Bridge Clearance Summary Report

CAPE FEAR CROSSING

Brunswick and New Hanover Counties

STIP No. U-4738

Prepared for:

The North Carolina Department of Transportation

Prepared by:

URS

April 2014

1.0 Introduction

As part of the Cape Fear Crossing project, the North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing a new bridge be constructed across the Cape Fear River in Brunswick and New Hanover Counties. The Cape Fear Crossing project, NCDOT State Transportation Improvement Project No. U-4738, is a proposed action to improve traffic flow and enhance freight movements beginning in the vicinity of US 17 and I-140 in Brunswick County across the Cape Fear River to US 421 near the Port of Wilmington in New Hanover County (Figure 1).

During the planning and environmental studies for the project, several efforts have been undertaken to better understand the maritime uses of the Cape Fear River in order to plan and design a bridge to meet the reasonable navigational needs of the region. The *Preliminary Bridge Location and Type Study* (2009) (henceforth referred to as the 2009 Bridge Study) was prepared to "identify potential options for the location and type of a bridge that may cross the Cape Fear River as part of the Cape Fear [Crossing] project." This study identified environmental, cultural, historical, and socioeconomic constraints for new location bridge crossings of the Cape Fear River south of the existing Cape Fear Memorial Bridge; discussed bridge types and preliminary route options; and performed route analysis to estimate bridge clearances needed and associated costs.

In July 2013, a Vessel Survey was mailed to approximately 350 property owners along the Cape Fear and Northeast Cape Fear Rivers to collect information regarding their current navigational uses of the river. This report seeks to synthesize the information contained in the 2009 Bridge Study, Vessel Survey, and vessel logs from the North Carolina State Ports Authority (NCSPA). This report does not modify the recommendations made in the 2009 Bridge Study for the bridge type or location, but rather supplements it with additional data. The survey results and vessel logs further support the recommendations made in the 2009 Bridge Study as to the vertical and horizontal clearances that would need to be provided by a new bridge.

2.0 Preliminary Bridge Location and Type Study

The 2009 Bridge Study looked at the feasibility, type, and location of a bridge crossing over the Cape Fear River at three locations (Figure 2):

- **North Corridor:** northern end of NC 133 to US 421 at Shipyard Boulevard
- **South Corridor:** southern end of NC 133 to Independence Boulevard at US 421
- **Central Corridor:** from NC 133 south of Mallory Creek across the Cape Fear River eventually tying into Bryan Road and extending to the intersection of Independence Boulevard and US 421

The 2009 Bridge Study considered the horizontal and vertical clearances needed for the bridge to accommodate maritime uses in the Cape Fear River. The study recommended that the vertical clearance for a bridge south of the Port of Wilmington be set at a minimum of 165 feet and not exceed 187 feet. The vertical dimensions were determined by reviewing the air draft heights of vessels currently using the Cape Fear River and projections for future vessel heights. As of 2009, the tallest air draft height was 158 feet. Of the 560 vessels evaluated in the study, the average air draft was 131.3 feet. It is not expected that future vessels will have taller air draft heights according to interviews with cargo owners/operators.

Bridge heights at competing ports and existing vertical restrictions on the Cape Fear River were also considered. The maximum vertical clearance of 187 feet was chosen based on the vertical clearances of the Cooper River Bridge at the Port of Charleston in South Carolina, a competing port. The minimum vertical clearance of 165 feet was set in part due to the existing vertical clearance restriction imposed by the Duke Energy 230kV dual transmission lines downstream of the Port of Wilmington. Under these transmission lines, the vertical clearance at the center of the navigational channel is approximately 164 feet when taking into account maximum loading and Occupational Safety and Health Administration (OSHA) required clearances.

The study also recommended that the horizontal clearance be a minimum between 750 and 850 feet due to the current navigational channel, buffers, and safety setback requirements as established and maintained by the US Army Corps of Engineers (USACE). However, due to the expense of vessel collision accommodations around bridge piers, a minimum span of 1,200 feet was suggested. A span of this length would place the bridge piers further from the navigational channel, thereby avoiding or minimizing vessel collision requirements.

Due to the lengths of the spans necessary (1,200 feet), the study recommended a cable-stayed type bridge. Other types of bridges such as steel truss and tied arch would not support spans of this length. Furthermore, the cable-stayed type is the most economical for this span length according to a review of cost estimates for similar type bridges over the past thirty years.

