **Royster Co., Chesapeake Plant Wharf** (36°48'47"N., 76°17'21"W.): 280-foot face, 450 feet of berthing space; 25 feet alongside; deck height, 9 feet; shipment of fertilizer products; owned and operated by Royster Co.

(157) **Amoco Oil Co., Chesapeake Terminal, Upper Barge Wharf** (36°48'16"N., 76°17'24"W.): 64-foot face, 235 feet with dolphins; 27 feet alongside; deck height, 11 feet; 376,000-barrel storage facility; receipt and shipment of petroleum products; receipt of asphalt; owned and operated by Amoco Oil Co.

(158) **Cargill, Chesapeake (South) Grain Elevator, Ship Wharf** (36°48'06"N., 76°17'20"W.): 500-foot face; 39 feet alongside; deck height, 10 feet; 6¾-million-bushel elevator; elevator loading rate 60,000 bushels per hour; shipment of grain and soybean meal; owned and operated by Cargill Inc.

(159) **Texaco Lubricants Co., Norfolk Terminal Wharves** (36°47'52"N., 76°17'28"W.): barge wharf, 160 feet with dolphins; 16-18 feet alongside; deck height, 12 feet; 700,000-barrel storage capacity; receipt and shipment of petroleum products; owned by Texaco Lubricants Co. and operated by Texaco Lubricants Co. and Star Enterprise.

(160) **BP North American Petroleum Chesapeake Terminal Wharf** (36°47'45"N., 76°17'32"W.): 145-foot face, 465 feet with dolphins; 31 feet alongside; deck height, 10 feet; receipt and shipment of petroleum products; 155,0000-barrel storage facility; owned and operated by BP North America Petroleum, Inc.

(161) **Tarmac Virginia, Money Point Plant Pier** (36°47'29"N., 76°17'49"W.): lower side, 447 feet long; 35 feet alongside; deck height, 12 feet; open storage for 150,000 tons; receipt and shipment of pumice, ulexite, gypsum, sand, and gravel; owned by Tarmac Mid-Atlantic, Inc. and operated by Tarmac Virginia, Inc.

(162) **Amerada Hess Corp., Money Point Tanker Wharf** (36°47'05"N., 76°18'10"W.): 68-foot face with berthing space for vessels to 700 feet; 35 feet alongside; deck height, 13½ feet; tanks, 540,100-barrel storage capacity; receipt and shipment of petroleum products; owned and operated by Amerada Hess Corp.

(163) **Blue Circle Cement, Chesapeake Terminal Wharf** (36°46'42"N., 76°18'22"W.): 465-foot long platform face; 35 feet alongside; deck height, 10½ feet; 30,000-ton capacity storage silos; receipt of bulk cement; owned and operated by Blue Circle Cement Inc.

(164) **Elizabeth River Terminals, Piers 1 and 2** (36°46'40"N., 76°18'05"W.): Pier 1, 634-foot face; 35 feet alongside; deck height, 8½ feet; Pier 2, 500-foot face; 11 feet alongside; deck height, 11 feet; covered storage areas with capacity to 70,000 tons; open storage area up to 5.7 acres; storage tanks up to 3.2 million gallons; cranes to 45 tons; receipt and shipment of scrap metal, pig iron, ingots, ore, salt, aggregates, pelletized animal feed, fertilizer, receipt of potash, ammonium sulphate, and rock salt; owned and operated by Elizabeth River Terminals, Inc.

(165) **Southern States Cooperative, Chesapeake Wharf** (36°46'35"N., 76°17'41"W.): 50-foot face; 250 feet with dolphins; 19-33 feet alongside; deck height, 10 feet; receipt of potash; owned by Southern States Cooperative, Inc. and operated by Southern States Cooperative, Inc., Fertilizer Division.

(166) **Steuart Transportation Co., Chesapeake Wharf and Slip** (36°46'26"N., 76°17'39"W.): 485-foot face, 500 feet long total berthing space; 25-28 feet alongside; deck height, 12 feet; covered storage for 15,000 tons of potash; open storage for 75,000 tons of salt; receipt of potash and salt; owned by Steuart Investment Co. and operated by Steuart Transportation Co. and Southern States Cooperative, Inc.

