

# Cape Fear Memorial Bridge Replacement Navigation Impact Report

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NCDOT STIP Project HB-0039

Navigation Impact Report

*New Hanover and Brunswick Counties*

June 2024



# Navigation Impact Report

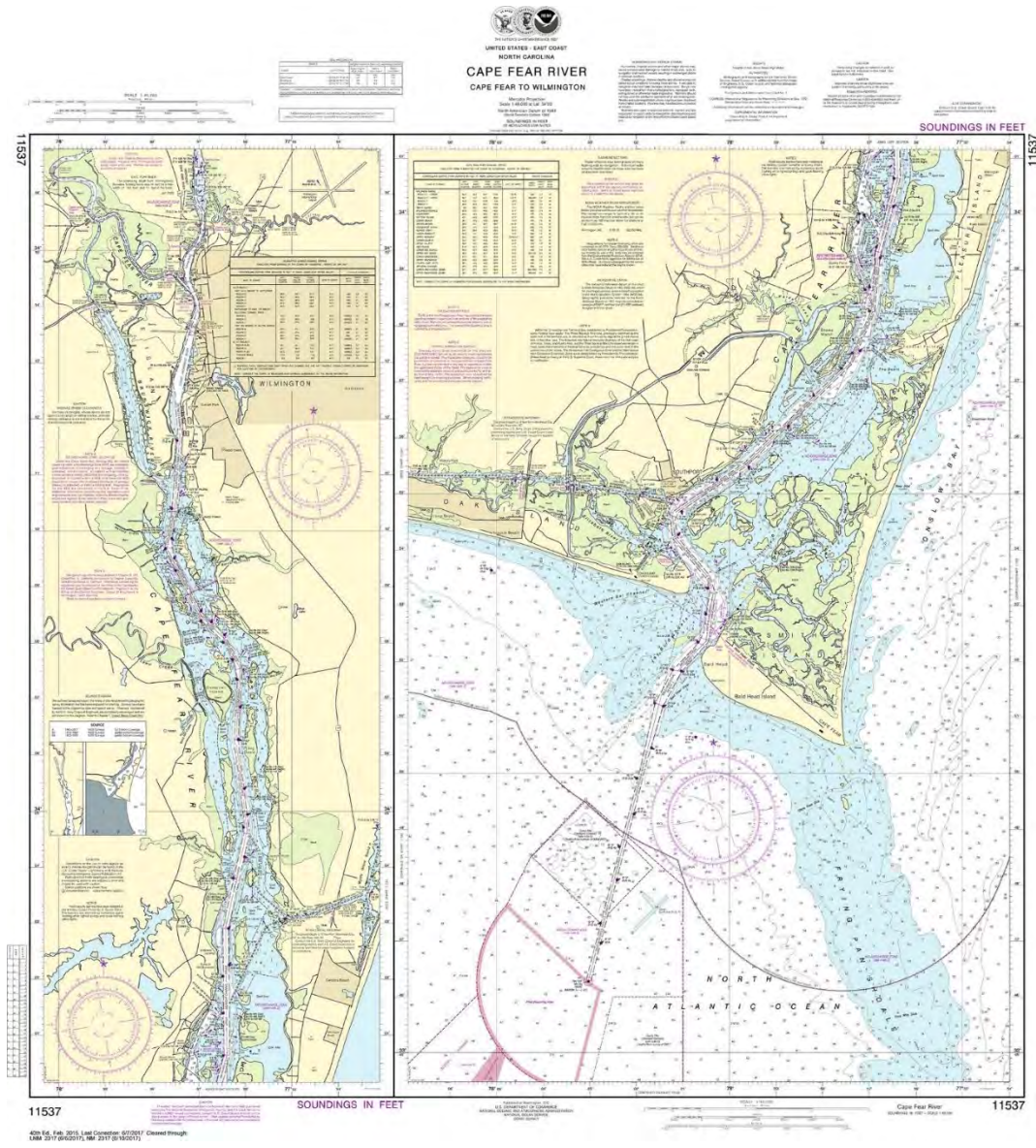
The North Carolina Department of Transportation (NCDOT) proposes to construct State Transportation Improvement Project (STIP) HB-0039, which involves replacing and widening Bridge No. 640013 (Cape Fear Memorial Bridge) over the Cape Fear River on US 17/76/421 in Brunswick and New Hanover Counties. The Cape Fear River crossing is located 0.35 miles east of the NC 133 intersection with US 17/US 76/US 421 and is 23.5 miles above the entrance to the river at the bar. The existing bridge structure (#640013) is a truss lift span with reinforced concrete deck on steel and prestressed concrete girders. There are 35 spans along its length with the movable bridge portion spanning the Cape Fear River main channel.

The Cape Fear River has a channel 44 feet deep, over the entrance bar to a point just south of Southport, then 42 feet to the Lower Anchorage Basin at Wilmington, then 38 feet in the Upper Anchorage Basin, then 32 feet to Hilton Bridge, and finally 25 feet to the upstream limit of the federal project. The channel width is 400 feet with a 600-foot passing segment below the bridge. The average tidal range is less than 5 feet. Tides are mostly semi-diurnal (2 highs and 2 lows daily).

In the Cape Fear River, the set of the current is generally in the direction of the channel. The relative velocities of flood and ebb are related to the stage of the river. During some periods the flood at times can be overcome by the river current and the ebb is greatly increased. At low-river stages, a strong flood is experienced for a considerable distance above Wilmington, where it can run between 5 and 7 hours of ebb. Average current velocity ranges from 1.5 knots to up to 4 knots at the ebb, nearly equal downriver from Wilmington. The weather is mild with occurrences of fog not considered unusual nor are extreme winds. There were 12 weather restrictions with bridge closures in 2023. The area is subject to the passage of hurricanes and significant tropical storms over the years.

Pilotage is compulsory from the bar to the limit of navigation on the Cape Fear River, above Wilmington, for all foreign vessels and U.S. vessels under register in the foreign trade. Pilotage is optional for U.S. coastwise vessels that have on board a pilot licensed by the US Coast Guard. There are no formal harbor regulations for the Port of Wilmington. This includes vessels subject to pilotage that would pass under the existing or replacement bridge. There are several tugs available in the Port for vessel assistance. Last year (2023) there were an estimated 69 vessel bridge calls. Passage from the Port to the bar is approximately 3 hours. Vessels below the bridge calling on the Port can reach 1,200 feet in length with drafts of 42 feet.

Figure 1: Cape Fear River and Upper Wilmington Bridges (Source: USCG)



## 1.0 Purpose

The purpose of this report is to:

1. Provide a project overview.
2. Summarize the characteristics of the waterways upstream, downstream and within the project area.
3. Identify the users of the waterway.
4. Discuss potential impacts and improvements to navigation at the proposed bridge site.

## 2.0 Project Overview

### 2.1 Purpose and Need

The purpose of the proposed project is to replace the functionally-obsolete US 17/74/421 bridge over the Cape Fear River (Cape Fear Memorial Bridge) and to address the forecasted capacity needs of the bridge corridor in the design year. The project is needed to accommodate the high growth areas of New Hanover and Brunswick Counties and truck traffic increases that support the growing population, military preparedness, and port activities in southeastern North Carolina. The corridor is part of the Strategic Highway Network (STRAHNET) for military transportation, is a NCDOT Identified Coastal Evacuation Route, and is on the Federal Highway Administration (FHWA) Primary Highway Freight System (PHFS). Annual repair and maintenance costs related to the bridge deck and lift mechanics are expected to increase as the bridge ages and traffic increases. Traffic delays due to repair and maintenance activities and the operation of the bridge lift cause congestion and make travel times unreliable. The current structure lacks bicycle and pedestrian facilities to support alternative modes of transportation.

### 2.2 Description of Existing Bridge

The existing bridge carries four lanes, two lanes in each direction. The bridge crosses over the Cape Fear River at 34°13'41" N, 77°57'8" W, approximately a third of a mile south from where the Northeast Cape Fear River empties into the Cape Fear River (34°14'27"N, 77°57'20"W). The bridge serves the City of Wilmington and is one of only two roadways into Downtown Wilmington from the west. The subject bridge is located at the southern end of Downtown Wilmington. The other bridge (US 74 / NC 133 Isabel Holmes Bridge) servicing Downtown Wilmington is located at the northern end. The Bridge is part of the Strategic Highway Network (STRAHNET) for military transportation, and is a NCDOT Identified Coastal Evacuation Route.

The navigable channel under the bridge is perpendicular to the bridge piers. The channel spanned by the bridge has documented clearances of 408 feet horizontally and 65 feet vertically (closed). The vertical clearance is approximately 135 feet vertically above mean high water when the bridge is in the open position. Refer to **Table 1** for more existing dimensions and clearances.

Cape Fear Memorial Bridge is currently a movable bridge with on-demand opening to allow larger vessels to navigate along the channel between 6:00 PM and 6:00 AM with additional lift times at approximately 10:00 AM and 2:00 PM. The bridge monitors VHF radio frequencies for lift requests.

**Table 1: Existing Bridge Dimensions and Clearances**

Bridge Location	34.2280°N 77.9521°W
Vertical Clearance (open)	135 feet
Vertical Clearance (closed)	65 feet
Horizontal Clearance	408 feet
Length of Bridge	3,033 feet
Width of Bridge	54 feet

### 2.3 Project Description

NCDOT performed a preliminary alternatives analysis from 2023 through 2024. The process evaluated several design alternatives based on a combination of traffic analysis results and due to constructability constraints in the study area. Three detailed study alternatives are being carried forward and are discussed further as part of this report. The three alternatives are as follows:

- Alternative A – This includes a movable span 65-foot vertical clearance closed / 135-foot when raised (open)
- Alternative B – This includes a fixed span 135-foot vertical clearance with US 74 trumpet interchange improvements
- Alternative C – This includes a fixed span 100-foot (+/- 35 feet to be determined by the USACE 408 Section and USCG) vertical clearance with US 74 trumpet interchange improvements

Each alternative includes the following typical section: three 12-foot lanes in each direction separated by a 22-foot median (including two 10-foot inside shoulders and a two-foot median barrier), 15-foot multi-use path on the north side of the bridge, and 12-foot outside paved shoulders. This amounts to an overall bridge width of approximately 133 feet. Refer to **Appendix A** for each of the alternative concepts. Based on the current project schedule, it is anticipated that the approved preferred alternative will be selected in Q4 (Fall/Winter) of 2024.

### 2.4 Environmental Summary

The lead federal agency for the National Environmental Policy Act (NEPA) compliance phase of the project is the Federal Highway Administration (FHWA). The proposed bridge project will be reviewed with an expected Environmental Assessment (EA)/Finding of No Significant Impact (FONSI). The proposed bridge does not violate the provisions of the Marine Mammal Protection Act. A Hydraulic Planning Report was completed in March of 2024. These documents will be finalized during the final design phase of the project. Other federal agencies with jurisdiction over this project are the United States Army Corp of Engineers (USACE), National Oceanic and Atmospheric Administration (NOAA), U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service. The necessary permits and approvals will be completed during the final design phase of the project.

### 3.0 Data Collection

The primary source of waterway user data was from North Carolina State Ports Authority (NCSPA) and NCDOT. Data was also gathered via outreach with Cape Fear Pilots, Tribute Companies, Moran Towing Company, USS Battleship North Carolina, and local repair shops and marinas (Wilmington Boat Slips, Port City Marina, Off The Hook Yacht Services, Marine Mechanix, Cape Fear Boat Works, and Sawmill Point Marina), as well as using public online

databases (sources included in each section, as relevant). See **Appendix B** for direct outreach information. Additional information was obtained through US Coast Pilot Number 4 published by NOAA.

## 4.0 Present Governing Bridges or Aerial Structures on the Waterway

**4.1 Identify all bridges upstream and downstream of the proposed bridge site and their existing horizontal and vertical clearances to determine the existing minimum horizontal and vertical clearances (including overhead transmission line clearances). Provide in table format.**

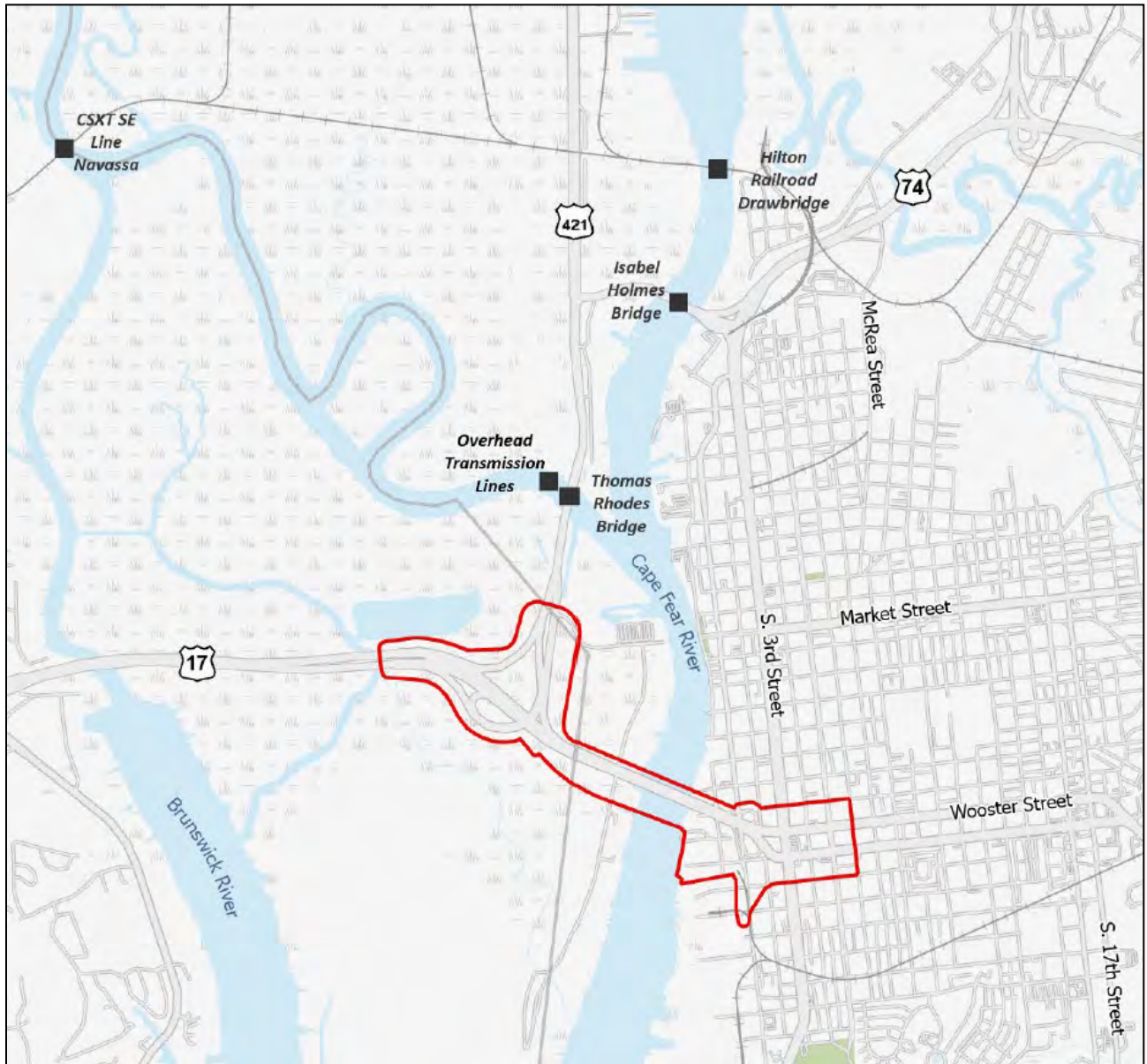
Refer to **Table 2** and **Figure 2** for a description of each existing structure. The confluence with the Atlantic Ocean is located approximately 25 miles downstream of the existing bridge location.

It should be noted that the City, in coordination with the Federal Railroad Administration (FRA), is proposing a Rail Realignment Project which is studying the realignment of the existing CSX freight rail line between Navassa (Davis Yard) and the Port of Wilmington. Two alternatives are being considered. Alternative 2A includes a parallel movable (vertical lift) span railroad bridge with a fixed span highway bridge and Alternative 2B includes a combined highway/railroad bridge structure with a movable (vertical lift) span railroad bridge underneath a fixed span highway bridge. According to the City’s project webpage, a NEPA study is currently underway for the project. NCDOT is conducting ongoing coordination with the City on the project, and preliminary conversations indicate a proposed horizontal clearance of 250 feet through the main navigation span of the bridge would be sufficient. Because this bridge is not present at the preparation of this navigational study, it was not listed in the below table.

**Table 2: Present Governing Bridges or Aerial Structures**

Facility Carried	Feature Intersected	Approximate Waterway Mile Point	Channel Depth (MHW)	Vertical Clearance (MHW)	Horizontal Clearance
US 421 / 74 / NC 133 (S Thomas Rhodes Bridge)	Cape Fear Above Wilmington	30	25'	55'	120'
US 74 / NC 133 (Isabel Holmes Bridge)	Northeast Cape Fear River	1	43'	40' closed Unlimited open	200'
CSXT SE Line Navassa	Cape Fear Above Wilmington	34	12'	9' closed Unlimited open	102'
CSXT Hilton Railroad Bridge	Northeast Cape Fear River	1.5	38'	4' closed Unlimited open	200'
Overhead Transmission Line	Cape Fear Above Wilmington	30.3	25'	125'	Full Channel

Figure 2: Present Governing Bridges or Aerial Structures



#### **4.2 Does the proposed bridge(s) match (or is greater than) the navigational clearance of the existing structures on the waterway?**

There are currently three (3) detailed study alternatives being considered for the proposed bridge, as follows:

- Alternative A – This includes a movable span 65-foot vertical clearance closed / 135-foot when raised (open)
- Alternative B – This includes a fixed span 135-foot vertical clearance with trumpet interchange improvements
- Alternative C – This includes a fixed span 100-foot (+/- 35 feet to be determined by the USACE 408 Section and USCG) vertical clearance with trumpet interchange improvements

Vertical Clearance: Listed above (varies per alternative)

Horizontal Clearance: Approximately 450 feet

Refer to **Appendix A** for each of the respective bridge designs.

The existing Cape Fear Memorial Bridge by comparison has a vertical lift span with a horizontal navigation clearance of 408 feet and vertical clearance of 65 feet at rest or 135 feet with the lift span raised.

#### **4.3 What is the most restrictive horizontal clearance on the waterway? (This may be a fixed bridge downstream/upstream of the proposed structure, a low hanging powerline downstream/upstream of the bridge(s), or it may be some other structure that limits horizontal clearance. Sometimes the existing to-be-replaced bridge(s) is the most restrictive structure.**

Two channels feed into the Cape Fear River at the location of the proposed bridge (the Cape Fear River and the Northeast Cape Fear River). The limiting structure along the Cape Fear River is the CSXT SE Line Navassa and the limiting structure along the Northeast Cape Fear River is the Isabel Holmes Bridge. Overall, the CSXT SE Line Navassa has the more restrictive horizontal clearance; however, vessels may approach the Cape Fear Memorial Bridge via the Northeast Cape Fear River, so both structures are listed below.

Upstream of the proposed bridge location, via the Cape Fear River northwest channel, the structure which creates the most restrictive horizontal clearance is the CSXT SE Line Navassa.

- a. Mile point: 34
- b. Horizontal clearance: 120 feet



Upstream of the proposed bridge location, via the Northeast Cape Fear River channel, the structure which creates the most restrictive horizontal clearance is the Isabel Holmes Bridge.

- a. Mile point: 1
- b. Horizontal clearance: 200 feet

There is not a downstream structure from the proposed bridge location that would impact horizontal clearance.

**4.4 What is the most restrictive vertical clearance on the waterway? (This may be a fixed bridge downstream/upstream of the proposed structure, a low hanging power line downstream/upstream of the bridge(s), or it may be some other structure that limits vertical clearance. Sometimes the existing to-be-replaced bridge(s) is the most restrictive structure.**

Two channels feed into the Cape Fear River at the location of the proposed bridge (the Cape Fear River and the Northeast Cape Fear River). The limiting structure is the CSXT Line for both the Cape Fear River and the Northeast Cape Fear River channels. Vessels may approach the Cape Fear Memorial Bridge via the Northeast Cape Fear River, so both structures are listed below. Since these bridges are bascule span (drawbridge), with an unlimited vertical clearance when open, other structures were considered along the waterway; however, it was noted that large vessels may not reach these other structures based on the narrow horizontal clearances.

Cape Fear River:

- a. Mile point: 34
- b. Vertical clearance (bridge in closed position): 9 feet
- c. Vertical clearance (bridge in open position): Unlimited

Northeast Cape Fear River:

- a. Mile point: 1.5
- b. Vertical clearance (bridge in closed position): 4 feet
- c. Vertical clearance (bridge in open position): Unlimited

The downstream structure that would impact vertical clearance is an overhead transmission line.

- a. Mile point: 21.2 (Cape Fear River)
- b. Vertical clearance (bridge in closed position): 216 feet

**4.5 Will the proposed bridge(s) become the most restrictive/obstructive structure across the waterway?**

No, the proposed bridge will not become the most restrictive structure on the waterway. It should be noted that it will however be the most restrictive structure on the waterway as it relates to

downstream structures. There is not a downstream structure from the proposed bridge location that would impact horizontal clearance. There is an overhead power cable with a clearance of 216 feet over the main channel that crosses the Cape Fear River about 18.8 miles above the mouth. The most restrictive upstream structure is the CSXT SE Line Navassa across the Cape Fear River northwest channel or Isabel Holmes Bridge across the Northeast Cape Fear River channel.

## 5.0 Waterway Characteristics

*(All domestic bridge navigational clearances should be stated in linear feet in decimal form vs. feet and inches. All international bridge navigational clearances should be state in linear unit of measure as well as the metric equivalent).*

### 5.1 Various water stages: (Datum that is used).

The various waterway stages are listed in **Table 3**. All data values are relative to North American Datum of 1988 (NAVD88). Elevations are from National Oceanic and Atmospheric Administration (NOAA) station 8658120 in Wilmington, NC near the existing Cape Fear Memorial Bridge, in the vicinity of the US Corps of Engineers, Eagle Island maintenance yard and docks.

**Table 3: Waterway Characteristics**

Waterway Stage		Elevation (NAVD88)
MHHW	Mean Higher – High Water	2.08 feet
MHW	Mean High Water	1.83 feet
MTL	Mean Tide Level	-0.31 feet
MSL	Mean Sea Level	-0.16 feet
DTL	Mean Diurnal Tide Level	-0.26 feet
MLW	Mean Low Water	-2.44 feet
MLLW	Mean Lower-Low Water	-2.60 feet
NAVD88	North American Vertical Datum of 1988	0.00

### 5.2 Natural flow of the waterway including currents, waterway velocity, water direction, and velocity fluctuations (seasonal, daily, hourly, etc.), that might affect navigation.

The water has been at its highest during the weeks following Hurricanes Matthew and Florence when the river would swell during the tide cycles. Water travels north-south along this section of the Cape Fear River with an overall pattern generally traveling east-west. Tides are typically semi-diurnal and micro-tidal. The water has both ebb and flood tidal flows.

NOAA performed a Cape Fear River, NC survey in 2016 with results published in June 2019. The report made use of numerous observation stations for data collection, one of which was CFR1605 located just north of the proposed bridge location. Speed and timing relative to the tidal day of mean maximum ebb current (MEC) and mean maximum flood current (MFC) at the near surface were:

MFC = 81.3 cm/s (1.58 knots)  
MEC = 106.6 cm/s (2.07 knots)

Source:

[https://tidesandcurrents.noaa.gov/publications/Techrpt\\_089\\_Cape\\_Fear\\_Tech\\_Report\\_Final.pdf](https://tidesandcurrents.noaa.gov/publications/Techrpt_089_Cape_Fear_Tech_Report_Final.pdf)

### **5.3 Width of the waterway at bridge site.**

The width of the waterway at the considered bridge site is approximately 1,000 feet bank to bank. The width of the navigational channel is approximately 450 feet wide at the bridge site. Per USACE GIS, for the Anchorage Basin reach, the minimum width is 448 feet, and the maximum width is 548 feet for the Anchorage Basin.

### **5.4 Depth of the waterway and elevation fluctuations at bridge site: [List the depth at each waterway bridge stage (ex. Range of tides, average high water elevation, etc.)].**

The channel is surveyed by USACE. The latest hydrographic survey from February of 2024 is attached in **Appendix C**. Generally, the depths range from 38 feet to 42 feet, within the proposed bridge site area. According to hydrographic surveys from 2023, the upstream depth of the channel at the existing Cape Fear Memorial Bridge is 32 feet and downstream is 38 feet. Waterway elevations vary 4.43 feet from MLW to MHW.

### **5.5 Waterway layout and geometry: (For example, is there a dam or lock, does the elevation of the approach impact the required bridge(s) clearance?)**

There are no dams, locks, elevation changes or other considerations which would materially impact the required bridge clearances. The confluence of the Cape Fear River and the Northeast Cape Fear River is approximately 4,500 feet to the north. The Cape Fear River meets Brunswick River approximately 4 miles to the south. The Atlantic Ocean is approximately 26 miles to the south along the waterway.

The NCSPA in coordination with the USACE is currently studying alternatives to improve navigation of the Wilmington Harbor, as part of the Wilmington Harbor Navigation Improvement Project. The project proposes enhancing the navigational channel to allow deep-draft vessels to navigate to the Port and could potentially affect navigation horizontal and vertical clearances associated with Cape Fear Memorial Bridge.

### **5.6 Channel and waterway alignment: Location of the channel(s).**

The proposed bridge would cross a federal channel maintained by the USACE, the Cape Fear River. The Cape Fear channel has a typical width of approximately 400 feet within the vicinity of the bridge based on conversations with the Cape Fear Pilots Association. Also based on these

conversations, it is noted that there are 6 miles of passing lanes to the south of the bridge with a channel width of approximately 600 feet. There is a turning basin channel width of approximately 1,500 feet to the south of the bridge. Refer to the attached notes based on the coordination with the Cape Fear Pilots Association. **Appendix A** includes current preliminary bridge designs with approximate locations.

**5.7 Other limiting factors: (For example, bends in the waterway within one-half mile of the project site, hindrances to free navigation, fog, hydraulics, etc.).**

There are not any bends in the waterway within one-half mile of the project site to the south. There is a northwest bend that begins approximately a third of a mile north of the proposed bridge locations. Refer to **Appendix A** for a visual representation of the bend. The bend is not expected to limit navigation along the waterway at any of the proposed bridge locations. Additionally, there are no other anticipated limitations or hindrances to free navigation within the vicinity of the proposed bridge.

**6.0 Do vessels that engage in emergency operations (i.e., law enforcement, fire, rescue, emergency dam repair, etc.), national defense activities (i.e. cruisers, fuel barges, munitions ships, etc.) or channel maintenance (i.e., dredges, dam and levee repair, etc.) operate on the waterway? If yes, describe the vessels and provide the following information:**

**6.1 Does levee maintenance, bridge work (other bridges), channel maintenance and emergency operations upstream of bridge require certain vessels to transit the waterway?**

No, per coordination with the NCDOT, USACE, USCG and other agencies.

**6.2 Does the proposed bridge(s) impact USCG and/or other government vessels' ability to transit the bridge(s) to conduct mission essential functions (icebreakers, patrols, etc.)?**

No, per coordination with USCG.

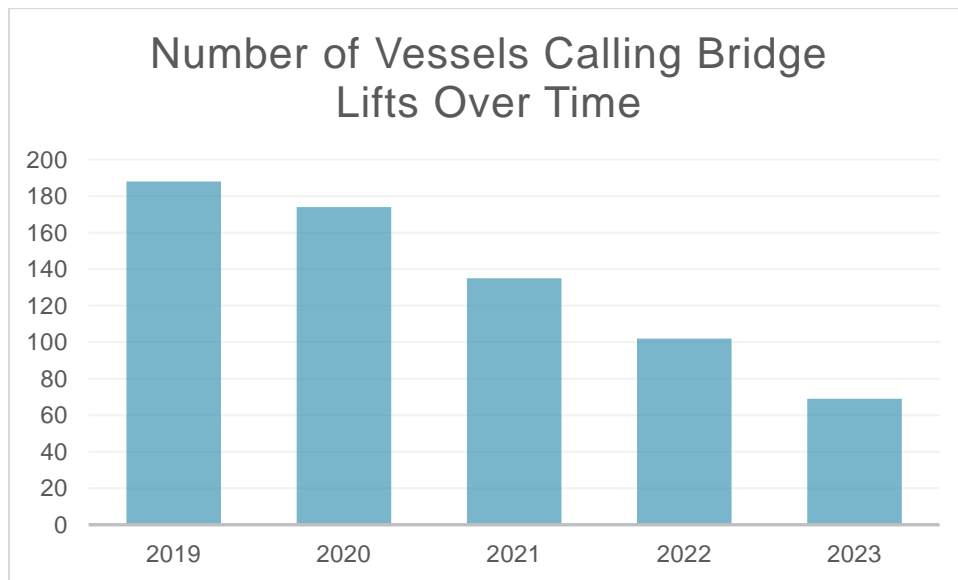
**6.3 Vessels using the waterway during the proposed bridge(s) lifespan:**

Based on the vessel logs provided by NCDOT, there has been a steady decline in bridge lifts from 2019 to 2023 (**Appendix D**). Refer to **Figure 3** below for a graphic representation of vessels calling bridge lifts over time. During 2019, there were 381 openings accommodating 188 vessels

(many of the openings were for maintenance or training); whereas, during 2023, there were only 168 openings serving 69 vessels. The Kinder Morgan site was sold in June of 2023, which may have contributed to the sharp decline in vessels taller than 65-feet (a 63% decrease since 2019 or a 32% decline between 2022 and 2023 alone). If the old Kinder Morgan site were to accommodate a similar use as Kinder Morgan in the future, it is expected that the number of vessels calling bridge lifts would increase. A deeper channel could also encourage more activity, as well as larger ships; however, while there are plans to deepen the channel to the south of the bridge, these channel modifications are not expected to extend as far north as Cape Fear Memorial Bridge.

Based on a call with Port City Marina on May 3, 2024, they currently have 111 wet slips and do accommodate some sailboats. While they were unsure if they have had any sailboats with masts greater than 100 feet in height, they did mention that they recently had a sailboat with an 80-foot mast. Cape Fear Marina has 75 slips and can accommodate sailboats up to 100 feet. Cape Fear Marina is serviced by Off The Hook Yachts. Sawmill Point has 37 slips and is also serviced by Off The Hook Yachts. Based on conversations with Off The Hook Yachts, the boats and sailboats that they have serviced and/or stored range from 50-150 feet long, and the heights vary greatly, but it is not believed that any exceed 100 feet in height. See **Appendix B** for direct outreach information.

**Figure 3: Vessel Calls per Year**



**USCG 26160:**

- i. Vessel name: Trailerable aids to navigation boat, CG 26160
- ii. Registration/documentation numbers: CG 26160
- iii. Vessel type: Outboard
- iv. Vessel owner contact information: USCG ANT Oak Island

- v. Primary vessel mooring location (include waterway milepoint, if known): 300A Caswell Beach Rd., Oak Island, NC 28465
- vi. Vessel overall length: 29' 7"
- vii. Vessel beam: 8' 4"
- viii. Vessel draft (depth of hull below waterline at full load): 2' 9"
- ix. Vessel air draft (height of the highest fixed point of the vessel above the waterline, when empty): 9'

USCG CGC SMILAX Vessel:

- i. Vessel name: SMILAX
- ii. Registration/documentation numbers: Call sign NRYN
- iii. Vessel type: Inland Construction Tender
- iv. Vessel owner contact information: Coast Guard District Five
- v. Primary vessel mooring location (include waterway milepoint, if known): SFO Fort Macon: 2301 E Fort Macon Rd, Atlantic Beach, NC
- vi. Vessel overall length: 170'
- vii. Vessel beam: 30'
- viii. Vessel draft (depth of hull below waterline at full load): 6'
- ix. Vessel air draft (height of the highest fixed point of the vessel above the waterline, when empty): 36' fixed, 54' unfixed at mast

USCG Oak Island Vessel:

- x. Vessel name: 29' RBS-II
- xi. Registration/documentation numbers: CG 29216, CG29217
- xii. Vessel type: Enclosed Cabin, outboards
- xiii. Vessel owner contact information: USCG Station Oak Island
- xiv. Primary vessel mooring location (include waterway milepoint, if known): 300A Caswell Beach Rd., Oak Island, NC 28465
- xv. Vessel overall length: 31' 7"
- xvi. Vessel beam: 8' 5"
- xvii. Vessel draft (depth of hull below waterline at full load): 2' 9" trimmed down, 1' 10" trimmed up
- xviii. Vessel air draft (height of the highest fixed point of the vessel above the waterline, when empty): 7' 10"

US Army's Sunny Point, NC firefighting and rescue vessel:

- i. Vessel name: Sunny Point
- ii. Registration/documentation numbers: Vessel # CG 1167165, Galdding-Hearn Shipbuilding Hull Number 387
- iii. Vessel type: Unclassified vessel, Aluminum, Jet Propulsion
- iv. Vessel owner contact information: US Army, Military Ocean Terminal Sunny Point (MOTSU), Fire & Emergency Services Division /Chief Michael Scott / 6280 Sunny Point Rd. Southport, NC 28461 / 910-457-8218

- v. Primary vessel mooring location (include waterway milepoint, if known): MOTSU Boat Basin / Buoy # 33 Cape Fear River
- vi. Vessel overall length: 82' 6"
- vii. Vessel beam: 20' 6"
- viii. Vessel draft: 4' 2"
- ix. Vessel air draft: 37' 3"
- x. Does the vessel have limited maneuverability due to inherit design or mode of operation? To operate one fire pump the vessel requires 6' of draft, 10' of draft to operate two pumps

#### **6.4 Will the proposed bridge(s) provide the horizontal and vertical clearances for the safe, efficient passage of the largest of these vessels? Why?**

The bridge Alternative A (movable), Alternative B (fixed at 135 feet vertical), and Alternative C (fixed at 100 feet [+/- 35 feet to be determined by the USACE 408 Section and USCG]) would all be expected to provide the horizontal and vertical clearance for the safe, efficient passage of these vessels, as they accommodate each of the vessels shown in the above table. Alternative A and Alternative B also exceed the dimensions of the limiting structures to the north along each the Cape Fear River and the Northeast Cape Fear River. Refer to **Appendix A** for each of the respective bridge designs.

It should be noted that the previous Kinder Morgan site, located at 2005 N 6<sup>th</sup> St, was sold to Tribute Companies Inc in June of 2023. This industrial site was previously used to store petroleum and specialty chemicals and was accessible for loading and unloading services via vessel, barge, tank truck and tank car. The site was previously owned by ChemServ Inc prior to Kinder Morgan purchasing the site in 2008. Within the vicinity of the site, the Cape Fear River has a depth of 31 feet. The dock at the site accommodates up to a 600-foot vessel. The future user of the site is currently unknown. Based on discussions with Tribute Companies Inc, the site may serve a similar use to Kinder Morgan, and it is assumed that it will have the same clearance needs as the Kinder Morgan site previously had if it includes a similar use. See **Appendix B** for direct outreach information.

Additionally, based on conversations with adjacent repair shops, it was noted that the existing movable bridge does provide constraints in the navigation of vessels to/from shops based on the two daily opening times from 6:00 AM to 6:00 PM (outside of the on-demand period between 6:00 PM and 6:00 AM).

Alternative B would be expected to provide the least limitation to the navigation along this waterway, because Alternative A would still need to be lifted and closed, similar to current operations. Alternative C, while anticipated to accommodate existing vessels, may not necessarily accommodate future vessels depending on future uses to the north of Cape Fear Memorial Bridge (i.e. the old Kinder Morgan site).

