



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

July 13, 2012

Commander, Fifth Coast Guard District (dpb)
LANTAREA
Federal Building
431 Crawford Street
Portsmouth, VA 23704-5004

ATTN: Mr. Waverly Gregory
Chief, Bridge Administration

Dear Sir:

Subject: **US Coast Guard Bridge Permit Request** for proposed duel bridges on US 17
(Wilmington Bypass) between SR 1430 and US 421 over the Cape Fear River,
Brunswick and New Hanover Counties. Federal Aid Project No. STPNHF-17(1).
TIP No. R-2633B

Application is hereby made for a Coast Guard Bridge Permit.

a. Applicant information:

- 1) Gregory J. Thorpe, Ph.D.
- 2) 1598 Mail Service Center
Raleigh, NC 27699-1598
- 3) (919) 707-6105
- 4) rbeauregard@ncdot.gov

b. Consultant/Agent information (if employed):

N/A

c. Proposed Bridge(s):

- 1) FHWA

- 2) Cape Fear River
- 3) 56.9 River Miles; 34.2728,-78.0017
- 4) near Wilmington, Brunswick and New Hanover Counties, North Carolina
- 5) See attached FEIS and ROD
- 6) See attached FEIS and ROD
- 7) See attached FEIS, ROD and attached drawings
- 8) Federal

d. Legal Authority for proposed action:

- 1) General Bridge Act of 1946, as amended
- 2) N/A
- 3) N/A

e. International Bridges

N/A

f. Dimensions of the navigation opening: (All navigational clearances should be stated in US linear feet. Provide clearances in meters if international bridge).

- 1) Vertical clearance: 64.00' above MHW (EL. 2.02') (see attached drawing)
- 2) Horizontal clearance: 160.00' (see attached drawing)
- 3) Length of bridge project: 7185.00' abutment to abutment
- 4) Width of project: 88.6' out-to-out for both bridges
- 5) Depth of the waterway: 51.0' MHW
- 6) Width of waterway: 435' MHW

g. Waterway characteristics, waterway usage, and prospective long term navigational impacts of the proposed project:

- 1)
 - Town of Navassa, 334 Main Street, Navassa, NC 28451, 910-371-2432, boat ramp along Cartwheel Branch
 - Cape Fear Boat Works, 1690 Royster Road NE, Leland, NC, 28451, Cape Fear River
 - Brunswick Corporation, 1 North Field Court, Lake Forest, IL, 60045, Cape Fear River
 - Progress Energy Carolinas, P.O. Box 14042, St. Petersburg, FL, 33733, Cape Fear River

- North Carolina State Highway Commission, Raleigh, NC 27611, boat ramp on Brunswick River

- 2) The approximate width of the waterway at the proposed bridge location is 435' bank to bank.
- 3) The depth of the waterway at the proposed bridge location in and around the navigation channel is 22 to 51 feet.
- 4) River traffic is active on the Cape Fear River and consists of a variety of private and commercial vessels. Vessel size in the project area is restricted by the 55-foot height of the US 421 fixed span bridge over the Cape Fear River downstream of this proposed project. Commercial vessel traffic crossing the project area consists of coal barges that service the Progress Energy power plant located upstream of the project area. Other vessels crossing the project area include recreational and pleasure craft. However potential impacts to existing vessel usage are not expected. The horizontal and vertical clearances will accommodate all vessels that currently use the section of the river upstream of the project area. Notice to mariners will be issued prior to and during construction on the river.
- 5) The Corps of Engineers has completed a federal navigation project on this waterway called the Cape Fear River Above Wilmington Project.
- 6) Smaller pleasure craft transit the river. However potential impacts to existing vessel usage are not expected. The horizontal and vertical clearances will accommodate all vessels that currently use the section of the river upstream of the project area. Notice to mariners will be issued prior to and during construction on the river.
- 7) Commercial vessel traffic crossing the project area consists of coal barges that service the Progress Energy power plant located upstream of the project area. Potential impacts to existing vessel usage are not expected.
- 8) The proposed bridge will not block access of any vessel presently using local service facilities.
- 9) There are no alternate routes that bypass the proposed bridge.
- 10) There are no local harbors to which the proposed bridge will prohibit entry.
- 11) The proposed bridges are in the middle of a bend. There is another bend 1.51 miles downstream in the waterway.
- 12) There are no factors located within one-half mile which would create hazardous passage through the proposed structure.
- 13) The only hydraulic condition that would increase the hazard of passage through the proposed bridge is the addition of one bent in the Cape Fear River. Although, the navigational opening of 280 feet is adequate for the existing boat traffic on the river. Also, a closed drainage system will be installed on the bridge over the entire Cape Fear River and along each span on each side of the river.