(167) **Tri-port Terminals Wharf** (36°46'20"N., 76°17'42"W.): 30-foot face with 650 feet of berthing space; 32 feet alongside; deck height, 8 feet; chemical storage tanks with total capacity of 10.9 million gallons; liquid nitrogen storage tanks with total capacity of 8.3 million gallons; receipt of liquid nitrogen and miscellaneous bulk liquid commodities; owned and operated by Tri-Port Terminals, Inc.

(168) **Huntsman Chemical Corp., Chesapeake Wharf** (36°45'18"N., 76°17'35"W.): 25-foot face, 190 feet long with platforms; 22 feet alongside; deck height, 10 feet; storage tanks for 5,040,000 gallons; receipt of styrene monomer; owned and operated by Huntsman Chemical Corp.

(169) **Virginia Power, Chesapeake Energy Center Wharf** (36°46'11"N., 76°17'55"W.): 75-foot face, berthing space for vessels to 800 feet; 36 feet alongside; deck height, 10 feet; storage tanks for 45,000 barrels; receipt of fuel oils for plant consumption; owned and operated by Virginia Power.

(170) **International-Matex, Chesapeake Terminal Wharf** (36°46'36"N., 76°18'23"W.): 50-foot face, 280 feet with

dolphins; 37 feet alongside; deck height, 12 feet; 810,500-barrel storage facility; receipt of petroleum products; owned and operated by International-Matex Tank Terminals-Chesapeake.

(171) **Atlantic Energy Wharf** (36°46'43"N., 76°18'39"W.): 30-foot face, 750 feet of berthing space; 35 feet alongside; storage tanks, 480,000-barrel capacity; receipt and shipment of liquefied propane and butane gases; owned by Atlantic Energy Inc., joint venture of Petroleum Inc. and Commonwealth Propane, Inc. and operated by Commonwealth Propane, Inc.

(172) **Alcoa, Paradise Point Transfer Station Pier** (36°47'55"N., 76°17'38"W.): 750 feet long; 40 feet alongside; deck height, 15 feet; 56,000-ton storage tank; unloading tower with unloading rate of 1,120 tons per hour; and conveyor system to storage tank; receipt of alumina; owned and operated by Aluminum Co. of America.

(173) A disposal area, enclosed by levees, is in Hampton Roads on the north side of Craney Island. A smaller levee extends eastward from the lower east side of the disposal area to a dolphin 0.2 mile west of the ship channel; the section of the levee east of about 36°54.0'N., 76°20.8'W. covers at high water.

(174) **Lafayette River** empties into the east side of Elizabeth River 4 miles south of Sewells Point and 22 miles from the Virginia Capes. The river, used exclusively by pleasure and recreational craft, is entered by a marked dredged channel between **Tanner Point** and Lamberts Point, 1.5 miles to the southward. A light, 0.6 mile south of Tanner Point, marks the channel entrance. The dredged channel leads for 1.1 miles to a point about 0.3 mile westward of the Hampton Boulevard Bridge. From this point, a marked natural channel leads for about 2.4 miles to where the river divides into two forks. In February 2001, the controlling depth was 8 feet in the dredged section; thence depths of about 7 feet to the forks, and 2 to 3 feet up each fork; the chart is the best guide. The dredged channel turns sharply at the light off **Lawless Point,** a mile above the entrance, and vessels must be on the alert to avoid grounding. **General and small-craft anchorages** extend up Lafayette River to the first bridge. (See **110.168 (c) and (h),** chapter 2, for limits and regulations.)

(175) **Hampton Boulevard Bridge,** 1.5 miles above the entrance to Lafayette River, has two fixed channel spans with a clearance of 24 feet. A yacht club is just below the north end of the bridge.

(176) **Knitting Mill Creek,** is on the south side of Lafayette River about 3 miles above the mouth. In March 2001, the controlling depth was 5.3 feet to near the head of the creek. Some supplies, gasoline, and berths are available within the creek. Repairs can be made; largest marine railway, 40 feet; lift, 10 tons.

