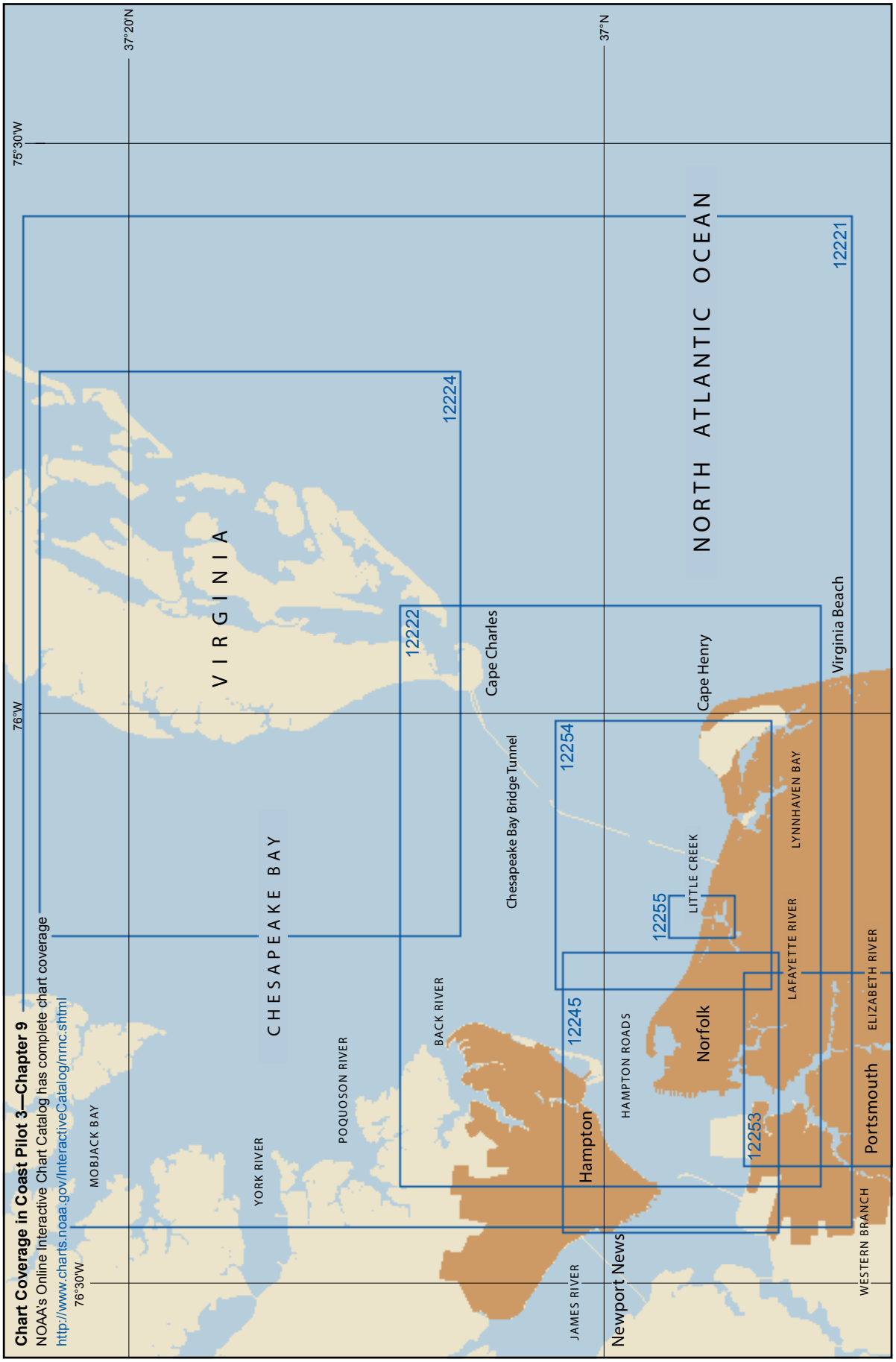
Chart Coverage in Coast Pilot 3—Chapter 9
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
37°20'N
37°N
75°30'W
76°W
76°30'W
VIRGINIA
CHESAPEAKE BAY
NORTH ATLANTIC OCEAN
MOBJACK BAY
YORK RIVER
POQUOSON RIVER
BACK RIVER
Chesapeake Bay Bridge Tunnel
Cape Charles
Cape Henry
Virginia Beach
LITTLE CREEK
LYNNHAVEN BAY
LAFAYETTE RIVER
ELIZABETH RIVER
WESTERN BRANCH
JAMES RIVER
HAMPTON ROADS
Hampton
Newport News
Norfolk
Portsmouth
12221
12222
12224
12245
12253
12254
12255

Chesapeake Bay Entrance

(10)

METEOROLOGICAL TABLE – COASTAL AREA OFF NORFOLK, VIRGINIA
Between 36°N to 38°N and 72°W to 76°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARS OF RECORD
Wind > 33 knots [1]	4.9	5.5	4.7	2.3	0.5	0.4	0.2	0.3	1.1	2.1	3.6	5.0	2.5
Wave Height > 9 feet [1]	9.2	9.6	8.0	4.7	2.1	1.5	0.9	1.3	2.8	5.5	6.5	9.8	4.9
Visibility < 2 nautical miles [1]	3.1	4.4	4.8	4.7	5.2	3.6	1.6	1.3	1.3	1.7	1.7	1.9	2.9
Precipitation [1]	9.3	8.3	6.9	5.5	4.9	4.3	4.2	4.1	4.7	5.6	6.3	7.7	5.9
Temperature > 69° F	1.0	0.9	1.3	4.3	16.1	61.5	96.3	96.9	76.8	25.9	6.6	1.7	33.7
Mean Temperature (°F)	47.6	47.6	50.4	56.2	63.3	71.9	77.6	77.9	73.9	66.1	58.6	51.6	62.3
Temperature < 33° F [1]	6.2	5.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.8	1.2
Mean RH (%)	76	76	76	78	81	82	82	81	79	76	74	75	78
Overcast or Obscured [1]	38.3	36.7	33.9	27.9	26.0	22.7	21.0	19.8	20.7	22.7	26.3	34.2	27.3
Mean Cloud Cover (8ths)	5.2	5.1	4.8	4.3	4.4	4.4	4.4	4.4	4.2	4.2	4.5	5.1	4.6
Mean SLP (mbs)	1019	1017	1017	1016	1016	1016	1017	1017	1018	1018	1018	1019	1017
Ext. Max. SLP (mbs)	1047	1047	1039	1040	1038	1036	1035	1037	1036	1044	1044	1045	1047
Ext. Min. SLP (mbs)	982	978	978	987	990	991	996	995	993	990	986	986	978
Prevailing Wind Direction	N	NW	N	SW	S	SW	SW	SW	NE	N	N	NW	N
Thunder and Lightning [1]	0.6	0.7	0.9	1.0	1.7	1.8	2.7	2.7	1.4	1.0	0.7	0.6	1.3