**6.5 If no, estimate the number of vessels in each of the above categories unable to pass through the proposed bridge(s). Give the name, length overall (LOA), beam, draft and height of highest fixed point above the waterline for vessels affected by the bridge(s).**

N/A

**6.6 Can these vessels be modified (i.e., folding mast, relocation or equipment, etc.) without decreasing their respective response times? If so, name the vessels.**

N/A

**6.7 If modifications are feasible, state the name of the vessel(s), their trip frequency, the necessary modifications, the cost of the modification(s) and who will pay for them (i.e., vessel owner, applicant, other).**

N/A

**6.8 Provide any additional information concerning the potentially impacted or burdened users of the waterway as well as the future use of the waterway.**

Please refer to the sections above. In addition, a discussion with the Operations Manager of the USS NORTH CAROLINA regarding any potential for moving the vessel in the future for drydocking or repair indicated the vessel would most likely never be moved and any repairs would take place at its current location.

**7.0 Has the United States Corps of Engineers (USACE) completed or does it plan to complete a federal navigation project on the waterway?**

**If yes, provide the following information:**

Yes, USACE has completed a federal navigation project on the waterway.

**7.1 Project name, downstream/upstream milepoints, depth, type of project, scope, status of project and other limiting factors.**

Project Name: Wilmington Harbor  
Channels: (UPPER) ANCHORAGE BASIN [38 FOOT MLLW]

32 FOOT PROJECT SOUTH HWY 74-76 BRIDGE TO BATTLESHIP  
Reach 1, 2, 3, 4 & 5



32 FOOT PROJECT NORTH HWY 133 BRIDGE TO HILTON BRIDGE  
Reach 1, 2, 3, & 4

25 FOOT PROJECT  
Reach 4

Milepoints: See above  
Depth: See **Appendix C**  
Type: Federal Navigation Channel  
Status: Complete

**7.2 Whether there is/was a “design vessel” used in planning the channel? What is/was the design vessel? Was the design vessel reviewed by the Coast Guard?**

No “design vessel” was identified for the navigation project.

**7.3 The following specification of the vessel for which the navigation project is or will be designed: LOA, beam, draft and height of the highest fixed point above waterline.**

N/A

**7.4 Will the proposed bridge(s) provide the horizontal and vertical clearances necessary for the safe, efficient passage of the vessel for which the navigation project was designed?**

N/A

**7.5 If so, can the vessel be modified to clear the proposed bridge(s) without substantially increasing operating costs?**

N/A

**7.6 If modifications are feasible, state the necessary modifications, costs of any modifications(s), who will pay for the modifications.**

N/A

**7.7 Are the projected changes in the waterway usage based upon anticipated waterway improvement projects?**

There are no projected changes for waterway usage based upon any waterway improvement projects.

### **7.8 Does the proposed bridge impact USACE ability to transit the bridge in a Federal project channel?**

No, the proposed bridge will not impact USACE ability to transit waterway.

## **8.0 Describe the present and prospective recreational navigation:**

### **8.1 Will the proposed bridge(s) affect the safe, efficient movement of any segment of the present or prospective recreational fleet operation on the waterway? If yes, provide the following information:**

Based on direct outreach to stakeholders along the waterway (see **Appendix B**), Alternative A, Alternative B, and Alternative C are not expected to affect the safe, efficient movement of any segment of present or prospective recreational operations on the waterway. Consideration for lift times should be given under the moveable design (Alternative A) to allow efficient navigation for larger vessels.

Sailboats accounted for a large proportion of recreational vessel types in the most recent 5-year period, which is relevant to this study since they typically require greater vertical navigational clearances. Of the 69 total lifts required for recreational vessels at the CFMB in 2023, 67 (97%) were for sailboats. See **Appendix D** for a copy of the bridge lift data.

Analysis of AIS data revealed that there are no regular recreational users of the waterway which are equipped with AIS technology.

## **9.0 Describe the present and prospective commercial navigation and the cargoes moved on the waterway:**

### **9.1 Will the proposed bridge(s) affect the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway? If yes, provide the following information:**

Based on direct outreach to stakeholders (see **Appendix B**) along the waterway, the proposed bridge will not affect the safe, efficient movement of any segment of present commercial fleet operations on the waterway; however, it may impact prospective commercial operations (i.e. the old Kinder Morgan site). There are also a number of passenger vessels and recreational vessels that make use of the subject portion of the waterway; however, these vessels are not expected to be limited by any of the proposed alternative bridge designs. See **Appendix E** for the registered ships in Wilmington.

**10.0 Identify the name and contact information for marine facilities located within a 3-mile radius of the proposed project (public boat ramps, marinas or major docking facilities, boat repair facilities, etc.):**

**Marinas:**

Port City Marina  
10 Harnett St  
Wilmington, NC 28401  
(910) 251-6151  
[taylor@portcitymarina.com](mailto:taylor@portcitymarina.com)  
<https://portcitymarina.com/>

Sawmill Point Marina  
1015 Nutt St  
Wilmington, NC 28401  
(910) 772-9277  
<https://sawmillpoint.com/>

Cape Fear Marina  
1701 Jel Wade Dr  
Wilmington, NC 28401  
(910) 762-1256  
[capefearmarina@gmail.com](mailto:capefearmarina@gmail.com)  
<https://www.capefearmarinanc.com/>

Wilmington Boat Slips  
10 Grace St  
Wilmington, NC 28401  
(910) 620-9904  
[will@wilmingtonboatslips.com](mailto:will@wilmingtonboatslips.com)  
<https://www.wilmingtonboatslips.com/>

Wilmington City Docks  
Downtown Riverwalk  
Wilmington, NC 28401  
(910) 341-4520  
[douglas.lewis@wilmingtonnc.gov](mailto:douglas.lewis@wilmingtonnc.gov)  
<https://www.wilmingtonnc.gov/>

Smith Creek Boatyard  
805 Cornelius Harnett Dr  
Wilmington, NC 28401  
(910) 343-8403  
[harborlinesllc@aol.com](mailto:harborlinesllc@aol.com)  
<http://www.smithcreekboatyard.com/>

**Public Boat Ramp:**

Dram Tree Park Boat Ramp  
602 Surry St  
Wilmington, NC 28401  
(910) 341-7852  
[april.ramsey@wilmingtonnc.gov](mailto:april.ramsey@wilmingtonnc.gov)  
<https://www.wilmingtonnc.gov/departments/parks-recreation/parks>

**Boat Repair:**

Off the Hook Yacht Services  
1701 Jel Wade Dr STE 16  
Wilmington, NC 28401  
(910) 772-9277  
[info@offthehookys.com](mailto:info@offthehookys.com)  
<https://www.offthehookyachts.com/>

Carolina Coastal Marine  
405 Cornelius Harnett Dr STE 1  
Wilmington, NC 28401  
(910) 809-2628  
[info@carolinacoastalmarine.com](mailto:info@carolinacoastalmarine.com)  
<https://www.carolinacoastalmarine.com/>

Marine Mechanix  
1917 Hwy 421 North  
Wilmington, NC 28401  
(910) 251-0030  
[dinksparts@aol.com](mailto:dinksparts@aol.com)  
<https://www.marinemechanix.com/>

Specialty Boatworks (*Currently Temporarily Closed*)  
262 Battleship Rd NE  
Wilmington, NC 28401  
(910) 251-5219  
[a.rusher@icloud.com](mailto:a.rusher@icloud.com)

Army Corps of Engineers Wilmington District Repair Yard  
232 Battleship Rd NE  
Leland, NC 28451  
(910) 251-4979  
<https://www.saw.usace.army.mil/>

**11.0 Will the proposed bridge(s) block access of any vessel presently using local service facilities (i.e., repair shops, parts distributors, fuel stations)? If yes, provide the following information:**

Alternative A and Alternative B are not expected to be any more restrictive to vessels presently using the waterway to access the sole marine service facility. Based on the current users of the waterway all of the alternatives would be expected to accommodate existing vessels; however, it should be noted that Alternative C (100-foot [+/- 35 feet to be determined by the USACE 408 Section and USCG] fixed vertical clearance) may block future vessels contingent upon development to the north of the bridge. Regarding the limitations of Alternative A (movable) and Alternative C (100-foot [+/- 35 feet to be determined by the USACE 408 Section and USCG] fixed), Giovana Cline from Off The Hook Yachts said, "The only constraints we (currently) have are certain times that it will open and close. Before construction, it would open at 10am and 2pm or 6pm-6am on demand. We currently serve a wide variety of large motor yachts and sailboats... Our large boats/sailboats range from 50ft-150ft long. The heights vary greatly on these vessels". It was further mentioned that they did not think they have accommodated vessels greater than 100 feet in height. See **Appendix B** for direct outreach information.

**12.0 Are alternate routes bypassing the proposed bridge(s) available for use by vessels unable to pass the proposed bridge(s)? If yes, provide the following information:**

No.

**13.0 Will the bridge(s) prohibit the entry of any vessels to the local harbor of refuge? If yes, describe the harbor and provide the following information:**

No, the bridge is not expected to prohibit the entry of vessels to the local harbor of refuge under Alternative A and Alternative B. Alternative C would restrict any vessels exceeding the 100-foot (+/- 35 feet to be determined by the USACE 408 Section and USCG) vertical clearance to access harbors of refuge on the opposing side of the bridge; however, based on data collected, vessels are not currently navigating this waterway that exceed 100-feet in height.

**14.0 Will the proposed bridge(s) be located within one-half mile of a bend in the waterway? If yes, describe the bend and provide the following information:**

Yes, the proposed bridge is located near a bend of the waterway (approximately a third of a mile to the north of the proposed bridge).

**14.1 Is there sufficient distance between the bridge(s) and the bend to allow proper vessel alignment for the safe, efficient passage of vessels through the proposed bridge(s)?**

Yes, the proposed designs offer a similar or longer distance from the bend in the waterway; therefore, there is expected to be sufficient distance to the bend to allow proper vessel alignment for safe and efficient passage. It should be noted that there are varying designs as part of each of the proposed alternatives that may provide a difference in alignment and distance to align.

Alternative C limits the vertical clearance (100-foot [+/- 35 feet to be determined by the USACE 408 Section and USCG]) that may cause congestion prior to the bridge if modifications to vessels are needed. This may impact the time vessels have to correctly align for safe, efficient passage.

**14.2 If no, what factors make construction of the bridge(s) at an alternate location impractical?**

N/A

**15.0 Are there other factors (i.e., dockages, lightering areas, existing bridges, etc.) located within one-half mile of the proposed bridge(s), which would create hazardous passage through the proposed structure? If yes, provide the following information:**

**15.1 Describe the factors. (For example, construction impacts to navigation and waterway users, etc.)**

N/A

**15.2 What mitigative measures are being recommended? (For example, navigation safety during construction, etc.) Why?**

N/A

**16.0 Do local hydraulic conditions (i.e., wave chop, cross currents, tides, shoals, etc.) increase the hazard of passage through the proposed bridge(s)? If yes, provide the following information:**

No, hydraulic conditions are not expected to increase the hazard of passage through the proposed bridge. The directional flow of the current is not averse to vessel passage.

**17.0 Do local atmospheric conditions (i.e., strong, prevailing winds, fog, rapidly developing storms, etc.) increase the hazard of passage through the proposed bridge(s)? If yes, provide the following information:**

No, it is not expected that the proposed bridge would increase the hazard of passage due to local atmospheric conditions. In cases of extreme weather conditions, harbor operations would most likely be restricted. There were 12 weather restrictions (bridge closures) in 2023. The area has been subject to the passage of hurricanes and tropical storms over the years. As note previously, the bridge is a NCDOT Identified Coastal Evacuation Route.

**17.1 Describe the conditions:**

N/A

**17.2 What mitigative measures are being recommended? Why?**

N/A

**18.0 Have guide clearances been established for the waterway? If yes, provide the following information:**

Yes, guide clearances have been established for the waterway. The proposed bridge site is located at or near waterway milepoint 26.8.

Waterway	Marker	Bridge Type	Horizontal Clearance (feet)	Vertical Clearance (feet)	Reference Plane
Cape Fear River	Wilmington mile 30 to mile 39	Fixed or vertical lift	120	135	Maximum HW
		Swing or bascule	120	10 (closed)	
	Mile 39 to Fayetteville	Fixed or vertical lift	100	70	Maximum HW
		Swing or bascule	100	5 (closed)	
Northeast Cape Fear River	Mouth to mile 2.75	Fixed or vertical lift	200	135 / 5 (closed)	Maximum HW
		Swing or bascule	200	40 (closed)	

Source: <https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Marine-Transportation-Systems-CG-5PW/Office-of-Bridge-Programs/Bridge-Guide-Clearances/>

*Do the proposed bridge(s) clearances differ from these guide clearances?*

The proposed bridge clearance is met under Alternative A and Alternative B; however, the vertical clearance is not met under Alternative C.

*If yes, what factors justify deviating from these guide clearances?*

N/A for Alternative A and Alternative B. Under Alternative C, the proposed vertical navigational clearances for the proposed bridge would accommodate heights of existing vessels along the waterway, thus reasonably accommodating current navigational needs. It should be noted that if uses along the waterway change in the future (i.e. additional industrial or commercial uses are developed), the vertical clearance included in Alternative C may limit the navigational ability for these future uses.

## **19.0 Are there other natural or man-made conditions that affect navigation (atmospherics, exclusion zones, etc.)?**

There are no natural or man-made conditions that are known which affect navigation

*Describe the conditions:*

No conditions were identified. The channel is maintained by USACE.

*What mitigative measures are being recommended? Why?*

None.

## **20.0 State any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge? Are clearance gauges needed? Why?**

Fixed navigational lighting is recommended on the bridge to indicate channel perimeters. Clearance gauges will be used as a safety precaution. Information on the final bridge would be



provided for inclusion in the US Coast Pilot Number 4 and during construction through Notices to Mariners and other standard maritime information methods.

Regarding the efficient passage of vessels through the proposed bridge, consideration should be given to the operating rules of the proposed moveable span bridge (Alternative A). Currently the bridge is opened on-demand between 6:00 PM to 6:00 AM and opens at 10:00 AM, as well as 2:00 PM. Further analysis could be provided to determine the most appropriate operating times and rules for the bridge once the alternative is chosen.

Bridge structure protections are also recommended with a goal to absorb potential vessel impact or to deflect vessels before they could contact the bridge structure. Dolphins and fender systems are recommended, as appropriate, at the bridge piers, as well as other protective absorbing structures shown to be effective in other bridge installations. Currently, the proposed design alternatives indicate the horizontal span width is not expected to substantially change; therefore, existing vessels and those under pilotage are expected to be familiar with the current navigation structure. As part of the design of both the bridge itself and the bridge structure protection elements, a vessel collision study will be conducted. The study will follow the provisions of the AASHTO *LRFD Bridge Design Specifications*, Article 3.14 (Vessel Collision), as appropriate. The “operational classification” assigned to the bridge would be “critical or essential,” which will trigger a lower maximum annual frequency of collapse, AF, as defined in the AASHTO specifications (i.e., the bridge will be designed to be more resistant to collapse from vessel collision than a bridge with an operational classification of “typical”).

**21.0 Include a description of the impacts to navigation caused or which could be reasonably caused by the proposed bridge including but not limited to: proposed construction methodology, proposed or prospective changes to the existing bridge operating schedule (for movable bridges), and any proposed mitigation to all unavoidable impacts to navigation.**

Information on the final bridge would be provided for inclusion in the US Coast Pilot Number 4 and during construction through Notices to Mariners and other standard maritime information methods such as VHF radio broadcasts. More information will be proposed based on the selected bridge design alternative.

Once the bridge alternative is selected, an operations plan for the period related to modification, demolition, construction and other pre and post periods will be submitted to the US Coast Guard for review and approval.

*Conduct a navigational impact report and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.*

See the Present Governing Bridges section of this report.

*If the proposed bridge is fixed and is replacing an existing drawbridge with unlimited vertical clearance, the applicant must determine whether the proposed bridge will accommodate existing and prospective navigation.*

N/A for Alternative A and Alternative B (providing the same vertical clearance as the existing bridge). Under Alternative C, the proposed horizontal and vertical navigational clearances for the proposed bridge will be more restrictive than the existing bridge but is not expected to impact vessels currently using the waterway, thus reasonably accommodating navigational needs. It should be noted that Alternative C could restrict larger vessels contingent upon future commercial/industrial uses to the north of the bridge based on the vertical clearance restrictions under this alternative.

## **22.0 Is there any proposed or completed mitigation for the impacted waterway users? Are there any impacts that cannot be mitigated?**

There are not expected to be any impacts to current and prior waterway users under Alternative A and Alternative B. Alternative C is not expected to be any more restrictive than other structures upstream and is expected to accommodate current waterway users. No mitigation efforts are recommended.

APPENDIX INSERTS:

Appendix A. Alternative Bridge Design Plans

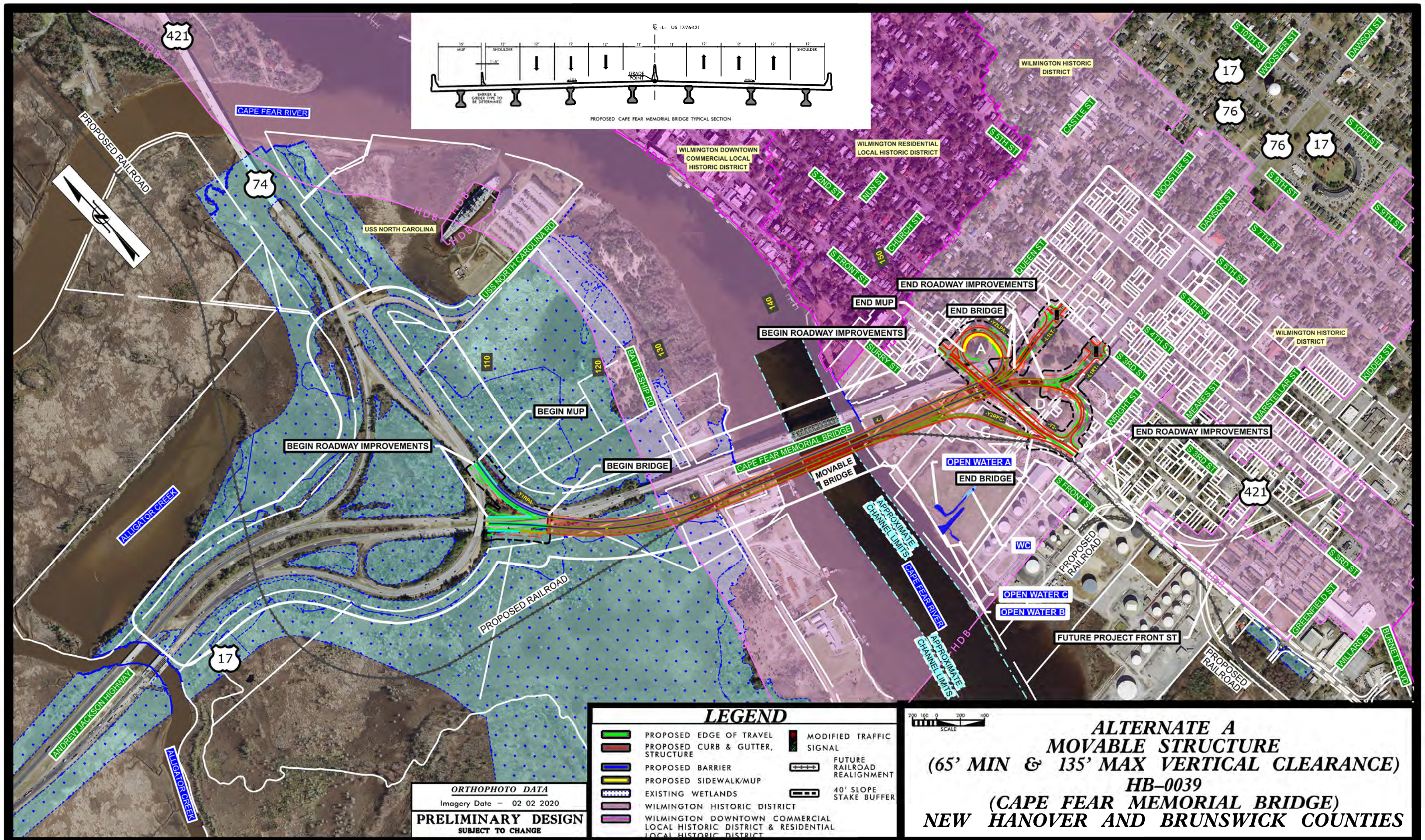
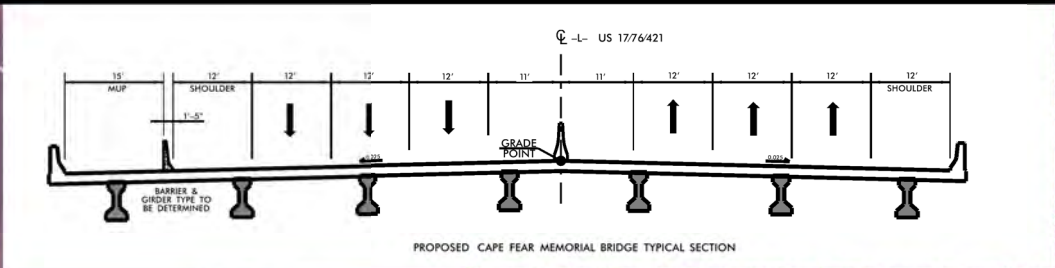
Appendix B. Summaries of Direct Outreach

Appendix C. Hydrographic Survey

Appendix D. Bridge Lift Data

Appendix E. Registered Ships in Wilmington

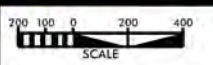
**Appendix A: Design Plans**



**ORTHOPHOTO DATA**  
 Imagery Date - 02-02-2020  
**PRELIMINARY DESIGN**  
 SUBJECT TO CHANGE

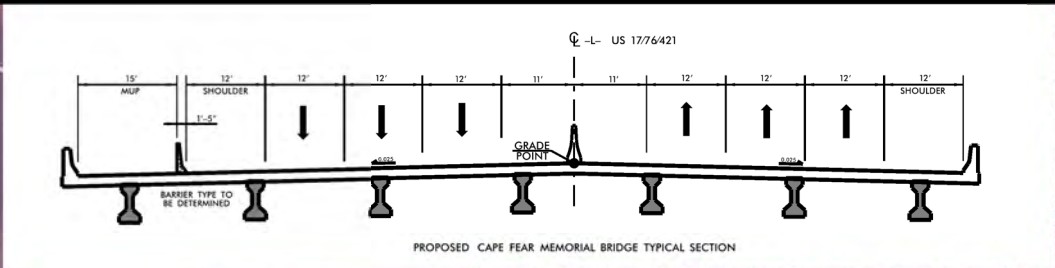
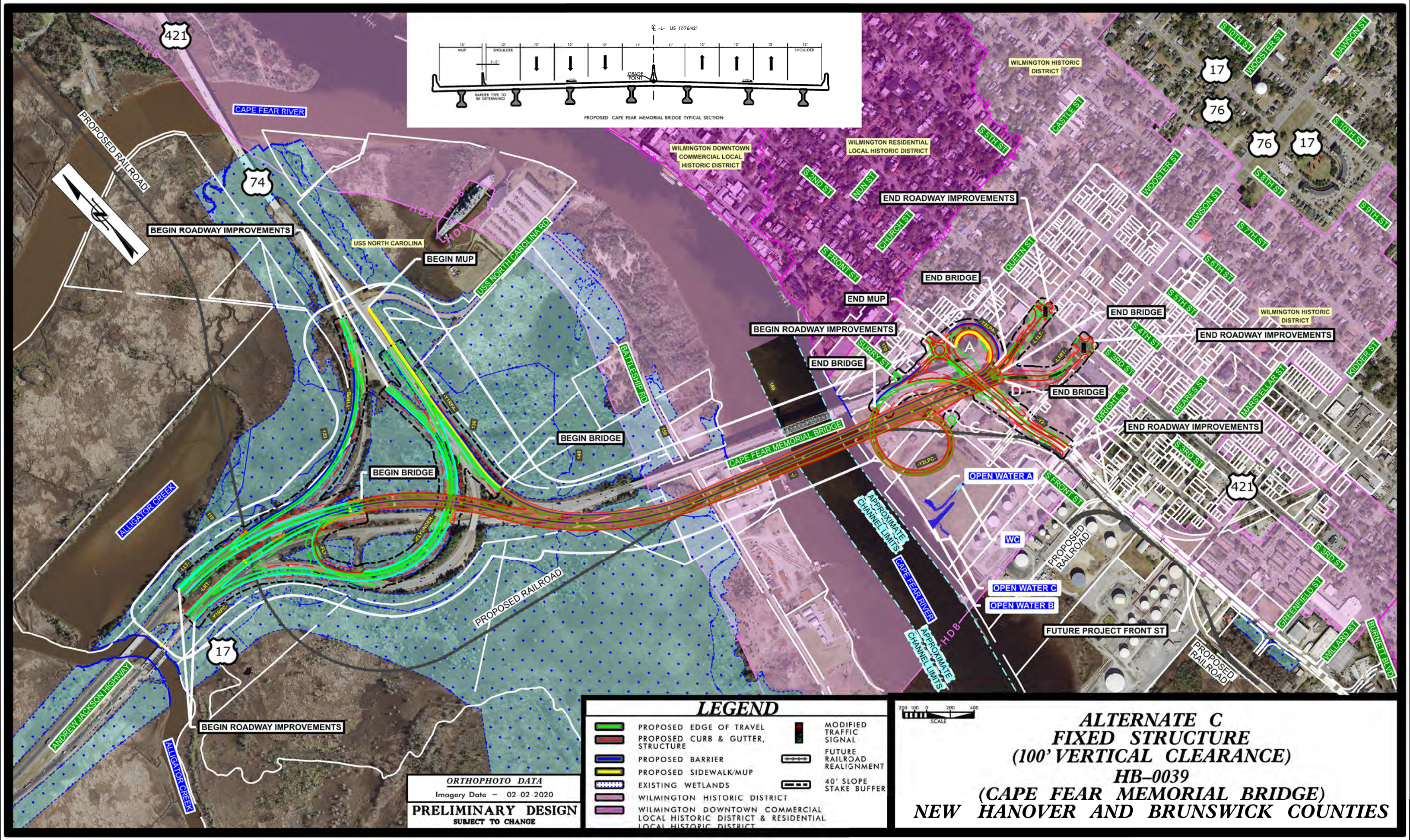
**LEGEND**

	PROPOSED EDGE OF TRAVEL		MODIFIED TRAFFIC SIGNAL
	PROPOSED CURB & GUTTER, STRUCTURE		FUTURE RAILROAD REALIGNMENT
	PROPOSED BARRIER		40' SLOPE STAKE BUFFER
	PROPOSED SIDEWALK/MUP		
	EXISTING WETLANDS		
	WILMINGTON HISTORIC DISTRICT		
	WILMINGTON DOWNTOWN COMMERCIAL LOCAL HISTORIC DISTRICT & RESIDENTIAL LOCAL HISTORIC DISTRICT		



**ALTERNATE A**  
**MOVABLE STRUCTURE**  
 (65' MIN & 135' MAX VERTICAL CLEARANCE)  
 HB-0039  
 (CAPE FEAR MEMORIAL BRIDGE)  
 NEW HANOVER AND BRUNSWICK COUNTIES





**LEGEND**

	PROPOSED EDGE OF TRAVEL		MODIFIED TRAFFIC SIGNAL
	PROPOSED CURB & GUTTER, STRUCTURE		FUTURE RAILROAD REALIGNMENT
	PROPOSED BARRIER		40' SLOPE STAKE BUFFER
	PROPOSED SIDEWALK/MUP		
	EXISTING WETLANDS		
	WILMINGTON HISTORIC DISTRICT		
	WILMINGTON DOWNTOWN COMMERCIAL LOCAL HISTORIC DISTRICT & RESIDENTIAL LOCAL HISTORIC DISTRICT		

**ORTHOPHOTO DATA**  
 Imagery Date - 02-02-2020  
**PRELIMINARY DESIGN**  
 SUBJECT TO CHANGE

**ALTERNATE C**  
**FIXED STRUCTURE**  
 (100' VERTICAL CLEARANCE)  
 HB-0039  
 (CAPE FEAR MEMORIAL BRIDGE)  
 NEW HANOVER AND BRUNSWICK COUNTIES

SCALE: 1" = 100'

**Exhibit B: Direct Outreach**



Date of Summary: 4/15/2024

## US Coast Guard Navigation Impact Report Battleship North Carolina Meeting Summary

Replacement of Bridge Number 640013 (Cape Fear Memorial Bridge) over the Cape Fear River  
New Hanover and Brunswick Counties

STIP No. HB-0039

Monday April 8, 2024 / 1:00 PM

### Meeting Attendees

Name	Organization	E-mail Address
Christopher Vargo	USS Battleship North Carolina	Christopher.Vargo@dncr.nc.gov
Captain Jeffrey Monroe	HDR	jeffrey.monroe@hdrinc.com
Emily Poole	HDR	emily.poole@hdrinc.com

On April 8, 2024, a meeting was held between the USS Battleship North Carolina (Battleship NC) represented by Christopher Vargo and HDR regarding STIP Project HB-0039, replacement of Bridge Number 640013 (Cape Fear Memorial Bridge [CFMB]) over the Cape Fear River (River).

HDR began the meeting with a brief summary of the project's background and introducing the HDR team. Following the project background and introduction, HDR prompted Battleship NC for information regarding the battleship and any potential plans for moving. The following summarizes the topics discussed.

- HDR noted most museum ships from the 1940's around the country have recently been dry docked for repairs, and wanted to discuss potential concerns if the CFMB replacement is not configured properly the battleship would not be able to be moved for dry dock repairs.
- Battleship NC inquired what impacts HDR was quantifying.
  - HDR noted they were preparing a US Coast Guard (USCG) Navigation Impact Report (NIR) for the CFMB replacement which will address whether the proposed bridge would restrict any navigation on the River.
- Battleship NC noted the battleship came to Wilmington in 1961 and was an enterprise of the State of NC but revenue was earned through ticket sales and donations.
- Battleship NC noted in 2009 they raised \$11 million in donations through the Generations Campaign to construct a sheet pile coffer dam which serves as the Battleship's dry dock. In 2020, approximately \$5 million was spent on hull repair.
- Battleship NC stated there are no plans for leaving its current location, and a marine surveyor would likely not determine the battleship as seaworthy. The battleship is in 25 feet of mud and would need to be dredged out.
  - Battleship NC prepared an economic study on moving to a dry dock 10 years and it was determined moving the battleship would take approximately \$40 million, however, determined unfeasible.
- Battleship NC noted the battleship is 158 feet tall. The CFMB was built after battleship was moved to its current location, and the battleship does not fit underneath the bridge. The mast was removed approximately 2 years ago to be repaired shore side. Technically the mast could be removed again, the coffer dam removed, and battleship could be dredged out to be moved, however this was noted to be very unlikely.
- Battleship NC noted they have one entrance for visitors and would have concerns about the project obstructing their entrance or viewshed as a National Register Historic Landmark.
- HDR inquired the Length Overall (LOA) of the battleship.

- Battleship NC noted 129.
  - HDR inquired whether the air draft was 158 feet.
    - Battleship NC confirmed.
  - HDR inquired the beam of the battleship.
    - Battleship NC stated 108 feet.
  - HDR inquired what the regular draft of the battleship would be if she was floating.
    - Battleship NC stated 26 feet.
  - HDR inquired the displacement tonnage of the battleship.
    - Battleship NC stated anywhere between 36,000 and 44,000 tons.
  - HDR inquired when the battleship was built.
    - Battleship NC stated the battleship was commissioned April 1941.
  - Battleship NC noted they would have concerns if there was an attempt to realign the channel. The harbor line is approximately 5 feet off of the battleship park, and if the channel was realigned they would lose some of their park due to the steep drop off in the River depth.
  - Battleship NC noted there are no utilities on Eagles Island other than the battleship, via two pipes that run on the River's bottom. Both pipes were ripped out during Hurricane Florence due to severe currents.
  - HDR inquired whether there were any plans to acquire additional historic ships/submarines.
    - Battleship NC stated no, the battleship takes 3-4 hours to tour and it was unlikely tourists would spend longer touring an additional ship in the same place.
  - Meeting adjourned.
- 

Please direct any comments or questions to Consultant Project Manager Jeff Dayton at [jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com).

Date of Summary: 4/9/2024

# US Coast Guard Navigation Impact Report

## Moran Meeting Summary

Replacement of Bridge Number 640013 (Cape Fear Memorial Bridge) over the Cape Fear River  
New Hanover and Brunswick Counties  
STIP No. HB-0039  
Thursday, April 4, 2024 / 4:00 PM

### Meeting Attendees

Name	Organization	E-mail Address
Erica J. Custis	Moran Towing Company	EricaC@morantug.com
Captain Jeffrey Monroe	HDR	jeffrey.monroe@hdrinc.com
Emily Poole	HDR	emily.poole@hdrinc.com
Mary Lynn Smith	HDR	marylynn.smith@hdrinc.com

On April 4, 2024, a meeting was held between Moran represented by Erica Custis and HDR regarding STIP Project HB-0039, replacement of Bridge Number 640013 (Cape Fear Memorial Bridge [CFMB]) over the Cape Fear River ('River').

HDR began the meeting with a brief summary of the project's background and introducing the HDR team. Following the project background and introduction, HDR prompted Moran for information regarding their operations and tug boats. The following summarizes the topics discussed.

- HDR noted other stakeholders had mentioned there has been a drop off in utilization since Kinder Morgan sold, and that the use of that property in the future may still be industrial.
  - Moran noted they believed part of the sale was future use of the property was to remain commercial/industrial.
- HDR asked the size of Moran's fleet.
  - Moran stated they have two tug boats, and don't anticipate having more. They have a horsepower rating of 3900 and 3000.
- HDR inquired whether the two tug boats have been adequate for docking of ships and turning.
  - Moran noted they occasionally need additional power and will reach out to McAllister to hire their tractor tug.
- HDR asked if they have tethered alongside and through the CFMB.
  - Moran stated they do not tether alongside, but instead cross the CFMB in front.
  - Moran mentioned their senior pilot, Cliff Nelson, may be able to provide more detail.
- HDR asked if docking masters dock vessels.
  - Moran said they retain the services of Hanover Docking Pilots, in addition to McAllister who uses Wilmington Docking Pilots.
- HDR inquired whether they had run into any constraints on the waterway or moving vessels/docking.
  - Moran mentioned there is a current as they've gotten bigger ships in postpanamax berthed at NC State Ports.
  - Moran said as far as maneuvering around, they don't experience a lot of tight corridors.
- HDR asked if there are any problems with the turning basin.
  - Moran said they have not heard of any problems.
- HDR asked if there is a fairly even share of work between Moran and McAllister.
  - Moran confirmed, noting they'd experienced a slow down since they lost a major line (Elerman) from 2023.

- HDR asked about Moran's exact location along the River.
  - Moran noted they are on south side of CFMB, just south of the US Army Corps of Engineers (USACE) and McAllister's boatyard. They stated there is not a lot of real estate available for their tug boats, so it would be concerning should the CFMB project impact their property.
- HDR asked about Moran's boats.
  - Moran said their two boats are Cape Charles and Cape Cod.
- HDR inquired what the water depth was at berth.
  - Moran stated they were unsure but could provide this information to HDR following the meeting.
- HDR asked if there are shoaling issues.
  - Moran noted the turning basin needs to be dredged regularly and potentially around Battery Island.
- HDR asked where Moran sends boats for repair.
  - Moran said mostly Colonna or Lyon in Norfolk. They have also sent a boat recently to Stevens Shipyard at Yorges Island, but it depends on the scope of work and who has availability.
- HDR asked if Moran has had any other issues (i.e. congestion, conflict with recreational vehicles, etc.).
  - Moran said no, and the US Coast Guard was typically on top of resolving any issues such as last year there was a derelict sailboat. They noted there was not heavy traffic in Wilmington like other ports.