(177) **East Haven,** on the south side of Lafayette River about 3.5 miles above the mouth, has a dredged channel that leads to a settling basin and boat ramp at the head. In March 2001, a controlling depth of 2.9 feet was in the channel with lesser depths near the boat ramp at the head of the basin.

(178) **Granby Street Bridge,** 3.5 miles above the entrance to Lafayette River, has a 40-foot fixed span with a clearance of 22 feet.

(179) Just above Granby Street Bridge (chart 12253), Lafayette River divides into two forks, both unmarked. A fixed highway bridge over the mouth of the north fork has a clearance of 18 feet. A fixed highway bridge over the south fork, a mile from Granby Street Bridge, has a channel width of 27 feet and a clearance of 9 feet; another fixed highway bridge 0.3 mile farther up the south fork has a channel width of 23 feet and a clearance of 4 feet.

Chart 12253

(180) **Craney Island**, now a part of the mainland, is on the west side of Elizabeth River 4.5 miles south of Sewells Point. The low and thinly wooded area is the site of a navy fuel depot, and the offshore wharf and piers, all on the eastern side, are used only by Government vessels. Two daybeacons close off the northeast end of Craney Island mark submerged rocks. The offshore wharf and piers have depths of 22 to 47 feet alongside. A submerged water main crosses from Craney Island to the north side of Lamberts Point; vessels are cautioned not to anchor in the vicinity of the lighted range that marks the crossing. **Portsmouth Coast Guard Station** is on the west side of the entrance to Craney Island Creek.

(181) A naval restricted area is along the south sides of Craney Island. (See **334.293**, chapter 2, for limits and regulations.)

(182) **Lamberts Point,** on the east side of Elizabeth River 5.3 miles south of Sewells Point, is the site of several deepwater piers. These facilities were described earlier in this chapter under Wharves, Norfolk Harbor.

(183) **Western Branch** (36°52.0'N., 76°19.7'W.) empties into the southwest side of Elizabeth River 5.8 miles south of Sewells Point and 23.8 miles from the capes. A marked channel leads from the main channel in Elizabeth River for 4.5 miles upstream. In June 2003, the controlling depth was 15.2 feet (17.8 feet at midchannel) in the dredged channel to the first bridge; thence in 1998-2003, 16 feet (18 feet at midchannel) to the head of the project about 0.25 mile above the first bridge; then in 1980, about 7 feet could be carried to **Drum Point,** 0.5 mile above the third bridge.

(184) A 540-foot lighted pier about 1 mile above the entrance to Western Branch extends to the northern edge of the marked channel; mariners are advised to use caution in the area. A fixed highway bridge, about 1.2 miles above the entrance, has a clearance of 45 feet.

(185) **West Norfolk,** northward of the fixed bridge, has a shipyard and small-craft facilities. Supplies, fuel, and slips are available. Repairs can be made; largest marine railway, 220 feet.

(186) **Churchland** twin fixed highway bridges, 2.3 miles above the entrance to Western Branch, have clearances of 38 feet. The overhead power cable on the upper side of the bridge has a clearance of 45 feet; the transmission towers are marked by lights.

(187) A 280-foot fishing pier extends from the southeast shore about 1.4 miles above the Churchland bridges. An overhead power cable close upstream of the pier has a clearance of 47 feet. **Hodges Ferry** fixed highway bridge, 4.7 miles above the entrance, has a clearance of 18 feet. The overhead power cable on the upstream side of the Hodges Ferry bridge has a clearance of 37 feet.

(188) **Pinner Point** (36°51.3'N., 76°19.1'W.) is on the southwest side of Elizabeth River, 6.8 miles from Sewells Point. Most of the piers at the point have been destroyed by fire or are in poor condition; they are being razed or renovated. The Portsmouth Marine Terminals, Inc. operates the facilities at the Portsmouth Marine Terminal about 0.3 mile northwestward of Pinner Point. A marked dredged channel leads from Elizabeth River to a docking area at the terminal. In November-December 2001, the controlling depth to and in the docking area was 38.5 feet. The facilities of the Portsmouth Marine Terminal and those at Pinner Point were described earlier in this chapter under Wharves, Norfolk Harbor.