3.0 Vessel Survey

Background

All alternatives considered for the Cape Fear Crossing project involve crossing the Cape Fear River either at the existing Cape Fear Memorial Bridge or at a location south of the existing bridge. In order to better understand current maritime uses in the vicinity of the proposed Cape Fear Crossing project, a Vessel Survey was conducted in August and September 2013. The purpose of the survey was to obtain information from mariners, adjacent property owners, and government agencies that operate vessels on the Cape Fear River in order to assist in determining the appropriate type of bridge to construct over the river.

The survey included several questions related to: the vessel types that transit the waterway, commercial or recreational usage, height, draft, length, beam, tonnage, mooring locations, and vessel destinations in the Cape Fear River. Included with the form was a letter introducing the Cape Fear Crossing project and explaining the purpose of the survey. Copies of both the survey and letter are included in **Appendix A**.

The letter and survey were mailed on July 31, 2013, to approximately 350 property owners along the Cape Fear and Northeast Cape Fear Rivers along with a stamped return envelope for returning the completed paper form. The recipients were selected from the parcels along the water from the mouth of the Cape Fear River (at the Atlantic Ocean) to the Northeast Cape Fear River ending at I-40 (Figure 3). The parcel addresses came from the New Hanover and Brunswick Counties' Geographic Information System (GIS) parcel data. Recipients were asked to complete and return the form by August 31, 2013.

Of the approximately 350 surveys mailed to property owners, 49 responded. The results from the survey are summarized in the following section. Data from the survey are presented in **Appendix B**.

Results

Vessel types

Included in the survey results were both recreational and commercial vessels. The recreational vessels were smaller than the commercial vessels, and were up to approximately 40 feet long and up to 55 feet high. They were primarily pleasure craft and small fishing vessels. The commercial vessels ranged from 14 feet to 750 feet long, with heights ranging from 3 feet to 134 feet. They were mostly comprised of passenger ferries, tugs, barges, and tankers.

Draft

The current channel is 42 feet deep in the Study Area according to the *Preliminary Bridge Location and Type Study* (2009). The current channel depth at the Cape Fear Memorial Bridge and continuing north to the Isabel Holmes Bridge is approximately 37 feet per the USACE (www.saw.usace.army.mil). Vessel drafts from the survey ranged from less than 5 feet to about 38 feet. The two vessels with a 38-foot draft were both chemical tankers and neither of them pass under the existing Cape Fear Memorial Bridge. Of the vessels that do currently pass under the existing bridge, the largest draft was 31 feet.

Height

Of the surveys received, vessel heights ranged from less than 5 feet to 160 feet tall. Of the vessels that actually pass under the existing Cape Fear Memorial Bridge, the tallest vessels are approximately 135 feet tall.

Length and Size

Vessels ranged in length from 14 to 750 feet and in tonnage up to 40,000 deadweight tons.

Activity

The vessel activity varied greatly. According to the survey responses, some vessels make daily trips on the Cape Fear River while others make only a few annually. Destinations include Wilmington, Wrightsville Beach, Topsail Island, Bald Head Island, and as far away as Trinidad and South Africa.

Additional Comments

Of the surveys received, respondents provided indication that the current vertical clearance is a limitation to the vessel size they currently use. Opinion was presented indicating additional vertical clearance may be needed in the future. One respondent familiar with port operations stated the new bridge should provide 190 feet of vertical clearance.

4.0 North Carolina State Ports Authority Vessel Reports

The NCSPA maintains a vessel log for the Port of Wilmington. Included in this log are the arrival drafts and departure drafts of incoming and outgoing vessels. The most recent data available are from June 2010 to June 2013. During this three-year timeframe, the drafts ranged from 7 feet to 42 feet. The length overall (LOA) ranged from 75 feet to 965 feet long. These vessel dimensions are consistent with those from the Vessel Survey and 2009 Bridge Study. Air draft (vertical clearance) information is not available for most vessels.

Further research of the vessels listed was undertaken by consulting Sea-web's online ship search records (www.sea-web.com) to assist in obtaining missing vessel height information. Based on the information provided by NCSPA and available vessel dimensions per Sea-web, the majority of the vessel heights obtained was 177 feet or less. Height information on the majority of the vessels listed was neither available on the log nor available via Sea-web's records search.