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Please direct any comments or questions to Consultant Project Manager Jeff Dayton at [jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com).

Date of Summary: 3/27/2024

# US Coast Guard Navigation Impact Report

## Cape Fear Pilots Meeting Summary

Replacement of Bridge Number 640013 (Cape Fear Memorial Bridge) over the Cape Fear River  
New Hanover and Brunswick Counties  
STIP No. HB-0039  
Tuesday, March 26, 2024 / 3:00 PM

### Meeting Attendees

Name	Organization	E-mail Address
Captain Scott Aldridge	Wilmington Cape Fear Pilots Association	capefearpilots@eastnc.twcbc.com
Captain Jeffrey Monroe	HDR	jeffrey.monroe@hdrinc.com
Jeffrey Dayton	HDR	jeffrey.dayton@hdrinc.com
Emily Poole	HDR	emily.poole@hdrinc.com
Mary Lynn Smith	HDR	marylynn.smith@hdrinc.com

On March 26, 2024, a meeting was held between the Wilmington Cape Fear Pilots Association (Cape Fear Pilots) represented by Captain Scott Aldridge and HDR regarding STIP Project HB-0039, replacement of Bridge Number 640013 (Cape Fear Memorial Bridge [CFMB]) over the Cape Fear River ('River').

HDR began the meeting with a brief summary of the project's background and introducing the HDR team. Following the project background and introduction, HDR prompted Cape Fear Pilots for information regarding current vessels, any limitations of the current network and bridge, the existing waterway and currents, and environmental patterns/concerns. The following summarizes the topics discussed.

- HDR inquired how many vessels are handled annually on the Cape Fear River.
  - Cape Fear Pilots noted they do not have an annual number. With the closing of Kinder Morgan, there is no commercial traffic heading north above the CFMB. They noted the former Kinder Morgan site may be converted into condominiums in the future.
  - Cape Fear Pilots noted there is very sporadic traffic due to the closure of both terminals, mainly large recreational vessels, public vessels, and yacht traffic.
  - Cape Fear Pilots noted there are ~800 arrivals annually to Port of Wilmington. This includes the Port and the chemical and bulk piers north and south of the Port.
- HDR inquired what the largest vessel the pilots are comfortable with handling safely.
  - Cape Fear Pilots noted the largest vessel they have handled is 1270' in length, but the biggest vessels they are comfortable handling are 1200' in length, 170' beam, 42' arrivals and 41' sailings.
  - Cape Fear Pilots noted that there have been vessels very close or at the height of the existing CFMB's vertical clearance (135').
- HDR inquired what channel restrictions are present.
  - Cape Fear Pilots noted that the biggest limiting factor on vessels is the turning basin south of CFMB which restricts length. They noted the Association can't work with postpanamax or neopanamax vessels over 315' combined beam.
  - Cape Fear noted that draft is also limiting factor, along with the approximately 4.3' tide in Wilmington and approximately 4.1' tide in Southport.
- HDR inquired if there are any other unusual traffic conditions.

- Cape Fear Pilots noted powerlines south of CFMB used to pose issues for bringing in gantry cranes for the Port, but they were raised 5-6 years ago and are no longer a problem.
- HDR inquired if there are any recreational traffic issues.
  - Cape Fear Pilots noted that the River is periodically congested but does not typically tend to be recreationally congested. There are occasionally inexperienced and uneducated drivers on the River, but it is not a repetitive problem.
- HDR inquired the width of the current channel near the CFMB.
  - Cape Fear Pilots noted that the width of the channel near the bridge is generally 400'. There are 6 miles of passing lanes where the width of the channel is approximately 600', which tapers down to a width of ~350' at CFMB.
- HDR inquired about travel time and distance to nearby ports.
  - Cape Fear Pilots noted that it is an approximate 3-hour, 27-mile trip to North Carolina State Port Authority.
- HDR inquired about the towing capacity and fleet size.
  - Cape Fear Pilots noted that there is one efficient tug in the harbor, with a 60-ton tugging capability and there are others with decent power.
  - Cape Fear Pilots noted that McAllister and Moran are tug operators and that Cape Fear Towing used to exist before Moran bought them.
- HDR inquired about unusual weather conditions and/or currents.
  - Cape Fear Pilots noted that currents upstream are not strong and are fairly consistent at 1.5 knots. Currents downstream tend to be stronger and average 3-4 knots but can reach 5 knots in weather events (e.g., king tide, new moon).
  - Cape Fear Pilots noted that there are more fog events now than in the past, and weather has gotten noticeably worse over the past 30 years. There used to be a maximum of 3 shut down days per year due to weather but that number has risen to 10-12 days in recent years.
  - Cape Fear Pilots noted that there is a 3-mile visibility limit, but operators will not begin voyages in white-out rain or zero visibility.
- HDR inquired about the number of pilots that are working.
  - Cape Fear Pilots noted that there are 7 full pilots and 2 in training (1 of which will be licensed next month). They require 8 pilots for the amount of traffic that they get.
  - Cape Fear Pilots noted that the pilot station is in Southport.
- HDR inquired about the geometry of the Cape Fear River.
  - Cape Fear Pilots noted that the river has a slightly skewed jog and crossing that is not completely perpendicular at the existing bridge. They have had some issues in the past with the height of vessels at the 135' vertical clearance limit of the existing CFMB, and vessels having to come at low water to cross.
  - Cape Fear Pilots noted that they are hoping the future bridge will widen the channel at the CFMB closer to 400' to meet downstream bridges. From a navigational standpoint, 350' is the minimum operative channel width.
- HDR inquired how a fixed bridge would impact the Association or industrial activities.
  - Cape Fear Pilots noted that from a mariner's perspective, a fixed bridge would be a better option as it eliminates the potential of a movable bridge having a mechanical issue or inability to lift and therefore restricting crossings.
  - Cape Fear Pilots noted that there is a potential for a wind farm and laydown/import yard north of CFMB, but it is not come to fruition.
  - HDR noted they met with NC Ports in October who mentioned future development in the area.

- HDR inquired about the potential to move Battleship North Carolina to dry dock, what the air draft was. HDR noted it would fit under the existing bridge except for a few antennas.
  - Cape Fear Pilots noted they were not sure what the air draft was in its current state, but it would likely need to be loaded, have cut stacks and antennas taken down to fit under existing bridge.
  - HDR noted recently other boats of its age (built in the 1940s) had been dry docked and the steel was not holding up.
  - Cape Fear Pilots noted that area of Eagle Island floods routinely.
- HDR inquired whether the Cape Fear Pilots ran into issues with debris in the River.
  - Cape Fear Pilots noted that there is an upriver dam which is released occasionally and causes periodically debris build-ups. This can be exacerbated by king tides but not a routine problem.
- Cape Fear Pilots inquired into what kind of bridge NCDOT was planning to replace the existing CFMB with.
  - HDR noted that NCDOT is studying multiple alternatives that include both a fixed and movable bridge.
  - Cape Fear Pilots inquired if there are any rail crossings in the plans.
  - HDR noted that these are two separate projects, but they are still preliminary and subject to change.
- Cape Fear Pilots inquired about the future bridge location.
  - HDR noted that all bridge alternatives are in close proximity to the existing CFMB, just to the south.
  - HDR noted that there will be public meetings later this year, likely in the summer, and that HDR will pass along that information to Cape Fear Pilots once scheduled for any additional input.
- Meeting adjourned.

---

**Next Steps/Action Items Related to Cape Fear Pilots:**

- HDR to inform Cape Fear Pilots of public meeting(s) once scheduled.

Please direct any comments or questions to Consultant Project Manager Jeff Dayton at [jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com).

Date of Summary: 4/9/2024

# US Coast Guard Navigation Impact Report

## Tribute Companies Meeting Summary

Replacement of Bridge Number 640013 (Cape Fear Memorial Bridge) over the Cape Fear River  
New Hanover and Brunswick Counties  
STIP No. HB-0039  
Wednesday, April 3, 2024 / 1:00 PM

### Meeting Attendees

Name	Organization	E-mail Address
Matt Maynard	Tribute Companies	michael@tributecompanies.com
Captain Jeffrey Monroe	HDR	jeffrey.monroe@hdrinc.com
Jeffrey Dayton	HDR	jeffrey.dayton@hdrinc.com
Emily Poole	HDR	emily.poole@hdrinc.com
Mary Lynn Smith	HDR	marylynn.smith@hdrinc.com

On April 3, 2024, a meeting was held between the Tribute Companies represented by Matt Maynard and HDR regarding STIP Project HB-0039, replacement of Bridge Number 640013 (Cape Fear Memorial Bridge [CFMB]) over the Cape Fear River ('River').

HDR began the meeting with a brief summary of the project's background. Following the project background and introduction, HDR prompted Tribute Companies for information regarding the previous Kinder Morgan site. The following summarizes the topics discussed.

- Tribute Companies noted they purchased the site without a plan for development, but as an investment. They are not currently marketing the site; however, it was noted there has been interest in purchasing the site and in redeveloping the site as more "typical" development (i.e. commercial or residential).
  - Tribute Companies noted some buyers are interested due to access to the River (which is part of the value of the site), deep water dock, and rail at the site.
  - HDR inquired whether the site was served by pipeline.
    - Tribute Companies stated it was not.
- HDR inquired whether there was a possibility to keep the site's use industrial, similar to the former owner Kinder Morgan.
  - Tribute Companies said it was a possibility.
- HDR asked if an environmental study been done to determine the level of mitigation necessary, particularly for more traditional development.
  - Tribute Companies stated the level of mitigation would be determined by the property's future use, which is unknown at this time.
- HDR inquired whether the dock was still workable and whether it was set up for liquid bulk handling.
  - Tribute Companies confirmed both.
- HDR asked the current depth on site.
  - Tribute Companies mentioned it is approximately 28-31 feet deep by the dock.
  - HDR inquired whether Tribute Companies had the berth length and width available.
    - Tribute Companies noted they did not but would send to HDR following the meeting.
- HDR asked if there was still tank storage on-site.



- Tribute Companies, confirmed, nothing there are approximately 30 tanks with varying size (some up to 100' in diameter and 40' tall).
  - HDR inquired what the total size of property is.
    - Tribute Companies stated the site is approximately 72.3 acres with approximately 20 acres upland (the remainder is primarily wetlands).
  - HDR asked why Tribute Companies was not currently marketing the site.
    - Tribute Companies noted there has been a lot of interest without marketing and for now it could be handled internally, without a traditional broker.
  - HDR asked when Tribute closed on the property.
    - Tribute Companies stated Fall 2023.
  - Tribute Companies asked if the bridge would be located as far north as their site
    - HDR answered that the new bridge will likely be in the vicinity of the existing bridge
      - HDR mentioned that bridge design alternatives are currently being explored
  - Tribute Companies asked about the timeline of the project.
    - HDR noted public meetings would be held this summer. Bridge replacement alternatives are currently being studied, and the current schedule shows finishing up environmental and alternative work in Spring of 2026 with construction after that once funding is in place.
  - Tribute Companies asked about the design of the future bridge and mentioned the prior Skyway design that tied to Independence Boulevard.
    - HDR mentioned that the Skyway design is not being pursued currently and that the focus is more towards replacing the existing bridge tying to Dawson Street and Wooster Street.
- 

**Next Steps/Action Items Related to Kinder Morgan:**

- Tribute Companies to provide HDR with additional site survey information (including berth length and width) following the meeting.

Please direct any comments or questions to Consultant Project Manager Jeff Dayton at [jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com).

## Smith, Mary Lynn

---

**From:** Giovana Cline <[gia@offthehookys.com](mailto:gia@offthehookys.com)>  
**Sent:** Monday, May 6, 2024 12:08 PM  
**To:** Smith, Mary Lynn  
**Cc:** Dayton, Jeffrey  
**Subject:** Re: Cape Fear Memorial Bridge

**CAUTION:** [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I don't believe so.



### Giovana Cline

Customer Service Manager, Service Administrator

910.772.9277 | [gia@offthehookys.com](mailto:gia@offthehookys.com)

| [offthehookyachts.com](http://offthehookyachts.com)

1701 Jel Wade Dr, Wilmington, NC 28401



On Mon, May 6, 2024 at 8:56 AM Smith, Mary Lynn <[MaryLynn.Smith@hdrinc.com](mailto:MaryLynn.Smith@hdrinc.com)> wrote:

Hi Gia!

Thanks, again, for all the help. Last question for you: Do you know if you have had any sailboats with masts over 100-foot high (either serviced or at the marina)?

**Mary Lynn Smith, PE**

**D** 919.985.8976 **M** 704.648.9081

[hdrinc.com/follow-us](http://hdrinc.com/follow-us)

**From:** Giovana Cline <[gia@offthehookys.com](mailto:gia@offthehookys.com)>  
**Sent:** Monday, April 29, 2024 3:20 PM  
**To:** Smith, Mary Lynn <[MaryLynn.Smith@hdrinc.com](mailto:MaryLynn.Smith@hdrinc.com)>  
**Cc:** Dayton, Jeffrey <[jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com)>  
**Subject:** Re: Cape Fear Memorial Bridge

You don't often get email from [gia@offthehookys.com](mailto:gia@offthehookys.com). [Learn why this is important](#)

**CAUTION: [EXTERNAL]** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

No problem! Our large boats/sailboats range from 50ft-150ft long. The heights vary greatly on these vessels.



**Giovana Cline**

Customer Service Manager, Service Administrator

| [gia@offthehookys.com](mailto:gia@offthehookys.com)

| [910.772.9277](tel:910.772.9277)

| [offthehookyachts.com](http://offthehookyachts.com)

| [1701 Jel Wade Dr, Wilmington, NC 28401](#)



On Mon, Apr 29, 2024 at 3:10 PM Smith, Mary Lynn <[MaryLynn.Smith@hdrinc.com](mailto:MaryLynn.Smith@hdrinc.com)> wrote:

Gia,

Thank you so much for the quick response and the information below! Do you have a rough range in sizes of your largest yachts and sailboats? We are particularly interested in vertical clearance needs for the new bridge design.

Thank you, again!

**Mary Lynn Smith, PE**

**D** 919.985.8976 **M** 704.648.9081

hdrinc.com/follow-us

---

**From:** Giovana Cline <[gia@offthehookys.com](mailto:gia@offthehookys.com)>  
**Sent:** Monday, April 29, 2024 2:50 PM  
**To:** Smith, Mary Lynn <[MaryLynn.Smith@hdrinc.com](mailto:MaryLynn.Smith@hdrinc.com)>  
**Cc:** Dayton, Jeffrey <[jeffrey.dayton@hdrinc.com](mailto:jeffrey.dayton@hdrinc.com)>  
**Subject:** Cape Fear Memorial Bridge

You don't often get email from [gia@offthehookys.com](mailto:gia@offthehookys.com). [Learn why this is important](#)

**CAUTION:** [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

I received your email with questions regarding the Cape Fear Memorial Bridge. The existing bridge opens and closes so we can have large vessels dock at the Cape Fear Marina and get service work completed at Off The Hook Yachts. The only constraints we have are certain times that it will open and close. Before construction, it would open at 10am and 2pm or 6pm-6am on demand. We currently serve a wide variety of large motor yachts and sailboats.

Thanks,

Gia

## Smith, Mary Lynn

---

**From:** Jeffrey Monroe <jeffrey.monroe@iampe.org>  
**Sent:** Tuesday, April 16, 2024 8:33 PM  
**To:** Dayton, Jeffrey; Smith, Mary Lynn; Poole, Emily  
**Cc:** Capt. Jeffrey Monroe  
**Subject:** Wilmington Meeting

**CAUTION: [EXTERNAL]** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin Moore, NCPA, Global Terminal Manager, Port of Wilmington.

4/16/24

1. Dock limitations ta Global Terminal 42 feet max draft
2. Bridge replacement has no impact on operations at terminal
3. A replacement bridge should not be placed south of the port facilities
4. Current bridge in bad shape
5. Bridge roadway is a key issue, numerous traffic delays to port facilities
6. Port gate times changed from 0500-2000 to 0500 to 1700.
7. Refer a second bridge as opposed to a replacement
8. With new bridge, no port disruptions should happen
9. A new bridge should be convenient port traffic and convenience for commercial traffic to the port
10. Interstate 74 needs to be completed. Currently 1 hour 40 minutes to Interstate 95.
11. NCPA is an operating port at the Global Terminal. Terminal is set up for neo-bulk cargos.
12. Channel widening and deepening is essential to the port
13. Terminal handles 20-30 ships per month
14. Ultrabulk handles lumber, Toca steel, also prpjct cargos at terminal
15. All activities east of the bridge-Memorial bridge does not impact Global operations.

### ***CAPT Jeffrey W. Monroe, MM, AMPE***

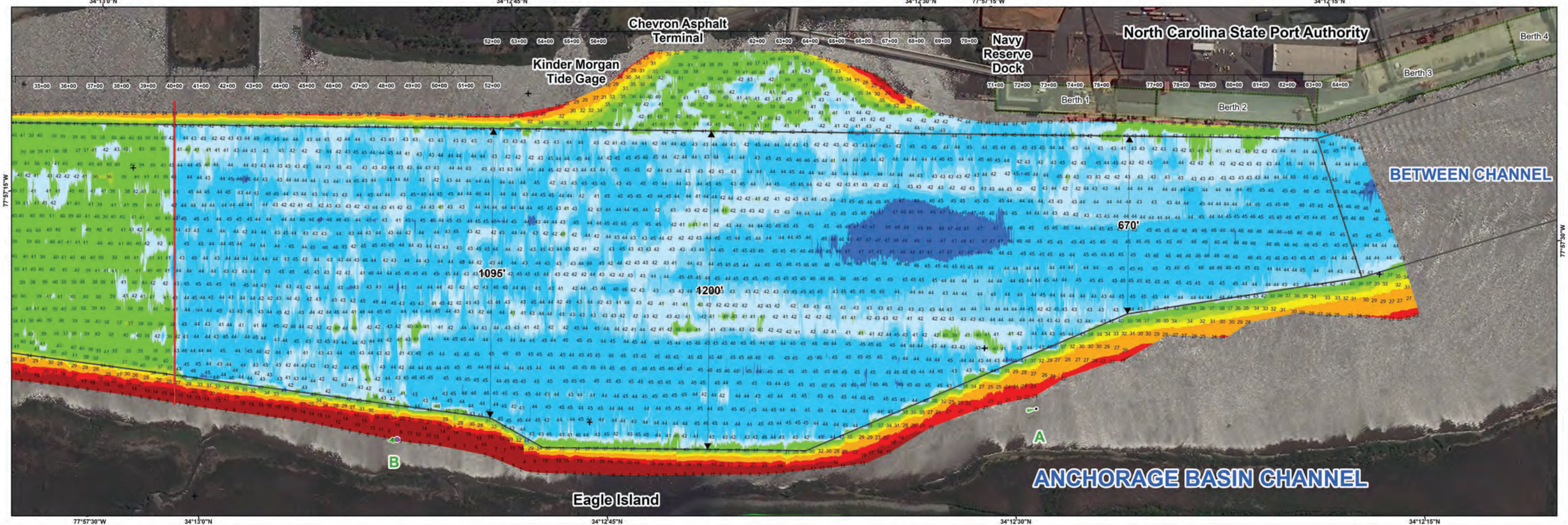
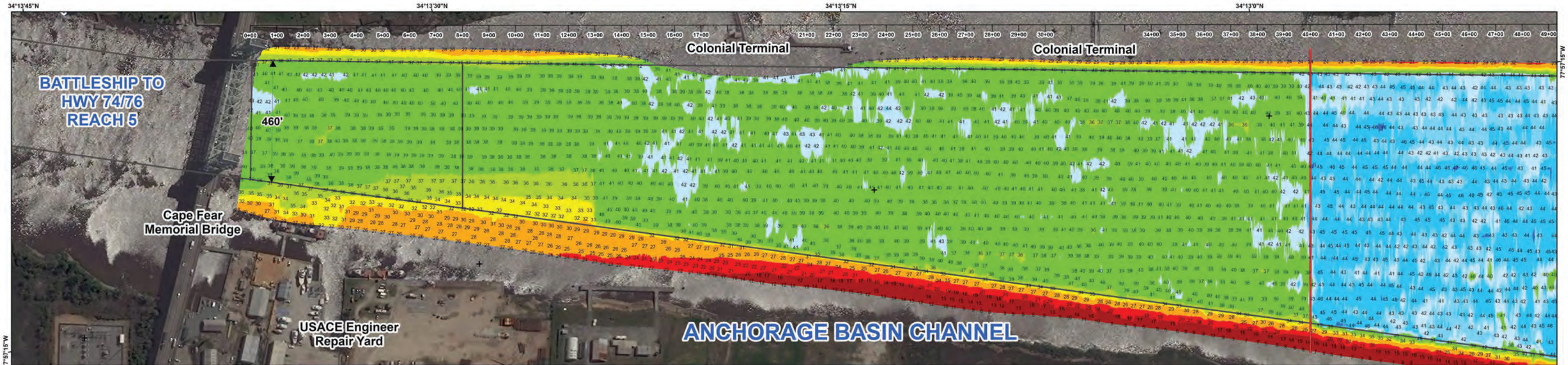
Senior Port Management Advisor

**HDR Inc.**

11 Katahdin Road, Cape Elizabeth, ME 04107-2828 USA

Office: 207.741.7000 Cell: 207.615.7989

**Exhibit C: Hydrographic Survey**



**HYDROGRAPHIC SURVEY**

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
WILMINGTON, NORTH CAROLINA  
Wilmington Harbor  
**Anchorage Basin**

Survey Date: 09 April 2024  
Map Date: 10 April 2024  
Imagery Date: 05 April 2024  
© 2024 Maxar Technologies  
Scale: 1:2,000  
File Name: WH\_25\_ANC\_20240409\_CS  
Surveyed by: SRV,JCC  
Mapped by: k7opnkms  
Processed by: k7opnkms

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.

2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SWART" USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 2 KHZ SOUNDING EQUIPMENT.

3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W.

4. TIDE GAUGE LOCATED AT ENGINEER REPAIR YARD. USE OF TIDE VALUES FOR THIS GAUGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAUGE TIDE VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UNAVAILABLE AT THE TIME OF SURVEY.

5. THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER118-1-152.

6. THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 33 CFR 209.323.

7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL. ACCURACY +/- 3 METERS.

8. FOR THE MOST UP-TO-DATE INFORMATION PLEASE CHECK OUR WEBSITE AT WWW.SAV.USACE.ARMY.MIL

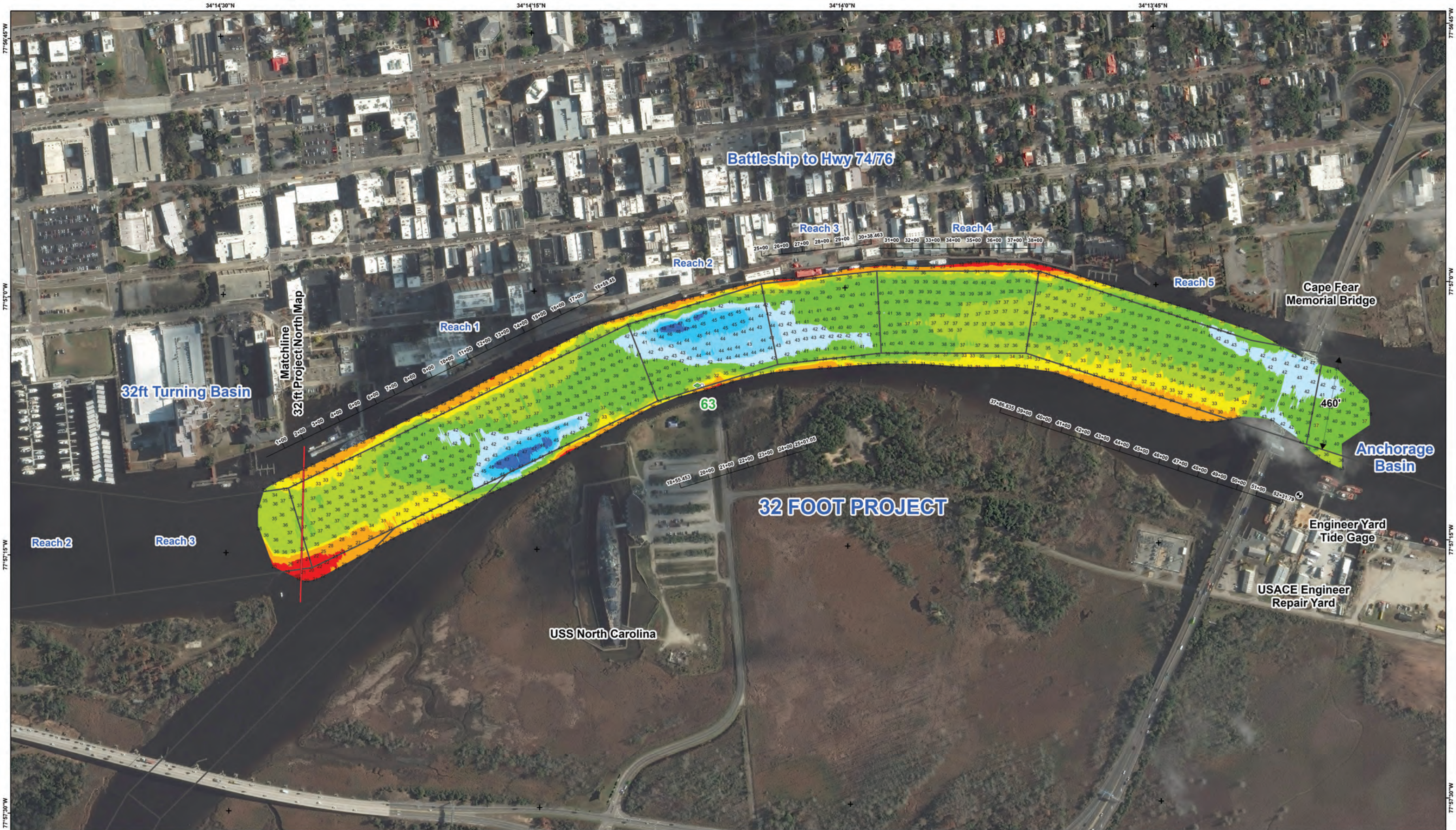
**TYPICAL SECTION**

**Aids to Navigation**

- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker

**Depth In Feet**

20 and Shallower, 20-25, 25-32, 32-35, 35-38, 38-42, 42-44, 44-45, 45-47, 47 and Deeper



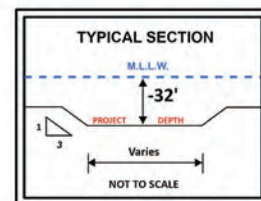
**HYDROGRAPHIC SURVEY**  
 U.S. ARMY ENGINEER DISTRICT  
 CORPS OF ENGINEERS  
 WILMINGTON, NORTH CAROLINA  
**32ft Project South**



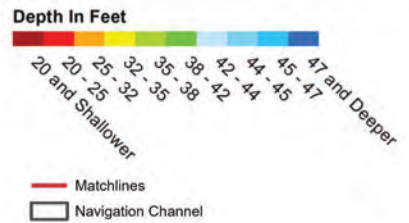
Survey Date: 20 February 2024  
 Map Date: 23 February 2024  
 Imagery Date: 6 December 2023  
 © 2023 Maxar Technologies  
 Scale: 1:2,400  
 File Name: WH\_26\_32F\_20240220\_CS  
 Surveyed by: LMT,SRV,KMS  
 Mapped by: k7opnagf  
 Processed by: k7opnagf



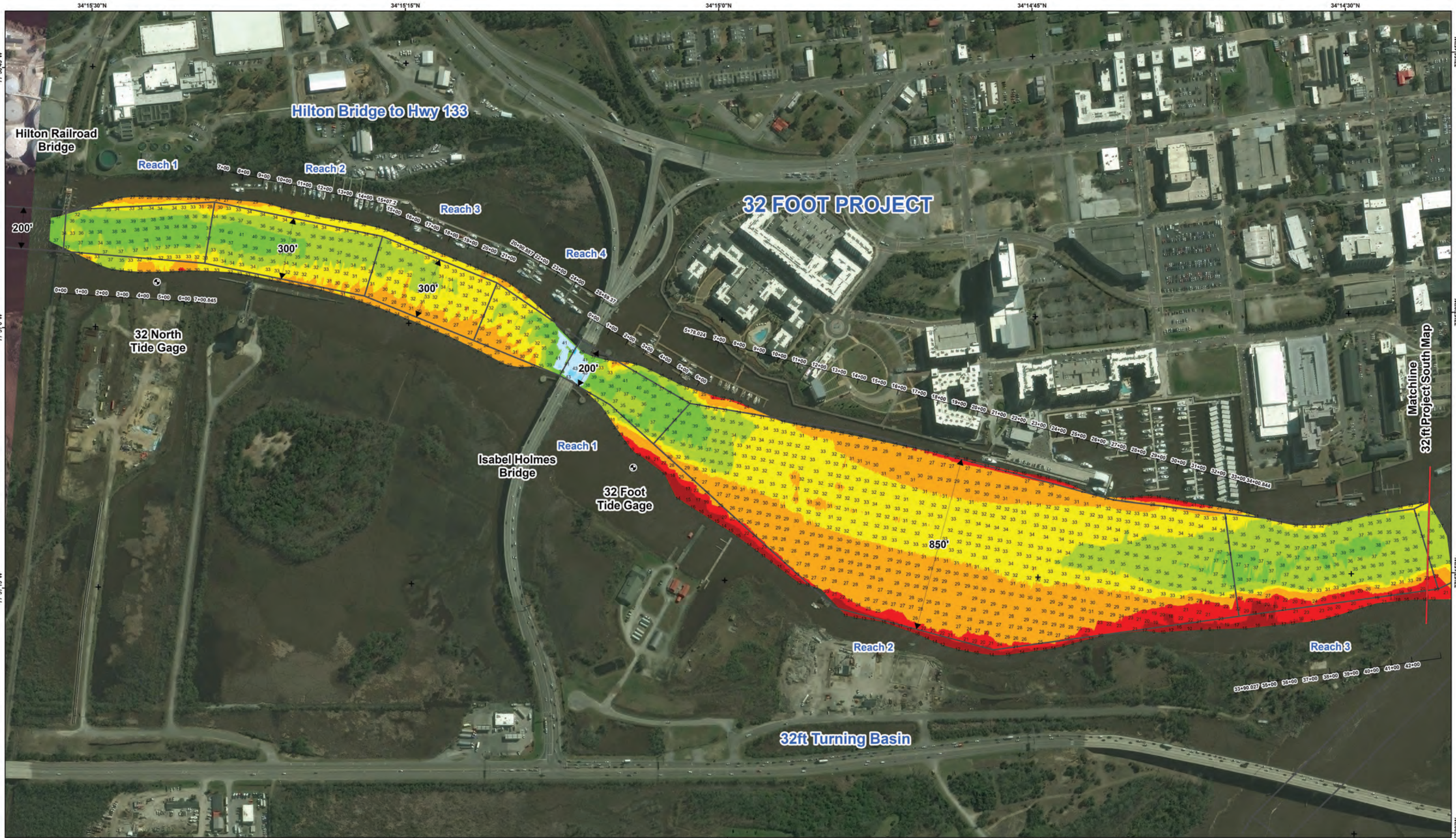
- ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
- PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SWART" USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 28 KHZ SOUNDING EQUIPMENT.
- HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W.
- TIDE GAUGE LOCATED AT: ENGINEER REPAIR YARD. USE OF TIDE VALUES FOR THIS GAUGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAUGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UNAVAILABLE AT THE TIME OF SURVEY.
- THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER1110-1-8152.
- THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 33 CFR 209.325
- NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL. ACCURACY +/- 3 METERS.
- FOR THE MOST UP-TO-DATE INFORMATION PLEASE CHECK OUR WEBSITE AT: WWW.SAW.USACE.ARMY.MIL



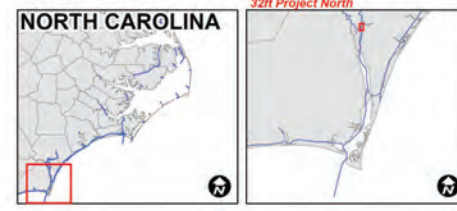
- Aids to Navigation**
- Can
  - Nun
  - Green Lighted Buoy
  - Red Lighted Buoy
  - Junction Marker
  - Green Light
  - Red Light
  - Green Daybeacon
  - Red Daybeacon
  - Mileboard
  - Tide Gage







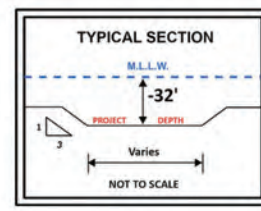
**HYDROGRAPHIC SURVEY**  
 U.S. ARMY ENGINEER DISTRICT  
 CORPS OF ENGINEERS  
 WILMINGTON, NORTH CAROLINA  
**32ft Project North**



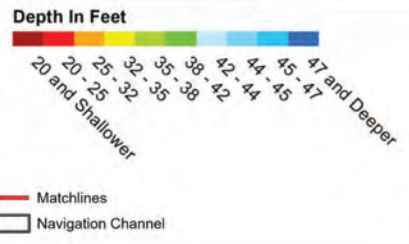
Survey Date: 12-13 March 2024  
 Map Date: 14 March 2024  
 Imagery Date: 11 March 2024  
 © 2024 Maxar Technologies  
 Scale: 1:2,400  
 File Name: WH\_26\_32F\_20240312\_CS  
 Surveyed by: JCC,SRV  
 Mapped by: k7pdpdgd  
 Processed by: k7pdpdgd

200 100 0 200 400 600 Feet

- ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
- PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SWART" USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 2" KHZ SOUNDING EQUIPMENT.
- HORIZONTAL DATUM NAD 1983. VERTICAL DATUM MLLW.
- TIDE GAUGE LOCATED AT ENGINEER REPAIR YARD. USE OF TIDE VALUES FOR THIS GAUGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAUGE TIDE VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UNAVAILABLE AT THE TIME OF SURVEY.
- THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER1110-1.4-15.2.
- THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 33 CFR 209.325.
- NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL. ACCURACY +/- 3 METERS.
- FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT WWW.SAW.USACE.ARMY.MIL

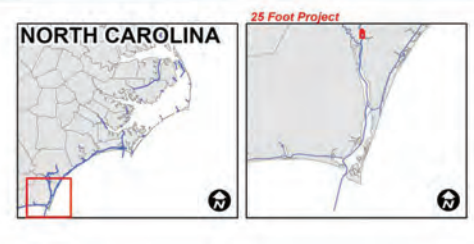


- Aids to Navigation**
- Can
  - Nun
  - Green Lighted Buoy
  - Red Lighted Buoy
  - Junction Marker
  - Green Light
  - Red Light
  - Green Daybeacon
  - Red Daybeacon
  - Danger Sign
  - Mileboard
  - Tide Gauge





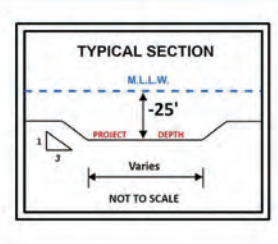
**HYDROGRAPHIC SURVEY**  
 U.S. ARMY ENGINEER DISTRICT  
 CORPS OF ENGINEERS  
 WILMINGTON, NORTH CAROLINA  
**25 Foot Project**



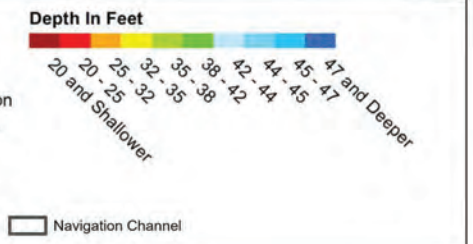
Survey Date: 02 May 2024  
 Map Date: 03 May 2024  
 Imagery Date: 05 April 2024  
 © 2024 Maxar Technologies  
 Scale: 1:2,400  
 File Name: WH\_27\_25F\_20240502\_CS  
 Surveyed by: JCC/SRV  
 Mapped by: k7pdpsgd  
 Processed by: k7pdpsgd