(189) **Scott Creek** (36°51.1'N., 76°18.5'W.), on the southwest side of Elizabeth River, 7.3 miles from Sewells Point, is entered through a channel marked by daybeaons. In May 2003, the controlling depth was 5.4 feet (6.8 feet at midchannel) to Daybeacon 5, thence 3.0 feet (4.0 feet at midchannel) to the head of the project. The channel leads to old fishing wharves now used by pleasure craft. A marina with a 60-ton lift is on the S side of the creek about 0.4 mile above channel entrance. A marina is on the point on the south side of the creek, about 0.9 mile above the channel entrance, and had a reported depth of 4 feet in the approach and alongside the piers. Berthage, electricity, water, ice, towing, launching ramp, a 40-foot marine railway, and a 30-ton lift are available; hull, engine, and electrical repairs can be made.

(190) **Hospital Point,** on the southwest side of Elizabeth River 7.5 miles from Sewells Point, is the site of a U.S. Naval Hospital. The main hospital building, the largest structure along the southwest side of Elizabeth River, is visible for many miles. The hospital landing has depths of about 18 feet at the face.

(191) **Norfolk,** or parts of it, has been described at some length in the preceding text. The midpoint of the downtown section can be taken as the **City Wharf** (36°50.9'N., 76°17.8' W.) at the foot of West Main Street, which is on the northwest side of Elizabeth River 7.7 miles from Sewells Point and 25.7 miles from the Virginia Capes. City Wharf has depths of 15 feet at the face, but is in poor condition. The wharves northwest and southwest of West Main Street have depths of 14 to 20 feet alongside.

(192) (See page T–7 for **Norfolk climatological table.**) A **weather** summary for Norfolk is given in the preceding text under Norfolk Harbor.

(193) **Smith Creek,** opposite Hospital Point 7.5 miles from Sewells Point, has entrance depths of about 3 feet with deeper water inside, but the entrance is restricted by a 48-foot-wide fixed highway bridge with a clearance of 13 feet. **Small-craft anchorages** are in Smith Creek. (See **110.1 and 110.168 (d)(4) and (h),** chapter 2, for limits and regulations.)

(194) The **Atlantic Marine Center,** the Atlantic shipbase of the National Ocean Service, is on the east side of the entrance to Smith Creek. There are 243-, 251-, and 312-foot berths along the bulkhead wharf, which has depths of 20 feet alongside.

(195) **Waterside** is in the downtown area of **Town Point,** on Norfolk, the north side of the intersection between Elizabeth River and Eastern Branch. A municipal marina at this popular tourist stop has reported depths of about 16 feet at the entrance, inside the marina, and alongside the berths. Transient berths are available year-round. A sewage pump-out station is at the marina. Electricity is at the berths; ice and provisions are available nearby. The marina staff monitors VHF-FM channels 16 and 68.

(196) **Eastern Branch** (36°50.5'N., 76°17.6'W.) empties into the east side of Elizabeth River 8 miles from Sewells Point and 26 miles from the Virginia Capes.

(197) A Federal project provides for a channel 25 feet deep to the Norfolk Southern Railway Bridge, 2.5 miles above the entrance. (See Notice to Mariners and latest edition of the charts for controlling depths.)

(198) Above the Norfolk Southern Railway Bridge, the natural channel has depths of 10 to 18 feet to the forks 3.3 miles from the entrance, and usually is marked by bush stakes.

(199) **General anchorages** are in Eastern Branch. (See **110.168 (e) and (h),** chapter 2, for limits and regulations.)

(200) Downtown Norfolk is on the north side of Eastern Branch, and **Berkley,** a subdivision, is on the south

side. Traffic is fairly heavy as far as Campostella Bridge. Depths at most of the piers on both sides of the branch range from 14 to 25 feet.