5.0 Conclusions

The Vessel Survey responses and NCSPA data support the recommendations made by the 2009 Bridge Study. The preliminary recommendation for the vertical clearance of the bridge was for it to be at least 165 feet, and not to exceed 187 feet. The preliminary recommendation of vertical clearance was based on air drafts of the merchant and cruise fleet, bridge heights at other competing ports, and the vertical restriction of the Progress Energy 230kV dual transmission lines downstream of the Port of Wilmington. It should be noted that vertical air draft information for vessels recorded in the NCSPA vessel logs was limited; therefore, final decisions regarding the height of a new bridge as part of the Cape Fear Crossing project will be coordinated closely with the NCSPA, USACE, and the US Coast Guard.

The current height of the Cape Fear Memorial Bridge in the "closed to navigation" position is 65 feet. The current height of the Cape Fear Memorial Bridge in the "open to navigation" position is 135 feet. The Vessel Survey responses support building a fixed span bridge with 135 feet of vertical clearance if an alternative is chosen that either replaces the existing Cape Fear Memorial Bridge in its current location or builds a new bridge nearby. Some responses indicate support for additional height clearance to position the area for additional growth opportunities.

The maximum vessel height according to the Vessel Survey was 160 feet and the tallest vessel to pass under the existing Cape Fear Memorial Bridge was 135 feet. The recommended horizontal clearance of 1,200 feet made by the 2009 Bridge Study is adequate for the vessels in the survey and NCSPA log.

CAPE FEAR CROSSING

State Transportation Improvement Program
Project No. U-4738

Legend

- Proposed Wilmington Bypass STIP No. R-2633 (I-140)
- Interstate Highways
- US Highways
- State Highways
- Railroad
- County Boundary
- GE Nuclear Fuel Processing Plant
- Davis Yard
- Brunswick Nuclear Plant
- Fort Fisher
- Sunny Point Military Ocean Terminal
- NC State Ports Authority
- Open Water
- Municipal Boundary