200 100 0 200 400 600 Feet

- ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
- PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SWART" USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 28 KHZ SOUNDING EQUIPMENT.
- HORIZONTAL DATUM NAD 1983. VERTICAL DATUM MLLW.
- TIDE GAGE LOCATED AT: 25FT  
 USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDE VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UNAVAILABLE AT THE TIME OF SURVEY.
- THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY 48 CFR 201.325.
- THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 48 CFR 201.325.
- NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL. ACCURACY +/- 3 METERS.
- FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT WWW.SAW.USACE.ARMY.MIL



- Aids to Navigation**
- Can
  - Nun
  - Green Lighted Buoy
  - Red Lighted Buoy
  - Junction Marker
  - Green Light
  - Red Light
  - Green Daybeacon
  - Red Daybeacon
  - Danger Sign
  - Mileboard
  - Tide Gage



**Exhibit D: Bridge Log**

## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-01-20	9:42 AM	10:01 AM	0:19	Ship	Patalya		Clear	S	Blaha
01-08-20	8:58 AM	9:09 AM	0:11	Tug / Barge	seahawk		Clear	N	Walker
01-08-20	10:31 AM	10:39 AM	0:08	Sailboat	lanscape		Clear	S	Walker
01-09-20	9:51 AM	9:57 AM	0:06	Tug / Barge	seahawk		Clear	S	Walker
01-15-20	12:10 PM	12:18 PM	0:08	Sailboat	Lorraine		Clear	N	Steed
01-23-20	21:27 PM	21:36 PM	0:08	Maintenance	pcm		Clear		Walker
01-24-20	3:14 AM	3:19 AM	0:05			PCL	Clear		Barrett
01-27-20	11:21 AM	11:30 AM	0:08	Sailboat	chairity		Clear	S	Walker
02-01-20	10:59 AM	11:12 AM	0:13	Coast Guard	Diligence		Rainy	S	Steed
02-08-20	21:51 PM	22:06 PM	0:15	Ship	ChemLeon		Partly Cloudy	N	Steed
02-09-20	23:00 PM	23:13 PM	0:12	Ship	Chem Leon		Partly Cloudy	S	Steed
02-10-20	4:27 AM	4:38 AM	0:10	Maintenance		PCL..raised brigde 45'	Partly Cloudy		Steed
02-10-20	4:45 AM	4:59 AM	0:13	Maintenance		PCL..raised bridge 45'	Partly Cloudy		Steed
02-10-20	16:50 PM	17:08 PM	0:17	Tug / Barge	royal engineer		Partly Cloudy	N	Walker
02-11-20	1:19 AM	1:30 AM	0:10	Tug / Barge	barge with the crane		Partly Cloudy	S	Steed
02-11-20	15:11 PM	15:23 PM	0:11	Tug / Barge	royal engineer		Partly Cloudy	N	Walker
02-11-20	20:53 PM	21:06 PM	0:13	Tug / Barge	royal engineer		Partly Cloudy	S	Walker
02-13-20	12:39 AM	12:46 AM	0:07	Tug / Barge	Island Fox		Partly Cloudy	N	Blaha
02-13-20	10:33 AM	10:45 AM	0:12	Tug / Barge	Island Fox		Windy	S	Steed
02-14-20	14:55 PM	15:07 PM	0:12	Tug / Barge	Royal Engineer		Clear	N	Steed
02-15-20	9:22 AM	9:33 AM	0:11	Tug / Barge	Royal Engineer		Clear	S	Barrett
02-17-20	11:17 AM	11:17 AM	0:00	Maintenance		Released Torque NE-2.5", SE-1.5", SW-1.25", NW-	Clear		Walker
02-24-20	22:00 PM	22:08 PM	0:08	Training			Clear		Robbins
02-24-20	23:01 PM	23:10 PM	0:08	Training			Clear		Robbins
02-25-20	12:02 AM	12:11 AM	0:08	Training			Clear		Robbins

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Feb

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
02-25-20	12:29 AM	12:39 AM	0:09	Training			Clear		Robbins
02-25-20	1:01 AM	1:09 AM	0:08	Training			Clear		Robbins
02-25-20	1:31 AM	1:39 AM	0:08	Training			Clear		Robbins
02-25-20	2:01 AM	2:09 AM	0:08	Training			Clear		Robbins
02-25-20	2:30 AM	2:38 AM	0:08	Training			Clear		Robbins
02-25-20	3:00 AM	3:08 AM	0:08	Training			Clear		Robbins
02-25-20	3:30 AM	3:38 AM	0:08	Training			Clear		Robbins
02-25-20	3:59 AM	4:07 AM	0:08	Training			Clear		Robbins
02-25-20	21:59 PM	22:08 PM	0:08	Training			Clear		Robbins
02-25-20	22:58 PM	23:07 PM	0:09	Training			Clear		Robbins
02-25-20	23:59 PM	12:08 AM	0:08	Training			Clear		Robbins
02-26-20	12:30 AM	12:38 AM	0:08	Training			Clear		Robbins
02-26-20	1:00 AM	1:09 AM	0:08	Training			Clear		Robbins
02-26-20	1:30 AM	1:38 AM	0:08	Training			Clear		Robbins
02-26-20	2:00 AM	2:08 AM	0:08	Training			Clear		Robbins
02-26-20	2:30 AM	2:38 AM	0:08	Training			Clear		Robbins
02-26-20	3:00 AM	3:08 AM	0:08	Training			Clear		Robbins
02-26-20	3:30 AM	3:37 AM	0:07	Training			Clear		Robbins
02-26-20	4:00 AM	4:08 AM	0:08	Training			Clear		Robbins
02-26-20	22:00 PM	22:08 PM	0:08	Training			Clear		Robbins
02-26-20	23:00 PM	23:08 PM	0:08	Training			Clear		Robbins
02-27-20	12:11 AM	12:23 AM	0:12	Ship	Chem Singapore		Clear	N	Robbins
02-27-20	1:00 AM	1:08 AM	0:08	Training			Clear		Robbins
02-27-20	1:30 AM	1:38 AM	0:08	Training			Clear		Robbins
02-27-20	2:00 AM	2:08 AM	0:08	Training			Clear		Robbins

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Feb

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
02-27-20	2:30 AM	2:38 AM	0:08	Training			Clear		Robbins
02-27-20	3:01 AM	3:09 AM	0:08	Training			Clear		Robbins
02-27-20	3:30 AM	3:38 AM	0:08	Training			Clear		Robbins
02-27-20	4:00 AM	4:08 AM	0:07	Training			Clear		Robbins
02-27-20	20:39 PM	20:54 PM	0:14	Ship	ChemSingapore		Clear	S	Barrett
02-27-20	23:01 PM	23:09 PM	0:07	Training			Clear		Robbins
02-28-20	12:00 AM	12:08 AM	0:08	Training			Clear		Robbins
02-28-20	12:31 AM	12:38 AM	0:07	Training			Clear		Robbins
02-28-20	1:03 AM	1:11 AM	0:07	Training			Clear		Robbins
02-28-20	1:30 AM	1:39 AM	0:08	Training			Clear		Robbins
02-28-20	2:00 AM	2:08 AM	0:08	Training			Clear		Robbins
02-28-20	2:30 AM	2:38 AM	0:08	Training			Clear		Robbins
02-28-20	3:00 AM	3:08 AM	0:07	Training			Clear		Robbins
02-28-20	3:31 AM	3:39 AM	0:08	Training			Clear		Robbins
02-28-20	4:00 AM	4:08 AM	0:07	Training			Clear		Robbins
02-28-20	6:56 AM	7:08 AM	0:12	Tug / Barge	Scott Turecamo/Ne		Clear	N	Blaha
02-28-20	16:32 PM	16:44 PM	0:12	Sailboat	Sky Fall		Clear	N	Barrett
02-29-20	9:31 AM	9:44 AM	0:12	Tug / Barge	Scott Turecamo/Ne		Clear	S	Blaha
03-01-20	22:01 PM	22:09 PM	0:08	Training			Clear		Robbins
03-01-20	23:01 PM	23:08 PM	0:07	Training			Clear		Robbins
03-02-20	12:01 AM	12:09 AM	0:07	Training			Clear		Robbins
03-02-20	1:01 AM	1:09 AM	0:08	Training			Clear		Robbins
03-02-20	1:31 AM	1:38 AM	0:07	Training			Clear		Robbins
03-02-20	2:01 AM	2:08 AM	0:07	Training			Clear		Robbins
03-02-20	2:31 AM	2:39 AM	0:08	Training			Clear		Robbins

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Mar

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
03-02-20	3:01 AM	3:08 AM	0:07	Training			Clear		Robbins
03-02-20	4:00 AM	4:08 AM	0:08	Training			Clear		Robbins
03-02-20	22:01 PM	22:08 PM	0:07	Training			Clear		Robbins
03-02-20	23:01 PM	23:08 PM	0:07	Training			Clear		Robbins
03-03-20	12:01 AM	12:08 AM	0:07	Training			Clear		Robbins
03-03-20	1:01 AM	1:10 AM	0:09	Training			Clear		Robbins
03-03-20	2:01 AM	2:09 AM	0:07	Training			Clear		Robbins
03-03-20	2:47 AM	2:48 AM	0:00	Maintenance		Released Torque-NE-3"	Clear		Robbins
03-03-20	3:01 AM	3:08 AM	0:07	Training			Clear		Robbins
03-03-20	4:01 AM	4:09 AM	0:07	Training			Clear		Robbins
03-03-20	22:01 PM	22:08 PM	0:07	Training			Clear		Robbins
03-03-20	23:01 PM	23:09 PM	0:07	Training			Clear		Robbins
03-04-20	12:01 AM	12:09 AM	0:07	Training			Clear		Robbins
03-04-20	1:01 AM	1:09 AM	0:07	Training			Clear		Robbins
03-04-20	2:01 AM	2:09 AM	0:08	Training			Clear		Robbins
03-04-20	3:01 AM	3:12 AM	0:11	Training			Clear		Robbins
03-04-20	4:01 AM	4:09 AM	0:08	Training			Clear		Robbins
03-04-20	10:14 AM	10:22 AM	0:07	Sailboat	Gradlel		Clear	S	Barrett
03-04-20	23:01 PM	23:08 PM	0:07	Training			Clear		Robbins
03-05-20	9:40 AM	9:52 AM	0:12	Tug / Barge	Barbara Carol Ann	Had to use cheat button	Clear	N	Barrett
03-05-20	12:01 AM	12:08 AM	0:07	Training			Clear		Robbins
03-05-20	1:01 AM	1:08 AM	0:07	Training			Clear		Robbins
03-05-20	2:01 AM	2:08 AM	0:07	Training			Clear		Robbins
03-05-20	3:01 AM	3:09 AM	0:07	Training			Clear		Robbins
03-05-20	4:01 AM	4:09 AM	0:08	Training			Clear		Robbins

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Mar

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
03-05-20	13:21 PM	13:33 PM	0:12	Sailboat	Vixon 2		Clear	N	Barrett
03-05-20	15:05 PM	15:05 PM	0:00	Maintenance		tourque coupling ne 2" nw 1" 1/2	Clear		Barrett
03-05-20	22:01 PM	22:08 PM	0:07	Training			Clear		Robbins
03-06-20	7:53 AM	8:02 AM	0:09	Tug / Barge	Barbara Carol Ann I		Clear	S	Barrett
03-07-20	8:23 AM	8:33 AM	0:10	Sailboat	Gradle		Clear	N	Robbins
03-10-20	12:24 PM	12:35 PM	0:11	Coast Guard	Diligence		Clear	N	Robbins
03-12-20	13:23 PM	13:23 PM	0:00	Maintenance		Released Torque: SW-2.5", NW - .25" NE-.75", SE-	Clear		Steed
03-21-20	20:31 PM	20:39 PM	0:08	Training			Clear		Wiant
03-28-20	12:07 PM	12:19 PM	0:11	Sailboat	C1		Clear	N	Robbins
03-28-20	19:30 PM	19:38 PM	0:08	Sailboat	Firefly		Clear	N	Steed
04-07-20	23:10 PM	23:22 PM	0:11	Ship	Chem New York		Clear	N	Steed
04-09-20	12:38 AM	12:52 AM	0:14	Ship	Chem New York		Clear	S	Steed
04-12-20	18:30 PM	18:42 PM	0:12	Tug / Barge	Barbara CarolAnne		Clear	N	Robbins
04-13-20	18:47 PM	18:58 PM	0:11	Tug / Barge	Barbara Carol Anne		Clear	S	Robbins
04-18-20	9:14 AM	9:25 AM	0:10	Tug / Barge	Mako		Clear	N	Robbins
04-19-20	5:49 AM	5:59 AM	0:10	Tug / Barge	Mako		Clear	S	Robbins
04-21-20	10:37 AM	10:50 AM	0:12	Ship	Chem Sirius		Clear	N	Steed
04-22-20	11:36 AM	11:55 AM	0:18	Ship	Chem Sirius And Sc	for ship and N for barge	Clear	S	Steed
04-23-20	10:09 AM	10:19 AM	0:09	Sailboat	Seeker		Partly Cloudy	N	Steed
04-23-20	10:55 AM	11:04 AM	0:09	Sailboat	Seeker		Rainy	S	Steed
04-24-20	18:17 PM	18:30 PM	0:12	Ship	Atlantik Miracle		Sunny	N	Barrett
04-24-20	13:08 PM	13:20 PM	0:11	Tug / Barge	Scott Turecamo		Partly Cloudy	S	Steed
04-25-20	20:03 PM	20:16 PM	0:12	Ship	Atlantik Miracle		Clear	S	Barrett
04-27-20	5:56 AM	6:04 AM	0:08	Ship	Palanka Rio		Clear	N	Blaha
04-27-20	10:15 AM	10:22 AM	0:06	Sailboat	Seaborne		Clear	S	Blaha

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Apr

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
04-28-20	9:55 AM	10:03 AM	0:08	Ship	Amparo Paola	had to cheat northeast corner	Clear	N	Blaha
04-28-20	11:30 AM	11:40 AM	0:10	Ship	Palanka Rio		Clear	S	Blaha
04-30-20	12:27 PM	12:38 PM	0:11	Ship	Paola		Clear	S	Blaha
05-01-20	13:36 PM	13:45 PM	0:08	Sailboat	Signia		Clear	N	Barrett
05-02-20	12:20 PM	12:35 PM	0:15	Tug / Barge	Barbara Carol Ann I		Clear	N	Barrett
05-03-20	8:44 AM	8:54 AM	0:10	Tug / Barge	Barbara Carol Ann I		Clear	S	Barrett
05-04-20	11:21 AM	11:21 AM	0:00	Maintenance		Released Torque	Clear		Barrett
05-04-20	17:00 PM	17:08 PM	0:08	Sailboat	TRIBUTE		Clear	N	Wiant
05-06-20	10:03 AM	10:09 AM	0:05	Sailboat	Tribute		Clear	S	Robbins
05-07-20	13:51 PM	13:58 PM	0:07	Sailboat	Margrieta		Clear	N	Steed
05-09-20	9:50 AM	9:59 AM	0:09	Sailboat	Sea Change	Used Cheat Button	Clear	N	Robbins
05-12-20	12:48 PM	12:48 PM	0:00	Maintenance		released torque: NE 1.25", SE 1.5", SW 2", NW 0"	Clear		Steed
05-13-20	16:49 PM	17:02 PM	0:12	Ship	BW Leopard		Clear	N	Blaha
05-15-20	11:20 AM	11:28 AM	0:08	Sailboat	Counting Stars		Clear	N	Steed
05-15-20	14:01 PM	14:15 PM	0:13	Ship	BW Leopard		Clear	S	Barrett
05-15-20	18:18 PM	18:29 PM	0:10	Tug / Barge	Sea Hawk		Clear	N	Barrett
05-16-20	19:53 PM	20:02 PM	0:09	Tug / Barge	Sea Hawk		Clear	S	Barrett
05-16-20	21:35 PM	21:49 PM	0:13	Tug / Barge	Scott Turcamo		Clear	N	Barrett
05-17-20	8:28 AM	8:38 AM	0:10	Tug / Barge	Scott Turecamo		Clear	S	Blaha
05-21-20	16:58 PM	17:06 PM	0:08	Sailboat	Asteria		Rainy	N	Robbins
05-24-20	12:45 PM	12:59 PM	0:13	Ship	STI Wembley		Partly Cloudy	N	Wiant
05-25-20	9:16 AM	9:27 AM	0:10	Ship	STI Wembley		Partly Cloudy	S	Barrett
05-25-20	12:24 PM	12:37 PM	0:12	Coast Guard	Dilagance		Partly Cloudy	S	Barrett
05-27-20	10:55 AM	11:09 AM	0:13	Coast Guard	(Cutter)Maple	Rain	Partly Cloudy	N	Robbins
05-28-20	9:02 AM	9:13 AM	0:10	Coast Guard	(Cutter) Maple		Partly Cloudy	S	Robbins

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-29-20	15:04 PM	15:15 PM	0:10	Sailboat	Landscape		Partly Cloudy	N	Blaha
05-29-20	22:20 PM	22:33 PM	0:12	Sailboat	Purple Pelican		Partly Cloudy	N	Barrett
06-04-20	6:32 AM	6:32 AM	0:00				Partly Cloudy		Walker
06-05-20	12:51 PM	12:56 PM	0:05	Sailboat	OLILUKI		Partly Cloudy	N	Walker
06-06-20	12:02 PM	12:10 PM	0:07	Sailboat	Starfish Enterprise		Partly Cloudy	S	Wiant
06-10-20	11:20 AM	11:30 AM	0:10	Sailboat	Silverbird		Partly Cloudy	N	Barrett
06-11-20	10:57 AM	11:04 AM	0:07	Sailboat	Silver Bird		Partly Cloudy	S	Barrett
06-11-20	12:17 PM	12:25 PM	0:07	Sailboat	Sublime		Partly Cloudy	S	Barrett
06-12-20	8:43 AM	8:53 AM	0:09	Sailboat	360		Rainy	N	Barrett
06-17-20	15:26 PM	15:36 PM	0:09	Maintenance		test opening	Partly Cloudy		Steed
06-18-20	16:30 PM	16:39 PM	0:08	Sailboat	MARGHARETTA		Partly Cloudy	S	Blaha
06-18-20	17:55 PM	18:02 PM	0:07	Sailboat	Margharetta		Partly Cloudy	N	Blaha
06-19-20	15:19 PM	15:24 PM	0:04	Sailboat	Margharetta		Partly Cloudy	S	Blaha
06-20-20	18:14 PM	18:22 PM	0:07	Sailboat	Margharetta		Partly Cloudy	N	Blaha
06-22-20	11:20 AM	11:29 AM	0:09	Sailboat	Firefly	had to use cheat button	Partly Cloudy	S	Steed
06-22-20	15:03 PM	15:13 PM	0:10	Sailboat	Firefly		Partly Cloudy	N	Blaha
06-23-20	6:54 AM	7:03 AM	0:08	Tug / Barge	scott turecamo		Partly Cloudy	N	Walker
06-24-20	12:39 PM	12:39 PM	0:00	Maintenance		release torque NE 1", SE 2.5"	Partly Cloudy		Steed
06-24-20	14:06 PM	14:23 PM	0:17	Tug / Barge	Scott Turecamo		Clear	S	Barrett
06-26-20	6:30 AM	6:44 AM	0:13	Tug / Barge	Barbara Carol Ann		Clear	N	Blaha
06-26-20	15:20 PM	15:28 PM	0:08	Sailboat	Maililia		Clear	N	Barrett
06-26-20	16:07 PM	16:19 PM	0:11	Tug / Barge	Barbara Carol Ann		Clear	S	Barrett
07-02-20	7:38 AM	7:51 AM	0:13	Sailboat	Bonhomme		Clear	N	Barrett
07-02-20	8:42 AM	8:54 AM	0:12	Ship	Alicudi		Clear	N	Barrett
07-02-20	10:06 AM	10:16 AM	0:09	Sailboat	Free Range Chick		Clear	S	Barrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jul

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
07-04-20	6:23 AM	6:37 AM	0:13	Sailboat	Grendel		Clear	S	Barrett
07-04-20	6:23 AM	6:37 AM	0:13	Ship	Alicudi		Clear	S	Barrett
07-05-20	13:02 PM	13:13 PM	0:11	Sailboat	Wander		Clear	N	Robbins
07-05-20	13:42 PM	13:52 PM	0:09	Sailboat	Gradle		Clear	N	Robbins
07-06-20	19:05 PM	19:14 PM	0:08	Sailboat	Wander		Clear	S	Steed
07-10-20	6:11 AM	6:21 AM	0:09	Sailboat	? dark blue and whi		Clear	S	Steed
07-12-20	11:01 AM	11:10 AM	0:08	Sailboat	Sea Change	had to cheat	Clear	S	Steed
07-12-20	14:16 PM	14:25 PM	0:08	Sailboat	Gradie		Clear	S	Blaha
07-17-20	13:16 PM	13:26 PM	0:10	Sailboat	Gradle		Clear	N	Blaha
07-18-20	18:21 PM	18:25 PM	0:04	Sailboat	Oli Luki		Clear	S	Wiant
07-21-20	7:55 AM	8:05 AM	0:09	Sailboat	360		Clear	S	Barrett
07-22-20	14:22 PM	14:30 PM	0:07	Sailboat	Windflower		Clear	S	Robbins
07-23-20	14:26 PM	14:35 PM	0:09	Sailboat	lanscape		Clear	S	Walker
07-26-20	14:47 PM	14:59 PM	0:11	Sailboat	margarita		Clear	S	Walker
07-27-20	10:16 AM	10:25 AM	0:08	Sailboat	Gradle	Had to Cheat	Clear	S	Robbins
07-27-20	13:51 PM	13:55 PM	0:03	Malfunction			Clear		Robbins
07-28-20	8:47 AM	8:47 AM	0:00	Maintenance		Release Torque NE-1* SE-1*	Clear		Robbins
07-29-20	11:53 AM	11:54 AM	0:01	Maintenance		Elevator Inspection	Partly Cloudy		Wiant
07-31-20	17:58 PM	18:06 PM	0:08	Sailboat	Free Range Chicke		Partly Cloudy	N	Blaha
08-01-20	9:06 AM	9:14 AM	0:08	Sailboat	Margerita		Clear	N	Steed
08-01-20	14:23 PM	14:31 PM	0:08	Sailboat	Loadstar		Partly Cloudy	N	Wiant
08-01-20	18:22 PM	18:30 PM	0:07	Sailboat	Gradle		Partly Cloudy	N	Wiant
08-04-20	9:50 AM	9:58 AM	0:08	Maintenance		Maintenance Test	+		Wiant
08-08-20	21:14 PM	21:24 PM	0:09	Sailboat	US Tow		Clear	N	Robbins
08-11-20	17:31 PM	17:39 PM	0:08	Sailboat	Sublime		Clear	N	Robbins

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Aug

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
08-11-20	23:00 PM	23:09 PM	0:09	Training			Clear		McGee
08-12-20	22:06 PM	22:15 PM	0:08	Training			Clear		McGee
08-12-20	12:00 AM	12:08 AM	0:08	Training			Clear		McGee
08-12-20	1:00 AM	1:08 AM	0:08	Training			Clear		McGee
08-12-20	1:30 AM	1:39 AM	0:08	Training			Clear		McGee
08-12-20	2:00 AM	2:09 AM	0:09	Training			Clear		McGee
08-12-20	2:30 AM	2:38 AM	0:08	Training			Clear		McGee
08-12-20	3:30 AM	3:39 AM	0:08	Training			Clear		McGee
08-12-20	4:00 AM	4:09 AM	0:08	Training			Clear		McGee
08-12-20	4:30 AM	4:38 AM	0:08	Training			Clear		McGee
08-12-20	23:04 PM	23:13 PM	0:09	Training			Clear		McGee
08-13-20	12:00 AM	12:08 AM	0:08	Training			Clear		McGee
08-13-20	1:01 AM	1:48 AM	0:46	Training		Vehicle crashed through westbound gate	Clear		McGee
08-13-20	4:00 AM	4:08 AM	0:08	Training			Clear		McGee
08-19-20	17:09 PM	17:18 PM	0:08	Coast Guard	Maple		Clear	N	Blaha
08-20-20	11:18 AM	11:32 AM	0:13	Coast Guard	Maple		Partly Cloudy	S	Steed
08-20-20	18:34 PM	18:47 PM	0:12	Coast Guard	Maple		Partly Cloudy	N	Blaha
08-21-20	16:49 PM	16:57 PM	0:07	Coast Guard	Maple		Partly Cloudy	S	Blaha
08-23-20	11:41 AM	11:50 AM	0:08	Sailboat	Windflower		Partly Cloudy	N	Steed
08-29-20	13:53 PM	14:02 PM	0:09	Sailboat	Moonlight Lady		Partly Cloudy	N	Robbins
08-30-20	22:02 PM	22:13 PM	0:10	Ship	CHEM HOUSTON		Partly Cloudy	N	Robbins
08-31-20	13:14 PM	13:26 PM	0:11	Ship	Amparo Paola		Clear	N	Barrett
08-31-20	23:01 PM	23:14 PM	0:13	Ship	Chem Houston		Clear	S	Blaha
09-01-20	18:18 PM	18:30 PM	0:12	Ship	Amparo Paola		Clear	S	Steed
09-04-20	17:03 PM	17:12 PM	0:08	Sailboat	Purple Pelican		Clear	N	Steed

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Sep

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
09-04-20	10:51 AM	10:59 AM	0:07	Sailboat	Angel's Wing		Clear	S	Robbins
09-04-20	13:19 PM	13:27 PM	0:08	Sailboat	Purple Pelican		Clear	S	Robbins
09-05-20	10:14 AM	10:22 AM	0:07	Sailboat	Purple Pelican		Clear	S	Robbins
09-05-20	12:32 PM	12:39 PM	0:07	Sailboat	Angel's Wing		Clear	N	Robbins
09-05-20	15:42 PM	15:50 PM	0:08	Sailboat	Purple Pelican		Clear	N	Steed
09-06-20	10:12 AM	10:20 AM	0:07	Sailboat	Fiz Gig		Clear	S	Robbins
09-07-20	10:27 AM	10:37 AM	0:10	Sailboat	fizz gig	had to cheat	Clear	N	McGee
09-08-20	13:27 PM	13:27 PM	0:00	Maintenance		NE 2.5 SE 1.5 / SW 2 NW 0	Clear		McGee
09-09-20	13:48 PM	13:58 PM	0:09	Sailboat	Vermida		Clear	N	Blaha
09-09-20	16:22 PM	16:32 PM	0:09	Sailboat	Salika	90 ft mast	Clear	N	Blaha
09-11-20	14:30 PM	14:41 PM	0:10	Sailboat	Salika		Clear	S	Barrett
09-15-20	2:24 AM	2:37 AM	0:12	Maintenance		PCL Remove material from Elevator Shaft	Partly Cloudy		Wiant
09-15-20	3:32 AM	3:46 AM	0:13	Tug / Barge	Scott Turacoma		Partly Cloudy	N	Wiant
09-16-20	5:55 AM	6:14 AM	0:18	Tug / Barge	Scott Turacoma		Partly Cloudy	S	Blaha
09-21-20	2:11 AM	2:27 AM	0:16	Ship	Ardmore Dauntless		Partly Cloudy	N	Blaha
09-21-20	22:02 PM	22:12 PM	0:10	Training			Partly Cloudy		Merrick
09-21-20	23:02 PM	23:11 PM	0:09	Training			Partly Cloudy		Merrick
09-22-20	12:01 AM	12:10 AM	0:09	Training			Partly Cloudy		Merrick
09-22-20	1:01 AM	1:11 AM	0:09	Training			Partly Cloudy		Merrick
09-22-20	1:32 AM	1:42 AM	0:10	Training			Partly Cloudy		Merrick
09-22-20	2:01 AM	2:11 AM	0:09	Training			Partly Cloudy		Merrick
09-22-20	2:35 AM	2:39 AM	0:04	Training			Partly Cloudy		Merrick
09-22-20	3:00 AM	3:09 AM	0:08	Training			Partly Cloudy		Merrick
09-22-20	3:30 AM	3:40 AM	0:09	Training			Partly Cloudy		Merrick
09-22-20	22:04 PM	22:14 PM	0:09	Maintenance		Grease Aux Sheeves	Partly Cloudy		Steed

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Sep

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
09-22-20	23:42 PM	23:57 PM	0:14	Tug / Barge	ardmore dauntless		Partly Cloudy	S	Steed
09-23-20	12:31 AM	12:40 AM	0:08	Training			Partly Cloudy		Steed
09-23-20	4:18 AM	4:26 AM	0:07	Ship	Chem Rotterdam		Partly Cloudy	N	Steed
09-24-20	12:34 AM	12:45 AM	0:11	Ship	Chem Rotterdam		Clear	S	Barrett
09-28-20	10:05 AM	10:18 AM	0:12	Tug / Barge	PENN NO. 81		Clear	N	Merrick
09-29-20	5:52 AM	6:04 AM	0:11	Tug / Barge	mako		Clear	S	Robbins
10-05-20	14:57 PM	15:05 PM	0:08	Sailboat	Moonlight Lady		Clear	S	Barrett
10-06-20	11:29 AM	11:37 AM	0:08	Sailboat	Sublime		Clear	S	Blaha
10-12-20	13:45 PM	14:00 PM	0:14	Sailboat	Sublime		Clear	N	Barrett
10-12-20	13:45 PM	14:00 PM	0:14	Sailboat	Bon Homme		Clear	N	Barrett
10-16-20	18:36 PM	18:45 PM	0:08	Sailboat	Patience	74 Ft Mast	Clear	N	Blaha
10-17-20	11:21 AM	11:32 AM	0:10	Tug / Barge	Mako		Clear	N	Robbins
10-17-20	19:59 PM	20:07 PM	0:07	Maintenance		Testing drive fault	Clear		Blaha
10-18-20	7:46 AM	7:58 AM	0:11	Tug / Barge	Matco		Clear	S	Steed
10-21-20	23:34 PM	23:43 PM	0:09	Sailboat	Dare Dancer		Clear	N	Robbins
10-23-20	17:07 PM	17:19 PM	0:12	Tug / Barge	Sea Hawk		Clear	N	Barrett
10-24-20	13:27 PM	13:43 PM	0:15	Tug / Barge	Sea Hawk	NE Corner did not seat	Clear	S	Blaha
10-26-20	13:39 PM	13:39 PM	0:00	Maintenance	Release Torque	NE 2", SE 1.5", SW 2", NW 0"	Clear		Blaha
10-27-20	10:02 AM	10:14 AM	0:12	Ship	Davide B		Clear	N	Wiant
10-28-20	5:31 AM	6:00 AM	0:28	Ship	David B	west motor failed	Clear	S	Steed
11-04-20	6:34 AM	6:42 AM	0:08	Sailboat	Counting Stars		Clear	S	Robbins
11-05-20	11:49 AM	11:57 AM	0:08	Sailboat	Renegade		Clear	N	Robbins
11-09-20	14:02 PM	14:11 PM	0:08	Sailboat	LaMariner	70 ft mast	Clear	N	Steed
11-10-20	8:26 AM	8:31 AM	0:05	Ship	selike		Clear	S	Merrick
11-10-20	13:43 PM	13:51 PM	0:08	Sailboat	KARMA		Clear	N	Merrick

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Nov

20 20

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
11-13-20	10:21 AM	10:28 AM	0:07	Sailboat	Renegade	75 ft Mast	Clear	S	Blaha
11-14-20	10:18 AM	10:27 AM	0:09	Sailboat	DeerDancer		Clear	S	Blaha
11-15-20	10:31 AM	10:44 AM	0:12	Ship	Amparo Paola		Clear	N	Blaha
11-17-20	7:08 AM	7:19 AM	0:10	Ship	Amparo Paola		Clear	S	Barrett
11-20-20	6:59 AM	7:07 AM	0:08	Sailboat	karma		Clear	S	Barrett
11-23-20	11:19 AM	11:32 AM	0:12	Tug / Barge	Mako		Clear	N	Robbins
11-24-20	14:09 PM	14:23 PM	0:13	Tug / Barge	Mako	had to use cheat button	Clear	S	Steed
12-01-20	12:36 PM	12:36 PM	0:00	Sailboat	PATIENCE		Clear	S	Merrick
12-02-20	10:24 AM	10:33 AM	0:08	Malfunction	Wind Flower	69 ft Mast	Clear	S	Blaha
12-03-20	10:20 AM	10:30 AM	0:09	Sailboat	Leopard 43		Clear	S	Blaha
12-09-20	11:03 AM	11:12 AM	0:08	Sailboat	Wind Flower		Clear	S	Barrett
12-10-20	14:21 PM	14:35 PM	0:13	Sailboat	indego	had to cheat	Clear	S	McGee
12-11-20	10:57 AM	11:05 AM	0:08	Sailboat	Firefly		Clear	S	Barrett
12-11-20	15:56 PM	16:12 PM	0:15	Sailboat	frog's leap		Clear	S	McGee
12-14-20	16:47 PM	16:47 PM	0:00	Maintenance		Released Torque NE-.5", SE-2", SW-1.5",NW-0"	Clear		Merrick
12-20-20	2:48 AM	3:00 AM	0:12	Ship	Chem Mercury		Clear	N	Robbins
12-21-20	11:05 AM	11:17 AM	0:12	Ship	Chem Mercery		Clear	S	Steed
12-27-20	9:05 AM	9:14 AM	0:09	Sailboat	Fizig		Clear	S	Barrett
12-31-20	13:37 PM	13:45 PM	0:08	Sailboat	Bonhomm		Clear	S	Blaha

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Averages

No.Of Vessels	174
No.Of Openings	292
Avg. Vessels / Opening	0.6
Avg. Openings / Day	0.80
Avg. Vessels / Day	0.48
Avg. Opening Time	9 Min

## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-01-21	15:43 PM	15:53 PM	0:10	Sailboat	? couldn't see name		Clear	S	Steed
01-01-21	16:06 PM	16:15 PM	0:09	Sailboat	Fizgig		Rainy	N	Steed
01-02-21	13:56 PM	14:06 PM	0:09	Sailboat	Serenity		Partly Cloudy	S	Steed
01-03-21	6:49 AM	6:54 AM	0:04	Sailboat	N/A		Partly Cloudy	S	Merrick
01-03-21	9:49 AM	9:49 AM	0:00	Sailboat	Transquioo		Partly Cloudy	N	Merrick
01-03-21	22:03 PM	22:10 PM	0:07	Training		Training	Partly Cloudy		Cooper
01-03-21	23:01 PM	23:11 PM	0:09	Training		training	Partly Cloudy		Cooper
01-04-21	12:01 AM	12:11 AM	0:10	Training		Training	Partly Cloudy		Cooper
01-04-21	1:02 AM	1:13 AM	0:11	Training		Training	Partly Cloudy		Cooper
01-04-21	1:31 AM	1:41 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-04-21	2:01 AM	2:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-04-21	2:31 AM	2:40 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-04-21	3:01 AM	3:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-04-21	3:31 AM	3:40 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-04-21	4:01 AM	4:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-04-21	22:01 PM	22:10 PM	0:09	Training		tRAINING	Partly Cloudy		Cooper
01-04-21	23:01 PM	23:11 PM	0:09	Training		tRAINING	Partly Cloudy		Cooper
01-05-21	12:02 AM	12:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-05-21	12:31 AM	12:40 AM	0:09	Training		Trainig	Partly Cloudy		Cooper
01-05-21	1:01 AM	1:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-05-21	1:31 AM	1:40 AM	0:08	Training		TTraining	Partly Cloudy		Cooper
01-05-21	2:01 AM	2:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-05-21	2:31 AM	2:40 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-05-21	3:01 AM	3:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-05-21	3:31 AM	3:40 AM	0:08	Training		Training	Partly Cloudy		Cooper