14) There are no atmospheric conditions that would increase the hazard of passage through the proposed bridge.

15) The USCG Bridge Administration guide clearance for fixed span bridges on the Cape Fear River from Wilmington mile 30 to mile 39 is 120' horizontal and 135' vertical at maximum HW. This project is located in near Wilmington, mile point 35.5.

16) There are no other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge.

17) Construction will be performed from work bridges and barges. The work bridges will be in the nearby wetland areas and need to extend into the Cape Fear to serve as landing platform for the barges. This will need to be done for each work bridge on both the south and north side of the river. The platform will be "L" shaped and needs to terminate in a minimum water depth of 6 feet.

a) Email coordination between NCDOT Structures Unit (Lonnie Brooks) and USCG (Terrance Knowles) dated October 3, 2011, determined that the vertical and horizontal clearances for the proposed bridge are acceptable.

b) N/A

h. Existing bridge(s) if applicable:

1) N/A

2) N/A

3) N/A

4) N/A

i. Discuss construction methodology and removal of existing bridge(s), as applicable:

1) Proposed construction methodology and restrictions;

- All construction will be performed either from temporary work platforms or barges.
- There are no existing bridges

2) Maintenance of land and waterborne traffic during construction activities. Notice to mariners will be issued prior to and during construction on the river.

3) N/A

4) N/A

j. Other Agencies with jurisdiction over the proposed project:

The U.S. Army Corps of Engineers (USACE) issued an Individual Section 404 Permit and Section 10 Permit on February 8, 2011 and the N.C. Division of Water Quality issued an Individual Section 401 Permit on January 13, 2011 for the entire R-2633 project. The N.C. Division of Coastal Management has issued a Consistency Review of the entire project however, this section of the project will require a Coastal Area Management Act Major Development Permit. The NCDOT is preparing and will submit a Joint Permit Modification Application for both State and Federal Permits.

k. Summary of environmental analysis.

- 1) FHWA (see attached FEIS and ROD)
- 2) The proposed bridge will not have a significant effect on the human environment.

l. Signature Block (applicant/consultant/agent).