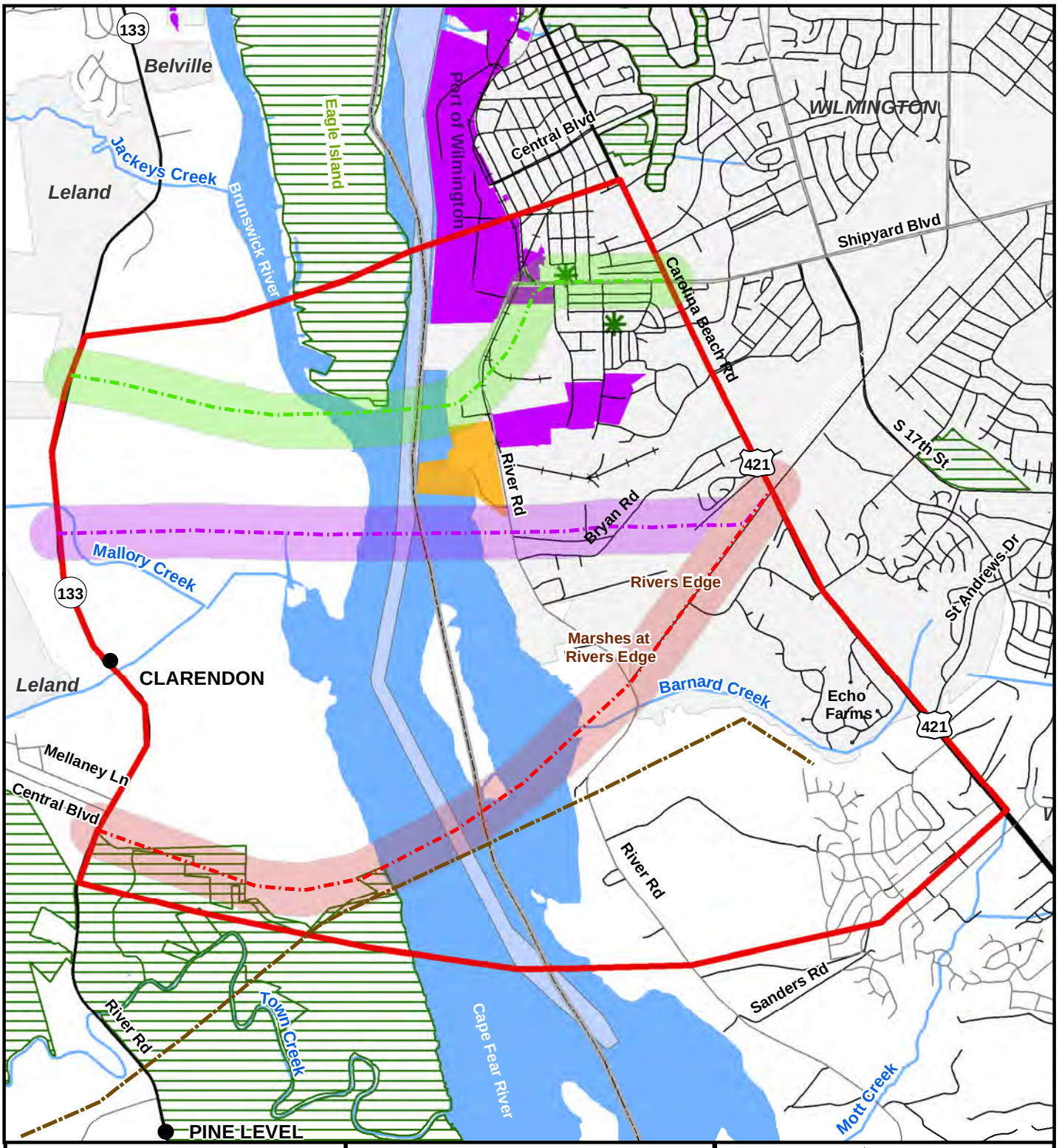
0 2.5 5 Miles

Counties
Brunswick
New Hanover

Cape Fear Crossing

Figure 1
Project Vicinity

Date: November 2013
This map is for reference only.
Sources: ESRI Inc., CGIA, NCDOT, and URS.



CAPE FEAR CROSSING

State Transportation Improvement Program
Project No. U-4738

Legend

- Bridge Study Area
- Central Corridor
- North Corridor
- South Corridor
- Central Corridor
- North Corridor
- South Corridor
- US Highway
- State Highway
- Local Road
- Railroad
- County Boundary
- Streams
- Progress Energy Transmission Line
- Park
- Exxon Mobil
- Municipal Boundary
- Navigational Channel
- NC Port Authority
- Park, Gameland, or Protected Land
- Open Water