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## Cape Fear Memorial

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-05-21	4:01 AM	4:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-05-21	23:01 PM	23:11 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	12:01 AM	12:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	1:01 AM	1:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	1:31 AM	1:41 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	2:01 AM	2:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	2:31 AM	2:40 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	3:31 AM	3:40 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	4:01 AM	4:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	22:02 PM	22:11 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-06-21	23:01 PM	23:11 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-07-21	12:01 AM	12:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-07-21	1:01 AM	1:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-07-21	1:31 AM	1:40 AM	0:09	Ship		Training	Partly Cloudy		Cooper
01-07-21	2:01 AM	2:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-07-21	2:31 AM	2:40 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-07-21	3:01 AM	3:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-07-21	3:31 AM	3:40 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-07-21	4:01 AM	4:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-07-21	13:28 PM	13:28 PM	0:00			mistake	Partly Cloudy		Steed
01-07-21	22:02 PM	22:10 PM	0:08	Training		Training	Partly Cloudy		Cooper
01-07-21	23:01 PM	23:10 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	12:01 AM	12:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	1:02 AM	1:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	1:31 AM	1:41 AM	0:09	Training		Training	Partly Cloudy		Cooper

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## Cape Fear Memorial

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-08-21	2:01 AM	2:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	2:31 AM	2:41 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	3:02 AM	3:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	3:33 AM	3:33 AM	0:00	Maintenance		Released torque NE-2.5"	Partly Cloudy		Cooper
01-08-21	3:34 AM	3:43 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-08-21	4:02 AM	4:12 AM	0:10	Training		Training	Partly Cloudy		Cooper
01-11-21	15:48 PM	15:48 PM	0:00	Maintenance		SW 1 3/4 SE 1/4 NW 1 NE 2	Partly Cloudy		McGee
01-11-21	22:06 PM	22:15 PM	0:08	Training		TRAINING	Partly Cloudy		Cooper
01-11-21	23:02 PM	23:11 PM	0:09	Training		TRAINING	Partly Cloudy		Cooper
01-12-21	12:02 AM	12:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-12-21	1:01 AM	1:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-12-21	1:31 AM	1:40 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-12-21	2:01 AM	2:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-12-21	2:31 AM	2:40 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-12-21	3:02 AM	3:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-12-21	4:01 AM	4:10 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-12-21	22:02 PM	22:11 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-12-21	23:02 PM	23:11 PM	0:09	Training		Training	Partly Cloudy		Cooper
01-13-21	12:02 AM	12:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-13-21	1:02 AM	1:11 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-13-21	1:32 AM	1:41 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-13-21	2:02 AM	2:11 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-13-21	2:32 AM	2:40 AM	0:08	Training		Training	Partly Cloudy		Cooper
01-13-21	3:01 AM	3:10 AM	0:08	Training	Training		Partly Cloudy		Cooper
01-13-21	3:31 AM	3:40 AM	0:08	Training		Training	Partly Cloudy		Cooper

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-13-21	4:01 AM	4:10 AM	0:09	Training		Training	Partly Cloudy		Cooper
01-13-21	22:00 PM	22:12 PM	0:12	Training		Training	Clear		Cooper
01-13-21	23:00 PM	23:09 PM	0:09	Training		Training	Clear		Cooper
01-14-21	2:01 AM	2:11 AM	0:09	Training			Rainy		Cooper
01-14-21	12:03 AM	12:13 AM	0:10	Maintenance		Aux counter weight top slide	Rainy		Steed
01-14-21	1:32 AM	1:41 AM	0:09	Training		Training	Rainy		Cooper
01-14-21	3:01 AM	3:10 AM	0:09	Training		Training	Rainy		Cooper
01-14-21	4:01 AM	4:10 AM	0:08	Training		Training	Rainy		Cooper
01-14-21	22:02 PM	22:14 PM	0:11	Training		Training	Rainy		Cooper
01-14-21	23:02 PM	23:11 PM	0:08	Training		Training	Rainy		Cooper
01-15-21	12:02 AM	12:11 AM	0:08	Training		Training	Rainy		Cooper
01-15-21	1:02 AM	1:10 AM	0:08	Training		Training	Rainy		Cooper
01-15-21	2:02 AM	2:11 AM	0:08	Training		Training	Rainy		Cooper
01-15-21	3:02 AM	3:11 AM	0:08	Training		Training	Rainy		Cooper
01-15-21	4:02 AM	4:11 AM	0:09	Training		Training	Rainy		Cooper
01-15-21	22:32 PM	22:42 PM	0:10	Training		Training	Rainy		Cooper
01-17-21	12:12 PM	12:21 PM	0:09	Sailboat	Tranquilo		Rainy	S	Barrett
01-22-21	11:37 AM	11:37 AM	0:00	Ship	Sten Moster	Tanker	Rainy		Cooper
01-23-21	6:51 AM	7:04 AM	0:13	Ship	Sten Moster	Tanker	Rainy		Cooper
01-27-21	22:09 PM	22:09 PM	0:00	Ship	NA CC Alsucudi	Tanker	Rainy		Cooper
02-02-21	22:22 PM	22:34 PM	0:12	Ship	NA CC Alsucudi		Clear	S	Steed
02-11-21	11:31 AM	11:31 AM	0:00	Ship	Ocean Princess 1	Tanker	Clear		Cooper
02-12-21	19:02 PM	19:14 PM	0:12	Ship	Ocean Princess 1		Rainy	S	Steed
02-28-21	9:43 AM	9:53 AM	0:09	Sailboat	Pau Hana		Clear	S	Barrett
03-03-21	11:55 AM	12:03 PM	0:08	Maintenance		Inspection	Clear		Cooper

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Mar

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
03-06-21	1:03 AM	1:12 AM	0:09	Sailboat	Firefly		Clear	N	Blaha
03-07-21	18:24 PM	18:37 PM	0:12	Tug / Barge	Weddell Sea		Clear	N	Blaha
03-08-21	14:54 PM	15:09 PM	0:15	Tug / Barge	weddell Sea	cheat	Clear	S	McGee
03-09-21	12:53 PM	12:53 PM	0:00	Maintenance	Release torque	NE-2.75", SE-2" SW-2", NW-0"	Clear		Steed
03-13-21	10:26 AM	10:34 AM	0:07	Sailboat	Grace		Clear	N	Blaha
03-15-21	10:18 AM	10:28 AM	0:10	Sailboat	zambeasy		Clear	N	McGee
03-15-21	11:33 AM	11:39 AM	0:06	Maintenance		Test opening NEW DRIVE	Clear		McGee
03-16-21	13:59 PM	14:18 PM	0:19	Ship	Chem Neon	Tanker	Clear		Cooper
03-17-21	14:50 PM	15:02 PM	0:12	Ship	Chem Neon	Tanker	Clear		Cooper
03-22-21	7:44 AM	7:53 AM	0:09	Sailboat	Zambesi	Sailboat	Clear		Cooper
03-23-21	20:59 PM	21:13 PM	0:13	Tug / Barge	Freeport		Rainy	N	Steed
03-25-21	17:12 PM	17:26 PM	0:13	Tug / Barge	Freeport		Rainy	S	Blaha
03-29-21	16:20 PM	16:32 PM	0:11	Ship	Chem Gallium	NW and SW did not seat	Rainy	N	Blaha
03-30-21	13:12 PM	13:23 PM	0:00	Ship	Chem Gallium		Clear	S	Steed
03-30-21	10:17 AM	10:24 AM	0:07	Maintenance		Checking seating issues	Rainy		Steed
03-31-21	10:03 AM	10:09 AM	0:06	Maintenance		Skew test	Clear		Steed
03-31-21	11:02 AM	11:08 AM	0:06	Maintenance		Skew test	Clear		Steed
03-31-21	12:04 PM	12:11 PM	0:06	Maintenance		Skew test	Clear		Steed
04-02-21	15:47 PM	15:57 PM	0:09	Ship	Ampard Paolo	clear	Clear		McGee
04-03-21	15:57 PM	16:09 PM	0:11	Sailboat	Windflower		Clear	N	Barrett
04-04-21	12:51 PM	13:02 PM	0:11	Ship	Amparo Paolo		Clear	S	Blaha
04-05-21	7:36 AM	7:44 AM	0:07	Sailboat	Grace		Clear	S	Blaha
04-05-21	9:48 AM	10:00 AM	0:12	Tug / Barge	Barbara Carol Ann I		Clear	N	Blaha
04-06-21	14:59 PM	15:10 PM	0:10	Tug / Barge	Barbara Carol Ann I	Tug Barge	Clear		Blaha
04-10-21	11:01 AM	11:01 AM	0:00	Sailboat	Once Again	Sailboat	Rainy	N	Cooper

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Apr

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
04-11-21	19:06 PM	19:18 PM	0:11	Ship	maple		Rainy	N	Merrick
04-12-21	7:51 AM	8:02 AM	0:11	Coast Guard	Maple	Buoy Tender	Rainy	S	Cooper
04-12-21	19:18 PM	19:27 PM	0:09	Sailboat	pau hana		Rainy	N	Merrick
04-13-21	6:43 AM	6:54 AM	0:10	Tug / Barge	Barry Silverton		Rainy	N	Cooper
04-14-21	13:13 PM	13:25 PM	0:11	Tug / Barge	Barry Singleton		Rainy	S	Cooper
04-19-21	5:57 AM	6:09 AM	0:11	Ship	Navig8 Amber		Clear	N	Steed
04-20-21	13:04 PM	13:17 PM	0:12	Ship	Navig8 Amber		Clear	S	Steed
04-21-21	10:14 AM	10:27 AM	0:13	Ship	Harbour Pioneer		Clear	N	Blaha
04-22-21	14:50 PM	15:05 PM	0:15	Ship	Harbor Pioneer		Clear	S	Barrett
04-22-21	19:43 PM	19:53 PM	0:09	Ship	Suhar		Clear	N	Barrett
04-26-21	10:30 AM	10:41 AM	0:10	Ship	Suhar		Clear	S	Barrett
04-29-21	11:39 AM	11:49 AM	0:10	Sailboat	Once Again		Clear	S	Barrett
05-09-21	13:32 PM	13:41 PM	0:09	Sailboat	frogs leap	clear	Clear	N	Steed
05-11-21	11:43 AM	11:54 AM	0:11	Tug / Barge	Barbara Carol Ann I		Clear	N	Blaha
05-12-21	1:53 AM	2:06 AM	0:12	Tug / Barge	Barbara Carol Ann I		Clear	S	Steed
05-14-21	10:21 AM	10:33 AM	0:11	Sailboat	Free Range Chick	had to use cheat button	Clear	S	Steed
05-15-21	9:23 AM	9:30 AM	0:07	Sailboat	Frogs Leap	Had to use the Over Ride Button	Clear	S	Steed
05-17-21	15:03 PM	15:11 PM	0:08	Sailboat	As You Wish		Clear	N	Cooper
05-20-21	8:38 AM	8:53 AM	0:14	Sailboat	Labmariner	Had to use cheat button	Clear	N	Barrett
05-20-21	12:14 PM	12:14 PM	0:00	Maintenance	Release Torque Co	NE-2.5° SE-1.5° SW-2° NW-0°	Clear		Barrett
05-21-21	10:17 AM	10:34 AM	0:16	Maintenance		fault alarm swithed motors from NW &NE to SW & SE.	Clear		McGee
05-25-21	9:45 AM	9:57 AM	0:11	Sailboat	Counting Stars		Clear	N	Cooper
05-25-21	9:45 AM	9:57 AM	0:11	Sailboat	As You Wish		Clear	S	Cooper
05-28-21	9:44 AM	9:54 AM	0:09	Sailboat	WindCrest		Clear	N	Steed
05-31-21	10:47 AM	10:56 AM	0:08	Sailboat	Windquest	127 ft Mast	Clear	S	Blaha

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jun

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
06-02-21	10:18 AM	13:58 PM	3:39	Sailboat	Soul Mate		Clear	S	Blaha
06-07-21	11:39 AM	11:47 AM	0:08	Sailboat	Fizzgig		Clear	S	Barrett
06-09-21	11:25 AM	11:37 AM	0:12	Ship	Santa Maria		Clear	N	Barrett
06-15-21	15:22 PM	15:31 PM	0:09	Sailboat	Fair Wind	70 Ft Mast	Clear	N	Blaha
06-16-21	16:34 PM	16:44 PM	0:09	Ship	Nao Santa Maria		Clear	S	Blaha
06-17-21	3:58 AM	4:10 AM	0:11	Tug / Barge	Blue Fin		Clear	N	Cooper
06-18-21	17:40 PM	17:51 PM	0:10	Tug / Barge	Blue Fin		Clear	S	Steed
06-18-21	20:32 PM	20:41 PM	0:08	Maintenance		test opening	Clear		Steed
06-21-21	14:20 PM	14:28 PM	0:07	Sailboat	Gradle		Clear	S	Barrett
06-21-21	16:30 PM	16:40 PM	0:10	Sailboat	Gradle		Clear	N	Barrett
06-23-21	8:32 AM	8:39 AM	0:06	Sailboat	Jetstream	73 ft mast	Clear	N	Blaha
06-27-21	10:10 AM	10:20 AM	0:10	Sailboat	tragmilo	had to cheat	Clear	N	McGee
06-28-21	13:28 PM	13:28 PM	0:00	Maintenance		tourque coupling NE-1" SE-1" SW 1.25" NW 0	Clear		McGee
06-30-21	15:25 PM	15:35 PM	0:09	Maintenance		PCL wanted counterweight measurements	Clear		Steed
07-03-21	16:11 PM	16:20 PM	0:08	Sailboat	Sweet Tea		Clear	N	Steed
07-04-21	11:42 AM	11:52 AM	0:09	Sailboat	Vista Vita		Clear	N	Cooper
07-13-21	12:59 AM	1:09 AM	0:10	Ship	Sunra		Clear	N	Steed
07-15-21	6:26 AM	6:35 AM	0:08	Sailboat	Vista Vita		Clear	S	Barrett
07-15-21	10:52 AM	11:05 AM	0:12	Ship	Suhar		Clear	S	Barrett
07-16-21	18:01 PM	18:10 PM	0:08	Sailboat	Go Shiki		Clear	N	Cooper
07-19-21	16:37 PM	16:45 PM	0:07	Sailboat	no name		Clear	N	McGee
07-21-21	10:33 AM	10:41 AM	0:08	Sailboat	Latin Marina		Clear	S	Cooper
07-21-21	16:14 PM	16:22 PM	0:08	Sailboat	Catana		Clear	N	Merrick
07-22-21	18:42 PM	18:51 PM	0:08	Sailboat	soul mate		Clear	N	Merrick
07-23-21	22:06 PM	22:14 PM	0:07	Training	None	Kurt Training	Clear		Blaha

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## Cape Fear Memorial

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jul

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
07-24-21	14:33 PM	14:40 PM	0:07	Sailboat	Flying Loon		Clear	N	Blaha
07-26-21	22:03 PM	22:12 PM	0:09	Maintenance		training	Clear		Garrett
07-26-21	23:04 PM	23:13 PM	0:08	Maintenance		training	Clear		Garrett
07-27-21	22:00 PM	22:08 PM	0:08	Maintenance		training	Clear		Garrett
07-27-21	22:59 PM	23:07 PM	0:08	Maintenance		training	Clear		Garrett
07-27-21	12:04 AM	12:13 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	12:35 AM	12:43 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	1:30 AM	1:38 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	2:00 AM	2:08 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	2:32 AM	2:40 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	3:00 AM	3:08 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	3:31 AM	3:40 AM	0:08	Maintenance		training	Clear		Garrett
07-27-21	4:00 AM	4:08 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	3:00 AM	3:08 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	3:59 AM	4:08 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	12:30 AM	12:40 AM	0:10	Maintenance		training	Clear		Garrett
07-28-21	1:01 AM	1:10 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	1:31 AM	1:39 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	2:32 AM	2:40 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	2:00 AM	2:08 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	12:00 AM	12:09 AM	0:09	Maintenance		training	Clear		Garrett
07-28-21	3:30 AM	3:38 AM	0:08	Maintenance		training	Clear		Garrett
07-28-21	5:59 AM	5:59 AM	0:00				Clear		Merrick
07-28-21	11:41 AM	11:50 AM	0:09	Sailboat	flying loon		Clear	S	Merrick

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jul

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
07-28-21	23:00 PM	23:08 PM	0:08	Maintenance		training	Clear		Garrett
07-29-21	12:00 AM	12:08 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	1:31 AM	1:39 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	2:00 AM	2:08 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	2:29 AM	2:37 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	2:59 AM	3:07 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	3:29 AM	3:37 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	3:59 AM	4:07 AM	0:08	Maintenance		training	Clear		Garrett
07-29-21	22:00 PM	22:09 PM	0:09	Maintenance		training	Clear		Garrett
07-29-21	23:00 PM	23:08 PM	0:08	Maintenance		training	Clear		Garrett
07-29-21	23:59 PM	12:07 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	12:59 AM	1:08 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	1:29 AM	1:37 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	1:59 AM	2:07 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	2:59 AM	3:07 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	3:29 AM	3:37 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	3:59 AM	4:07 AM	0:08	Maintenance		training	Clear		Garrett
07-30-21	4:35 AM	4:35 AM	0:00	Maintenance		release torque cuppling NE-1.5"	Clear		Garrett
08-01-21	21:59 PM	22:08 PM	0:08	Maintenance		training	Clear		Garrett
08-01-21	22:59 PM	23:07 PM	0:08	Maintenance		training	Clear		Garrett
08-02-21	12:00 AM	12:08 AM	0:08	Maintenance		training	Clear		Garrett
08-02-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Clear		Garrett
08-02-21	1:59 AM	2:07 AM	0:08	Maintenance		training	Clear		Garrett
08-02-21	2:59 AM	3:08 AM	0:08	Maintenance		training	Clear		Garrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Aug

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
08-02-21	4:00 AM	4:08 AM	0:08	Maintenance		training	Clear		Garrett
08-02-21	14:15 PM	14:16 PM	0:00	Maintenance	Release Torque Co	NE 0.5 SE 2.5 SW 2.0 NW 0	Clear		Cooper
08-02-21	22:00 PM	22:08 PM	0:08	Maintenance		training	Clear		Garrett
08-02-21	22:30 PM	22:38 PM	0:08	Maintenance		training	Clear		Garrett
08-02-21	23:29 PM	23:38 PM	0:08	Maintenance		training	Clear		Garrett
08-02-21	23:59 PM	12:08 AM	0:08	Maintenance		training	Clear		Garrett
08-03-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Clear		Garrett
08-03-21	1:59 AM	2:07 AM	0:08	Maintenance		training	Clear		Garrett
08-03-21	2:59 AM	3:08 AM	0:08	Maintenance		training	Clear		Garrett
08-03-21	3:59 AM	4:07 AM	0:07	Maintenance		training	Clear		Garrett
08-03-21	22:01 PM	22:09 PM	0:08	Maintenance		training	Clear		Garrett
08-03-21	23:00 PM	23:08 PM	0:08	Maintenance		training	Clear		Garrett
08-03-21	23:59 PM	12:07 AM	0:08	Maintenance		training	Clear		Garrett
08-04-21	1:00 AM	1:09 AM	0:08	Maintenance		training	Clear		Garrett
08-04-21	2:00 AM	2:09 AM	0:08	Maintenance		training	Rainy		Garrett
08-04-21	2:59 AM	3:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-04-21	3:59 AM	4:06 AM	0:07	Maintenance		training	Rainy		Garrett
08-04-21	22:00 PM	22:08 PM	0:08	Maintenance		training	Rainy		Garrett
08-04-21	22:59 PM	23:07 PM	0:08	Maintenance		training	Rainy		Garrett
08-05-21	12:00 AM	12:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-05-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-05-21	1:59 AM	2:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-05-21	2:59 AM	3:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-05-21	22:59 PM	23:08 PM	0:08	Maintenance		training	Rainy		Garrett
08-06-21	12:00 AM	12:08 AM	0:08	Maintenance		training	Rainy		Garrett

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Aug

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
08-06-21	1:00 AM	1:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-06-21	2:00 AM	2:08 AM	0:08	Maintenance		training	Rainy		Garrett
08-06-21	3:02 AM	3:10 AM	0:08	Maintenance		training	Rainy		Garrett
08-08-21	10:21 AM	10:31 AM	0:09	Sailboat	Bon A Mi		Rainy	S	Cooper
08-15-21	8:17 AM	8:27 AM	0:10	Maintenance		West Gate Malfunction	Rainy		Cooper
08-27-21	3:02 AM	3:08 AM	0:06	Ship	Suhar	Tanker	Clear	N	Cooper
08-29-21	16:26 PM	16:36 PM	0:10	Ship	Suhar		Clear	S	Steed
08-30-21	6:01 AM	6:09 AM	0:07	Sailboat	Sparkle Fish		Clear	S	Barrett
09-07-21	11:43 AM	11:43 AM	0:00	Sailboat	Sealacious Star		Clear	S	Cooper
09-09-21	11:11 AM	11:18 AM	0:07	Sailboat	Salacious Star		Clear	N	Blaha
09-13-21	18:39 PM	18:47 PM	0:08	Sailboat	Tranquilo		Clear	S	Garrett
09-19-21	11:23 AM	11:31 AM	0:08	Sailboat	Salacia Star		Clear	S	Garrett
09-22-21	11:26 AM	11:35 AM	0:08	Sailboat	Salacious Star		Clear	N	Cooper
09-22-21	11:35 AM	11:35 AM	0:00				Clear		Cooper
09-27-21	7:23 AM	7:32 AM	0:08	Sailboat	Sealacious Star		Clear	S	Cooper
09-28-21	12:06 PM	12:14 PM	0:07	Sailboat	Counting Stars	70 Ft Mast	Clear	S	Blaha
10-01-21	14:49 PM	14:57 PM	0:08	Sailboat	Counting Stars		Clear	N	Garrett
10-02-21	14:01 PM	14:10 PM	0:09	Sailboat	Firefly		Clear	N	Garrett
10-02-21	10:19 AM	10:28 AM	0:09	Sailboat	Firefly		Clear	S	Barrett
10-03-21	9:37 AM	9:49 AM	0:12	Sailboat	Born To Run		Clear	N	Barrett
10-14-21	14:12 PM	14:23 PM	0:11	Sailboat	Salacious Star	Mast Height 67'	Clear	N	Blaha
10-15-21	19:49 PM	20:01 PM	0:11	Ship	Navigate Rinaldo		Clear	N	Blaha
10-17-21	8:25 AM	8:38 AM	0:12	Ship	Navig8 Aronaldo		Clear	S	Cooper
10-18-21	1:09 AM	1:21 AM	0:12	Sailboat	Deerdancer		Clear	N	Garrett
10-18-21	10:52 AM	10:59 AM	0:07	Sailboat	Born to Run	Mast 82'	Clear	S	Blaha

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Oct

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
10-22-21	12:02 PM	12:11 PM	0:09	Sailboat	Salacious Star	67 ft mast	Clear	S	Blaha
10-22-21	13:31 PM	13:38 PM	0:07	Sailboat	Catamaran Miss Ka	78 ft mast	Clear	N	Blaha
10-22-21	15:57 PM	16:07 PM	0:10	Sailboat	Salacia Star		Clear	N	Garrett
10-23-21	10:49 AM	10:57 AM	0:08	Sailboat	Salacia Star		Clear	S	Garrett
10-23-21	10:49 AM	10:57 AM	0:08	Sailboat	Salacia Star		Clear	S	Garrett
10-23-21	12:47 PM	12:59 PM	0:11	Sailboat	Firefly		Clear	S	Garrett
10-23-21	13:22 PM	13:31 PM	0:09	Sailboat	Salacia Star		Clear	N	Garrett
10-24-21	9:27 AM	9:36 AM	0:09	Sailboat	Trenquilo		Clear	N	Cooper
10-24-21	19:36 PM	19:44 PM	0:08	Sailboat	Frogs Leap	Had to use cheat	Clear	N	Garrett
10-25-21	11:08 AM	11:08 AM	0:00			Torque coupling ne-2.5", SE-2", SW-21'	Clear		McGee
10-25-21	11:12 AM	11:23 AM	0:11	Sailboat	Time to go	overcast	Clear	N	McGee
10-27-21	14:39 PM	14:48 PM	0:08	Sailboat	Frogs Leap		Clear	N	Steed
10-27-21	10:40 AM	10:48 AM	0:07	Sailboat	Frogs Leap		Clear	S	Cooper
11-01-21	8:27 AM	8:35 AM	0:08	Sailboat	Counting Stars		Clear	S	Cooper
11-01-21	12:29 PM	12:37 PM	0:08	Sailboat	Tranquilo		Clear	S	Cooper
11-04-21	11:01 AM	11:10 AM	0:08	Sailboat	florence clara		Clear	S	McGee
11-04-21	11:01 AM	11:10 AM	0:08	Sailboat	rising star		Clear	S	McGee
11-05-21	18:18 PM	18:29 PM	0:11	Sailboat	Blue Diamond		Clear	N	Cooper
11-11-21	14:22 PM	14:30 PM	0:07	Sailboat	Labmariner	catamaran 72 ft mast	Clear	N	Garrett
11-12-21	4:45 AM	4:57 AM	0:12	Tug / Barge	Delsy		Rainy	N	Steed
11-13-21	10:44 AM	10:54 AM	0:09	Sailboat	Deerdancer		Rainy	S	Cooper
11-13-21	13:28 PM	13:39 PM	0:11	Tug / Barge	Weddell Sea/PENN		Rainy	S	Cooper
11-13-21	18:09 PM	18:19 PM	0:10	Tug / Barge	Coho - Penn No.92		Clear	N	Garrett
11-14-21	10:48 AM	10:56 AM	0:08	Sailboat	Blue Diamond		Clear	S	Cooper
11-14-21	14:19 PM	14:31 PM	0:12	Tug / Barge	Coho-Penn 92	Had to use cheat	Clear	S	Garrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Nov

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
11-15-21	13:03 PM	13:03 PM	0:00	Maintenance		Torque Coupling SE 2° NE 1° SW.75° NW 0°	Clear		Cooper
11-23-21	10:16 AM	10:26 AM	0:10	Sailboat	Soulmates		Clear	S	Garrett
11-23-21	18:54 PM	19:06 PM	0:11	Ship	Suhar		Clear	N	Blaha
11-26-21	9:40 AM	9:54 AM	0:13	Malfunction		issue with the wilmington gate, won't go down	Clear		Steed
11-26-21	10:26 AM	10:37 AM	0:11	Ship	Suhar		Clear	S	Steed
11-27-21	9:12 AM	9:26 AM	0:14	Tug / Barge	Barbara Carol Ann I		Clear	N	Blaha
11-28-21	12:24 AM	12:37 AM	0:13	Tug / Barge	Barbara Carol Ann I		Clear	S	Steed
11-28-21	4:45 AM	4:56 AM	0:10	Ship	Navig8 Amythest		Clear	N	Steed
11-29-21	13:41 PM	13:54 PM	0:12	Ship	Navig8 Amethyst		Clear	S	Blaha
11-29-21	22:03 PM	22:13 PM	0:10	Training			Clear		Goulding
11-29-21	23:00 PM	23:10 PM	0:10	Training			Clear		Goulding
11-30-21	12:00 AM	12:10 AM	0:10	Training			Clear		Goulding
11-30-21	1:00 AM	1:10 AM	0:10	Training			Clear		Goulding
11-30-21	2:00 AM	2:11 AM	0:10	Training			Clear		Goulding
11-30-21	3:00 AM	3:10 AM	0:10	Training			Clear		Goulding
11-30-21	4:01 AM	4:11 AM	0:09	Training			Clear		Goulding
11-30-21	22:00 PM	22:10 PM	0:10	Training			Clear		Goulding
11-30-21	23:06 PM	23:17 PM	0:10	Training			Clear		Goulding
12-01-21	12:00 AM	12:09 AM	0:09	Training			Clear		Goulding
12-01-21	1:00 AM	1:10 AM	0:10	Training			Clear		Goulding
12-01-21	1:30 AM	1:39 AM	0:09	Training			Clear		Goulding
12-01-21	2:00 AM	2:09 AM	0:09	Training			Clear		Goulding
12-01-21	3:00 AM	3:09 AM	0:09	Training			Clear		Goulding
12-01-21	4:00 AM	4:09 AM	0:09	Training			Clear		Goulding
12-01-21	4:30 AM	4:39 AM	0:09	Training			Clear		Goulding

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Dec

20 21

DATE	TIME GATES CLOSED	TIME GATES ARE OPENED	DELAY DUE TO BRIDGE OPENING	TYPE OF VESSEL	NAME OR NUMBER OF VESSEL	REMARKS	WEATHER WHEN BOAT WAS PASSING THROUGH	DIRECTION OF TRAVEL	NAME OF OPERATOR
12-01-21	22:01 PM	22:10 PM	0:09	Training			Clear		Goulding
12-01-21	23:00 PM	23:10 PM	0:09	Training			Clear		Goulding
12-02-21	12:00 AM	12:08 AM	0:08	Training			Clear		Goulding
12-02-21	1:00 AM	1:10 AM	0:10	Training			Clear		Goulding
12-02-21	2:01 AM	2:10 AM	0:09	Training			Clear		Goulding
12-02-21	3:00 AM	3:09 AM	0:09	Training			Clear		Goulding
12-02-21	4:00 AM	4:09 AM	0:08	Training			Clear		Goulding
12-02-21	22:00 PM	22:09 PM	0:09	Training			Clear		Goulding
12-02-21	23:04 PM	23:05 PM	0:01	Training			Clear		Goulding
12-03-21	12:01 AM	12:10 AM	0:09	Training			Clear		Goulding
12-03-21	1:00 AM	1:08 AM	0:08	Training			Clear		Goulding
12-03-21	2:00 AM	2:09 AM	0:09	Training			Clear		Goulding
12-03-21	3:00 AM	3:09 AM	0:08	Training			Clear		Goulding
12-03-21	23:00 PM	23:09 PM	0:08	Training			Clear		Goulding
12-04-21	12:00 AM	12:09 AM	0:08	Training			Clear		Goulding
12-04-21	1:00 AM	1:08 AM	0:08	Training			Clear		Goulding
12-04-21	2:00 AM	2:09 AM	0:08	Training			Clear		Goulding
12-04-21	3:00 AM	3:08 AM	0:08	Training			Clear		Goulding
12-06-21	8:59 AM	8:59 AM	0:00	Maintenance		NE 1 3/4 NW 2 SE 1 1/4 SW 000	Clear		Goulding
12-06-21	22:00 PM	22:10 PM	0:10	Training			Clear		Goulding
12-06-21	23:00 PM	23:09 PM	0:09	Training			Clear		Goulding
12-07-21	12:00 AM	12:08 AM	0:08	Training			Clear		Goulding
12-07-21	1:00 AM	1:10 AM	0:09	Training			Clear		Goulding
12-07-21	1:30 AM	1:38 AM	0:08	Training			Clear		Goulding
12-07-21	2:00 AM	2:08 AM	0:08	Training			Clear		Goulding

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Dec

20 21

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
12-07-21	2:30 AM	2:38 AM	0:08	Training			Clear		Goulding
12-07-21	3:00 AM	3:08 AM	0:08	Training			Clear		Goulding
12-07-21	4:00 AM	4:08 AM	0:08	Training			Clear		Goulding
12-07-21	22:00 PM	22:08 PM	0:08	Training			Clear		Goulding
12-07-21	23:00 PM	23:08 PM	0:08	Training			Clear		Goulding
12-08-21	12:00 AM	12:08 AM	0:08	Training			Clear		Goulding
12-08-21	1:00 AM	1:08 AM	0:08	Training			Clear		Goulding
12-08-21	2:00 AM	2:08 AM	0:08	Training			Clear		Goulding
12-08-21	3:00 AM	3:08 AM	0:08	Training			Clear		Goulding
12-08-21	4:00 AM	4:08 AM	0:08	Training			Clear		Goulding
12-08-21	22:00 PM	22:08 PM	0:08	Training			Clear		Goulding
12-08-21	23:00 PM	23:08 PM	0:08	Training			Clear		Goulding
12-09-21	12:00 AM	12:08 AM	0:08	Training			Clear		Goulding
12-09-21	1:00 AM	1:08 AM	0:08	Training			Clear		Goulding
12-09-21	2:00 AM	2:09 AM	0:08	Training			Clear		Goulding
12-09-21	3:00 AM	3:08 AM	0:08	Training			Clear		Goulding
12-09-21	4:00 AM	4:08 AM	0:08	Training			Clear		Goulding
12-09-21	22:00 PM	22:08 PM	0:08	Training			Clear		Goulding
12-09-21	23:00 PM	23:08 PM	0:08	Training			Clear		Goulding
12-10-21	12:02 AM	12:10 AM	0:08	Training			Clear		Goulding
12-10-21	1:00 AM	1:08 AM	0:08	Training			Clear		Goulding
12-10-21	2:00 AM	2:09 AM	0:08	Training			Clear		Goulding
12-10-21	3:00 AM	3:09 AM	0:09	Training			Clear		Goulding
12-10-21	4:00 AM	4:08 AM	0:08	Training			Clear		Goulding
12-10-21	22:00 PM	22:08 PM	0:08	Training			Clear		Goulding

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### Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Dec

20 21

DATE	TIME GATES CLOSED	TIME GATES ARE OPENED	DELAY DUE TO BRIDGE OPENING	TYPE OF VESSEL	NAME OR NUMBER OF VESSEL	REMARKS	WEATHER WHEN BOAT WAS PASSING THROUGH	DIRECTION OF TRAVEL	NAME OF OPERATOR
12-10-21	23:00 PM	23:09 PM	0:09	Training			Clear		Goulding
12-11-21	12:00 AM	12:08 AM	0:08	Training			Clear		Goulding
12-11-21	1:05 AM	1:14 AM	0:08	Training			Clear		Goulding
12-11-21	2:01 AM	2:10 AM	0:08	Training			Clear		Goulding
12-11-21	3:00 AM	3:08 AM	0:08	Training			Clear		Goulding
12-11-21	4:00 AM	4:08 AM	0:08	Training			Clear		Goulding
12-14-21	8:53 AM	8:53 AM	0:00	Maintenance		NE 2 3/4 NW 1 1/2 SE 2 3/4 SW 0	Clear		Steed
12-15-21	6:20 AM	6:30 AM	0:09	Sailboat	Lab Mariner		Clear	S	Steed
12-18-21	10:21 AM	10:31 AM	0:09	Sailboat	Nipe		Clear	S	Cooper
12-18-21	11:36 AM	11:48 AM	0:12	Tug / Barge	COHO/PENN No. 9		Clear	N	Cooper
12-19-21	19:59 PM	20:10 PM	0:10	Tug / Barge	CoHo		Partly Cloudy	S	Steed
12-24-21	10:14 AM	10:22 AM	0:08	Sailboat	Miss Kitty		Clear	S	Barrett

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## Averages

No.Of Vessels	135
No.Of Openings	384
Avg. Vessels / Opening	0.35
Avg. Openings / Day	1.05
Avg. Vessels / Day	0.37
Avg. Opening Time	9 Min

## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-01-22	14:04 PM	14:14 PM	0:10	Sailboat	Miss Kitty		Clear	N	Goulding
01-05-22	14:26 PM	14:34 PM	0:07	Sailboat	Miss Kitty		Rainy	S	Barrett
01-18-22	14:43 PM	15:00 PM	0:17	Ship	Suhar	had to use cheat button	Clear	N	Steed
01-22-22	14:29 PM	14:38 PM	0:09	Training		Training	Clear		Cooper
01-23-22	10:21 AM	10:35 AM	0:13	Ship	SUHAR		Clear	S	Steed
01-31-22	16:51 PM	16:59 PM	0:08	Sailboat	Gradle		Clear	S	Garrett
02-06-22	10:24 AM	10:32 AM	0:08	Sailboat	Encore		Clear	S	Garrett
02-09-22	8:17 AM	8:25 AM	0:07	Sailboat	Harmony		Clear	S	Garrett
03-03-22	12:17 PM	12:28 PM	0:10	Tug / Barge	Chesapeake Coast		Clear	N	Steed
03-04-22	11:15 AM	11:28 AM	0:13	Tug / Barge	Chesapeake Coast		Clear	S	Steed
03-09-22	10:00 AM	10:09 AM	0:09	Training			Clear		Goulding
03-12-22	11:26 AM	11:41 AM	0:14	Maintenance		loose cable	Windy		Barrett
03-13-22	12:00 PM	12:08 PM	0:08	Sailboat	Goshity		Clear	N	Barrett
03-16-22	22:51 PM	23:04 PM	0:13	Tug / Barge	Cape Cod		Clear	N	Garrett
03-16-22	22:51 PM	23:04 PM	0:13	Tug / Barge	Cape Charles		Clear	N	Goulding
03-16-22	22:51 PM	23:04 PM	0:13	Ship	Stream Baltic		Clear	N	Goulding
03-18-22	12:11 AM	12:25 AM	0:13	Ship	Stream Baltic		Clear	S	Barrett
03-22-22	18:00 PM	18:12 PM	0:11	Ship	Suhar		Clear	N	Goulding
03-22-22	18:00 PM	18:12 PM	0:11	Tug / Barge	Erin McAllister		Clear	N	Goulding
03-22-22	18:00 PM	18:12 PM	0:11	Tug / Barge	Dorothy McAllister		Clear	N	Goulding
03-27-22	15:11 PM	15:23 PM	0:12	Ship	Suhar		Clear	S	Barrett
04-05-22	2:34 AM	2:50 AM	0:15	Tug / Barge	Cape Charles		Clear	N	Goulding
04-05-22	2:34 AM	2:50 AM	0:15	Tug / Barge	Cape Cod		Clear	N	Goulding
04-05-22	2:34 AM	2:50 AM	0:15	Ship	Overseas Martinez		Clear	N	Goulding
04-05-22	15:44 PM	15:58 PM	0:14	Commercial	Overseas Martinez		Clear	S	Garrett

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Apr

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
04-13-22	19:18 PM	19:27 PM	0:08	Sailboat	Counting Stars		Clear	N	Goulding
04-14-22	7:52 AM	8:03 AM	0:11	Sailboat	Raggin Dragon		Clear	S	Steed
04-18-22	18:57 PM	19:07 PM	0:10	Tug / Barge	Blue Fin		Clear	N	Steed
04-19-22	13:09 PM	13:20 PM	0:10	Tug / Barge	Blue FIN		Clear	S	Goulding
04-19-22	13:09 PM	13:20 PM	0:10	Tug / Barge	Cape Charles		Clear	S	Goulding
04-19-22	19:57 PM	20:07 PM	0:10	Sailboat	Raggid Dragon		Clear	N	Garrett
04-20-22	17:15 PM	17:28 PM	0:12	Tug / Barge	Moran/Texas		Clear	N	Garrett
04-22-22	4:36 AM	4:52 AM	0:16	Tug / Barge	Mariya Moran		Clear	S	Goulding
04-22-22	4:36 AM	4:52 AM	0:16	Tug / Barge	Cape Charles		Clear	S	Goulding
04-24-22	12:48 PM	13:01 PM	0:13	Sailboat	Geranimo		Clear	N	Barrett
05-03-22	9:47 AM	10:06 AM	0:18	Sailboat	talaria	cheat	Clear	N	McGee
05-03-22	15:52 PM	15:52 PM	0:00	Maintenance		nw 0 ne1/2 sw1/4 se 5	Clear		Goulding
05-06-22	7:27 AM	7:37 AM	0:09	Sailboat	Ragon Dragon		Clear	S	Goulding
05-07-22	19:52 PM	20:11 PM	0:18	Tug / Barge	Paula Lee		Clear	N	Barrett
05-07-22	8:24 AM	8:37 AM	0:12	Tug / Barge	Colonel		Clear	N	Goulding
05-07-22	10:34 AM	10:44 AM	0:09	Tug / Barge	Colonel		Clear	S	Goulding
05-08-22	15:26 PM	15:41 PM	0:15	Tug / Barge	Colonel		Clear	S	Barrett
05-09-22	14:17 PM	14:25 PM	0:08	Tug / Barge	Colonel		Clear	N	Garrett
05-09-22	14:32 PM	14:40 PM	0:08	Sailboat	Ragged Dragon		Clear	N	Garrett
05-09-22	15:43 PM	15:43 PM	0:00	Tug / Barge	Colonel		Clear	S	Garrett
05-09-22	16:08 PM	16:18 PM	0:10	Tug / Barge	Colonel		Clear	N	Garrett
05-10-22	2:14 AM	2:23 AM	0:09	Tug / Barge	Colonel		Clear	S	Steed
05-10-22	4:25 AM	4:39 AM	0:13	Tug / Barge	Colonel		Clear	N	Steed
05-10-22	9:53 AM	10:09 AM	0:16	Tug / Barge	Colonel		Clear	S	Goulding
05-10-22	10:30 AM	10:40 AM	0:09	Tug / Barge	Colonel		Clear	N	Goulding

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-10-22	19:34 PM	19:45 PM	0:11	Tug / Barge	Colonel		Clear	S	Garrett
05-11-22	20:42 PM	20:55 PM	0:13	Tug / Barge	Colonel		Clear	N	Garrett
05-12-22	1:14 AM	1:26 AM	0:12	Tug / Barge	Colonel		Clear	S	Goulding
05-15-22	16:21 PM	16:30 PM	0:09	Sailboat	Tularia		Clear	S	Steed
05-16-22	23:02 PM	23:12 PM	0:10	Training		Training	Clear		Keck
05-17-22	12:01 AM	12:10 AM	0:09	Training		training	Clear		Keck
05-17-22	12:59 AM	1:09 AM	0:09	Training		training	Clear		Keck
05-17-22	2:00 AM	2:09 AM	0:09	Training		training	Clear		Keck
05-17-22	3:00 AM	3:09 AM	0:09	Training		training	Clear		Keck
05-17-22	3:59 AM	4:10 AM	0:11	Training		training	Rainy		Keck
05-17-22	22:00 PM	22:09 PM	0:08	Training		training	Clear		Keck
05-17-22	23:00 PM	23:09 PM	0:09	Training		training	Clear		Keck
05-17-22	23:59 PM	12:09 AM	0:09	Training		training	Clear		Keck
05-18-22	1:00 AM	1:09 AM	0:09	Training		training	Clear		Keck
05-18-22	1:30 AM	1:39 AM	0:08	Training		Training	Clear		Keck
05-18-22	1:59 AM	2:09 AM	0:09	Training		training	Clear		Keck
05-18-22	2:32 AM	2:42 AM	0:09	Training		training	Clear		Keck
05-18-22	3:00 AM	3:09 AM	0:09	Training		training	Clear		Keck
05-18-22	4:00 AM	4:09 AM	0:09	Training		training	Clear		Keck
05-18-22	22:00 PM	22:09 PM	0:09	Training		training	Clear		Keck
05-18-22	23:02 PM	23:13 PM	0:11	Training		training	Clear		Keck
05-19-22	12:02 AM	12:11 AM	0:09	Training		training	Clear		Keck
05-19-22	12:59 AM	1:09 AM	0:09	Training		Training	Clear		Keck
05-19-22	2:00 AM	2:09 AM	0:09	Training		Training	Clear		Keck
05-19-22	3:00 AM	3:09 AM	0:09	Training		Training	Clear		Keck

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-19-22	4:00 AM	4:10 AM	0:10	Training		training	Clear		Keck
05-19-22	22:00 PM	22:09 PM	0:08	Training		training	Clear		Keck
05-19-22	23:00 PM	23:09 PM	0:09	Training		training	Clear		Keck
05-20-22	12:00 AM	12:09 AM	0:09	Training		Training	Clear		Keck
05-20-22	1:00 AM	1:09 AM	0:09	Training		training	Clear		Keck
05-20-22	10:32 AM	10:32 AM	0:00	Maintenance		Released Torque-NE-.25"	Clear		Steed
05-22-22	23:00 PM	23:09 PM	0:09	Training		TRAINING	Rainy		Keck
05-23-22	16:30 PM	16:30 PM	0:00	Maintenance		ne 2 nw1/2 se 9 1/2 sw 1/2	Rainy		Goulding
05-23-22	12:00 AM	12:09 AM	0:09	Training		Training	Rainy		Keck
05-23-22	12:30 AM	12:39 AM	0:09	Training		Training	Rainy		Keck
05-23-22	1:00 AM	1:08 AM	0:08	Training		Training	Rainy		Keck
05-23-22	1:29 AM	1:38 AM	0:08	Training		Training	Rainy		Keck
05-23-22	2:00 AM	2:09 AM	0:09	Training		Training	Rainy		Keck
05-23-22	2:30 AM	2:39 AM	0:08	Training		Training	Rainy		Keck
05-23-22	2:59 AM	3:09 AM	0:09	Training		training	Rainy		Keck
05-23-22	4:00 AM	4:09 AM	0:09	Training		Training	Rainy		Keck
05-23-22	23:00 PM	23:09 PM	0:09	Training		Training	Rainy		Keck
05-23-22	23:59 PM	12:09 AM	0:09	Training		Training	Rainy		Keck
05-24-22	12:30 AM	12:39 AM	0:09	Training		Training	Rainy		Keck
05-24-22	1:00 AM	1:10 AM	0:10	Training		Training	Rainy		Keck
05-24-22	1:30 AM	1:39 AM	0:08	Training		Training	Rainy		Keck
05-24-22	2:00 AM	2:09 AM	0:09	Training		Training	Rainy		Keck
05-24-22	2:30 AM	2:42 AM	0:11	Training		Training	Rainy		Keck
05-24-22	3:00 AM	3:09 AM	0:09	Training		Training	Rainy		Keck
05-24-22	3:30 AM	3:39 AM	0:09	Training		Training	Rainy		Keck

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-24-22	4:00 AM	4:09 AM	0:09	Training		Training	Rainy		Keck
05-24-22	23:00 PM	23:09 PM	0:09	Training		Training	Rainy		Keck
05-25-22	12:00 AM	12:11 AM	0:11	Maintenance		Grease AUX Sheave	Rainy		Keck
05-25-22	1:00 AM	1:09 AM	0:09	Training		Training	Rainy		Keck
05-25-22	1:30 AM	1:39 AM	0:08	Training		Training	Rainy		Keck
05-25-22	2:00 AM	2:10 AM	0:10	Training		Training	Rainy		Keck
05-25-22	2:30 AM	2:39 AM	0:08	Training		Training	Rainy		Keck
05-25-22	3:00 AM	3:08 AM	0:08	Training		Training	Rainy		Keck
05-25-22	3:30 AM	3:39 AM	0:08	Training		Training	Rainy		Keck
05-25-22	4:00 AM	4:09 AM	0:08	Training		Training	Rainy		Keck
05-25-22	6:09 AM	6:20 AM	0:10	Sailboat	Geronimo		Rainy	S	Steed
05-25-22	23:00 PM	23:09 PM	0:08	Training		Training	Rainy		Keck
05-26-22	12:00 AM	12:08 AM	0:08	Training		Training	Rainy		Keck
05-26-22	1:05 AM	1:14 AM	0:09	Training		Training	Rainy		Keck
05-26-22	2:00 AM	2:08 AM	0:08	Training		Training	Rainy		Keck
05-26-22	3:00 AM	3:10 AM	0:09	Training		Training	Rainy		Keck
05-26-22	4:00 AM	4:09 AM	0:09	Training		Training	Rainy		Keck
05-26-22	22:00 PM	22:09 PM	0:08	Training		Training	Rainy		Keck
05-26-22	22:30 PM	22:41 PM	0:10	Training		Training	Rainy		Keck
05-26-22	23:30 PM	23:39 PM	0:08	Training		Training	Rainy		Keck
05-27-22	12:30 AM	12:39 AM	0:09	Training		Training	Rainy		Keck
05-27-22	1:00 AM	1:09 AM	0:08	Training		Training	Rainy		Keck
05-27-22	1:59 AM	2:08 AM	0:08	Training		Training	Rainy		Keck
05-27-22	3:00 AM	3:08 AM	0:08	Training		Training	Rainy		Keck
05-27-22	4:00 AM	4:08 AM	0:08	Training		Training	Rainy		Keck

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-27-22	18:16 PM	18:27 PM	0:11	Sailboat	Miss Kitty		Clear	S	Barrett
05-31-22	15:25 PM	15:39 PM	0:13	Tug / Barge	Blue Fin/Penn No 8		Clear	N	Garrett
06-01-22	20:50 PM	21:02 PM	0:12	Tug / Barge	Blue Fin/Penn No80		Clear	S	Garrett
06-02-22	2:08 AM	2:20 AM	0:11	Tug / Barge	Coho		Clear	N	Keck
06-03-22	12:05 AM	12:17 AM	0:12	Tug / Barge	Coho		Clear	S	Keck
06-03-22	1:14 AM	1:29 AM	0:14	Sailboat	Labmariner		Clear	N	Keck
06-08-22	12:01 PM	12:10 PM	0:08	Sailboat	Orion		Clear	N	Garrett
06-14-22	19:51 PM	20:01 PM	0:09	Sailboat	Tranquilo		Clear	N	Barrett
06-14-22	22:33 PM	22:43 PM	0:09	Sailboat	Bristol Star		Clear	N	Garrett
06-16-22	13:08 PM	13:17 PM	0:08	Sailboat	Tranquilo		Clear	S	Keck
06-16-22	18:15 PM	18:29 PM	0:14	Sailboat	tranguilo	clear	Clear	N	McGee
06-18-22	11:13 AM	11:24 AM	0:10	Sailboat	Bristol Star	CHEATED	Clear	S	Keck
06-19-22	9:42 AM	9:51 AM	0:09	Sailboat	Dreamer	CHEATED	Clear	N	Keck
06-21-22	11:05 AM	11:05 AM	0:00	Maintenance		release all 4 tourque couplings	Clear		McGee
06-22-22	19:06 PM	19:18 PM	0:11	Tug / Barge	Moran		Clear	N	Garrett
06-23-22	20:25 PM	20:36 PM	0:11	Tug / Barge	Maria Moran		Clear	S	Steed
06-30-22	22:06 PM	22:16 PM	0:09	Sailboat	O Brian		Clear	S	Steed
07-03-22	12:17 PM	12:27 PM	0:10	Sailboat	Chasing Summer		Clear	S	Steed
07-04-22	12:55 AM	1:03 AM	0:07	Sailboat	Orion		Clear	N	Garrett
07-05-22	1:39 AM	1:50 AM	0:11	Tug / Barge	McCormack Boys		Clear	N	Garrett
07-09-22	14:50 PM	15:00 PM	0:10	Sailboat	Loca Lola II		Clear	N	Garrett
07-10-22	17:18 PM	17:26 PM	0:07	Ship	Calliope		Clear	N	Garrett
07-11-22	17:11 PM	17:22 PM	0:10	Sailboat	Loca Lola II	s	Partly Cloudy		Garrett
07-12-22	10:48 AM	10:57 AM	0:08	Sailboat	Calliope		Partly Cloudy	S	Barrett
07-14-22	3:26 AM	3:38 AM	0:11	Tug / Barge	Coho		Partly Cloudy	N	Keck

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jul

20 22

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
07-14-22	23:02 PM	23:15 PM	0:13	Tug / Barge	Coho		Partly Cloudy	S	Keck
07-17-22	6:02 AM	6:10 AM	0:08	Sailboat	Goshiti		Partly Cloudy	S	Garrett
07-19-22	4:19 AM	4:30 AM	0:11	Tug / Barge	Skip Jack		Clear	N	Barrett
07-20-22	1:48 AM	1:59 AM	0:11	Tug / Barge	Skip Jack		Clear	S	Barrett
08-13-22	18:59 PM	19:08 PM	0:08	Sailboat	Goshiki		Clear		Barrett
08-19-22	14:34 PM	14:44 PM	0:10	Sailboat	Lorraine		Rainy	S	Steed
08-20-22	19:35 PM	19:46 PM	0:10	Sailboat	Salacia Star	return in 2-3 days	Partly Cloudy	N	Keck
08-20-22	7:10 AM	7:19 AM	0:08	Sailboat	Ragged Dragon		Rainy	S	Barrett
08-23-22	12:39 PM	12:47 PM	0:08	Sailboat	Sanora		Clear	N	Barrett
08-25-22	10:59 AM	10:59 AM	0:00	Maintenance		NW drive communication failure due to tripped brea	Clear		Garrett
08-27-22	12:43 PM	12:52 PM	0:08	Sailboat	Salacia Star		Clear	S	Garrett
09-04-22	13:13 PM	13:22 PM	0:08	Sailboat	Salacia Star		Clear	N	Garrett
09-17-22	14:19 PM	14:32 PM	0:12	Sailboat	Catalina		Clear	S	Barrett
09-21-22	17:32 PM	17:41 PM	0:09	Sailboat	Relentless	being towed by ustowboats	Clear	S	Garrett
09-22-22	8:24 AM	8:35 AM	0:11	Sailboat	Selicia Star		Clear	S	Steed
10-02-22	10:15 AM	10:23 AM	0:08	Sailboat	Senora		Clear	S	Barrett
10-13-22	13:22 PM	13:30 PM	0:08	Tug / Barge	Tow Boat 6	Tow Boat W/ Sail Boat	Partly Cloudy	N	Keck
10-14-22	9:08 AM	9:16 AM	0:08	Sailboat	Sea Life		Clear	S	Barrett
10-18-22	19:19 PM	19:35 PM	0:16	Ship	Eldia		Clear	N	Steed
10-19-22	14:05 PM	14:28 PM	0:23	Ship	Eldia		Clear	S	Keck
10-23-22	14:00 PM	14:10 PM	0:09	Sailboat	Ragged Dragon		Clear	N	Keck
10-30-22	5:45 AM	5:56 AM	0:10	Sailboat	labmariner		Clear	S	Keck
11-08-22	23:30 PM	23:40 PM	0:09	Maintenance			Clear		Merrick
11-09-22	3:21 AM	3:29 AM	0:07	Maintenance			Clear		Garrett
11-10-22	1:00 AM	1:09 AM	0:08	Maintenance			Clear		McGee

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Nov

20 22

DATE	TIME GATES CLOSED	TIME GATES ARE OPENED	DELAY DUE TO BRIDGE OPENING	TYPE OF VESSEL	NAME OR NUMBER OF VESSEL	REMARKS	WEATHER WHEN BOAT WAS PASSING THROUGH	DIRECTION OF TRAVEL	NAME OF OPERATOR
11-15-22	11:02 AM	11:11 AM	0:08	Sailboat	Nao Trinidad		Clear	N	Garrett
11-19-22	6:26 AM	6:34 AM	0:08	Sailboat	Tranquilo		Clear	S	Barrett
11-21-22	8:26 AM	8:37 AM	0:11	Sailboat	Trinidad		Clear	S	Steed
12-05-22	16:18 PM	16:18 PM	0:00	Maintenance		Released Torque Couplings	Clear		Garrett
12-06-22	14:43 PM	14:51 PM	0:07	Malfunction	Bridge will not raise		Clear		Barrett
12-06-22	15:19 PM	15:27 PM	0:08	Sailboat	Senora		Clear	N	Barrett
12-10-22	12:57 PM	13:06 PM	0:08	Sailboat	Ragged Dragon		Clear	S	Steed
12-13-22	22:30 PM	22:39 PM	0:08	Training			Clear		Goulding
12-13-22	23:30 PM	23:39 PM	0:09	Training			Clear		Goulding
12-14-22	11:30 AM	11:37 AM	0:07	Sailboat	Whisper		Clear	N	Keck

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Averages

No.Of Vessels	102
No.Of Openings	177
Avg. Vessels / Opening	0.58
Avg. Openings / Day	0.48
Avg. Vessels / Day	0.28
Avg. Opening Time	10 Min

## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-01-23	8:59 AM	9:09 AM	0:09	Sailboat	Counting Stars		Clear	S	Keck
01-03-23	16:11 PM	16:19 PM	0:07	Sailboat	Counting Stars		Clear	N	Steed
01-17-23	13:36 PM	13:44 PM	0:08	Sailboat	dragon fire		Clear	N	McGee
01-30-23	8:40 AM	8:49 AM	0:09	Sailboat	Senora		Rainy	S	Barrett
02-02-23	10:26 AM	10:34 AM	0:07	Maintenance			Rainy		Garrett
02-13-23	14:34 PM	14:40 PM	0:05	Maintenance		Greasing	Rainy		Steed
02-16-23	14:51 PM	15:04 PM	0:12	Tug / Barge	Dredge Brunswick		Windy	N	Barrett
02-20-23	14:00 PM	14:10 PM	0:09	Training		training	Windy		Robbins
03-08-23	12:42 PM	12:51 PM	0:00	Maintenance			Clear	<	Barrett
03-13-23	10:22 AM	10:27 AM	0:05	Maintenance			Partly Cloudy		Garrett
03-22-23	12:18 PM	12:33 PM	0:15	Commercial	Brunswick Dredge		Partly Cloudy	S	Robbins
03-23-23	16:12 PM	16:21 PM	0:08	Sailboat	Sea Tow..towing wh		Partly Cloudy	N	Steed
03-29-23	8:28 AM	8:29 AM	0:00	Sailboat	counting stars		Partly Cloudy	S	Merrick
04-05-23	14:04 PM	14:08 PM	0:03	Maintenance		Test aux drive shaft bearing	Partly Cloudy		Garrett
05-01-23	16:36 PM	16:45 PM	0:08	Sailboat	Stenno (blue)		Partly Cloudy	N	Garrett
05-03-23	10:40 AM	10:50 AM	0:09	Sailboat	Stenno	had to cheat	Partly Cloudy	S	Robbins
05-03-23	19:57 PM	19:57 PM	0:00	Maintenance		did torque cupplings on all 4 corners	Partly Cloudy		Steed
05-05-23	11:39 AM	11:47 AM	0:08	Sailboat	Senora		Partly Cloudy	N	Robbins
05-06-23	17:51 PM	17:59 PM	0:08	Sailboat	Ragin Dragon		Partly Cloudy	N	Steed
05-07-23	9:27 AM	9:36 AM	0:08	Sailboat	Second Fiddle		Clear	N	Barrett
05-09-23	11:29 AM	11:38 AM	0:09	Sailboat	Second Fiddle		Clear	S	Robbins
05-20-23	19:29 PM	19:37 PM	0:08	Sailboat	Dragon Fire		Clear	S	Garrett
05-22-23	10:28 AM	10:37 AM	0:08	Sailboat	Goshiki		Clear	S	Robbins
05-22-23	11:19 AM	11:28 AM	0:08	Sailboat	Sophie Amalie		Clear	N	Robbins
05-25-23	1:01 AM	1:10 AM	0:09	Sailboat	Dragon Fire		Clear	N	Garrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF May

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
05-28-23	6:28 AM	6:37 AM	0:09	Sailboat	Sophie Amalie		Rainy	S	Barrett
05-29-23	11:28 AM	11:40 AM	0:12	Sailboat	Papo DiMato		Clear	N	Barrett
05-30-23	13:40 PM	13:50 PM	0:09	Sailboat	Arabelle		Clear	N	Barrett
05-30-23	21:42 PM	21:50 PM	0:07	Sailboat	Allora		Clear	N	Steed
06-02-23	8:45 AM	8:58 AM	0:13	Sailboat	Nao Trinidad		Clear	N	Garrett
06-05-23	12:48 PM	13:01 PM	0:12	Sailboat	Allora		Clear	S	Steed
06-07-23	13:57 PM	14:07 PM	0:09	Sailboat	Papo DiMato		Clear	S	Garrett
06-10-23	15:27 PM	15:36 PM	0:09	Sailboat	Wild Rumpus		Clear	N	Garrett
06-12-23	6:14 AM	6:22 AM	0:07	Sailboat	Nao Trinidad		Clear	S	Robbins
06-12-23	15:14 PM	15:23 PM	0:08	Sailboat	counting stars		Clear	N	Steed
06-13-23	18:57 PM	19:07 PM	0:09	Sailboat	Dragon Fire		Clear	S	Steed
06-14-23	5:32 AM	5:42 AM	0:09	Sailboat	Renegade		Clear	N	Garrett
06-14-23	17:00 PM	17:11 PM	0:10	Sailboat	Tranquilo		Clear	N	Steed
06-16-23	11:00 AM	11:16 AM	0:15	Sailboat	Renegade		Clear	S	Barrett
06-20-23	19:01 PM	19:10 PM	0:08	Sailboat	Yonder	Vessel could not hear my radio transmission, but	Clear	N	Robbins
06-24-23	5:48 AM	5:57 AM	0:08	Sailboat	Yonder		Clear	S	Robbins
06-24-23	11:29 AM	11:38 AM	0:09	Sailboat	Tranquilo		Clear	S	Garrett
06-24-23	12:57 PM	13:07 PM	0:09	Sailboat	Tranquilo		Clear	N	Garrett
07-05-23	12:25 PM	12:32 PM	0:07	Sailboat	Senora		Clear	S	Robbins
07-11-23	10:31 AM	10:37 AM	0:05	Maintenance		Had to use cheat	Clear		Garrett
07-11-23	6:58 AM	7:06 AM	0:08	Sailboat	Counting Stars		Clear	S	Garrett
07-15-23	15:14 PM	15:23 PM	0:08	Sailboat	Orion		Clear	N	Barrett
07-15-23	13:50 PM	13:58 PM	0:07	Sailboat	Orion		Clear	S	Barrett
07-16-23	16:52 PM	17:03 PM	0:11	Sailboat	Esprit de Solei		Clear	N	Goulding
07-18-23	19:52 PM	20:00 PM	0:08	Sailboat	Counting Stars		Clear	N	Garrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jul

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
07-22-23	8:33 AM	8:45 AM	0:11	Sailboat	Dreamer		Clear	S	Barrett
07-22-23	12:34 PM	12:44 PM	0:10	Sailboat	Dreamer		Clear	N	Barrett
08-03-23	10:53 AM	11:00 AM	0:07	Maintenance			Clear		Garrett
08-18-23	15:20 PM	15:28 PM	0:08	Sailboat	pau hana		Clear	S	Robbins
08-19-23	13:57 PM	14:05 PM	0:07	Sailboat	Sri Lanka		Clear	S	Garrett
08-20-23	18:16 PM	18:26 PM	0:09	Sailboat	Hamifa		Clear	N	Barrett
08-22-23	12:00 PM	12:09 PM	0:09	Sailboat	Pau Hana		Clear	N	Garrett
09-01-23	11:37 AM	11:46 AM	0:08	Sailboat	Hamisha		Clear	S	Robbins
09-10-23	17:32 PM	17:40 PM	0:07	Sailboat	Gosaiki		Clear	N	Barrett
09-11-23	17:36 PM	17:42 PM	0:06			Malfunction	Clear		Barrett
09-11-23	19:01 PM	19:09 PM	0:07	Sailboat	Sunday		Clear	N	Barrett
09-11-23	19:01 PM	19:09 PM	0:07	Sailboat	Salacious Star		Clear	N	Barrett
09-14-23	11:35 AM	11:43 AM	0:08	Sailboat	Salacious Star and		Clear	S	Steed
09-20-23	14:17 PM	14:26 PM	0:08	Sailboat	Wild Rumpus		Clear	S	Steed
09-24-23	10:16 AM	10:25 AM	0:09	Sailboat	Gesheki		Clear	S	Goulding
09-25-23	22:00 PM	22:09 PM	0:09	Training		training Released 4 couplings	Clear		Dale
09-25-23	23:00 PM	23:10 PM	0:10	Training		training	Clear		Dale
09-26-23	12:00 AM	12:11 AM	0:11	Training		training	Clear		Dale
09-26-23	23:30 PM	23:39 PM	0:09	Training		training	Clear		Dale
09-26-23	22:30 PM	22:40 PM	0:10	Training		training	Clear		Dale
09-26-23	2:30 AM	2:39 AM	0:09	Training		training	Clear		Dale
09-26-23	2:00 AM	2:09 AM	0:09	Training		training	Clear		Dale
09-26-23	1:00 AM	1:09 AM	0:09	Training		training	Clear		Dale
09-26-23	1:30 AM	1:39 AM	0:09	Training		training	Clear		Dale
09-26-23	3:00 AM	3:09 AM	0:09	Training		training	Clear		Dale

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Sep

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
09-26-23	14:23 PM	14:32 PM	0:08	Sailboat	Wild Rhompus		Clear	N	Robbins
09-27-23	22:30 PM	22:39 PM	0:09	Training		training/ welding on grate	Clear		Dale
09-27-23	23:30 PM	23:39 PM	0:09	Training		training/ welding on grate	Clear		Dale
09-27-23	12:30 AM	12:39 AM	0:08	Training		training	Clear		Dale
09-27-23	1:00 AM	1:08 AM	0:08	Training		training	Clear		Dale
09-27-23	1:30 AM	1:39 AM	0:09	Training		training	Clear		Dale
09-27-23	2:00 AM	2:10 AM	0:10	Training		training	Clear		Dale
09-27-23	2:30 AM	2:38 AM	0:08	Training		training	Clear		Dale
09-27-23	3:00 AM	3:08 AM	0:08	Training		training	Clear		Dale
09-27-23	3:30 AM	3:38 AM	0:08	Training		training	Clear		Dale
09-27-23	4:00 AM	4:08 AM	0:08	Training		training	Clear		Dale
09-28-23	1:29 AM	1:47 AM	0:18	Training		training/ welding on grate	Clear		Dale
09-28-23	2:59 AM	3:15 AM	0:15	Training		training/ welding on grate	Clear		Dale
09-28-23	2:00 AM	2:16 AM	0:16	Training		training/ welding on grate	Clear		Dale
09-28-23	12:00 AM	12:09 AM	0:09	Training		training/ welding on grate	Clear		Dale
09-28-23	1:00 AM	1:10 AM	0:10	Training		training/ welding on grate	Clear		Dale
09-28-23	3:30 AM	3:40 AM	0:10	Training		training/ welding on grate	Clear		Dale
09-28-23	12:30 AM	12:40 AM	0:10	Training		training/ welding on grate	Clear		Dale
09-28-23	2:30 AM	2:45 AM	0:15	Training		training/ welding on grate	Clear		Dale
09-28-23	4:01 AM	4:09 AM	0:08	Training		training	Clear		Dale
09-28-23	20:44 PM	20:44 PM	0:00	Maintenance			Clear		Dale
09-28-23	20:44 PM	20:44 PM	0:00	Maintenance		released torque couplings	Clear		Dale
09-28-23	21:07 PM	21:07 PM	0:00	Training			Clear		Dale
09-28-23	22:30 PM	22:38 PM	0:08	Training		training	Clear		Dale
09-28-23	23:30 PM	23:38 PM	0:08	Training		training	Clear		Dale

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Sep

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
09-29-23	12:00 AM	12:08 AM	0:08	Training		training	Clear		Dale
09-29-23	12:40 AM	12:40 AM	0:00	Training		training	Clear		Dale
09-29-23	1:00 AM	1:08 AM	0:08	Training		training	Clear		Dale
09-29-23	1:30 AM	1:38 AM	0:08	Training		training	Clear		Dale
09-29-23	2:00 AM	2:09 AM	0:08	Training		training	Clear		Dale
09-29-23	2:30 AM	2:38 AM	0:08	Training		training	Clear		Dale
09-29-23	3:00 AM	3:08 AM	0:08	Training		training	Clear		Dale
09-29-23	3:30 AM	3:38 AM	0:08	Training		training	Clear		Dale
09-29-23	4:00 AM	4:08 AM	0:08	Training			Clear		Dale
10-01-23	22:30 PM	22:39 PM	0:09	Training		training	Clear		Dale
10-01-23	23:32 PM	23:40 PM	0:08	Training		training	Clear		Dale
10-02-23	12:39 AM	12:39 AM	0:00	Training		training	Clear		Dale
10-02-23	12:39 AM	12:39 AM	0:00	Training			Clear		Dale
10-02-23	1:00 AM	1:08 AM	0:07	Training		training	Clear		Dale
10-02-23	1:30 AM	1:38 AM	0:08	Training		training	Clear		Dale
10-02-23	2:08 AM	2:08 AM	0:00	Training		training	Clear		Dale
10-02-23	2:31 AM	2:39 AM	0:08	Training		training	Clear		Dale
10-02-23	3:00 AM	3:08 AM	0:08	Training		training	Clear		Dale
10-02-23	3:38 AM	3:38 AM	0:00	Training		training	Clear		Dale
10-02-23	4:00 AM	4:07 AM	0:07	Training		training	Clear		Dale
10-02-23	23:05 PM	23:13 PM	0:07	Training		training	Clear		Dale
10-03-23	12:00 AM	12:08 AM	0:08	Training		training	Clear		Dale
10-03-23	1:07 AM	1:15 AM	0:07	Training		training	Clear		Dale
10-03-23	1:30 AM	1:38 AM	0:08	Training		training	Clear		Dale
10-03-23	2:01 AM	2:01 AM	0:00	Training		training	Clear		Dale

NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Oct

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
10-03-23	2:30 AM	2:38 AM	0:08	Training		training	Clear		Dale
10-03-23	2:30 AM	2:38 AM	0:08	Training			Clear		Dale
10-03-23	3:00 AM	3:08 AM	0:07	Training		training	Clear		Dale
10-03-23	3:30 AM	3:38 AM	0:07	Training		training	Clear		Dale
10-03-23	22:32 PM	22:40 PM	0:08	Training		training	Clear		Dale
10-03-23	23:00 PM	23:08 PM	0:08	Training		training	Clear		Dale
10-04-23	12:00 AM	12:08 AM	0:08	Training		training	Clear		Dale
10-04-23	1:06 AM	1:14 AM	0:08	Training		training	Clear		Dale
10-04-23	1:30 AM	1:38 AM	0:08	Training		training	Clear		Dale
10-04-23	2:00 AM	2:08 AM	0:07	Training		training	Clear		Dale
10-04-23	2:30 AM	2:38 AM	0:08	Training		training	Clear		Dale
10-04-23	3:00 AM	3:08 AM	0:08	Training		training	Clear		Dale
10-04-23	3:30 AM	3:37 AM	0:07	Training		training	Clear		Dale
10-04-23	22:30 PM	22:42 PM	0:12	Training		training	Clear		Dale
10-04-23	23:00 PM	23:09 PM	0:08	Training		training	Clear		Dale
10-05-23	15:20 PM	15:20 PM	0:00	Maintenance		release touque coupling all 4	Clear		Goulding
10-05-23	12:00 AM	12:08 AM	0:07	Training		training	Clear		Dale
10-05-23	1:00 AM	1:08 AM	0:07	Training		training	Clear		Dale
10-05-23	2:00 AM	2:08 AM	0:08	Training		training	Clear		Dale
10-05-23	3:04 AM	3:13 AM	0:09	Training		training	Clear		Dale
10-05-23	15:23 PM	15:23 PM	0:00	Maintenance		release all 4 tourque couplings	Clear		Goulding
10-05-23	22:33 PM	22:42 PM	0:09	Maintenance		maintance	Clear		Dale
10-05-23	23:30 PM	23:38 PM	0:08	Training		training	Clear		Dale
10-06-23	12:30 AM	12:38 AM	0:08	Training		training	Clear		Dale
10-06-23	1:01 AM	1:09 AM	0:07	Training		training	Clear		Dale