Sincerely,

for 

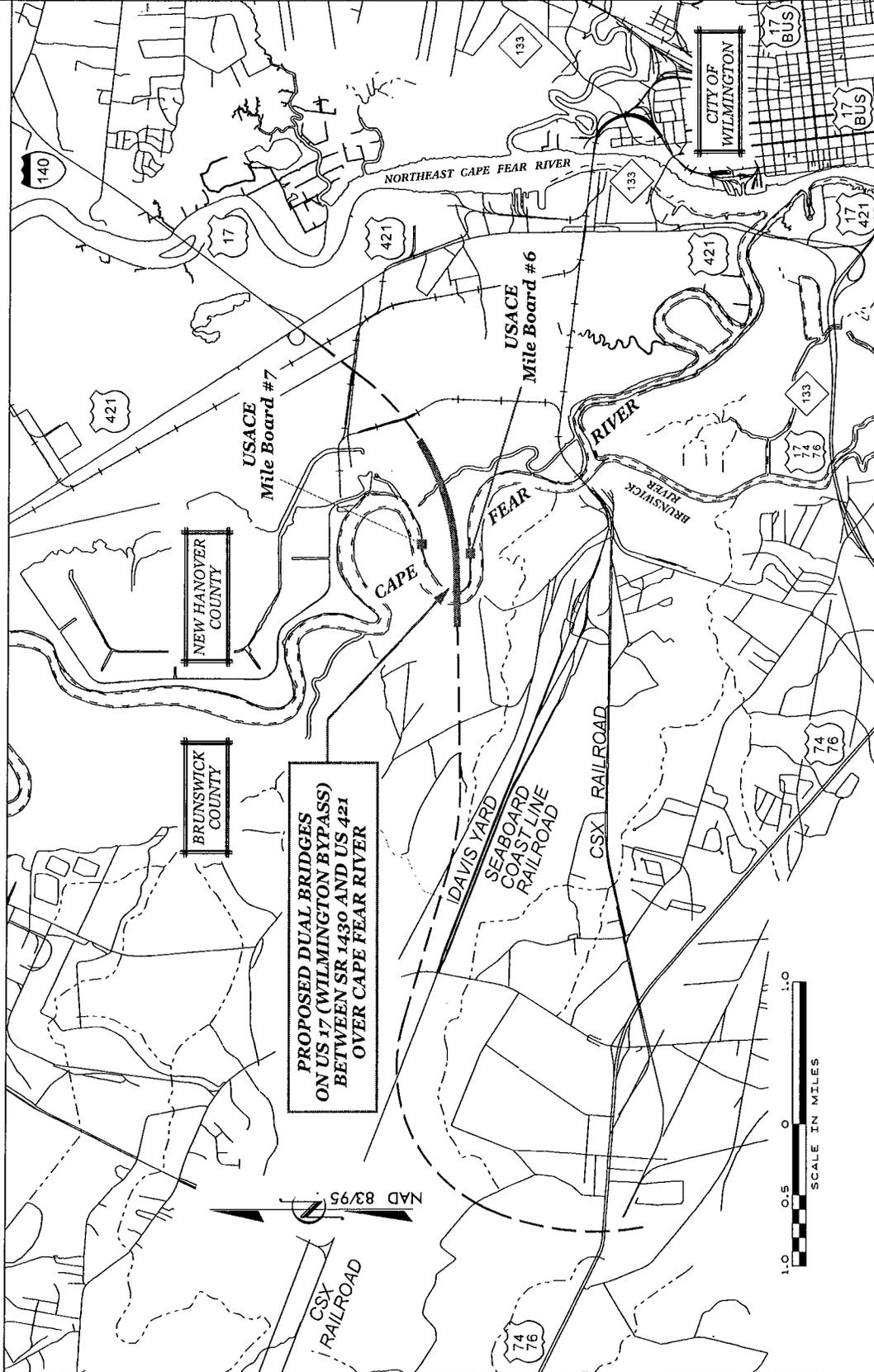
Gregory J. Thorpe, Ph.D., Manager
Project Development & Environmental Analysis Unit

- Enclosures:
- (1) Vicinity map and drawings of the bridge.
 - (2) CD of FEIS and ROD
 - (3) List of property owners within one-half mile of the bridge.

cc:

(via email) Brad Shaver, USACE Wilmington District

VICINITY MAP



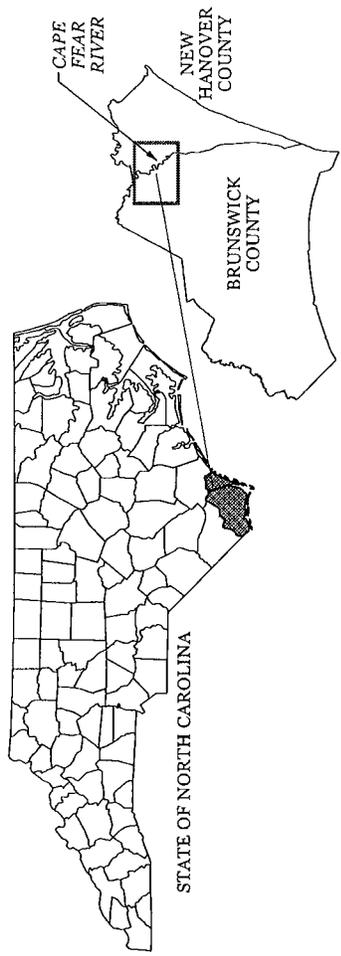
**PROPOSED DUAL BRIDGES
ON US 17 (WILMINGTON BYPASS)
BETWEEN SR 1430 AND US 421
OVER CAPE FEAR RIVER**

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION.

THE DESIGN VESSEL FOR THIS BRIDGE IS THE TUGBOAT, "GALE", WITH THE TANK BARGE, "B201", IN TOW.

TUGBOAT AND TANK BARGE OWNER: CHATHAM TOWING COMPANY, INC.