[1] Percentage Frequency

(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.

(2)

COLREGS Demarcation Lines

(3) The lines established for Chesapeake Bay are described in **33 CFR 80.510**, chapter 2.

(4)

Weather

(5) 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 seas in the south. Seas of 8 feet 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.

(6) 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.

(7) 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.

(8) 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

(11)

METEOROLOGICAL TABLE – COASTAL AREA OFF CHESAPEAKE BAY
Between 36°N to 40°N and 76°W to 77°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARS OF RECORD
Wind > 33 knots [1]	0.4	1.0	1.0	0.2	0.2	0.0	0.1	0.3	1.2	1.3	1.3	0.8	0.6
Wave Height > 9 feet [1]	0.8	0.4	0.8	1.0	0.5	0.4	0.3	0.2	0.5	0.4	0.8	0.7	0.5
Visibility < 2 nautical miles [1]	9.1	8.1	5.9	6.9	5.7	3.0	2.1	2.8	4.0	4.4	9.6	11.0	5.9
Precipitation [1]	9.3	10.9	9.0	7.0	6.2	4.2	5.8	6.6	8.4	6.1	7.6	10.7	7.6
Temperature > 69° F	0.0	0.2	1.9	6.8	30.2	77.4	96.5	93.1	72.4	18.2	3.9	0.4	35.6
Mean Temperature (°F)	41.8	42.9	49.2	57.1	66.9	75.5	79.1	77.9	74.1	64.4	53.9	44.0	61.6
Temperature < 33° F [1]	17.3	12.7	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	9.1	3.2
Mean RH (%)	74	72	72	70	75	75	77	77	76	75	73	73	74
Overcast or Obscured [1]	33.5	35.2	28.8	26.0	23.4	19.8	20.3	20.9	24.1	22.6	26.3	32.8	25.9
Mean Cloud Cover (8^{ths})	4.5	4.6	4.2	4.1	4.2	4.3	4.6	4.6	4.4	3.7	4.2	4.6	4.3
Mean SLP (mbs)	1020	1018	1018	1017	1016	1016	1016	1017	1017	1018	1019	1019	1017
Ext. Max. SLP (mbs)	1046	1046	1039	1040	1037	1032	1031	1032	1033	1039	1041	1041	1046
Ext. Min. SLP (mbs)	988	985	987	991	991	994	998	997	994	992	990	987	985
Prevailing Wind Direction	N	N	N	N	SW	SW	SW	SW	NE	N	N	N	SW
Thunder and Lightning [1]	0.0	0.1	0.2	0.4	0.6	0.6	1.0	0.9	0.2	0.2	0.2	0.0	0.4

[1] Percentage Frequency

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 that 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 that 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.

(9) 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.

(12)

ENCs - US4VA12M, US4VA1AM
Chart - 12221

(13) **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.

(14) **Safety/Security Zones** have been established surrounding vessels carrying certain dangerous cargo within the Chesapeake Bay and its tributaries. (See **33 CFR 165.500**, chapter 2, for limits and regulations.)

(15)

North Atlantic Right Whales

(16) Endangered North Atlantic right whales may occur within 30 miles of the Virginia coasts in the approaches to the Chesapeake Bay (peak season: November through April, although right whales have been sighted in the area year round). (See **North Atlantic Right Whales**, indexed as such in chapter 3, for more information on right whales and recommended measures to avoid collisions.)

(17) All vessels 65 feet or greater in length overall (LOA) and subject to the jurisdiction of the United States are restricted to speeds of 10 knots or less in a Seasonal Management Area existing around the entrance to the Chesapeake Bay between November 1 and April 30. The area is defined as the waters within a 20-nm radius of 37°00'36.9"N., 75°57'50.5"W. (See **50 CFR 224.105** in chapter 2 for regulations, limitations and exceptions.)

(18)

Mileages

(19) 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.

(20) **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.

(21) 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.

(22) **Smith Island Shoal** is 7.5 miles east-southeast of Smith Island and breaks in heavy weather. The area has general depths between 25 and 30 feet.

(23) **Nautilus Shoal**, which extends 4 miles southeastward from Fishermans Island, has patches with depths of 7 to 11 feet. A buoyed channel leads along the southwest side of Nautilus Shoal, thence northward between Fishermans Island and **Inner Middle Ground**. The channel is used by local vessels drawing up to 12 feet. This channel is not recommended for strangers because of shifting shoals.

(24) 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.

(25)

ENCs - US5VA13M, US4VA12M, US4VA1AM, US-4VA40M

Charts - 12222, 12221, 12225

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

(27) **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.

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

(29)

Local magnetic disturbance

(30) 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.

(31) A **naval restricted area** extends northward and eastward from Cape Henry. (See **33 CFR 334.320**, chapter 2, for limits and regulations.)

(32) 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.