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Oct

20 23

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
10-06-23	2:00 AM	2:08 AM	0:08	Training		training	Clear		Dale
10-06-23	3:00 AM	3:08 AM	0:08	Training		training	Clear		Dale
10-06-23	4:00 AM	4:08 AM	0:07	Training		trainin g	Clear		Dale
10-15-23	3:38 AM	3:46 AM	0:07	Maintenance	Maintenance		Clear		Garrett
10-15-23	12:22 PM	12:30 PM	0:08	Sailboat	Ragged Dragon		Clear	S	Robbins
10-20-23	9:56 AM	10:05 AM	0:09	Sailboat	Deer Dancer		Clear	N	Garrett
10-23-23	7:18 AM	7:26 AM	0:08	Sailboat	counting Stars		Clear	S	Steed
10-23-23	12:59 PM	13:08 PM	0:09	Maintenance		installing bolts	Clear		Steed
10-23-23	13:59 PM	14:05 PM	0:06	Maintenance		Grease Aux Cntwght 25' TOS	Clear		Barrett
10-24-23	16:04 PM	16:12 PM	0:07	Sailboat	Counting Stars		Clear	N	Garrett
10-28-23	9:12 AM	9:20 AM	0:07	Sailboat	Counting Stars		Clear	S	Goulding
11-04-23	5:56 AM	6:05 AM	0:08	Sailboat	Wild Rumpus		Clear	S	Barrett
11-14-23	14:13 PM	14:22 PM	0:09	Sailboat	Maureen		Clear	S	Goulding
11-22-23	13:39 PM	13:48 PM	0:08	Sailboat	Orion		Rainy	S	Barrett
11-25-23	16:10 PM	16:18 PM	0:07	Sailboat	Obrien		Rainy	N	Robbins
12-01-23	12:54 PM	13:03 PM	0:09	Sailboat	Lorraine		Rainy	N	Garrett
12-05-23	14:49 PM	14:58 PM	0:09	Sailboat	Eagle 2		Sunny	N	Garrett
12-13-23	14:30 PM	14:39 PM	0:09	Training		training	Sunny		Barrett
12-16-23	10:02 AM	10:10 AM	0:08	Sailboat	Lady Equittaine & S	2 Sailboats/1 Opening	Sunny	N	Robbins
12-18-23	9:28 AM	9:28 AM	0:00	maintance		tourqe couplingNS ne1/2"se1 1/4" nw 1/2" sw 1 1/4	Sunny		McGee
12-20-23	10:27 AM	10:45 AM	0:17	Maintenance		Strain gauge test	Sunny		Garrett
12-31-23	11:04 AM	11:14 AM	0:09	Sailboat	Pau Hana		Sunny	S	Robbins

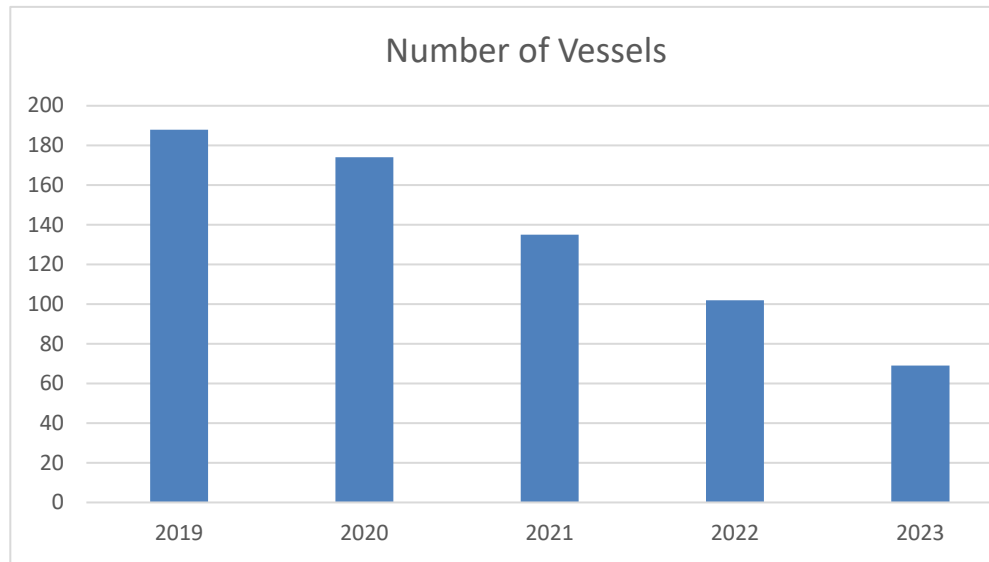
NOTE: All draw bridges are to be opened at least once a week. The machinery, gates and bearings are to be inspected at least once a week and are to be kept thoroughly lubricated. Reports are to be sent immediately after the last day of each month to the Maintenance Supervisor. An accident or serious damage to the fender system or the bridge machinery is to be reported at once by telephone to the Maintenance Supervisor. A

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## Averages

No.Of Vessels	69
No.Of Openings	168
Avg. Vessels / Opening	0.41
Avg. Openings / Day	0.46
Avg. Vessels / Day	0.19
Avg. Opening Time	8 Min

	2019	2020	2021	2022	2023
Number of	188	174	135	102	69



## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 24

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-02-24	12:46 PM	12:54 PM	0:08	Sailboat	Pau Hana		Sunny	N	Barrett
01-05-24	9:32 AM	9:45 AM	0:12	Maintenance			Sunny	<	Barrett
01-07-24	9:34 AM	9:43 AM	0:08	Sailboat	Lady Aquitaine & Su		Sunny	S	Garrett
01-14-24	23:33 PM	23:45 PM	0:11	Maintenance		Wok done on bridge	Clear		Barrett
01-15-24	20:52 PM	21:07 PM	0:15	Maintenance	open for contractors		Clear		Garrett
01-15-24	21:54 PM	22:15 PM	0:21	Maintenance	Work on span		Clear		Barrett
01-15-24	22:38 PM	22:55 PM	0:16	Maintenance			Clear		Barrett
01-15-24	23:19 PM	23:36 PM	0:16	Maintenance			Clear		Barrett
01-16-24	12:21 AM	12:32 AM	0:11	Maintenance		Work on span	Clear		Barrett
01-16-24	12:45 AM	12:58 AM	0:13	Work on span			Clear		Barrett
01-16-24	1:14 AM	1:25 AM	0:11	Maintenance		Work on span	Clear		Barrett
01-16-24	1:45 AM	2:02 AM	0:17	Maintenance		Work on span	Clear		Barrett
01-20-24	19:40 PM	19:52 PM	0:12	Maintenance			Clear		Steed
01-20-24	19:56 PM	20:07 PM	0:10	Maintenance			Clear		Steed
01-20-24	20:21 PM	20:35 PM	0:14	Maintenance			Clear		Steed
01-20-24	20:55 PM	21:06 PM	0:10	Maintenance			Clear		Steed
01-20-24	21:23 PM	21:33 PM	0:10	Maintenance			Clear		Steed
01-20-24	21:37 PM	21:49 PM	0:12	Maintenance			Clear		Steed
01-20-24	22:05 PM	22:18 PM	0:13	Maintenance		Work on span	Clear		Barrett
01-21-24	22:04 PM	22:14 PM	0:00	Maintenance			Clear		Steed
01-21-24	19:45 PM	20:03 PM	0:18	Maintenance			Clear	N	Steed
01-21-24	21:30 PM	21:41 PM	0:00	Maintenance			Clear		Steed
01-21-24	20:12 PM	20:26 PM	0:14	Maintenance			Clear		Steed
01-21-24	20:32 PM	20:52 PM	0:19	Maintenance			Clear		Steed
01-21-24	21:10 PM	21:22 PM	0:12	Maintenance			Clear		Steed

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Jan

20 24

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
01-21-24	21:45 PM	21:57 PM	0:12	Maintenance			Clear		Steed
01-25-24	10:00 AM	10:09 AM	0:09	Ship	cape hatteras	cloudy	Clear	S	McGee
02-10-24	20:41 PM	21:05 PM	0:23	Maintenance		Contractor Maintenance	Clear		Robbins
02-10-24	23:23 PM	23:39 PM	0:16	Maintenance	Contractors		Clear		Garrett
02-10-24	23:51 PM	12:03 AM	0:12	Maintenance		Contractors	Clear		Garrett
02-11-24	12:07 AM	12:24 AM	0:16	Maintenance		Contractors	Clear		Garrett
02-13-24	6:25 AM	6:25 AM	0:00		mistake		Clear		Berg
02-22-24	17:23 PM	17:31 PM	0:08	Sailboat	Star Tracer		Clear	N	Dale
02-24-24	20:21 PM	20:42 PM	0:21	Maintenance		maintenance	Clear		Dale
02-24-24	20:53 PM	21:13 PM	0:20	Maintenance		maintenance	Clear		Dale
02-24-24	21:34 PM	21:51 PM	0:17	Maintenance		maintenance	Clear		Dale
02-24-24	22:06 PM	22:16 PM	0:09	Maintenance		maintenance	Clear		Dale
02-29-24	19:53 PM	20:13 PM	0:19	Maintenance		Setting Counter Weights-extended opening time due	Clear		Robbins
02-29-24	19:22 PM	19:40 PM	0:17	Maintenance		Setting Counter Weights	Clear		Robbins
03-08-24	19:07 PM	19:27 PM	0:19	Maintenance		Contractors	Clear		Garrett
03-08-24	19:45 PM	20:04 PM	0:19	Maintenance		Contractors	Clear		Garrett
03-13-24	19:37 PM	19:52 PM	0:14	Maintenance		maintenance	Clear		Dale
03-13-24	20:00 PM	20:16 PM	0:16	Maintenance		maintenance	Clear	N	Dale
03-13-24	20:40 PM	21:01 PM	0:20	Maintenance		maintenance	Clear	N	Dale
03-21-24	20:24 PM	20:24 PM	0:00	Maintenance	Maintenance	Released Torque Couplings all 4 corners	Clear		Robbins
03-21-24	19:35 PM	19:44 PM	0:09	Maintenance		Contractors / had to use cheat	Clear		Garrett
03-22-24	11:38 AM	11:47 AM	0:09	Commercial	cape fear hatteras		Clear	N	Dale
03-24-24	11:41 AM	11:50 AM	0:09	Sailboat	carolina hobie		Clear	S	Dale
03-24-24	13:17 PM	13:26 PM	0:08	Sailboat	carolina hobie		Clear	N	Dale
03-26-24	20:02 PM	20:16 PM	0:13	Maintenance		Contractors	Clear		Garrett

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## Cape Fear Memorial

BRIDGE OVER Cape Fear RIVER AT Wilmington, NC

ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Mar

20 24

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
03-26-24	20:21 PM	20:34 PM	0:12	Maintenance		Contractors	Clear		Garrett
03-26-24	20:47 PM	20:59 PM	0:12	Maintenance		Contractors	Clear		Garrett
03-26-24	21:30 PM	21:39 PM	0:09	Maintenance		Contractors	Clear		Garrett
03-26-24	23:05 PM	23:13 PM	0:07	Maintenance		Contractors	Clear		Garrett
03-27-24	12:15 AM	12:22 AM	0:07	Maintenance		Contractors	Clear		Garrett
03-27-24	12:37 AM	12:49 AM	0:11	Maintenance		Contractors	Clear		Garrett
03-27-24	1:01 AM	1:13 AM	0:12	Maintenance		Contractors	Clear		Garrett
03-27-24	1:23 AM	1:36 AM	0:12	Maintenance		Contractors	Clear		Garrett
03-27-24	1:44 AM	1:58 AM	0:13	Maintenance		Contractors	Clear		Garrett
03-27-24	2:05 AM	2:19 AM	0:13	Maintenance		Contractors	Clear		Garrett
03-27-24	2:26 AM	2:42 AM	0:15	Maintenance		Contractors	Clear		Garrett
03-27-24	2:58 AM	3:13 AM	0:14	Maintenance		Contractors	Clear		Garrett
03-27-24	3:22 AM	3:37 AM	0:14	Maintenance		Contractors	Clear		Garrett
03-27-24	3:48 AM	4:04 AM	0:15	Maintenance		Contractors	Clear		Garrett
03-27-24	4:16 AM	4:31 AM	0:14	Maintenance		Contractors	Clear		Garrett
03-27-24	4:44 AM	4:52 AM	0:08	Maintenance		Contractors	Clear		Garrett
03-27-24	9:48 AM	9:48 AM	0:00	Maintenance		Released Torque Couplings NE,SE,SW,NW	Clear		Hutto
03-27-24	9:57 AM	10:06 AM	0:09	Ship	Cape Hatteras		Clear	S	Hutto
03-27-24	19:40 PM	19:47 PM	0:06	Maintenance		Contractors	Clear		Garrett
03-27-24	19:59 PM	20:13 PM	0:13	Maintenance		Contractors	Clear		Garrett
03-27-24	20:32 PM	20:45 PM	0:13	Maintenance		Contractors	Clear		Garrett
03-27-24	21:13 PM	21:28 PM	0:14	Maintenance		Contractors	Clear		Garrett
03-27-24	21:42 PM	21:58 PM	0:15	Maintenance		Contractors	Clear		Garrett
03-27-24	22:09 PM	22:18 PM	0:08	Maintenance		Contractors	Clear		Garrett
03-28-24	18:17 PM	18:25 PM	0:08	Commercial	Cape Hatteras		Clear	N	Garrett

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Mar

20 24

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
03-28-24	19:27 PM	19:37 PM	0:09	Maintenance		Contractors	Clear		Garrett
04-01-24	19:36 PM	19:36 PM	0:00	Maintenance	Contractor lift	Computer glitched; lift was approx. 15 minutes in	Clear		Robbins
04-01-24	10:21 AM	10:21 AM	0:00	Commercial	cape hatteras		Clear	S	Dale
04-01-24	20:24 PM	20:24 PM	0:00	Maintenance	Contractor lift	Computer is glitching; lift occurred approx 2000hr	Clear		Robbins
04-02-24	2:09 AM	2:22 AM	0:12	Maintenance	Contractor Opening	Counter Weights	Clear		Robbins
04-02-24	2:45 AM	2:54 AM	0:09	Maintenance	Contractor Opening	Had to use Cheat Button	Clear		Robbins
04-02-24	16:58 PM	17:12 PM	0:13	Sailboat	Freebird		Clear	N	Garrett
04-02-24	18:44 PM	18:44 PM	0:00	Maintenance		released NW NE SW SE torque couplings	Clear		Garrett
04-02-24	18:45 PM	18:53 PM	0:07	Maintenance			Clear		Garrett
04-03-24	8:38 AM	8:47 AM	0:09	Ship	cape hatteras		Clear	N	Merrick
04-03-24	15:16 PM	15:25 PM	0:09	Sailboat	Molly D		Clear	N	Hutto
04-04-24	8:33 AM	8:41 AM	0:08	Sailboat	Molly D		Clear	S	Hutto
04-05-24	1:22 AM	1:31 AM	0:08	Maintenance			Clear		Dale
04-05-24	1:22 AM	1:31 AM	0:08	Maintenance		contractors-	Clear		Dale
04-05-24	3:11 AM	3:22 AM	0:11	Maintenance		contractors	Clear		Dale
04-08-24	10:32 AM	10:40 AM	0:08	Ship	Cape Hatteras		Clear	S	Robbins
04-11-24	1:56 AM	2:00 AM	0:04	Maintenance		Contractors	Clear		Garrett
04-11-24	2:04 AM	2:16 AM	0:11	Maintenance		Contractors	Clear		Garrett
04-12-24	19:50 PM	20:35 PM	0:45	Maintenance		contractors	Clear		Dale
04-12-24	21:32 PM	21:42 PM	0:10	Maintenance		Open for contractor	Clear		Dale
04-14-24	8:37 AM	8:44 AM	0:07	Commercial	Cape Hatteras		Clear	N	Robbins
04-14-24	15:19 PM	15:26 PM	0:07	Sailboat	Sea Escape		Clear	N	Robbins
04-15-24	17:32 PM	17:46 PM	0:13	Maintenance		Had to use Cheat button	Clear		Barrett
04-17-24	9:56 AM	10:07 AM	0:11	Commercial	Cape Hatteras		Clear	S	Barrett
04-17-24	16:29 PM	16:41 PM	0:11	Sailboat	Joule		Clear	N	Garrett

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ROUTE US 17/74/76

REPORT OF DRAW OPENINGS FOR THE MONTH OF Apr

20 24

	TIME GATES	TIME GATES	DELAY DUE TO	TYPE	NAME OR NUMBER		WEATHER WHEN BOAT	DIRECTION OF	NAME OF
DATE	CLOSED	ARE OPENED	BRIDGE OPENING	OF VESSEL	OF VESSEL	REMARKS	WAS PASSING THROUGH	TRAVEL	OPERATOR
04-18-24	9:30 AM	9:30 AM	0:00	Maintenance		Released Torque NE, SE, SW, NW	Clear		Barrett
04-18-24	16:18 PM	16:25 PM	0:07	Commercial	Cape Hatteras		Clear	N	Garrett
04-18-24	19:03 PM	19:14 PM	0:10	Sailboat	Ikigai		Clear	N	Garrett
04-22-24	10:38 AM	10:46 AM	0:08	Commercial	Cape Hatteras		Clear		Barrett
04-25-24	12:41 PM	12:52 PM	0:10	Sailboat	Lamisting		Clear	N	Hutto
04-25-24	19:32 PM	19:40 PM	0:08	Maintenance		Contractors	Clear		Garrett
04-25-24	19:58 PM	20:10 PM	0:12	Maintenance		Contractors	Clear		Garrett
04-25-24	20:27 PM	20:42 PM	0:15	Maintenance		Contractors	Clear		Garrett
04-25-24	20:59 PM	21:17 PM	0:17	Maintenance		Contractors	Clear		Garrett
04-25-24	21:40 PM	21:55 PM	0:15	Maintenance		Contractors	Clear		Garrett
04-25-24	22:10 PM	22:25 PM	0:14	Maintenance		Contractors	Clear		Garrett
04-25-24	22:38 PM	22:54 PM	0:16	Maintenance		Contractors	Clear		Garrett
04-27-24	23:43 PM	23:51 PM	0:08	Maintenance		Contractor	Clear		Robbins
04-27-24	20:20 PM	20:20 PM	0:00	Maintenance		Contractor approx 15 mins	Clear		Robbins
04-27-24	19:49 PM	19:59 PM	0:10	Maintenance	Contractor	Contractor Maintenance	Clear		Robbins
04-27-24	21:19 PM	21:19 PM	0:00	Maintenance		Contractor approx 15 mins	Clear		Robbins
04-27-24	21:47 PM	22:02 PM	0:14	Maintenance		Contractor	Clear		Robbins
04-27-24	22:19 PM	22:19 PM	0:00	Maintenance		Contractor approx 15 mins	Clear		Robbins
04-27-24	23:04 PM	23:04 PM	0:00	Maintenance		Contractor approx 15 mins	Clear		Robbins
04-28-24	9:20 AM	9:29 AM	0:09	Sailboat	Ikiagi		Clear	S	Barrett
04-28-24	8:04 AM	8:14 AM	0:10	Commercial	Cape Hatteras		Clear	<	Barrett
04-28-24	12:01 AM	12:01 AM	0:00	Maintenance		Contractor approx 15 mins	Clear		Robbins
04-28-24	6:51 AM	7:02 AM	0:10	Sailboat	Joule		Clear	S	Barrett
04-29-24	20:18 PM	20:36 PM	0:18	Maintenance		Contractor	Clear		Robbins
04-29-24	21:07 PM	21:19 PM	0:12	Maintenance		Contractor	Clear		Robbins

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## Averages

No.Of Vessels	26
No.Of Openings	126
Avg. Vessels / Opening	0.21
Avg. Openings / Day	1.04
Avg. Vessels / Day	0.22
Avg. Opening Time	11 Min

# NCSIPA

## Vessel Statistics

	<u>FY23</u>		<u>FY22</u>		<u>FY21</u>		<u>FY20</u>		<u>FY19</u>	
	<u>Barges</u>	<u>Ships</u>	<u>Barges</u>	<u>Ships</u>	<u>Barges</u>	<u>Ships</u>	<u>Barges</u>	<u>Ships</u>	<u>Barges</u>	<u>Ships</u>
<b>WILMINGTON</b>										
Container	0	367	0	357	2	320	0	292	0	332
Breakbulk	0	81	1	66	0	48	0	50	0	29
Bulk	9	108	16	122	10	95	8	110	7	115
Combinator	0	19	0	26	0	24	0	30	0	25
Total	9	575	17	571	12	487	8	482	7	501

## Exhibit E: Registered Ships

Boat Name	Ship Builder	Build Year	Vessely Type	Gross Tons	Length (feet)
	7 CABO YACHTS A DIVISION OF BRUNSWICK CORP	2006	RECREATIONAL	37	47.5
"CURRENT AFFAIR"	S2 YACHTS INC	1998	Recreational	31	41.2
10 ACIOUS	TARTAN MARINE COMPANY	1978	Recreational	9	33.1
5 O'CLOCK SOMEWHERE	HUNTER MARINE CORPORATION	2005	RECREATIONAL	21	37
7 SEAS	S2 YACHTS INC.	1997	Unclassified	8	28
A PROPER PERSPECTIVE	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2004	Recreational	8	27.1999
ABBAY	CHANTIERS BENETEAU S.A.	2007	RECREATIONAL	11	38.4
ABOUT FACE	CHAPARRAL BOATS INC	2005	Recreational	15	32
ADONAI	NOVA MARINE CO. LTD	2002	Recreational	37	47
ADVENTURES	GULFSTAR INC	1975	Recreational	20	36.2
AFRAYED KNOT	CATALINA YACHTS INC	2004	Recreational	14	35.2999
AGNES LEE	PEARSON YACHTS	1981	Recreational	12	32.2999
ALL GONE NOW	AMF HATTERAS YACHTS	1984	Recreational	24	36.2999
ALLAGASH	RANGER YACHTS	1974	Recreational	13	37
ALOAN AGAIN	CARVER BOAT CORPORATION	1996	Recreational	21	39
AMAZING GRACE	CS YACHTS LIMITED	1990	Recreational	11	33.5
AMAZING GRACE	SYMBOL YACHT CO LTD	2004	Recreational	66	59.5
ANAGNORISIS	ALLMAND BOATS INC	1980	Recreational	16	30.8999
ANCON	CAPE ISLAND YACHT LIMITED	2003	Recreational	21	36
APRIL'S FOOLS	TIDEWATER BOATS LLC	2014	Recreational	9	28.3
AQUAHOLIC	MAXUM MARINE	2000	Recreational	8	25.3
AQUATIC SAFARIS I	ISLAND HOPPER INT'L BOAT WORKS INC	2005	Passenger (Inspected)	32	43
AQUATIC SAFARIS II	ISLAND HOPPER INTL BOAT	2001	Passenger (Inspected)	12	29
AQUATIC SAFARIS II	SEA HAWK INDUSTRIES INC	2014	Passenger (Inspected)	18	34
AT EASE II	SEA RAY DIVISION OF BRUNSWICK CORP	2006	Recreational	15	32.2999
AT LAST	ALBIN MANUFACTURING INC	2000	Recreational	22	36
ATLANTIC V	BARBOUR BOAT WORKS	1961	Unclassified	52	61.1
AVA GRACE	QUEST KIT BOATS DIV SILVE	1982	Recreational	12	35.7
AVALON	BLUEWATER YACHT BUILDERS	1988	Recreational	33	40.6
BABY FACE	SABRE CORPORATION	1995	Recreational	18	36
BACO	WILLARD BOAT WORKS	1965	Recreational	20	33.2
BAD HABITS	FREEMAN BOATWORKS LLC	2016	Recreational	18	37.2
BAM BAM	CAISON YACHTS INC	2010	Recreational	25	38.7999
BARNEY	J M FURR LANDSCAPING CORP	1989	Towing Vessel	10	31.5
BAR-NICOLE *	BERTRAM YACHT INC	1981	Recreational	10	28.3
BAYOU BRAVE	HOUMA SHIPBUILDING INC	1973	Towing Vessel	76	59.2999
BEAGLE	YOUNG SUN YACHT CORP	1980	Recreational	11	34.5
BECAUSE	ALUMINUM CRUISERS, INC.	1986	Recreational	21	39
BEECHWOOD DAYS	AMF HATTERAS YACHTS	1984	Recreational	66	61.2999
BEERACUDA	FABBRO MARINE GROUP INC	2013	Recreational	9	26.8
BEERACUDA	ONSLow BAY MARINE GROUP LLC	2016	Recreational	10	32.7999
BELLE	DICKERSON BOATBUILDERS	1986	Recreational	15	37
BELLE MER	COLUMBIA YACHT	1977	Recreational	13	31.5
BERGERS IN PARADISE	BOSTON WHALER INC	2014	Recreational	8	27.3
BERMUDA HIGH	EGG HARBOR YACHT COMPANY	1988	Recreational	18	35
BETSEAS BLUIS	S2 YACHTS INC	2007	Recreational	16	30.5
BEYOND REASON IV	ACTIVA MARINE CO., LTD.	2003	Recreational	34	55
BIG BAD WOLF	CONTENDER BOATS INC	2006	Commercial Fishing Vessel	11	34.4
BIG BLUE	REGAL MARINE INDUSTRIES	1998	Recreational	8	24.9
BIG FOOT	CHARLES M. HANCOCK	1983	Commercial Fishing Vessel	21	41
BILL COLLECTOR	BERTRAM YACHTS	1979	Recreational	21	36
BIRD DOG	LUHRS CORPORATION	1993	Recreational	15	29.3
BITE ME	GRADY-WHITE BOATS INC	2006	Recreational	8	28
BITE THIS TOO	CAROLINA CLASSIS BOATS	1996	Recreational	6	25.1999
BITTER SWEET SYMPHONY	GIBSON FRP PRODUCTS INC	2001	Recreational	33	41
BIZZY BEE	NAVIGATOR BOATS	1995	Passenger (Inspected)	14	34.5
BLOWIN' TIME	TUP CORPORATION	1978	Recreational	11	35.6
BLUE DOG	AMF HATTERAS YACHTS	1985	Recreational	33	45.1
BLUE DOG II	JUPITER MARINE INTERNATIONAL INC	2015	Recreational	9	29.5
BLUE EYES	GRADY-WHITE BOATS INC	2006	Recreational	14	33.5
BLUE MOON	BRUCKMAN MANUFACTURING	2000	Recreational	6	29.8999
BOLERO	CATALINA YACHTS	1993	Recreational	11	36.2999
BOUNTY HUNTER	S2 YACHTS INC	1988	Recreational	20	36.7
'BOU TIME II	CHRIS CRAFT CORPORATION	1969	Recreational	21	42
BRAVE TURTLE	KONG & HALVORSEN MARINE	1988	Recreational	36	44
BRIAR PATCH	UNIFLITE INC	1980	Recreational	17	32
BRIGADOON	WESTERN PACIFIC YACHT	1976	Recreational	19	36.7
B-SEA-N-YA	WELLCRAFT MARINE	1987	Recreational	13	31.8
BUCKEYE	n/a	2000	Recreational	31	37.7999
BUDGET BREAKER	SEA RAY DIVISION OF BRUNSWICK CORP	2007	Recreational	15	33.1
BULL MARKET	BAYLINER MARINE CORP	1996	Recreational	13	30.5
BVI - VII	BRUNSWICK FAMILY BOAT CO INC	2011	Recreational	32	47
C BREEZE	S2 YACHTS INC	2002	Recreational	19	35.5
C SHACK	TOLLYCRAFT YACHTS CORP	1990	Recreational	31	44.2
CABERNET	CATALINA YACHTS, INC.	1989	Recreational	8	29.8999
CAMLEY	AMF HATTERAS YACHTS	1973	Recreational	43	58.2999
CANKLES AWEIGH	n/a	2007	Recreational	21	40.2
CAPE FEAR	GREENVILLE BARGE CONST	1959	Towing Vessel	87	55.1
CAPE FEAR	PANHANDLE CUSTOM MARINE	1988	Research Vessel	77	63
CAPT. BRANDON	MILLIS & LEE INC	1984	Commercial Fishing Vessel	35	47

CAPT. J. N. MAFFITT	NORFOLK NAVAL SHIPYARD	1944	Passenger (Inspected)	19	49
CAPTAIN RUSSELL	SEABOARD STRUCTURAL STEEL	1957	Towing Vessel	45	54.7
CAPTIVATION	OCEAN YACHTS INC	1988	Recreational	36	48
CAROLINA BREEZE	MAXUM MARINE	1999	Recreational	24	39.2
CAROLINA CAN	SEA RAY BOATS INC	2004	Recreational	28	41.5
CAROLINA GIRL	SEA RAY DIVISION OF BRUNSWICK CORP	2004	Recreational	12	30.3
CAROLINA GOLD	JC BOAT SALES LTD	1990	Commercial Fishing Vessel	19	34.8999
CAROLINA LADY	BRUNSWICK CORP	2001	Recreational	9	28.3
CAROLINE FAYE	SHEARLINE BOATWORKS LLC	2002	Recreational	12	30.1999
CEILI	SEA RAY BOATS INC	1997	Recreational	9	27.3999
CEILI	BAYLINER MARINE CORPORATION	1998	Recreational	30	47.2999
CELTIC KNOTS	ALBIN MANUFACTURING CORP	2004	Recreational	10	29.8
CERITH	HUNTER MARINE CORP	1992	Recreational	19	42.1
CEST LHEURE	TRADITIONAL WATERCRAFT	1994	Recreational	17	35.2
CHALLENGER	FT MYERS YACHT & SHIPBLDG	1981	Recreational	24	42
CHAMPAGNE DREAMS	SEA RAY BOATS	2015	Recreational	15	33.2
CHANCE	MORGAN YACHT INC	1983	Recreational	13	31.8
CHANGE ORDER 1	SILVERTON MARINE CORPORATION	2002	Recreational	31	43.5
CHEROKEE	HULLS UNLIMITED EAST INC	1981	Commercial Fishing Vessel	8	31.1999
CHERYL ANN	MARINE TRADING INTERNATL	1984	Recreational	19	35.6
CHILLIN' THE COAST	SEA RAY BOATS	2012	Recreational	9	28.5
CHLOE	S2 YACHT INCORPORATD	1976	Recreational	7	30
CHRISTINA JEANE	CATALINA YACHTS	1985	Recreational	8	29.9
CHRISTINE S	GULF COAST STEEL INC	2016	Towing Vessel	193	76.5
CIAO BELLA	SEA RAY DIVISION OF BRUNSWICK CORP	2006	Recreational	14	32.2999
CITATION2	CONTENDER BOATS INC	2014	Recreational	14	39.1
CLOUD NINE	BERTRAM YACHTS	1978	Recreational	18	34.8999
COMFORTABLY NUMB II	BAYLINER MARINE	1985	Recreational	8	32
COMMODORE	LUHRS CORPORATION	1999	Recreational	25	36.3
COMPROMISE	SEA RAY DIVISION OF BRUNSWICK CORP	2005	RECREATIONAL	8	29.3
CONTRAIL	TROJAN YACHT	1978	UNSPECIFIED	20	35.8999
COOL'N OUT	SEA RAY BOATS, INC.	1995	Recreational	7	27.3
COPY CAT	SEA RAY BOATS INC	2000	Recreational	41	47.7
CORALINE	SILVERTON MARINE CORP	2000	Recreational	34	46.2
COUNTING STARS	FOUNTAIN PAJOT SA	2016	Recreational	58	48.2999
CRANKEY PLUMBER	BRUNSWICK FAMILY BOAT CO INC	2003	Recreational	7	25.1
CUBAN CONNECTION	REGULATOR MARINE INC	2015	Recreational	8	25.1999
CURLZ	MAINSHIP CORPORATION	2004	Recreational	10	30.3999
CUT-N-DRY	ROB SEIDELMANN BOATBLDRS	1998	Commercial Fishing Vessel	25	36
D FISH N SEA	S2 YACHTS INC	1988	Recreational	20	36.7
DADDY'S MONEY	HENRY C. GREBE & CO., INC	1965	Recreational	46	53
DAWN MARIE	PHILLIP NILES FRP HULLS,I	1978	Commercial Fishing Vessel	22	45.3
DECOY	n/a	1978	Passenger (Uninspected)	32	45.8999
DELIVERED	NAVIGATOR YACHT INC	2001	Recreational	44	56
DELTA 10	CONSOLIDATED STEEL CORP.	1941	Tank Barge	616	196
DEPOSIT SLIP	CARVER BOAT CORP	1991	Recreational	17	33.2999
DESPERADO	DON EDWARD DOSHER	1988	Commercial Fishing Vessel	24	40
DETAILS	S2 YACHTS INC.	1990	Recreational	8	26.4
DETENTE	ENDEAVOUR YACHT CORP.	1982	Recreational	18	37.8999
DIAMOND GIRL	POST MARINE COMPANY INC	1988	Recreational	31	46
DIAMOND RING	BOSTON WHALER INC	1992	Recreational	9	29.1
DIGGS IT	SEA RAY BOATS INC	1997	Recreational	14	31.6
DISABELLA	AZIMUT BENETTI SPA	2015	Recreational	41	53.7999
DISABELLA	AZIMUT BENETTI SPA	2015	Recreational	50	62.6
DIVA	TA YANG YACHT BUILDING	1988	Recreational	18	36.7
DIVERSION	BLACKFIN YACHT CORP	1993	Recreational	14	32.8999
DOCKS KNOTT INN	SEA RAY BOATS	2014	Recreational	9	28.3
DOCTORS ORDERS	HUNTER MARINE CORPORATION	1997	Recreational	9	33.7
DONNCHAIDH	MARINE TRADING INTERNATIO	1977	Recreational	27	39.7
DOUBLE J	POST MARINE COMPANY INC	2006	Recreational	44	52.7999
DOUBLE TROUBLE	SEA RAY DIVISION OF BRUNSWICK CORP	2005	Recreational	12	30.3
DOWN TIME	FOUR WINNS BOATS, LLC	2005	Recreational	14	32.8999
DOWNEASTER	OCEAN YACHTS INC.	1989	Recreational	36	48
DRAGON LADY	CHRIS CRAFT CORP	1968	Recreational	38	52
DREAMS DO COME TRUE	FOUNTAIN PAJOT SA	2012	Recreational	29	39.2
DREDGE DEBORAH ANNE	DREDGING SUPPLY CO INC	1999	Industrial Vessel	11	35
DUE SOUTH	NORDIC TUGS INC	2000	Recreational	25	39.2
EARLY RISER	BERTRAM YACHT INC	1974	Passenger (Uninspected)	22	37.3999
EASY PEACE	BERTRAM YACHT DIVISION OF WHITTAKER CORPORATION	1970	Commercial Fishing Vessel	10	30.3
EIRA	BENETEAU USA INC	2002	Recreational	15	39.3
EL PATRON	FOUNTAIN POWERBOATS INC	2006	Recreational	15	37.8999
ELIZABETH II	EGG HARBOR BOAT CO., INC.	1959	Recreational	14	34
ELIZABETH S	B & B BOATBUILDERS INC	2004	Towing Vessel	99	78.5
ELLIS ISLAND	BRUNSWICK FAMILY BOAT CO INC	2007	Recreational	20	35.8
ELYSIUM	TA YANG YACHT BUILDING CO	1976	Recreational	16	34.5
EMILY	CSY YACHT CORP	1980	Recreational	11	33.4
ENDEAVOR	SILVERTON MARINE CORPORAT	1985	Recreational	25	37
ENDEAVOR	UNIFLITE INC	1981	Recreational	40	48.7
ENDLESS SUMMER	SEA RAY BOATS	2013	Recreational	9	28.3
ESSENCE	ISLANDER YACHTS	1981	Recreational	6	30
ESTELLE	MALO YACHTS AB	2007	Recreational	12	37.8999