State of North Carolina
Department of Transportation Raleigh, NC
Proposed Dual Bridges on US 17 (Wilmington Bypass) between SR 1430 and US 421 over Cape Fear River, Mile Point 35.5 near Wilmington, NC
Brunswick & New Hanover Counties
State Project No.: R-2633BB
March 28, 2012
Sheet 1 of 7



PI STA. 326+85.00
ELEVATION 83.37
V.C. 1270'-0"

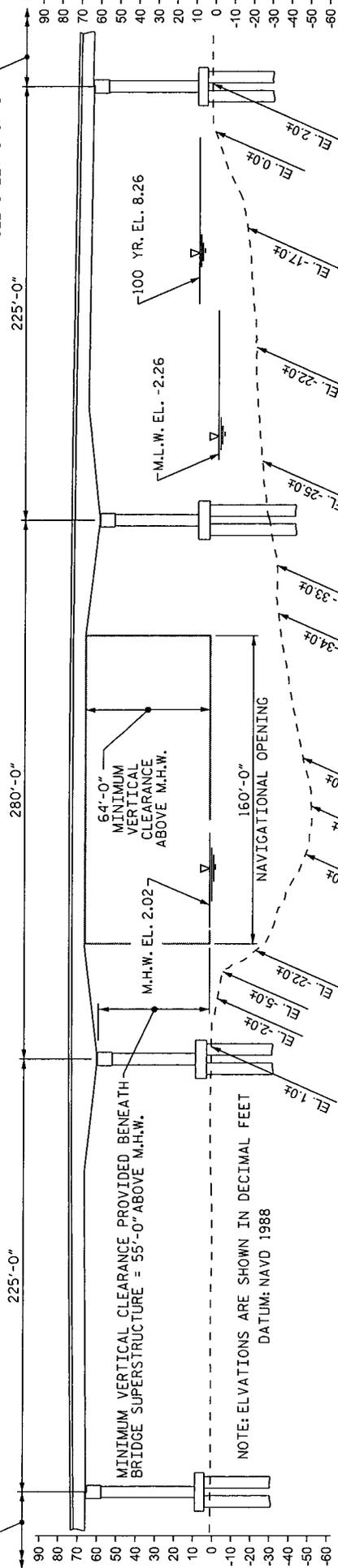
2.2315% ∇ -2.9036%

SEE SHEET 3 OF 6

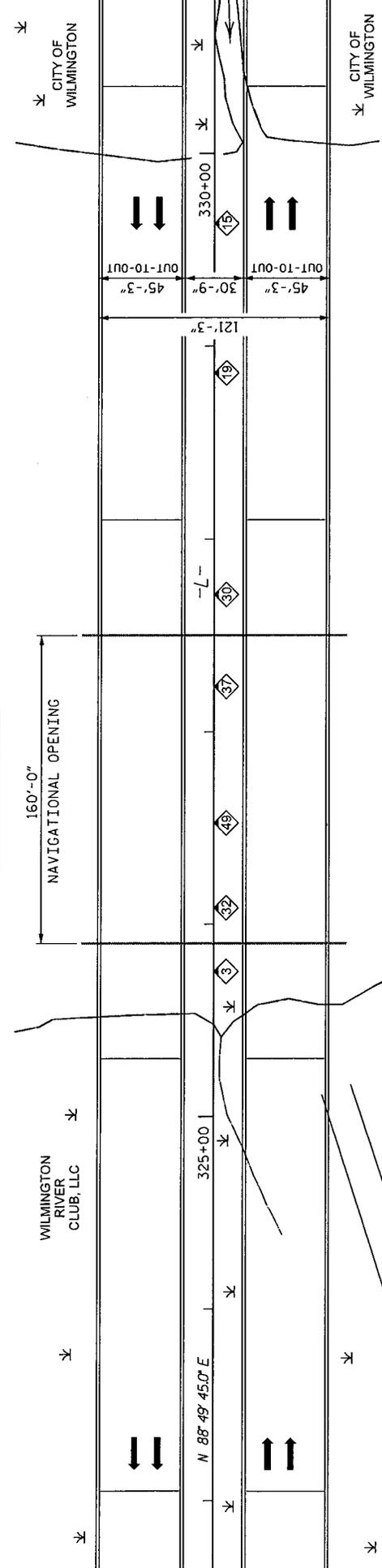
225'-0"

280'-0"

225'-0"



ELEVATION



State of North Carolina
Department of Transportation
Raleigh, NC

Proposed Dual Bridges
on
US 17 (Wilmington Bypass)
between
SR 1430 and US 421
over
near
Cape Fear River, Mile Point 35.5
Wilmington, NC

Brunswick & New Hanover Counties

State Project No.: R-2633BB

March 28, 2012

Sheet 2 of 7

◇ DENTOTES APPROXIMATE WATER DEPTH AT MEAN LOW WATER

NAVIGATIONAL OPENING

58 SPANS, TOTAL LENGTH = 7185'-0" ALONG SURVEY

27 SPANS @ 120'-0"

3 SPANS @ 108'-4"

2 SPANS @ 120'-0"

225'-0"