(33) 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. The openings at Chesapeake and Thimble Shoal Channels are marked by lights, sound signals and lighted buoys. At night the floodlighted tunnel houses are more prominent than the privately maintained lights marking the channels.

(34) **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.

(35) 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.

(36) A **regulated navigation area** has been established in the waters of the Atlantic Ocean and in Chesapeake Bay. (See **33 CFR 165.1** through **165.13**, and **165.501**, chapter 2, for limits and regulations.)

(37) 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 757-638-6635/6633. If the JHOC cannot be reached, the Captain of the Port (COTP) Command Duty Officer may be reached at 757-668-5555.

(38)

Traffic Separation Schemes

(39) Traffic Separation Schemes for the Chesapeake Bay entrance and in the vicinity of Smith Point (37°52'47"N., 76°11'01"W.) have been established to aid navigation and to prevent collisions. The schemes are not intended in any way to supersede or alter the applicable Navigation

Rules (See **33 CFR 167.1** through **167.15** and **167.200** through **167.203**, chapter 2, for limits and regulations and Traffic Separation Schemes, chapter 1, for additional information.)

(40) **Traffic Separation Scheme (Chesapeake Bay Entrance)** provides for inbound-outbound traffic lanes to enter or depart Chesapeake Bay from the northeastward and from the southeastward.

(41) 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.

(42) The northeasterly inbound-outbound traffic lanes are separated by a line of lighted bell and gong 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.

(43) 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 at 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.

(44) 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.

(45) **Exercise extreme caution where the two routes converge off Cape Henry**. Mariners are also warned that vessels may be maneuvering in the pilotage area that extends into the western part of the precautionary area.

(46) **Traffic Separation Scheme (Smith Point)** is in the main channel in the Chesapeake Bay off Smith Point. A fairway buoy, 1.5 miles east of Smith Point Light, marks the single turn in the scheme. Northbound traffic will pass eastward of the buoy and southbound traffic will pass westward of the buoy.

(47)

Channels

(48) 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. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

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

(50)

Current

(51) The current velocity is often 1.0 knot on the flood and 1.5 knots on the ebb in Chesapeake Bay Entrance. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(52)

Pilotage, Chesapeake Bay

(53) 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.

(54) The Association of Maryland Pilots has an office in Baltimore (email: dispatch@mdpilots.com, telephone: 410-342-6013). They provide service to any port in Maryland and service between Cape Henry, VA, to Baltimore and between Baltimore and the Head of the Chesapeake Bay including to Chesapeake City in the C&D Canal. Transmit ETA 72 hours with confirmation/updates 24, 12 and 6 hours before arrival pilot station. Email ETA, transit speed, and draft to: dispatch@mdpilots.com. The Virginia Pilot Association has an office in Virginia Beach (telephone: 757-496-0995) and provides service to any port in Virginia. Vessels bound for Washington, DC, may take a pilot from either association.

(55) 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 52 feet long with a black hull and white house displaying the "PILOT" on each side.

(56) The Virginia Pilot 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@vapilotassn.com. 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 white houses with the word "PILOT" on each side.

(57) 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 board from a commercial launch. Pilot ladders are recommended to be rigged 4 feet above the water on the leeward side. The pilot vessel monitors VHF-FM channels 13 and 16, 90 minutes prior

to the last ETA received. Cellular confirmation of arrival is recommended if radio contact is not successful.

(58) Vessels are boarded in the Pilot boarding area off Cape Henry.

(59) 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.

(60)

ENCs - US5VA19M, US5VA13M, US5VA20M
Charts - 12254, 12222, 12256

(61) **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. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(62) **Naval** and **general anchorages** are west of Cape Henry between Thimble Shoal Channel and Lynnhaven Roads. (See **33 CFR 110.1** and **110.168**, chapter 2, for limits and regulations.)

(63) 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 **33 CFR 165.501**, chapter 2, for limits and regulations.)

(64) **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.

(65) 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.

(66) **Lynnhaven Inlet**, 4 miles westward of Cape Henry Light, is subject to continual change. The entrance channel through the inlet is marked by lights and lighted and unlighted buoys. **Lynnhaven Bay**, south of the inlet, has a large turning area just south of the highway bridge over the inlet.

(67)

Structures across Lynnhaven Inlet and Tributaries

			Clearances (feet)	
Name	**Type**	**Location**	**Horizontal**	**Vertical***
Lynnhaven Inlet				
Lesner/ Shore Drive (Bridge is under construction)	fixed	36°54'27"N., 76°05'32"W.	84	35
Overhead cable	power	36°54'22"N., 76°05'32"W.		68
Broad Bay Canal				
Overhead cables	power	36°54'10"N., 76°04'08"W.		55
West Great Neck Road	fixed	36°54'11"N., 76°04'06"W.	60	35
North Great Neck Road	fixed	36°54'10"N., 76°04'01"W.	160	36
Long Creek				
Overhead cables	power	36°54'13"N., 76°04'10"W.		37
West Great Neck Road	fixed	36°54'15"N., 76°04'09"W.	40	20
North Great Neck Road	fixed	36°54'16"N., 76°04'02"W.	160	36

* Clearances are Referenced to Mean High Water

(68) The entrance to **Broad Bay** is through a dredged channel leading eastward from the north end of Lynnhaven Bay. The channel is marked by daybeacons and a light at each end. The channel has extremely heavy boat traffic and is especially congested on summer weekends; caution is advised.

(69) An alternate route to Broad Bay is through **Long Creek**, which branches northeastward from the dredged channel just west of West Great Neck Road Bridge.

(70) Depths in Broad Bay are about 6 to 7 feet. A marked dredged channel leads southeastward through The Narrows to the southern end of **Linkhorn Bay** near Virginia Beach.

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

(72) **Little Creek** is entered between jetties 8 miles westward of Cape Henry Light. The **U.S. Naval Amphibious Base** occupies much of the creek; small craft use the west arm.