N

0 0.5 1 Miles

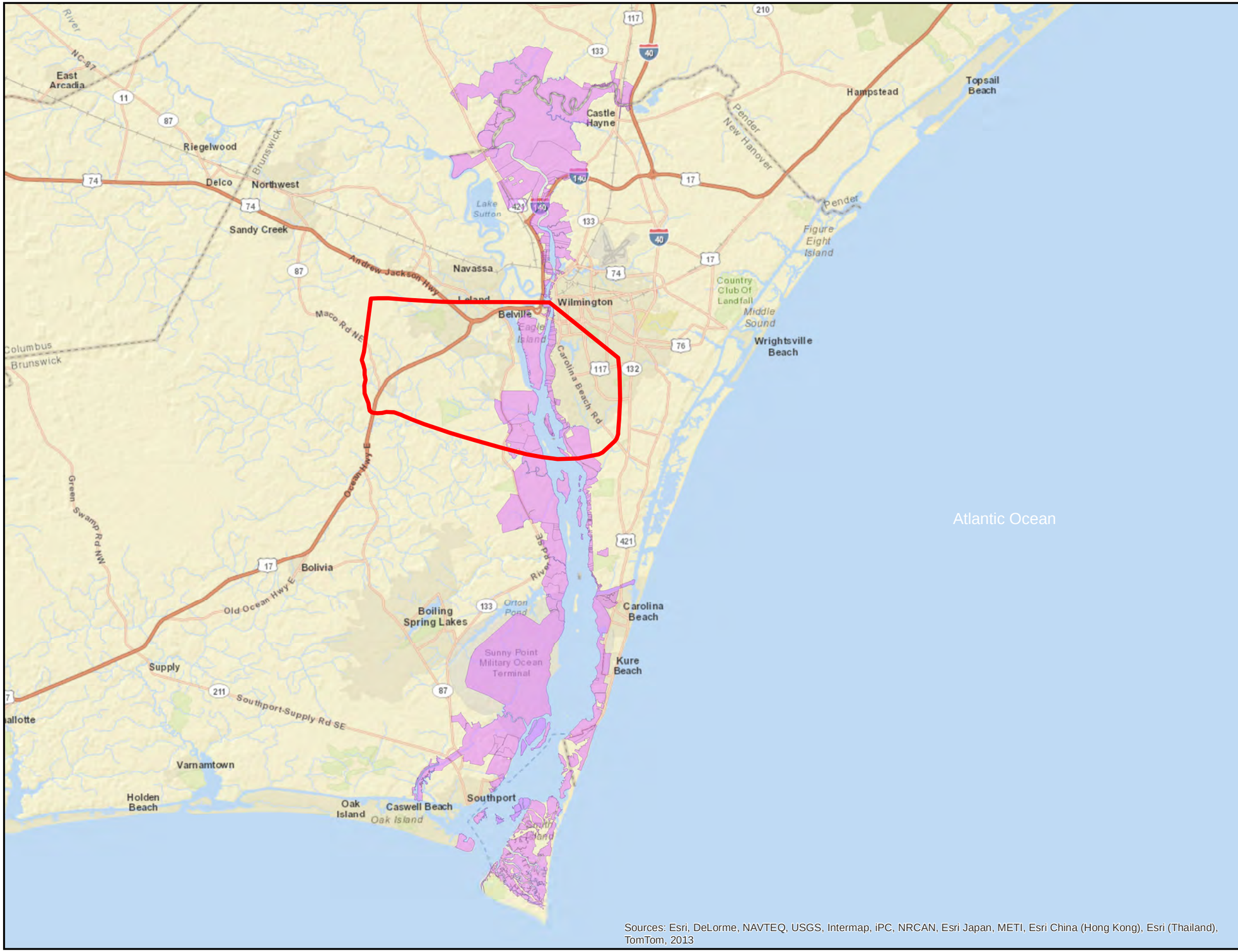
0 2,500 5,000 Feet

Cape Fear River Bridge Location and Type Study

Date: November 2013
This map is for reference only.
Sources: ESRI Inc., CGIA, NCDOT, and URS.

Figure 2

Bridge Study Corridors



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

CAPE FEAR CROSSING

State Transportation Improvement Program
Project No. U-4738

Legend

- Project Study Area
- Vessel Survey Mailing List Parcel

N

0 1 2 4 6 8
Miles

Cape Fear Crossing

Figure 3
Vessel Survey
Mailing List

Date: November 2013
This map is for reference only.
Sources: ESRI Inc., Brunswick County, Pender County, New Hanover County, CGIA, NCDOT, and URS.

Appendix A: Survey and Letter

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 31, 2013

Dear Sir or Madam:

The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are considering plans for a new bridge to be constructed across the Cape Fear River as part of the proposed Cape Fear Crossing project (formerly Cape Fear Skyway) in Brunswick and New Hanover Counties, NCDOT State Transportation Improvement Project No. U-4738. The Cape Fear Crossing project is a proposed action to improve traffic flow and enhance freight movements beginning in the vicinity of US 17 and I-140 in Brunswick County across the Cape Fear River to US 421 near the Port of Wilmington in southern New Hanover County.

The purpose of the attached survey is to obtain information from mariners, adjacent property owners, and government agencies that operate vessels on the Cape Fear River in order to assist in determining the appropriate type of bridge to construct over the river. Options for crossing the Cape Fear River include either a fixed span bridge in the vicinity of the existing Cape Fear Memorial Bridge or a bridge downriver in the vicinity of the Port of Wilmington.

The information gathered as a result of this survey will assist NCDOT in determining adequate minimum horizontal and vertical clearances for the proposed fixed-span bridge alternative crossing the Cape Fear River. The type of vessel information requested includes: the vessel types that transit the waterway, commercial or recreational usage, height, draft, length, beam, tonnage, mooring locations, and vessel destinations in the Cape Fear River. Please submit the attached form in response to this survey if you own and/or operate a private or commercial vessel that uses the Cape Fear River. A self-addressed stamped envelope is included for your convenience. Please submit the attached form by August 31, 2013.

If you have questions about the project, contact NCDOT Planning Engineer Jennifer Harris, P.E. at 1548 Mail Service Center, Raleigh, NC 27699-1548, toll-free project line 1-800-233-6315 or via email at capefear@ncdot.gov. If you call, please mention the NCDOT project number **U-4738**.

Thank you for your cooperation.