EYRA	LAGOON LIMITED	2003	Recreational	31	37.7999
FAMILY AFFAIR V	HATTERAS YACHTS	1986	Recreational	65	54.2
FANCY FREE	THE WILLARD CO., INC.	1977	Recreational	10	30
FAST COMPANY	S2 YACHTS INC	1988	Recreational	13	31
FAST EDDIE III	THE TALARIA COMPANY LLC	2002	Recreational	11	36.3999
FAST FORWARD	BENETEAU MFG., INC.	1991	Unclassified	11	35.3999
FASTRAC	AMF-HATTERAS YACHTS	1975	Recreational	39	50.7999
FAT CAT	TRADITIONAL WATERCRAFT	1992	Recreational	18	35.2
FEELING FREE	SILVERTON MARINE CORP	1987	Recreational	21	39.7999
FIFTY B	ROBALO BOATS LLC	2006	Recreational	11	29.2
FINALLY	GUNTHER RIECKMANN	1995	Recreational	12	45
FINE LINES	DAVIS YACHTS INC	1989	Recreational	40	47
FINS UP	CONTENDER BOATS INC	2012	Recreational	14	39.1
FINS UP JR	CONTENDER BOATS INC	2014	Recreational	10	32.7
FISHIN' FEVER	DAVIS BOATWORKS INC	1997	Recreational	44	52
FISHTAIL II	AQUASPORT INC	1984	Recreational	10	26.3999
FLASH	BERTRAM YACHT INC	1995	Recreational	32	43
FLATLINED	SEA HUNT BOAT MFG CO INC	2016	Recreational	10	29.8
FLIP FLIP	AMF HATTERAS	1979	Recreational	43	48.7999
FLYING SQUIRREL	SEA RAY DIVISION OF BRUNSWICK CORP	2006	Recreational	18	37.3
FOOTE LOOSE	S2 YACHTS, INC.	1988	Recreational	20	36.7
FOREVER DREAMIN'	REGAL MARINE INDUSTRIES INC	2006	Recreational	21	36.6
FORTUNE HUNTER	BERTRAM YACHT INC	1984	Passenger (Uninspected)	18	34.8999
FREDA BEA	GRANDBANKS YACHTS PTE LTD	2001	Recreational	35	47.1
FRIENDSHIP	CHUNG HWA BOAT BLDG COLTD	1987	Recreational	24	41.8
G FORCE	CAISON YACHTS INC	2005	Passenger (Uninspected)	73	64.2999
G.S. LOLLIPOP III	BENETEAU-SPBI SA	2011	Recreational	18	39.8999
GABRIEL	EGG HARBOR BOAT CO	1963	PASSENGER (INSPECTED)	17	36.1
GAME KEEPER	CORE SOUND MARINE SRV INC	2000	Passenger (Uninspected)	47	55.2
GAVIOTA	CARVER BOAT CORP	1988	Recreational	11	30.7
GENERAL QUARTERS	BERTRAM YACHT	1987	Recreational	10	28.3
GET OFF ME	BOSTON WHALER	2007	UNSPECIFIED	11	30
GET REEL II	LUHRS CORPORATION	2000	Recreational	15	29.3
GIGGLIN MARLIN	GRADY-WHITE BOATS INC	2002	Recreational	13	30.5
GILLYTY	S2 YACHTS INC	2000	Recreational	9	30.8
GINA	CRUISERS YACHTS	1997	Recreational	15	32.7999
GOLDEN LEAF	SEA RAY BOATS INC	2010	Recreational	55	56.6
GORDITA	HINTERHOELLER YACHTS LTD	1979	Recreational	10	30.3999
GRACE	HANSA YACHT UND SCHIFFBAU	1982	Recreational	10	32.7
GRACE	EVANS BOAT REPAIR INC	2008	Recreational	19	38
GRAND SLAM	C&C INDUSTRIES LIMITED	1990	Recreational	10	35.5
GYPSY ANGLER	JARRETT BAY BOATWORKS INC	1996	Recreational	52	58
HAELIFE III	VIKING YACHT COMPANY	2002	Recreational	47	48.7999
HANALEI	ST AUGUSTINE BOAT WORKS	1986	Recreational	47	46.7999
HARMONY	GRADY-WHITE BOASTS, INC	1987	Recreational	6	23.4
HARMONY	MAINSHIP CORPORATION	2008	Recreational	21	36.6
HEJIRA	CAPE DORY YACHTS INC	1984	Recreational	16	36.2
HIGH MAINTENANCE	VIKING YACHT COMPANY	1983	Recreational	24	41.2
HIGH STEPPER	HUNTER MARINE CORPORATION	2005	Recreational	29	41.7999
HOOKER	BERTRAM YACHT INC	1976	Recreational	22	36
HOOK-UP	ATLANTIC BOATS INC	1990	Commercial Fishing Vessel	8	27.8
HORSE	CAP-N-SQUID BOATWORKS	2003	Passenger (Uninspected)	55	58
HOT TICKET	HARRIS BOAT WORKS, INC.	1986	Passenger (Uninspected)	18	38
HOWDY K	CHRIS-CRAFT CORPORATION	1963	Recreational	20	38
HT-207	NASHVILLE BRIDGE COMPANY	1971	Tank Barge	1379	264
HUB'S WAY	LUHRS CORPORATION	2004	Passenger (Uninspected)	35	42.2999
HUMMINGBIRD	EGG HARBOR BOAT COMPANY	1979	Recreational	21	35.7
I	n/a	1979	Recreational	32	47.2999
III SONS	GRADY-WHITE BOATS INC	2004	Recreational	6	24.8
IMPETUOUS	CALIBER YACHT CORP.	1989	Recreational	14	32.4
IMPULSE	SEA RAY BOATS, INC	1999	Recreational	25	40.7
INDIAN SUMMER	BLUEWATER MARINE CORPORATION	1992	Recreational	26	49.5
INDIGO 2	LAGOON	2005	Recreational	31	37.7999
INNISFREE	n/a	1986	Recreational	13	32
INSPIRATION	BOSTON WHALER INC	2014	Recreational	17	37.2999
INSPIRATION	FOUNTAIN POWERBOATS INC	2007	Recreational	11	42
INSPIRATION	AZIMUT SPA VIAREGGIO	1999	Recreational	85	70
IRIE CAT	FONTAINE PAJOT SA	2007	Recreational	24	36.2
ISIS	BRISTOL YACHT CORP.	1966	Recreational	7	32.1
ISLE & BUOY	CATALINA YACHTS INC	2000	Recreational	15	40.5
IT IS WHAT IT IS	SEA RAY BOATS INC	2004	Recreational	30	44.7999
JACATASH	HATTERAS YACHT DIVISION	1972	Recreational	24	38.2999
JACOB'S RUN	UNIFLITE INC	1979	Passenger (Inspected)	25	50.2
JADE	JEFFREY L COXWELL	1978	Recreational	16	40.8999
JAWS	SEA RAY BOATS INC	2007	Recreational	33	45.2999
JEANNEAU IT	JEANNEAU NEWCO LESHERRIERS	1999	Recreational	33	49.2
JET LAG II	TORRES BOAT MFG INC	1987	Commercial Fishing Vessel	19	41
JIM DANDY	NORTH AMERICAN ROCKWELL	1971	Commercial Fishing Vessel	27	45.8999
JIMCRACKCORN	SEA RAY BOATS INC	1999	Recreational	19	37.8
JIMCRACKCORN	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2005	Recreational	32	43.5
JOHN KNOX	WILLARD MARINE INC	1985	Passenger (Inspected)	16	40.2



JUST KNOT TODAY	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2002	Recreational	14	33
KAREN	ED WILLIS	1943	Recreational	9	37.7
KAREN MARIE	UNION YACHT CO LTD	1984	Recreational	11	36.2
KATERINA	SEA RAY DIVISION OF BRUNSWICK CORP	2002	Recreational	9	28.3
KAZAKOS	BERTRAM YACHT	1986	Recreational	18	32.7999
KELLIE	C.S. YACHTS LIMITED	1989	Recreational	12	39.2
KEYS4US	HYDRA-SPORTS BOATS	2011	Recreational	10	29.6999
KIKI	BENETEAU USA INC	2006	Recreational	9	32.7999
KISMET	POST MARINE COMPANY INC.	1987	Recreational	30	45
KNEAD MORE DOUGH	JUPITER MARINE INTERNATL	1999	Recreational	10	30.7
KNOT IN THE OFFICE	FOUR WINNS BOATS LLC	2002	Recreational	11	27.8
KNOT WORRIED	n/a	1979	Recreational	43	58.2999
KNOTWORK	LUHRS CORPORATION	1993	Recreational	24	35
KUDU	TILLOTSON-PEARSON INC	1990	Recreational	12	40.6
LA TE DA II	CRUISERS YACHTS	1999	Recreational	8	27.1999
LADY D	LUHRS CORPORATION	1999	Recreational	29	37.8
LADY LOVE	C & C YACHTS LIMITED	1983	Recreational	7	28.6
LADY SUN DREAM	CALIBER YACHTS INC	2011	Recreational	21	48.6
LASEAS	SOUTHPORT BOAT WORKS LLC	2006	Recreational	14	28.5
LAST DANCE	AMERICAN MARINE	1975	Recreational	22	42
LAST ONE	CABO YACHTS INC	2002	Recreational	20	34.5
LAURALEI	n/a	1956	Commercial Fishing Vessel	37	49.3999
LEEDERSHIP	GRADY-WHITE BOATS INC	2002	Recreational	14	33.5
LESLIE ANN TOO	BOSTON WHALER	2005	Recreational	11	31.8999
LESLIE ANNE TOO	JARRETT BAY BOATWORKS,INC	1998	Recreational	7	27
LIALTA	HATTERAS YACHTS DIVISION OF BRUNSWICK CORPORATION	2006	Recreational	70	66.5
LIBERTY	WATKINS YACHTS, INC.	1985	Recreational	12	33
LIGHT SEEKER	HUNTER MARINE CORPORATION	2004	Recreational	20	38.7
LIL' ALEXANDRA	CRUISERS YACHTS, DIVISION OF KCS INTERNATIONAL INC	2006	Recreational	8	27.2
LINE DANCER	RAMPAGE DIVISION OF KCS INTERNATIONAL INC	2003	Recreational	13	28.8
LITTLE SKIPPY WINNER	HOYLE D VARNUM	1964	Passenger (Inspected)	22	36.7
LITTLE WING	SEIDELMANN YACHTS	1979	Recreational	14	29.6999
LORELEI	HATTERAS YACHT DIVISION	1968	Recreational	35	43
LORI ROBIN	TROJAN YACHT	1979	Commercial Fishing Vessel	11	30
LOUISA	ERIC JAMES RYDZEWSKI	2006	Recreational	14	37.6
LOW ROLLER	BRUNO AND STILLMAN INC	1977	Recreational	11	31.8999
LUCKY DOGS	S2 YACHTS INC	2005	Recreational	31	40.2
LUCKY SEVEN	n/a	1984	Recreational	8	27.5
LUCKY STAR	TRADITIONAL WATERCRAFT	2000	Recreational	10	31
LUCY	CATALINA YACHTS INC	1994	Recreational	8	29.8999
M/V BOFUS	WELLCRAFTMARINE	1987	Recreational	27	39.5
M/V HT	REGULATOR MARINE INC	2005	Recreational	10	32
MACFISHIN	BLACK FIN YACHT CORP	1979	Recreational	13	32.5
MAD HATTER	SEA RAY BOATS, INC	1998	Recreational	8	26.1
MADAM QUEEN	ROBERTSON & CAINE	2000	Recreational	52	45
MAGIC	TILLOTSON-PEARSON INC	1985	RECREATIONAL	12	32.9
MAGIC BUS	GRADY WHITE BOATS INC	2000	Recreational	9	27.7
MAGIC TOUCH	LUHRS CORPORATION	1998	Commercial Fishing Vessel	17	32
MAI DONA	JOHN BOKSMAN/ANDREE PERRO	1986	Recreational	13	38
MAINE IDEA	NORTH END COMPOSITES	2003	Recreational	10	29
MAINE IDEA	BROOKLYN BOAT YARD	1982	Recreational	36	50
MANATEE	OFFSHORE MARINE INC	1987	Recreational	38	43.7999
MARA III	BERTRAM YACHT	1986	Commercial Fishing Vessel	22	37.3999
MARGARET	STATEN ISLAND SHIPBUILD	1915	Towing Vessel	160	95.0999
MARIANNE	BENETEAU USA INC	2000	Recreational	12	33.8999
MARIONETTE	HUNTER MARINE CORP.	1993	Unclassified	9	33.3999
MARTECH I	MARINETTE MARINE CORP	1981	Recreational	34	53
MARVELLOUS LIGHT	COOPER ENTERPRISES INC	1980	Recreational	10	37
MARY ELIZABETH	n/a	1919	Recreational	34	59.5
MAUR'RAY	SEA RAY DIVISION OF BRUNSWICK CORP	2003	Recreational	15	32.2999
MEERCAT TWO	HEAVENLY CRUISING YACHTS	1996	Recreational	7	28
MEMORY II	MORRIS YACHTS INC	2010	Recreational	7	29.1999
MEMORY IV	ABLE MARINE, INC	1987	Recreational	21	50
MEMORY MAKER II	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2004	Recreational	8	27.2
MEMORY V	ABERKING & RASMUSSEN	1952	Recreational	9	34
MID LIFE III	S2 YACHTS INC	2006	Recreational	6	30.5
MIDLIFE II	CARVER BOAT CORPORATION	1989	RECREATIONAL	9	30.8
MIGHTY FINE	PRINCESS YACHTS INTERNATIONAL PLC	2015	Recreational	86	69.2
MIGHTY GRAND	AMERICAN MARINE (S) PTE	1977	Recreational	10	32
MINDFUL	HUNTER MARINE CORPORATION	2003	Recreational	29	41.7999
MIO AMORE	CHRIS CRAFT CORP	1973	Recreational	26	55
MISS ANN	n/a	1956	Towing Vessel	51	42.7999
MISS ANNIE	TROJAN YACHT	1984	Recreational	20	35.8999
MISS BETTY	GENE A SPINKS	1986	Commercial Fishing Vessel	75	68
MISS CAROL	I LOWDA DAVIS	1960	Recreational	9	40.5
MISS CAROLINE	FOUNTAIN POWERBOATS INC	2003	Recreational	7	29
MISS FRANCES	BAYLINER MARINE CORP	1998	Recreational	30	47.2999
MISS GRACE	MAINSHIP CORPORATION	2004	Recreational	16	34.2
MISS KAYLA	WILLISTON BOAT WORKS	1954	Commercial Fishing Vessel	30	42.2
MISS LYNN	QUALITY WELDING & TANK CO	1973	Unknown	9	28.2
M-N-M'S WITH PEANUTS	BERTRAM YACHT	1988	Recreational	22	37.3999

MOON DANCE	n/a	1985	Recreational	11	31.3999
MOON DOGGIE	ONSLow BAY BOATWORKS & MARINE PRODUCTS INC	2016	Recreational	10	32.7999
MOON SHINE	PEARSON YACHTS DIV GRMMAN	1966	Recreational	10	32.6
MOPPIE 70	BERTRAM YACHT - DIV OF WHITTAKER CORP	1970	Recreational	10	30.3
MORAL COMPASS	VIKING YACHT COMPANY	1982	Recreational	40	44.5
MOTIVATION	ONSLow BAY MARINE GROUP LLC	2014	Recreational	13	32.7999
MOTIVATION II	YELLOW FIN YACHTS INC	2005	Recreational	9	36.7
MUIRGHEASA	HENRI WAUGUIEZ	1984	Recreational	17	43
MURDEN	CONRAD SHIPYARD LLC	2012	Industrial Vessel	551	147.9
MY TIME 2	REGULATOR MARINE INC	2013	Recreational	8	25.1999
MYRMIDON	CLARK BOAT COMPANY	1980	Recreational	7	28.8
MYSTIC LADY	BILLY G JOWERS	1990	Recreational	14	36.1
NARNIA	SEAFARER FIBERGLASS YACHT	1979	Recreational	11	30
NAUGHTY NAUGHTY	BERTRAM YACHT	1977	Recreational	68	58
NAUT ON CALL	RINKER BOAT CO INC	2001	Research Vessel	6	24.8
NAUTI NAUTI	SEA RAY BOATS, INC	1999	Recreational	33	45.2999
NAUTI NELL	JOHN TILIAKOS, BLDR	1955	Commercial Fishing Vessel	38	50.6
NAUTI NEWFS	SEA RAY DIVISION OF BRUNSWICK CORP	2006	Recreational	15	32.2999
NETTIE	NEW ENGLAND BOAT BUILDERS INC	1979	Recreational	10	37.1
NEVER SATISFIED II	TRITON BOAT CO LP	2006	Recreational	14	34.7999
NICE AFT	NOVA MARINE CO., LTD.	1988	Recreational	39	44
NIGHT MOVES III	KCS INTERNATIONAL INC	1996	Recreational	11	30
NO HURRY	CATALINA YACHTS INC	2011	Recreational	13	34.5
NO REGRETS	C&C YACHTS MFG LTD	1974	Recreational	7	30
NOBODY WALKS	BERTRAM YACHT	1989	Recreational	32	43
NON LINEAR	HUNTER MARINE CORPORATION	1993	Recreational	13	33.4
NOTHING IMPLIED	INTREPID POWERBOATS INC	1992	Commercial Fishing Vessel	9	32.1
OCEAN COMMOTION	JEANNEAU	1985	Recreational	11	33.2999
OCEAN REEL	FOUNTAIN POWERBOATS INC	1999	Recreational	7	31
OCEAN STINGER	LUHRS CORPORATION	1999	Commercial Fishing Vessel	26	36.2
ODYSSEY	MACGREGOR 65 CORPORATION	1989	Recreational	26	65
OFFLINE	WHITBY BOAT	1984	Recreational	14	37.1
OFFSHORE ACCOUNT	LUHRS CORP	1992	Commercial Fishing Vessel	15	29.3
ON THE WINGS OF THE WIND	BENETEAU USA, INC	1999	Recreational	15	41.7
ORIAWA	REGAL MARINE INDUSTRIES INC	2007	Recreational	10	27.4
OSCAR D	RPS BARGE COMPANY	2009	Freight Barge	13	40
OSCAR D	RPS BARGE COMPANY	2009	Freight Barge	13	40
OSPREY	n/a	1975	Recreational	15	34.2
OUT OF SYNCH	CHAPARRAL BOATS INC	2005	Recreational	8	28.8
PACKAGE DEAL	CONTENDER BOATS INC	2000	Recreational	10	30
PAID FOUR	THOMPSON TRAWLERS DIVISIO	1972	Commercial Fishing Vessel	8	26.8
PANACEA II	BRISTOL YACHT CO	1976	Recreational	13	34.7
PANORAMA	MAINE CAT	2008	Recreational	28	41.5
PARROT HEAD	PEARSON YACHTS CORP	1987	Recreational	6	26.8999
PARTY TIME	SEA RAY BOATS, INC	1998	Recreational	19	36.7999
PATIENCE	MARINE TRADING INTERNATIO	1985	Recreational	16	33.5
PATRICIA J	CAPE DORY YACHTS INC.	1987	Recreational	12	29.8999
PAU HANA	VOYAGE YACHTS LTD	1997	Passenger (Uninspected)	30	47
PAY TRIBUTE	HC COMPOSITES LLC	2015	Passenger (Uninspected)	10	32.2
PEGASUS	CARVER BOAT CORPORATION	1987	Recreational	14	32
PERFECT II	SEA RAY DIVISION OF BRUNSWICK CORP	2005	Recreational	18	37.2999
PHAT CAT	RAMPAGE DIVISION OF KCS INTERNATIONAL INC	2001	Recreational	23	36.8999
PHOENIX	BAYLINER MARINE CORP	1988	Recreational	11	28.6999
PHOENIX	BERTRAM YACHT DIVISION OF WHITTAKER CORP	1982	Recreational	18	32.7
PHOENIX	NEWTON BOATS INC	2011	Passenger (Inspected)	20	36
PIRATE'S PRIDE	DONALD H CAISON JR	2000	Recreational	25	36.2999
PLAN B	CAROLINA CLASSIC BOATS INC	2006	Recreational	9	28.4
PLAN B	GLASS BOAT WORKS INC	2001	Commercial Fishing Vessel	11	32.5
PLAN B	LINSSEN YACHTS	1987	Recreational	14	40.5
PLAY HARDER	SEA RAY BOATS, INC.	1998	Recreational	25	40.7
PONY GIRL	EDEY & DUFF, INC	1974	Recreational	5	24
POPEYE	BERTRAM YACHT	1979	Recreational	18	32.7999
POPEYE	BANGO PUNTA MARINE	1971	Recreational	13	33.2
POR QUE NO	QUEEN LONG MARINE CO.,LTD	1982	Recreational	15	40.7
PORT ELIZABETH	CARVER BOAT CORPORATION	1986	Recreational	19	35.6
PRIMA DONNA	S2 YACHTS, INC.	1987	Unknown	8	27
PROVIDENCE	SABRE CORPORATION	1997	Recreational	18	36
PTEROSAUR	TARTAN MARINE COMPANY	1985	Recreational	9	34.2
PUDDLE JUMPER	SCOUT BOATS INC	2003	Recreational	7	28.2
PURA VIDA	AMF HATTERAS YACHTS	1974	Passenger (Uninspected)	25	42.7
PURE CHEMISTRY	ALBEMARLE BOATS INC	2001	Recreational	14	32.2
QUICK RELEASE	S2 YACHTS INC	1994	Recreational	13	31.1
R ROSE	WELLCRAFT MARINE	2002	Recreational	11	30.1999
R. HOLLAND	AMF HATTERAS YACHTS	1973	Recreational	39	53.1
R/V LEGACY	ISLAND HOPPER INTERNATIONAL BOAT WORKS INC	2004	Research Vessel	14	38
RAFALEO	CARVER BOAT CORPORATION	1988	Recreational	24	37.5
RAMESEAS	B C BOATWORKS	2000	Recreational	43	56
RANDOM ACTS	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2005	Recreational	32	43.5
RAUNCHIE CONCH	YELLOWFIN YACHTS	2016	Recreational	8	32.5
RAZ N CAIN	S2 YACHTS INC	1988	Recreational	20	36.7
REAL-EYES	CARVER BOAT CORPORATION	1992	Recreational	12	28.5

REALITY	SEA RAY BOATS, INC	2003	Recreational	33	45.2999
REEL FAST	n/a	1987	Recreational	9	27.6
REEL JOB II	COMMODORE BOATS	1970	Recreational	18	34
REEL MCKOY	BOSTON WHALER INC	2004	Recreational	10	28.2
REEL MCKOY	SILVERTON MARINE CORPORATION	2007	Recreational	20	35.7
REEL NAUTI	CONTENDER BOATS INC	2005	Recreational	7	30
REEL'N IN THE YEARS	HSING HANG MARINE INDUSTRIES CO LTD	2005	Recreational	37	44.7999
RELENTLESS II	GLOUCESTER MARINE, INC.	1989	Commercial Fishing Vessel	22	41.3999
REMEDY	n/a	1982	Recreational	25	37.7999
REVERIE II	FT. MEYERS YACHT & SHIPBL	1982	Recreational	9	32.7999
RILEY GIRL	TIDES BOAT WORKS	1992	Recreational	9	27.5
RIVER MAN	SEARAY BOATS INC	1998	Recreational	14	31.6
RO A TAN	GILLIKIN CRAFT INC	1981	Commercial Fishing Vessel	11	28.6
ROD HAWG	BERTRAM YACHT - DIV OF WHITTAKER CORP	1972	RECREATIONAL	10	28.2
ROUGHNECK	C&M SHIPBUILDING COMPANY	1978	Towing Vessel	64	45.7999
ROUNABOUT	CAPE DORY YACHTS, INC.	1986	Recreational	6	25.9
S O B	C&C YACHTS INC	1977	Recreational	6	26.4
SAILBAD THE SINNER	MORGAN YACHT CORP	1976	Recreational	25	41.2
SAINT N SINNER	SEA RAY BOATS INC	2003	Recreational	30	44.7999
SALTED	VIKING YACHT COMPANY	1987	Recreational	18	35
SARAH JANE	HILL DREDGING CORP	1949	Towing Vessel	9	31.5
SARAH JO	TRITON BOAT CO	2006	Recreational	14	34.8
SARATOGA	PACEMAKER CORPORATION	1967	Recreational	28	44
SAVANNAH	ALLSTATE ENVIROMENTAL DREDGING INC	1998	Towing Vessel	9	25.8
SAVANNAH IV	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2004	Recreational	28	39.2999
SEA BREEZE	SEA RAY BOATS, INC	1998	Recreational	13	30.9
SEA CREECHER	AMF HATTERAS YACHTS	1983	Recreational	27	43.1
SEA CREECHER	TOLLYCRAFT YACHTS	1994	Recreational	27	45.2
SEA DUCK TOO	SEA RAY BOATS INC	2008	Recreational	35	46.3999
SEA FEVER	IRWIN YACHT & MARINE CORP	1977	Passenger Barge (Uninspected)	22	42.5
SEA KER	BERTRAM YACHT	1983	Passenger (Uninspected)	32	42.2999
SEA LARK	C.P. LEEK & SONS INC	1963	Recreational	21	36.3999
SEA NUGGET	BOSTON WHALER INC	2016	Recreational	7	28
SEA SPA	CRUISERS YACHTS DIVISION OF KCS INTERNATIONAL INC	2002	Recreational	26	36
SEA TREK	HATTERAS YACHT DIV/N.A.RO	1970	Recreational	27	45.1
SEA VENTURE	ALBEMARLE BOATS INC	1991	Recreational	9	27.3
SEABISCUIT	CATALINA YACHTS INC	2005	Recreational	21	44.3
SEACOWBOY	MARINE TRADING INTERNATL	1979	Recreational	27	39.7
SEAMILEY	104 MIDWAY LLC	2014	Recreational	20	35.3
SEAS THE MOMENT	S2 YACHTS, INC.	1989	Recreational	21	36.7
SEAS THE MOMENT	CATALINA YACHTS	2003	Recreational	19	41.7
SEASCAPE	BAYLINER MARINE CORP	1987	Recreational	10	27.3999
SEASCAPE	AMERICAN MARINE LTD	1969	Recreational	11	31.8999
SEASCAPE	TARTAN MARINE COMPANY	1973	Recreational	11	34.2999
SECUMPTUAL III	JENSEN MARINE CORP	1964	Recreational	12	39.2999
SEQUEL	CAPE DORY YACHTS INC	1977	Recreational	8	28.1999
SEQUEL	SABRE CORPORATION	1997	Recreational	40	47.5
SHADOW	BERTRAM YACHT INC	1997	Recreational	19	35.6
SHAMROCK	BEACHCAT BOATS INC	2004	Passenger (Inspected)	5	26.5
SHARON LEIGH	CONTENDER BOATS INC	2003	Recreational	10	30
SHAWN'NCY'S REVENGE	NEWTON BOATS INC	2013	Passenger (Inspected)	15	32
SHELBY KAY	SILVERTON MARINE CORP	1979	Recreational	16	34
SHINE	OCEAN YACHTS INC	1985	Passenger (Uninspected)	48	55.7
SILVERADO	FOUNTAIN POWERBOATS INC.	1990	Recreational	6	31
SINGLEHEADED	TILLOTSON-PEARSON INC	1987	Recreational	12	36.3999
SKAGGERAK XI	n/a	1956	Recreational	8	30.1
SKIMMER	CORSAIR MARINE INC	2002	Recreational	9	28.3999
SKIPPERS CREW II	BRUNSWICK FAMILY BOAT CO INC	2006	Recreational	20	35.8
SKIPPY'S WRECK ROGUES	NORFOLK NAVAL SHIPYARD	1951	UNSPECIFIED	43	53.2
SKYS THE LIMIT	SEMINOLE MARINE INC	2009	Recreational	7	28.5
SLAINTE	TRADITIONAL WATERCRAFT	1985	Recreational	7	26.5
SLOW BY SLOW	TRADITIONAL WATERCRAFT	1996	Recreational	12	34.7999
SMILEN 6	GRADY-WHITE BOATS INC	2013	Recreational	11	30.5
SNAKE OIL	REGULATOR MARINE INC	2007	Recreational	10	29
SNOW WHITE	n/a	1968	Commercial Fishing Vessel	54	57.2
SOUTHERN CROSS	n/a	1981	Passenger (Uninspected)	15	31.6999
SOUTHERN GRACE	MACHINE & SUPPLY COL, INC	1971	Recreational	59	57.8999
SOUTHERN LADY	SAN SEBASTIAN MARINE INC	1980	Commercial Fishing Vessel	101	63.6
SPLASH DOWN	TOLLYCRAFT YACHTS CORP.	1987	Recreational	31	44.2
SPOONDRIFT	BAYLINER MARINE CORP	1994	Recreational	13	32.1
SPORTSMAN	REGULATOR MARINE INC	1999	Recreational	10	32
SPORTSMAN	SLEEPY CREEK BOAT WORKS	1995	Recreational	19	39.5
STARDUST	HENRY R HINCKLEY & CO	1996	Recreational	11	36.3999
STEEL AWAY	SEA RAY BOATS INC	2005	Recreational	45	52
STEEL HEEL	BRUNSWICK FAMILY BOAT CO INC	2007	Recreational	33	47.7999
STEEL SPOILED	SEA RAY DIV OF BRUNSWICK CORP	2000	Recreational	20	33.5
STEPHANIE S	M F MARTIN JR	1986	Towing Vessel	126	69.0999
STILL STANDING	HULLS UNLIMITED EAST INC	1987	Commercial Fishing Vessel	20	42.7
STOKED	SCOUT BOATS INC	2009	Recreational	21	35.7999
STREAM WEAVER	SPENDER YACHTS INC	2011	Passenger (Uninspected)	69	60.2999
STRIDER	S2 YACHTS, INC	1996	Recreational	11	28.6999

SUGARFOOT	CAPE ISLAND YACHT LIMITED	2000	Recreational	21	36
SUMMER PLACE	n/a	1977	Recreational	18	32.7
SUNNYSIDE	CABO YACHTS INC	1998	Recreational	34	44.7
SUNSEEKER	TEXAS MARINE INTERNATIONA	1980	Recreational	11	30
SUNSHINE	CAPE DORY YACHTS INC	1985	Recreational	11	36.1
SUSPENSE	CHANTTTERS BENETEAU	1989	Recreational	7	32
SUSPENSE	EGG HARBOR BOAT COMPANY	1978	Recreational	20	48
SUTURE SELF	WEST BAY SONSHIP YACHTS	1996	Recreational	56	55
SUTURE SELF II	CARVER BOAT CORPORATION	1993	Recreational	9	27.7
SWEET JAYNE	MATT WINCHELL	2015	Recreational	23	37.2999
TAKE FIVE	GRADY-WHITE BOATS, INC.	1992	Recreational	11	29.8999
TALL TAIL	S2 YACHTS INC	1988	Recreational	15	32.7
TANKER	ALBIN MANUFACTURING INC	2001	Recreational	14	31.3
TAR HEEL	CATALINA YACHTS INC	1994	Recreational	29	45.3
TAR HEELS 3	REGULATOR MARINE INC	2007	Recreational	11	32
TERESA MARIE	NORTH END COMPOSITES	2015	Recreational	12	30.5
TERN	MARINETTE MARINE CORP	1969	Towing Vessel	13	36
THAT'S MY GIRL	MERIDIAN YACHTS	2014	Recreational	32	47
THE ANCHOR'S AWAY	HUNTER MARINE CORPORATION	2003	Recreational	11	34.5
THE FRENCH GIRL	n/a	2011	Recreational	6	29
THE G'S SPOT	FOUNTAIN POWERBOATS INC	2004	Recreational	9	35
THE OTHER BAR	MURRAY CHRIS CRAFT CRUIS	1982	Recreational	10	28.8999
THE PACIFIER	BAYLINER MARINE CORPORATION	1987	Passenger (Uninspected)	14	31.5
THUNDER	EAST BAY BOAT WORKS INC	2000	Recreational	35	56
TIDE RUNNER	TARTAN MARINE COMPANY	1980	Recreational	11	33.6
TIME OUT	SEA RAY BOATS	1993	Recreational	11	30.5
TIS TIME	MILLER YACHT SALES	1976	Recreational	19	35.5
TOP CAT	OFFSHORE 30, INC.	1977	Commercial Fishing Vessel	11	31.6999
TORTUGA	CHEOY LEE SHIPYARDS LTD	1983	Recreational	41	66
TOSCA B	DROLSEA LIMITED	1977	RECREATIONAL	7	31.2
TOTAL FREEDOM	HUNTER MARINE CORP	1994	Recreational	12	29.5
TRADEWINDS	MORGAN YACHT	1979	Recreational	22	41.2
TRAVELLER	C.J. PEARSON CO.	1988	Recreational	20	47.3
TREEMENDOUS	HATTERAS YACHTS INC	1994	Recreational	68	54.7999
TRIPPIN	CHANTIERS AMEL SA	2008	Recreational	23	53.7999
TRUE LUFF	CATALINA YACHTS	1997	Recreational	7	28.5
TRUE NORTH	AMERICAN MARINE LTD	1968	Recreational	12	32
TRUMAN	SHANON BOAT COMPANY INC	1983	Recreational	13	28.1
TWO FOOLS	SILVERTON MARINE CORP	1996	Recreational	18	36.1
UNFINISHED BUSINESS	S2 YACHTS INC	2002	Recreational	9	30.8
UNTIE ME	CARVER BOAT CORPORATION	1988	Recreational	44	48
VIATOR	CAPITAL YACHTS INC	1982	Recreational	30	41
VIOLET ANN	SHANNON YACHTS LLC	2001	Recreational	11	32
VIRGINIAN	n/a	1977	Recreational	9	29.8
VIVID	BRISTOL YACHT COMPANY	1975	Recreational	8	30
VIXEN	n/a	1978	Recreational	19	43.8999
VON BREMEN	SILTALA YACHTS OY	1995	Recreational	8	37.5
WANDERLUST	HUNTER MARINE CORPORATION	1989	Recreational	12	37.5
WASTED TIME	FOUR WINNS BOATS LLC	2006	Recreational	7	25.8999
WAXY	CATALINA YACHTS	1999	Recreational	19	41.7999
WAYNE'S WORLD II	SEA RAY BOATS INC	1998	Recreational	19	37.7999
WET MARTINI	SEA RAY BOATS INC	2006	Recreational	30	44.7999
WHATA HOOT	ALGAS CORPORATION	1968	Recreational	15	33
WHATEVER YOU SAY	SEA RAY BOATS INC	1999	Recreational	7	25.1999
WHIPSAW	WILL'S BOAT WORKS	1974	Passenger (Uninspected)	23	39
WIDE OPEN	OUT ISLAND SPORT YACHTS INC	2005	Recreational	25	37.7999
WILDU II	n/a	1972	Unclassified	12	33.7
WILMINGTON	EVANS BOAT REPAIR INC	2010	Passenger (Inspected)	14	46
WINCHESTER	SAFTICRAFT CORP	1964	Towing Vessel	111	66.4
WIND DANCER	PACIFIC SEACRAFT CORP	1987	Recreational	9	30.5
WINDFLOWER	HERMAN J HERMANSON	1972	Recreational	21	48
WINDSTAR	CAPE DORY YACHTS INC	1986	Recreational	6	25.8999
WWW.SEAYA.GON	n/a	1970	Recreational	15	36.2999
XICA	C&C YACHTS MFDG LTD	1977	Recreational	12	30.1
YANKEE DOODLE	ERICSON YACHTS, INC.	1979	Recreational	12	31
YARRA YARRA	TOPAZ MARINE CORP	1984	Recreational	9	29
YARRA YARRA	PARKER MARINE ENTERPRS INC	2004	Recreational	9	33.2
YELL-A-TALE	REGULATOR MARINE INC	2003	Recreational	10	32
YO MUDDER	UNITED BOATBUILDERS INC	1967	Unclassified	14	36
ZIP A DEE DO DA	HUNTER MARINE CORPORATION	1993	Recreational	13	30.1
ZOE	EISTA WERF NV	1971	Recreational	17	36.5
ZUBENUBI	TIARA DIV S2 YACHTS, INC	1986	Recreational	10	27.8999
ZULU CHIEF	WILLIAM E MUNSON CO., INC.	2006	Research Vessel	15	38
ZULU WITCH	SILVER SHIPS INC	2014	Industrial Vessel	10	36