280'-0"

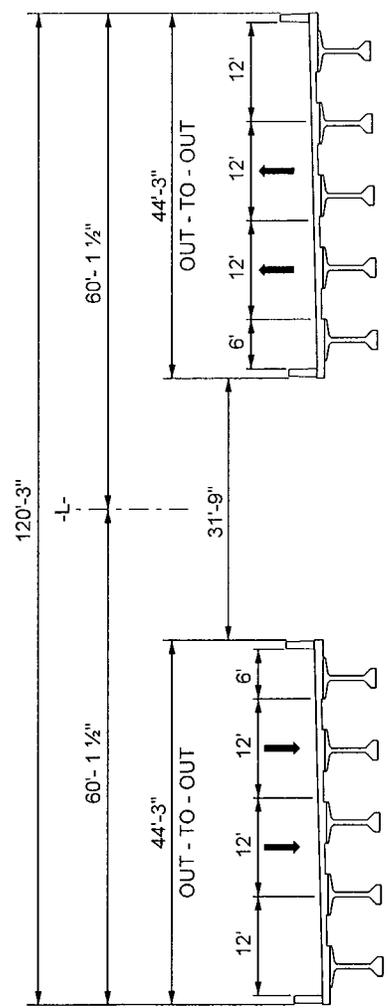
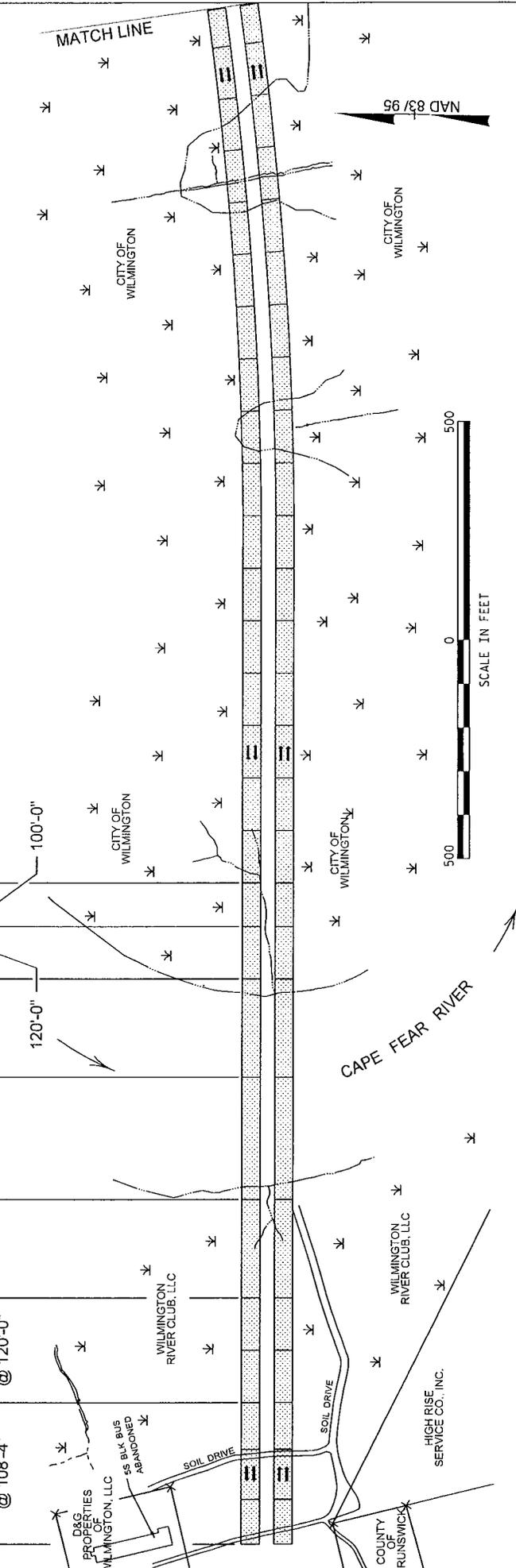
225'-0"

120'-0"

100'-0"