Sincerely,

Jennifer Harris

Jennifer Harris, P.E.
Project Development and Environmental Analysis Unit

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-250-4224

WEBSITE:NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Cape Fear Crossing
Vessel Survey
Response Form
July 31, 2013

Vessel Information	**Please provide all requested information:**
Vessel type	
Use – Commercial or Recreational	
Vessel Height	
Draft	
Length	
Beam	
Tonnage	
Mooring Location	
Travel Destination(s) and Frequency	
Does your vessel ever pass under the existing Cape Fear Memorial Bridge?	

We may need to follow up with you in the future regarding the information you've provided, as additional information will assist in determining adequate bridge clearances. Please provide the following contact information (optional):

Name: _____

Address: _____

Phone/Email: _____

Please provide any comments and/or recommendations regarding the bridge horizontal and vertical clearances necessary for your commercial and/or recreational use:

_____
_____
_____
_____
_____

Additional comments and/or recommendations:

_____
_____
_____

Appendix B: Survey Results

Form No.	Vessel type	Use- Commercial or Recreational	Vessel Height	Draft	Length	Beam	Tonnage	Mooring Location	Travel Destination(s) and Frequency	Does your vessel ever pass under the existing Cape Fear Memorial Bridge?	Please provide any comments and/or recommendations regarding the bridge horizontal and vertical clearances necessary for your commercial and/or recreational use:	Additional Comments and/or recommendations:
174	Tug boats	Commercial	55'	16'6"	102'	32'	298'	Cape Fear River Eagle Island	5 times a week	Yes	Newer ships going to Kinder Morgan could use more air draft.	
156	Oceanographic Research - College Training	Government, State of NC, Community College System	60'	10'	135'	32'	640 long tons displacem ent	Cape Fear Community College	To sea (SE coast of U.S.) Approx. 20 trips/year	Yes	N/A	N/A
53	Jon Boat	Commercial	3'	6"	14'	60"	500 lbs.	Leland Bridge Maintenance Facility	CFMB, Island Holmes Bridge, Thomas Rhodes Bridge, Smith Creek Bridge (4 times a year)	Yes	N/A	N/A
204	Passenger motor vessel	Commercial	45'	4.5'	156'	34'	99	Dock and Water St	We go both upriver and down river on 1.5-2.5 Hr. cruises.	Yes, 2-3 times a day	N/A	N/A
307	Motor boat/Sailboat	Recreational	22'	4'	16'	6'	N/A	Castle Hayne	Various points Cape Fear, Northeast	Yes	N/A	N/A
330	Open hull	Recreational	3'	24"	16'	8'	Less than 1 ton	Castle Hayne, NC	NE Cape Fear River	Yes	N/A	N/A
45	17' Boston Whaler Out Board	Recreational	4'	24"	17'	5'	N/A	Bradley Creek	Weekly Banks Channel	No	N/A	Finish I-140
225	Scout/Sport Fish	Recreational	5'	N/A	17'	N/A	N/A	1) Creek side yacht club, Bradley Creek, Wilmington 2) 8 Nun Street, Wilmington, NC 28401	Once a week Cape Fear River, nearby intercostal	Yes	N/A	N/A

321	Center console	Recreational	5'	10"	17'	7	N/A	Cape Landing Castle Hayne	Wilmington- 10-12 times per year, Wrightsville Beach- 6-8 times per year	Yes	While at the present time I only own a small boat I previously owned a sailboat which had a 43 foot mast and traveled to Wrightsville Beach often. I have considered buying a sailboat again and would be concerned about bridge heights; any bridges could affect the sale of my home on the river.	Property values could be affected if new bridge restricts vertical clearances.
310	Fiberglass, open hull, center console	Recreational	5' at center console	18 inches	17'	7'	1200 lbs.	Residence	All local waterways	Yes, infrequently	Downriver location will better serve Sunny Point & the port that surely - eventually- will be built closer to South Port.	What a waste this survey is -- using NC boat registration likely sent this form to every ski-do, Jon boat & small boat owner (<25 feet non-sail) in the state.
195	K-40 Class Tank Vessel	Commercial	47.8 m	11.4 m	176.8 m	32.3 m	38,750 DWT	1002 S. Front St, Wilmington, NC 28401	Trinidad & South Africa - 3 to 5 calls/month	No	A second, fixed span bridge could be constructed near existing Cape Fear Memorial bridge and existing roadways re-aligned far easier and less expensive than a new bridge below N.C. State Ports. Only one industrial facility above existing bridge remains in business and requires bridge to be lifted! A government buy-out of that facility would be so much cheaper than building either another lift bridge or a high bridge in the same area. Traffic flows across Cape Fear Memorial would	N/A