(201) The highway bridge, 0.4 mile above the entrance to Eastern Branch, has a bascule span with a clearance of 48 feet. The Norfolk Southern Railway Bridge, 1 mile above the entrance, has a bascule span with a clearance of 4 feet. (See **117.1 through 117.49,** chapter 2, for drawbridge regulations.) An overhead power cable 200 yards east of this bridge has a clearance of 150 feet.

(202) **Campostella Bridge,** 1.4 miles above the entrance to Eastern Branch, has a fixed span with a clearance of 65 feet. The Norfolk Southern Railway Bridge, 2.5 miles above the entrance, has a swing span with a clearance of 6 feet. (See **117.1 through 117.59 and 117.1007(a)**, chapter 2, for drawbridge regulations.)

(203) There are several shipyards along Eastern Branch: the largest floating drydock has a 3,200-ton capacity and handles vessels up to 316 feet; the largest marine railway has a 5,500-ton capacity and can handle vessels to 380 feet.

(204) **Southern Branch,** the continuation of Elizabeth River south of the junction with Eastern Branch, is a part of the **Intracoastal Waterway** route southward to Albemarle Sound. The waterway is described at length in **United States Coast Pilot 4, Atlantic Coast, Cape Henry to Key West.**

(205) The Federal project for Southern Branch provides for a channel 45 feet deep to the third bridge, thence 35 feet deep to the seventh bridge. The channel is maintained at or near project dimensions, and is well marked. (See Notice to Mariners and latest edition of the charts for controlling depths.)

(206) A **speed limit** of 6 knots is prescribed for that part of Southern Branch between Eastern Branch and the first bridge.

(207) The Norfolk and Portsmouth Belt Line Railroad Bridge, 1.9 miles south of the junction with Eastern Branch and 9.9 miles from Sewells Point, has a vertical-lift span with a clearance of 6 feet down and 142 feet up. (See **117.1 through 117.49,** chapter 2, for drawbridge regulations.) State Route 337 highway bridge, 0.2 mile southward of the Norfolk and Portsmouth Belt Line Railroad Bridge, has a vertical lift span with a clearance of 15 feet down and 145 feet up. The Norfolk Southern Railway Bridge, 10.9 miles from Sewells Point, has a vertical lift span with a clearance of 10 feet down and 135 feet up. (See **117.1 through 117.59 and 117.997,** chapter 2, for drawbridge regulations.)

(208) U.S. Routes 13 and 460 highway bridge and the Norfolk Southern Railway Bridge, immediately to the southward, 13.1 miles from Sewells Point, have bascule spans with a least clearance of 7 feet. (See **117.1 through 117.49,** chapter 2, for drawbridge regulations.) Large vessels must exercise caution when making the turns to these bridges because of the current.

(209) The facilities on the east side of Southern Branch are mostly shipyards, oil terminals, and bulk-cargo piers, while Government installations front most of the west side.

(210) The port facilities on the Berkley side of Southern Branch were described earlier in this chapter under Wharves, Norfolk Harbor.

(211) The shipyard at Berkley has six piers that can accommodate vessels up to 1,200 feet. The largest floating drydock at the yard is 850 feet long over the keel blocks, 192 feet wide, 36 feet deep over the keel blocks, and has a lifting capacity of 54,250 tons. A marine railway with a capacity of 1,000 tons is available at the shipyard; cranes up to 67 tons are also available. The largest shaft the shipyard is able to produce is 100 feet by 30 inches.

(212) The **Norfolk Naval Shipyard** is on the **Portsmouth** side of Southern Branch, 3.5 miles from Lamberts Point, and occupies about 2 miles of waterfront. There are naval **restricted** areas along this reach. (See **334.290,** chapter 2, for limits and regulations.)

(213) Most of the oil terminals are at **Chesapeake,** on the east side of Southern Branch, 10 miles from Sewells Point and 28 miles from the Capes. These facilities, as well as the deep-draft bulk cargo, grain, chemical, and fertilizer piers and wharves, were described earlier in this chapter under Wharves, Norfolk Harbor.