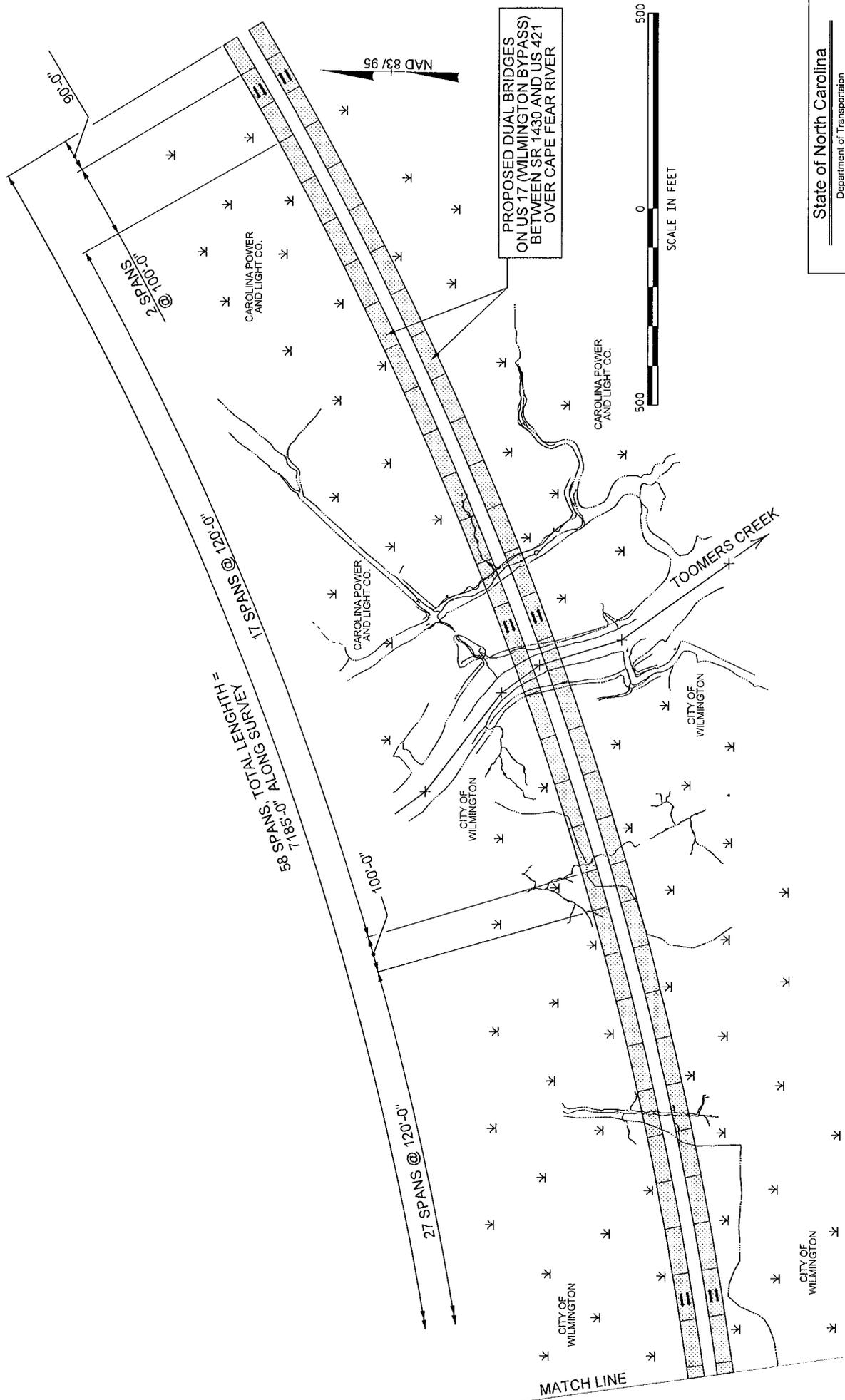
225'-0"

120'-0"