(73) A dredged channel in Little Creek leads to a basin off the railroad terminal, 1.2 miles south of the jetties. The channel is marked by a **177.7°** lighted entrance range and by lights. **Little Creek Coast Guard Station** is eastward of the railroad terminal.

(74) **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. (See **33 CFR 165.501**, chapter 2, for limits and regulations.)

(75) Naval **danger zones** and **restricted areas** extend northward from the vicinity of Little Creek to the edge

(84)

Newport News to Craney Island Pipeline

The Newport News to Craney Island pipeline is a 24-inch diameter submerged pipeline carrying natural gas. The method of construction involved directional drilling from five locations along the length of the pipeline termed *Stitch Points*, labeled A through E on the charts. At each stitch point the pipeline is 10 feet below the seabed. The depth of the pipeline is 20 feet below the seabed at Newport News Channel and 65 feet below the seabed between Stitch Points C through E.

From the shoreline in Newport News, the initial section of pipeline runs to:

Stitch Point A (36°58'23.9"N., 76°23'42.1"W.), thence to

Stitch Point B (36°57'34.7"N., 76°23'28.8"W.), thence to

Stitch Point C (36°57'04.0"N., 76°23'20.4"W.); thence to

Stitch Point D (36°56'33.1"N., 76°23'12.0"W.); thence to

Stitch Point E (36°55'55.7"N., 76°23'09.4"W.); thence to the shoreline at Craney Island.

of Thimble Shoal Channel. (See **33 CFR 334.310** and **334.370**, chapter 2, for limits and regulations.)

(76)

ENC - US5VA15M
Chart - 12245

(77) **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.

(78) 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.

(79)

Channels

(80) The approach to Hampton Roads is through 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.

(81) 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 Norfolk Harbor Entrance Reach, thence 50 feet through Craney Island Reach at Lamberts Point, thence 40 feet to the bridge. Newport News Channel, with a 55-foot project depth, leads westward to the waterfront at Newport News at the entrance to James River. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(82)

Anchorages

(83) Numerous general, explosives, naval and small-craft anchorages are in Hampton Roads and Elizabeth River. (See **33 CFR 110.1** and **110.168**, chapter 2, for limits and regulations.)

(85)

Current

(86) Information for several places in Hampton Roads and Elizabeth River is available from the Tidal Current prediction service at *tidesandcurrents.noaa.gov*. 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. Links to a user guide for the tidal prediciton service can be found in chapter 1 of this book.

(87)

Ice

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

(89)

Pilotage

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

(91)

Towage

(92) 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.

(93)

Quarantine, customs, immigration and agricultural quarantine

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

(95) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) The **quarantine anchorage** is in the Chesapeake Bay, about 6 miles southwest of Fishermans Island, Virginia.

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

(97)

Coast Guard

(98) A **Sector Office** is in Portsmouth—see Appendix A for address.

(99)

Harbor regulations

(100) 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 Virginia Maritime Association, 236 East Plume Street, Norfolk, VA 23514.

(101) **Anchorage regulations** are given in **33 CFR 110.1** and **110.168**, chapter 2.

(102)

Wharves

(103) 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, 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.

(104)

Supplies

(105) 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. Fresh water is available on the principal piers and can be supplied from barges. The area also has numerous ship chandlers and marine suppliers.

(106)

Repairs

(107) 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.

(108)

Small-craft facilities

(109) Complete services and repairs are available at Hampton Roads ports. There are marine railways up to 11 tons and mobile hoists up to 80 tons for repairs.

(110)

Communications

(111) Hampton Roads ports are served by a terminal beltline and several large railroads and by more than 50 motor carriers. In addition, over 90 ocean carrier 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. Airlines offer prompt airfreight, express and passenger service from Norfolk and Newport News to major U.S. cities with connecting service overseas.

(112) **Thimble Shoal Light** (37°00'52"N., 76°14'23"W.) is on the eastern edge of the shoal. Thimble Shoal is the southern edge of **Horseshoe**, described in chapter 11.

(113) The entrance to Hampton Roads is between Willoughby Spit and Old Point Comfort, 2 miles to the northward. A **bridge-tunnel complex** crosses Chesapeake Bay from Willoughby Spit to Hampton.

(114) Mariners are advised that the northern and southern approach bridges of the **Hampton Roads Bridge-Tunnel (HRBT)** are under construction (2021). Construction activities are planned from March 15, 2021 through November, 2025. Detailed project information will be provided via updated local notice to mariners, broadcast notice to mariners and marine safety information bulletins. Mariners should use caution when transiting the area and are advised to maintain a safe distance of at least 300 feet from all HRBT bridge structures/work trestles, HRBT North Island, and HRBT South Island.

(115) **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.

(116) 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 **33 CFR 334.360** and **334.350**, chapter 2, respectively, for limits and regulations.)

(117) **Hampton Bar** begins about 200 yards southwestward of Old Point Comfort and extends 2 miles southwestward; depths on the bar are 2 to 6 feet. The bar is marked along its southern edge by a light, a buoy and daybeacons. These aids to navigation, together with one on Hampton Flats, aid vessels in mooring in the naval and other anchorages northward of the main channel.

(118) 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.

(119) **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

(132)