											benefit enormously without the constant maintenance disruptions of a mechanical lift span.	
122	Outboard	Recreational	5'	14"	18'	7'	1.5 ton	Cape Fear River Private Dock	Downtown 2, Surf City 1, Wrightsville Beach 3 / per month	Yes	N/A	N/A
68	Alum	Both	4'	18"	18'	60"	0.2	Nichols Dock	Fishing area - often	No	N/A	Prefer fixed span near Cape Fear Memorial.
318	1986 Chris Craft V-Hull Inboard/Outboard and 1992 Mastercraft V-Hull Inboard	Recreational	8' 6", 12'	2.5', 2'	18', 18.5'	Both 5'	N/A	Both located on Northeast Cape Fear, Rocky Point, NC	Both use frequently during summer months	No	N/A	N/A
277	Outboard pleasure craft	Recreational	10'	1.5'	19'	8'	N/A	Rocky Point, NC Cape Fear River	Topsail Island 2 times a year, Bald Head Island 4 times a year, Wilmington River front 5 or 6 times a year	Yes	N/A	As Operations Manager at NC State Ports Authority 1987-1997 and New Hanover Sherriff's Office Detective retired Aug. 2010 I feel the construction of the new bridge is extremely important to the life of the Ports Authority and emergency vehicle traffic. The vertical clearance should be a minimum of 190'. This project SHOULD have started 15 or 20 years ago!
142	Boat	Recreational	8'	1.5'	19'	6'	1 ton	Cape Fear River	Local	Yes	None	Build-It
149	Sport Fisherman	Recreational	7'	18"	19'6"	7'	N/A	7016 River Road	Fishing within 10 miles	Occasionally	N/A	N/A
53	Center Console Work Boat	Commercial	5'	10"	20'	9'6"	1 ton	Leland Bridge Maintenance Facility	CFMB, Smith Creek (and others) (6 times a year)	Yes	N/A	N/A

165	Center Console Boat	Recreational	7'	3'	20'	8.5'	4,000 lbs.	Cape Fear River	Wilmington 1-2 times/month	Yes	N/A	Strongly support a fixed span bridge across the Cape Fear River in the vicinity of the state port. Bridge should be high enough to accommodate commercial shipping traffic.
95	Grady White 208	Recreational	8'	15"	20'	8'	1	Cape Fear River	Intercoastal/ocean 6-8 times/year	Yes	N/A	N/A
220	U.S.C.G Cutter	Government	88'	12'	210.5'	34'	930 gross tons	109 North Water Street, Wilmington, NC	USCG moorings in Wilmington NC to sea via Cape Fear River; monthly	Yes	The current horizontal bridge clearance is adequate for USCGC Diligence. The bridge vertical clearance when in the raised position is also currently adequate for USCGC Diligence. Diligence is nearing 50 years of service; the U.S. Coast Guard is beginning efforts to acquire a replacement for Diligence. Given the current environmental and sea keeping requirements for new constructed ships, any replacement for Diligence is likely to have greater horizontal and vertical clearance requirements then Diligence. Additionally a greater vertical clearance for any replacement bridge for the existing Cape Fear Memorial Bridge may facilitate more USCG and Navy vessels using the existing Coast Guard moorings in	Future Coast Guard units may have larger requirements for vessel height.