Facilities in Newport News

Name	Location	Dimensions (feet) Space	Depth*	Deck	Storage, Handling and Purpose	Owned/ Operated by:
Newport News Marine Terminal (Pier B)	36°58'19"N., 76°26'02"W.	1,974	36-40	15	• Open storage (60 acres) • Covered storage (267,900 square feet) Reciept and shipment of conventional, containerized general cargo	Virginia Port Authority/ Virginia International Terminals, Inc.
Newport News Marine Terminal (Pier C)	36°58'09"N., 76°25'58"W.	2,422	40	14	• Covered storage (123,000 square feet) • Four container cranes (up to 182 tons) Reciept and shipment of conventional, containerized and roll-on/roll-off general cargo and heavy lift items	Virginia Port Authority/ Virginia International Terminals, Inc.
Kinder Morgan Bulk Terminals (Pier IX)	36°58'02"N., 76°25'47"W.	1,750	43-50	11.8	• Open storage (1.4 million tons of coal) • Silo storage (30,000 tons of cement) • Electric belt-conveyor system • Shipment of coal and receipt of cement	Kinder Morgan Energy Partners, LP
Dominion Terminal Associates (Pier 11)	36°57'45"N., 76°25'26"W.	2,000	50	13	• Open storage (1.4 million tons of coal) • Silo storage (6,800 tons) • Electric belt-conveyor system • Shipment of coal	Dominion Terminal Associates
Jerry O. Talton (Pier 14)	36°57'41"N., 76°25'12"W.	2,180	40-45	11.5	Open storage (43 acres) Reciept and shipment of containerized general cargo and military equipment	CSX Real Property, Inc./Jerry O. Talton, Inc.
Jerry O. Talton (Pier 15)	36°57'40"N., 76°25'04"W.	2,000	35-42	9.5	Open storage (43 acres) Reciept and shipment of containerized general cargo and military equipment	CSX Real Property, Inc./Jerry O. Talton, Inc.
Koch Materials Newport News Tanker and Barge Dock	36°57'42"N., 76°24'58"W.	1,300	26-35	16-27	• Tank storage (435,000 barrels) • Hose handling hoists Receipt and shipment of asphalt	Koch Materials Co.

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

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 University and a Veterans Hospital are on the east side.

(120) **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.)

(121) 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.

(122) 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. The largest marine railway is 120 feet and lifts up to 35 tons.

(123) **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 University on the north.

(124) 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.

(125) **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 near the western end of the shoal.

(126) **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.

(127) **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. Vessels entering the creek should not cut between Buoy 1 and the bridge-tunnel interchange as the bridge-tunnel interchange is surrounded by shoal riprap. In 2007, a rocky bottom with a depth of 6 feet was reported just south-southeast of Newport News Point at 36°57'30"N., 76°24'37"W.; caution is advised. Fuel, supplies and slips are available, and repairs can be made. A 75-ton marine railway and a 40-ton mobile hoist are available.

(128) 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 **33 CFR 165.1** through **165.33** and **165.504**, chapter 2, for limits and regulations.)

(129)

Wharves

(130) 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 listed in the facility table for Newport News. 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 listed are reported—for information on the latest depths, contact the operator.

(131) 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.

(133) **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.

(134) **Willoughby Bank**, with depths of 4 to 7 feet, extends east-northeastward along the edge of the main channel for about 2.5 miles from Fort Wool.

(135) **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 with a Federal project depth of 10 feet, 0.4 mile westward of Fort Wool, leads to a small-boat harbor behind the hook of Willoughby Spit. (See Notice to Mariners and latest editions of the charts for controlling depths.) Some supplies, fuel and berthing are available—repairs can be made. The largest marine railway is 40 feet.

(136) The western and southern part of Willoughby Bay is a **restricted area**. (See **33 CFR 334.300**, chapter 2, for limits and regulations.)

(137) Mariners are advised that the bridge across Willoughby Bay, commonly called the **Willoughby Bay Bridge** is under construction (2021). Construction activities are planned from March 15, 2021 through November, 2025. Detailed project information will be provided via updated local notice to mariners, broadcast notice to mariners and marine safety information bulletins. Mariners should use caution when transiting the area and are advised to maintain a safe distance of at least 300 feet from all HRBT bridge structures/work trestles. This area contains a straight row of mooring pilings, referred to as the **Willoughby Mooring and Safe Harbor Area**, for the exclusive use of vessels involved in the HRBT Expansion project. Two end pilings are marked with a solid red light and each interior piling is marked with a solid yellow light. The perimeter of the mooring and safe harbor area is marked with yellow buoys with flashing yellow lights. Mariners are advised to keep clear of the Mooring and Safe Harbor Area.

(138)

ENCs - US5VA15M, US5VA17M
Charts - 12245, 12253

(139) **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.

(140) 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.

(141) 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.

(142) **Naval restricted areas** are along both sides of the Elizabeth River (Southern Branch). (See **33 CFR 334.290**, chapter 2, for limits and regulations.)

(143)

Weather

(144) 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 United States. Temperatures of 100ºF (37ºC) or higher are infrequent and cold waves are uncommon.

(145) 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

(154)

Facilities in Norfolk

Name	Location	Dimensions (feet) Space	Depth*	Deck	Storage, Handling and Purpose	Owned/ Operated by:
South of Sewells Point between the Naval Base and Tanner Point						
Norfolk International Terminals (Pier 3)	36°55'53"N., 76°20'01"W.	2,902	36	9.5	Open storage (3 acres) Covered storage (115,000 square feet) Cold storage (100,000 cubic feet) Occasional receipt of conventional general cargo Occasional shipment of frozen food products	Virginia Port Authority/ Norfolk International Terminals, Inc.
Lehigh Cement Company Norfolk Terminal Pier	36°55'48"N., 76°19'49"W.	700	29	11	Silo storage (32,900 tons of cement) Occasional receipt of bulk cement	Lehigh Cement Company
Norfolk International Terminals (North Berth No. 1)	36°55'32"N., 76°19'46"W.	1,527	40	10	Open storage (200 acres) Three 50-long-ton container cranes Receipt and shipment of containerized general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (RO/RO Berth)	36°55'10"N., 76°19'42"W.	900	32	9.8	Open storage (1.4 acres) Covered storage (67,000 square feet) One 350-ton floating derrick Receipt and shipment of roll-on/roll-off cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Pier 2)	36°55'03"N., 76°19'57"W.	2,656	30-32	9.8	Covered storage (275,000 square feet) Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Pier 1)	36°54'55"N., 76°19'56"W.	2,640	30-32	9.8	Covered storage (238,000 square feet) Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Container Berth No. 1)	36°54'53"N., 76°19'39"W.	750	36	9.8	Open storage area Three 50-long-ton container cranes Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Container Berth No. 2)	36°54'45"N., 76°19'38"W.	830	41	9.8	Open storage area Three 50-long-ton container cranes Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Container Berth No. 3)	36°54'35"N., 76°19'36"W.	1,100	41	9.8	Open storage area Three 48-long-ton container cranes Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Norfolk International Terminals (Container Berth No. 4)	36°54'22"N., 76°19'34"W.	1,550	41	9.8	Open storage area Three 48-long-ton container cranes Receipt and shipment of conventional general cargo	Virginia Port Authority/ Norfolk International Terminals, Inc.
Facilities at Lamberts Point						
Norfolk Southern Railway Company Lambert's Point Coal Pier No. 6	36°52'47"N., 76°19'56"W.	1,850	53	11	Silo storage (10,000 tons of coal) Two electric traveling coal loading towers Shipment of coal	Norfolk Southern Corp./ Norfolk Southern Railway Corp.
Lambert's Point Docks Pier N	36°51'57"N., 76°19'11"W.	2,590	24-32	10.8	Open storage (0.5 acre) Tank storage (3.2 million gallons) Covered storage (320,000 square feet) Receipt and shipment of conventional general cargo Receipt of animal and vegetable oils	Norfolk Southern Corp./ Lambert's Point Docks, Inc. and Norfolk Oil Transit, Inc.
Lambert's Point Docks Pier P	36°51'45"N., 76°18'56"W.	2,790	32	11	Open storage (7.5 acres) Covered storage (326,000 square feet) Four cranes to 50 tons Receipt and shipment of conventional and containerized general cargo and roll-on/roll-off cargo	Norfolk Southern Corp./ Lambert's Point Docks, Inc.
Pinner Point						
Portsmouth Marine Terminal Wharf	36°51'26"N., 76°19'33"W.	3,535	40	12	Open storage (55 acres) Covered storage (130,000 square feet) Six container cranes to 60 tons One 110-ton gantry crane Receipt and shipment of conventional, containerized and roll-on/roll-off general cargo Receipt of automobiles and shipment of tobacco	Virginia Port Authority/ Virginia International Terminals, Inc.
APM Terminals Portsmouth Wharf	36°51'29"N., 76°19'06"W.	1,000	40	12	Open storage Three container cranes to 35 long tons Four 50-ton gantry cranes Receipt and shipment of containerized general cargo	Virginia Port Authority/ Universal Maritime Service Corp.
Elizabeth River (Eastern Branch)						
Allied Terminals Norfolk Terminal Wharf	36°50'20"N., 76°16'20"W.	625	25	9	Tank storage (17.6 million gallons) Receipt of liquid fertilizer, mathanol and caustic soda	Allied Terminals Inc.
Elizabeth River (Southern Branch)						
United States Gypsum Co. Norfolk Wharf	36°49'18"N., 76°17'22"W.	645	32	10	Open storage Covered storage Electric belt-conveyor system Receipt of gypsum rock	United States Gypsum Company