											Wilmington.	
39	Grady White	Recreational	15'	2'	23'	8'	4 tons	Southport Marina	BMI - Wilmington/4 times a year	Yes	N/A	N/A
57	Power Boat	Recreational	15'	2'	23'	8'	N/A	Southport	Wilmington - 10 times per year	No	N/A	N/A
286	Regal Commodore Cruiser	Recreational	10'	3.5'	25'	10'	3 tons	Seapath Marina/Northeast Cape Fear	Seapath to Northeast Cape Fear once a month	Yes	N/A	N/A
279	Rowing Scull	Recreational	6"	1"	27'	1"	32 lbs.	NE Cape Fear River	8K 4X1 week	No	N/A	Couldn't resist filling this thing out. You are doing the right thing.
49	Single hull pilot house with twin outboards	Recreational	8'6"	2'	29'	9'6"	8500 lbs. without motors	Bald Head Island, NC	Southport, Wilmington, Wrightsville Beach	Yes	N/A	N/A
239	Catalina 30 Sailboat	Recreational	55'	4'	30'	12'	5	Sandy Point KWW	1 / year to Wilmington	Yes	N/A	N/A
222	33 Silverton	Recreational	20'	31"	33'	12'	N/A	Carolina Beach	Downtown 4 times per year	Yes	N/A	N/A
226	Sail	Recreational	58'	5'	40'	13-6	13	Various	1,2 X per month	Yes	Please send me a copy of the proposed physical location of the new bridge. I believe USCG requires a bridge to have a minimum clearance height of 65 vertical feet.	N/A
209	Battleship North Carolina	State Memorial	130' above mean low water	30'	729'	108'	40000 tons	New Hanover County	N/A	Not expected	None	N/A
34	Four (4) passenger Ferries (82' 150 passengers each) One (1) 50' Tug. One (1) 100' barge.	Commercial	48'	6'	82'	34' (widest of fleet)	Barge 162, Tug 84, Ferries 72 to 90	Southport, NC	Bald Head Island 9,000 trips annually/ Shipyard in Navassa 4 trips annually/ Yard in Wilmington 4 trips	Yes, to go to the shipyard for maintenance/ repair	We would like minimum 100' horizontal clearance and 65' vertical.	Use the money for bike paths throughout Brunswick and New Hanover Counties.
53	Warping Tug	Commercial	10'	4'	85'	25'	N/A	Leland Bridge Maintenance Facility	CFMB, I-40 Bridges, Bridge #31 (and others) (2 times a year)	Yes	The largest vessel is the USCG vessel. If that can travel under the new crossing; all other vessels will be cleared.	N/A
262	Ships and barges	Commercial - We are a storage facility for liquid	134' max because of the Cape Fear Memorial	31' due to there being no dredging in the last few	Max LOA 600 Feet	105'	40000 DWT	Kinder Morgan Wilmington Terminal	Kinder Morgan Wilmington, 2005 North Sixth Street, Wilmington, NC 28401	Yes, all of our vessels pass under the Cape Fear Memorial		

		chemicals.	Bridge	years						Bridge		
194	Double Hull Medium Range Oil and Chemical Tankers	Commercial	Maximum Height generally 134 ft. above Mean High Water	Maximum draft 38 ft. above Mean High Water	Maximum Length 750' Average length 600'	Average beam less than 100 ft.	Average Deadweight tonnage 39,000 MT	34deg13'5.84"N 77deg57'10.77W	Usually 3 to 4 ships a month call at the facility	No. Our terminal is located south of the Cape Fear Memorial Bridge.	The current placement of the Cape Fear Memorial Bridge does not affect terminal operations. Placing a new bridge downstream of the terminal which does not provide for 143 ft. of vertical clearance will limit the possibilities of the terminal. Presently we usually bring in ships with an air draft of 134 ft. but the terminal can accommodate ships up to 143 ft. air draft which is the standard Long Range Tanker class, LR1. Please feel free to contact me for further comments.	N/A
64	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	We own Horseshoe Shoal Island in the lower Cape Fear. We operate no vessels and no plans to do so in the foreseeable future. Thus, no comment. Thank you, James W. Thompson
100	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Land zoned for private house, no buildings on land
106	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	We have no vessel. Sold it a few years ago.
168	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	My 40' Pacific Trawler has been sold 2+ years ago. Survey no longer applicable to me.

20	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Dear Jennifer: I don't have a vessel operating on the Cape Fear, so you can take me off your mailing list. I do see all the ocean going traffic on the Cape Fear, and encourage you to design a high-rise fixed span bridge to accommodate them.
299	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Have no boat, I do not live on N.C. Cape Fear River
269	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
128	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	We do not own a boat at this time.
124	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Small boat only - if ever	N/A
272	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Post December 2013 we will no longer have a vessel going to the port
188	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Invista plant in Wilmington, NC is shutting down. No more vessels are planned or scheduled in future.	This letter was received today 30Aug2013 sorry if delayed.
113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	I would only ever have small (<30 ft.) pleasure craft. No height clearance needed.	
242	N/A	N/A	Needs 135' min	N/A	N/A	N/A	N/A	N/A	N/A	Yes	We desire no less than 135' vertical clearance, the same height of the Cape Fear Memorial Bridge when elevated. Our property is north of the bridge.	N/A
261	Multiple	Recreational/ Commercial	78'	8-9'	Up to 130'	30'	N/A	Cape Fear Marina/Bennett Brothers Yachts	Boats coming to the marina	Yes	N/A	N/A