Facilities in Norfolk

Name	Location	Dimensions (feet) Space	Depth*	Deck	Storage, Handling and Purpose	Owned/ Operated by:
Crown Central Petroleum Corporation Chesapeake Barge Dock	36°49'15"N., 76°17'22"W.	300	31-35	40-43	Tank storage (214,300 barrels) Shipment and occasional receipt of diesel fuel	Crown Cenral Petroleum Corp.
ExxonMobile Refining and Supply Company Chesepeake Terminal Barge Wharf	36°49'13"N., 76°17'20"W.	335	21	10	Tank storage (762,000 barrels) Shipment and occasional receipt of petroleum products by barge	ExxonMobile Oil Corp.
ExxonMobile Refining and Supply Company Chesepeake Terminal Tanker Wharf	36°49'08"N., 76°17'23"W.	810	35	10	Tank storage (1.1 million barrels) Receipt and shipment of bulk and packaged petroleum products	ExxonMobile Oil Corp.
Mid-Atlantic Terminals Chesapeake Wharf	36°48'59"N., 76°17'22"W.	735	40	12	Open storage (40 acres) One ship loader and electric belt-conveyor system Shipment and occasional receipt of wood chips and other dry bulk materials	Mid-Atlantic Terminals, LLC.
Roanoke Cement Co. Ohio Street Terminal Wharf	36°48'52"N., 76°17'22"W.	500	35	10	Silo storage (18,500 tons of cement) Covered storage (25,000 tons of cement clinker) Receipt of bulk cement and cement clinker	Titan America, Inc./ Roanoke Cement Co. and Lafarge Calcium Aluminates
Roanoke Cement Co. Chesapeake Plant Wharf	36°48'47"N., 76°17'21"W.	450	25	9	Covered storage (70,000 tons of fertilizer) Occasional shipment of dry bulk fertilizer	Titan America, Inc./ Roanoke Cement Co.
Apex Oil Company Chesapeake Terminal Lower Barge Wharf	36°48'22"N., 76°17'23"W.	290	19	11	Tank storage (250,000 barrels) shared with adjoining upper barge wharf Receipt and shipment of petroleum products by barge	Center Point Terminal Group, Inc./ Apex Oil Co.
Apex Oil Company Chesapeake Terminal Upper Barge Wharf	36°48'16"N., 76°17'24"W.	390	27	11	Tank storage (250,000 barrels) Receipt and shipment of petroleum products Receipt of asphalt	Center Point Terminal Group, Inc./ Apex Oil Co.
Perdue Farms Chesapeake Grain Elevator Barge Wharf	36°48'10"N., 76°17'25"W.	416	38	10	Tank storage (9.2 million gallons) Marine leg and belt conveyor Receipt of grain and soybeans Shipment of soybeans	Perdue Farms, Inc.
Perdue Farms Chesapeake Elevator Ship Wharf	36°48'06"N., 76°17'20"W.	800	39	10	Grain elevator (6.8 million bushels) Covered storage (18,000 tons) Shipment of grain and soybean meal	Perdue Farms, Inc.
Allied Terminals Chesapeake Marine Terminal Wharf	36°47'45"N., 76°17'32"W.	650	31	10	Tank storage (54 million gallons) Receipt and shipment of gasoline, kerosine, liquid fertilizer and edible oils	Allied Terminals, Inc.
Southern Aggregates Money Point Barge Dock	36°47'26"N., 76°17'46"W.	300	15-35	7	Open storage area shared with adjoining ship dock Shipment of pumice	Southern Aggregates, LLC
Southern Aggregates Money Point Plant Pier	36°47'29"N., 76°17'49"W.	954	16-35	12	Open storage (150,000 tons) Covered storage (20,000 tons) One 65-ton gantry crane Electric belt-conveyor system Receipt of pumice, ulexite and gypsum by vessel and sand/gravel by barge	Southern Aggregates, LLC
ExxonMobil Chesapeake Terminal Wharf	36°47'21"N., 76°18'06"W.	300	28	8	Tank storage (363,000 barrels) Receipt of gasoline by barge	Shotmeyer Oil Co./ ExxonMobile Refining and Supply Co.
Amerada Hess Corporation Money Point Barge Wharf	36°47'14"N., 76°18'09"W.	300	18	12	Tank storage (476,000 barrels) Receipt and shipment of petroleum products	Amerada Hess Corp.
Amerada Hess Corporation Money Point Tanker Wharf	36°47'05"N., 76°18'10"W.	700	35	13.5	Tank storage (540,100 barrels) Receipt and shipment of petroleum products	Amerada Hess Corp.
Lafarge North America Cement Company Chesapeake Terminal Wharf	36°46'42"N., 76°18'22"W.	650	25-35	10.5	Silo storage (30,000 tons of cement) Receipt of bulk cement	Lafarge North America Cement Company
Elizabeth River Terminals Pier 1 Wharf	36°46'41"N., 76°18'08"W.	1,425	12-35	8.5	Covered storage (156,000 tons) One 50-ton gantry crane Electric belt-conveyor systems Receipt of fertilizers, ores, minerals, scrap metal, feeds and grains	Elizabeth River Terminals, LLC
Elizabeth River Terminals Pier 2 Wharf	36°46'42"N., 76°17'56"W.	750	35	11	Covered storage (40,000 tons and 63,000 square feet) Open storage (8 acres) Two crawler cranes to 250 tons Receipt of fertilizers, ores, minerals, scrap metal, feeds and grains	Elizabeth River Terminals, LLC
Southern States Cooperative Chesapeake Wharf	36°46'35"N., 76°17'41"W.	500	37	10	Silo storage (20,000 tons) One 100-ton receiving hopper Electric belt-conveyor Receipt of potash by vessel	Southern States Cooperative, Inc.
Tri-Port Terminals Wharf	36°46'20"N., 76°17'42"W.	650	32	8	Tank storage: 10.9 million gallons (chemicals) and 8.3 million gallons (fertilizer) Reciept of nitrogenous liquid fertilizer and miscellaneous bulk liquid commodities	Tri-Port Terminals, Inc.

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.

(146) 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.

(147) 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.

(148) Fourteen hurricanes have come within 50 miles (80.5 km) of Norfolk since records have been kept going back to 1878. In contrast, many more hurricanes have passed just south of Norfolk with Cape Hatteras, NC recording fifty-four hurricanes tracking within 50 miles since 1878. Tropical systems do frequent the Norfolk area though and since 1950, thirty-two tropical systems (tropical storms and hurricanes combined) have passed within 50 miles of Norfolk. Most storms approach from the southeast, south and southwest. The area's strongest storms, including the record hurricane of 1933 and Hurricane Isabel both approached Norfolk from the southeast.

(149) **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.

(149.001) A **speed limit** in Norfolk Harbor Reach is prescribed for non public vessels of 300 gross tons or more not to proceed over 10 knots. (See **33 CFR 165.501**, chapter 2, for limits and regulations.)

(150) **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. 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.

(151) The approach to the naval piers is a **restricted area**. (See **33 CFR 334.300**, chapter 2, for limits and regulations.)

(152)

Wharves

(153) 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 listed in the table. 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.)

(155) **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. 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. A yacht club is just below the north end of the Hampton Boulevard Bridge.

(156)

Structures across Lafayette River

Name	Type	Location	Clearances (feet) Horizontal	Vertical*
Hampton Boulevard	fixed	36°54'22"N., 76°18'18"W.	50	24
Granby Street	fixed	36°53'20"N., 76°16'49"W.	40	22
Willow Wood Drive	fixed	36°53'21"N., 76°16'36"W.	60	18
E 26th Street	fixed	36°52'25"N., 76°16'22"W.	27	9
Tidewater Drive	fixed	36°52'07"N., 76°16'06"W.	23	4

* Clearances are referenced to Mean High Water

(157) **Knitting Mill Creek** is on the south side of Lafayette River about 3 miles above the mouth. A dredged channel, marked by daybeacons, leads to a basin near the head of the creek. Gasoline, berths, repairs and some supplies are available within the creek. The largest marine railway is 40 feet and a lift to 10 tons is available.

(158) **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.

Facilities in Norfolk

Name	Location	Dimensions (feet) Space	Depth*	Deck	Storage, Handling and Purpose	Owned/ Operated by:
Nova Chemicals Chesapeake Wharf	36°45'18"N., 76°17'35"W.	330	22	10	Tank storage (5 million gallons) Receipt of styrene monomer by barge	Nova Chemicals, Inc.
Dominion Generation Chesapeake Energy Center Wharf	36°46'11"N., 76°17'55"W.	800	36	10	Tank storage (45,000 barrels) Receipt of fuel oil for plant consumption	Dominion Virginia Power/Dominion Energy
IMTT Chesapeake Terminal Wharf	36°46'36"N., 76°18'23"W.	650	34	12	Tank storage (810,500 barrels) Receipt of petroleum products and liquid fertilizer	IMTT-Chesapeake
Atlantic Energy Wharf	36°46'43"N., 76°18'39"W.	800	35	10	Tank storage (480,000 barrels) Receipt and shipment of liquified propane and butane	Atlantic Energy, Inc./ Amerigas Propane, Inc.
Giant Cement of Virginia Paradise Point Pier	36°47'55"N., 76°17'38"W.	750	38	15	Silo storage (65,000 tons) One unloading tower Receiving hopper and electric belt-conveyor Receipt of bulk cement	Giant Cement of Virginia/ Paradise Point Marine, Inc.

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

(159)

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(160) **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.

(161) A **naval restricted area** is along the south sides of Craney Island. (See **33 CFR 334.293**, chapter 2, for limits and regulations.)

(162) **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 are listed in the table *Facilities in Norfolk Harbor*, earlier in this chapter.

(163) **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 to the head of the project about 0.25 mile above the first bridge. A 540-foot 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.

(164)

Structures across Western Branch

Name	Type	Location	Clearances (feet) Horizontal	Vertical*
Route 164	fixed	36°51'26"N., 76°20'51"W.	100	45
Churchland bridges (under constr 2020)	fixed	36°50'33"N., 76°21'44"W.	100	38

Structures across Western Branch

Name	Type	Location	Clearances (feet) Horizontal	Vertical*
Overhead cable	power	36°50'30"N., 76°21'44"W.		45
Overhead cable	power	36°49'59"N., 76°23'20"W.		47
Hodges Ferry bridge	fixed	36°49'24"N., 76°23'54"W.	60	18
Overhead cable	power	36°49'23"N., 76°23'54"W.		37

* Clearances are referenced to Mean High Water

(165) **West Norfolk**, on the north side of the entrance to Western Branch, has a shipyard and small-craft facilities that can provide fuel, transient berths, marine supplies and a 220-foot marine railway; repairs can be made.

(166) **Pinner Point** (36°51.3'N., 76°19.1'W.) is on the southwest side of Elizabeth River, 6.8 miles from Sewells Point. Much of the point is occupied by Portsmouth Marine Terminals. A marked dredged channel leads from the main channel in Elizabeth River to the wharves along the north side of the point. The facilities here are listed in the table *Facilities at Norfolk*, earlier in this chapter.

(167) **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 daybeacons. A marina with a 60-ton lift is on the south 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. Transient berths, 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.

(168) **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. A **general anchorage** is off

Hospital Point, extending north and south. (See **33 CFR 110.1** and **110.168**, chapter 2, for limits and regulations.)

(169) **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 and near the moored USS Wisconsin, 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. The wharves northwest and southwest of West Main Street have depths of 14 to 20 feet alongside.

(170) **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. An **anchorage** for recreational craft is in Smith Creek. (See **33 CFR 110.1** and **110.168**, chapter 2, for limits and regulations.)

(171) The **Atlantic Marine Operations Center**, the Atlantic shipbase of the National Oceanic and Atmospheric Administration, 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.

(172) Mariners transiting the area near Town Point Reach are advised that the City of Norfolk has established a**"Slow no-wake" zone** from Scott Creek to the entrance to Eastern Branch.

(173) **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.

(174) A local passenger ferry operates between the Portsmouth and Norfolk waterfronts in the vicinity of Town Point Reach. The ferry boats are distinguished by a high-intensity flashing green masthead light which is visible all around the horizon. Mariners are advised to use caution while transiting the area.

(175) **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.

(176) A Federal project provides for a channel 25 feet deep to the Norfolk Southern Railway Bridge, 2.5 miles above the entrance. 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.

(177) 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.

(178)

Structures across Eastern Branch

Name	Type	Location	Clearances (feet) Horizontal	Vertical*
Norfolk-Berkley bridge **Note 1**	bascule	36°50'28"N., 76°17'11"W.	150	48
Norfolk Southern Railway bridge **Note 1**	bascule	36°50'21"N., 76°16'31"W.	140	4
Overhead cable	power	36°50'21"N., 76°16'23"W.		150
Campostella Highway bridge	fixed	36°50'25"N., 76°15'55"W.	140	65
Norfolk Southern Railway bridge **Note 1**	swing	36°50'10"N., 76°14'40"W.	60	6

* Clearances are referenced to Mean High Water
Note 1 – See **33 CFR 117.1** through **117.59** and **117.1007**, chapter 2.

(179) 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.

(180) **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**.

(181) 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. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(182) A **speed limit** of 6 knots is prescribed for that part of Southern Branch between Eastern Branch and the first bridge. (See **33 CFR 165.501**, chapter 2, for limits and regulations.)

(183)

Structures across Southern Branch

Name	Type	Location	Clearances (feet) Horizontal	Vertical*
Norfolk and Portsmouth Beltline bridge **Note 1**	vertical lift	36°48'41"N., 76°17'26"W.	300	6 (down) 142 (up)
Jordan/Route 337 bridge	fixed	36°48'30"N., 76°17'24"W.	270	145
Norfolk Southern Railway bridge **Note 1**	vertical lift	36°47'48"N., 76°17'36"W.	220	10 (down) 135 (up)
Glimerton/Route 13 bridge **Note 2**		36°46'31"N., 76°17'42"W.	124	36 (down) 136 (up)
Norfolk Southern Railway bridge **Notes 1 and 2**	bascule	36°46'30"N., 76°17'42"W.	125	7

* Clearances are referenced to Mean High Water
Note 1 – See **33 CFR 117.1** through **117.59** and **117.997**, chapter 2, for drawbridge regulations.
Note 2 – Large vessels must exercise caution when making the turns to these bridges because of the current.

(184) 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.

(185) The port facilities on the Berkley side of Southern Branch are listed in the table *Facilities in Norfolk* given earlier in this chapter.

(186) 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.

(187) 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 **33 CFR 334.1** through **334.6** and **334.290**, chapter 2, for limits and regulations.)

(188) 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.