TYPICAL SECTION ON STRUCTURE

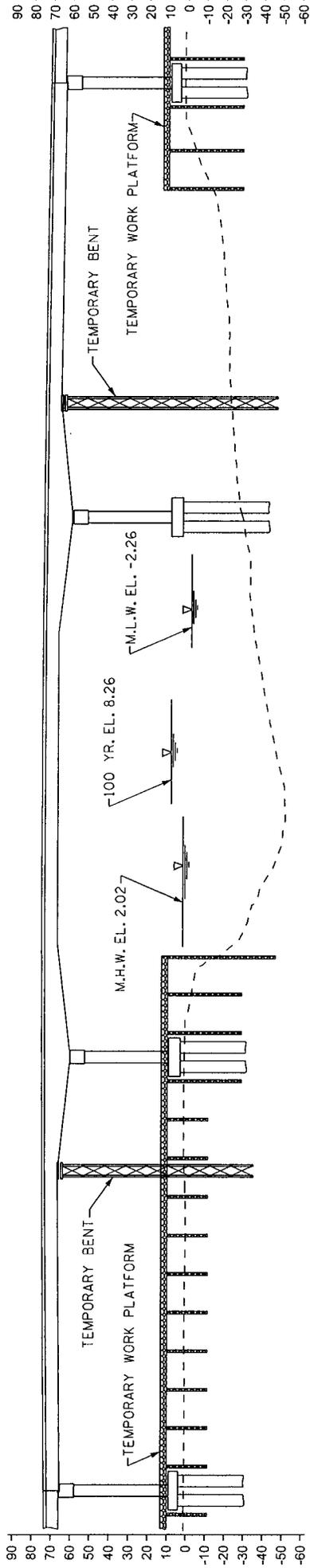
State of North Carolina
Department of Transportation Raleigh, NC
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Brunswick & New Hanover Counties
State Project No. : R-2633BB
March 28, 2012
Sheet 3 of 7



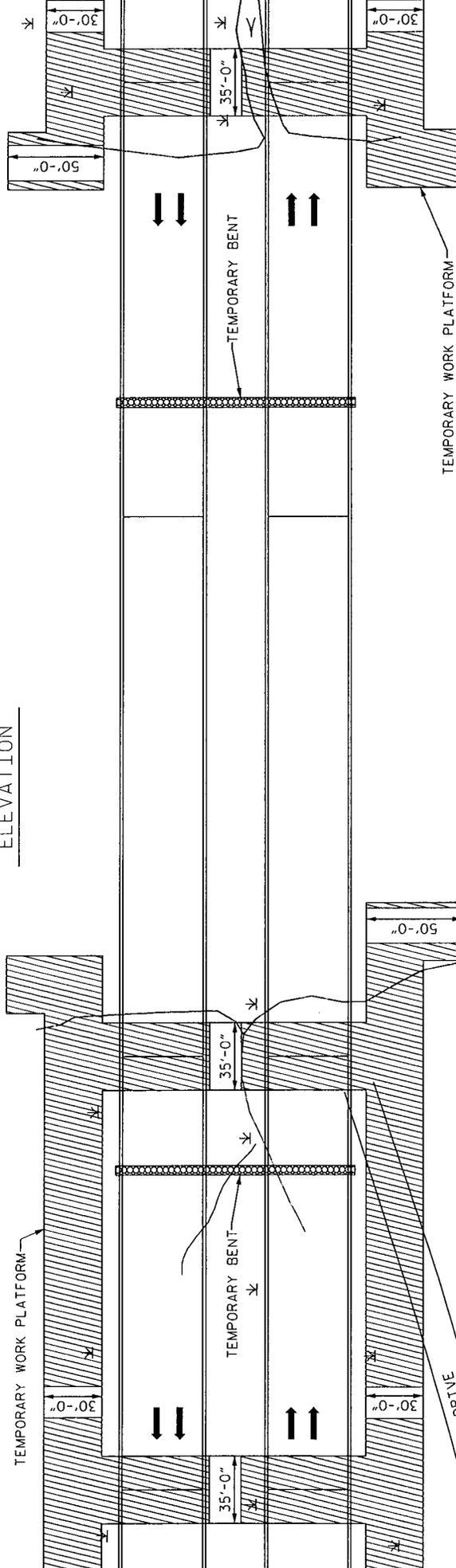
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State Project No. : R-2633BB
March 28, 2012

NOTE: ELEVATIONS ARE SHOWN IN DECIMAL FEET
 DATUM: NAVD 1988

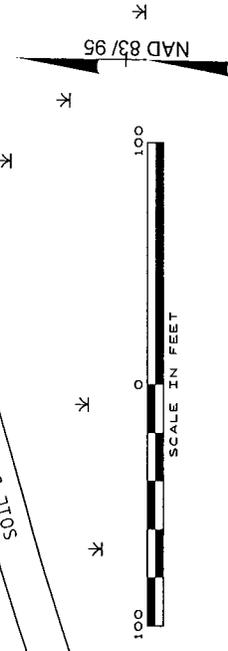


ELEVATION

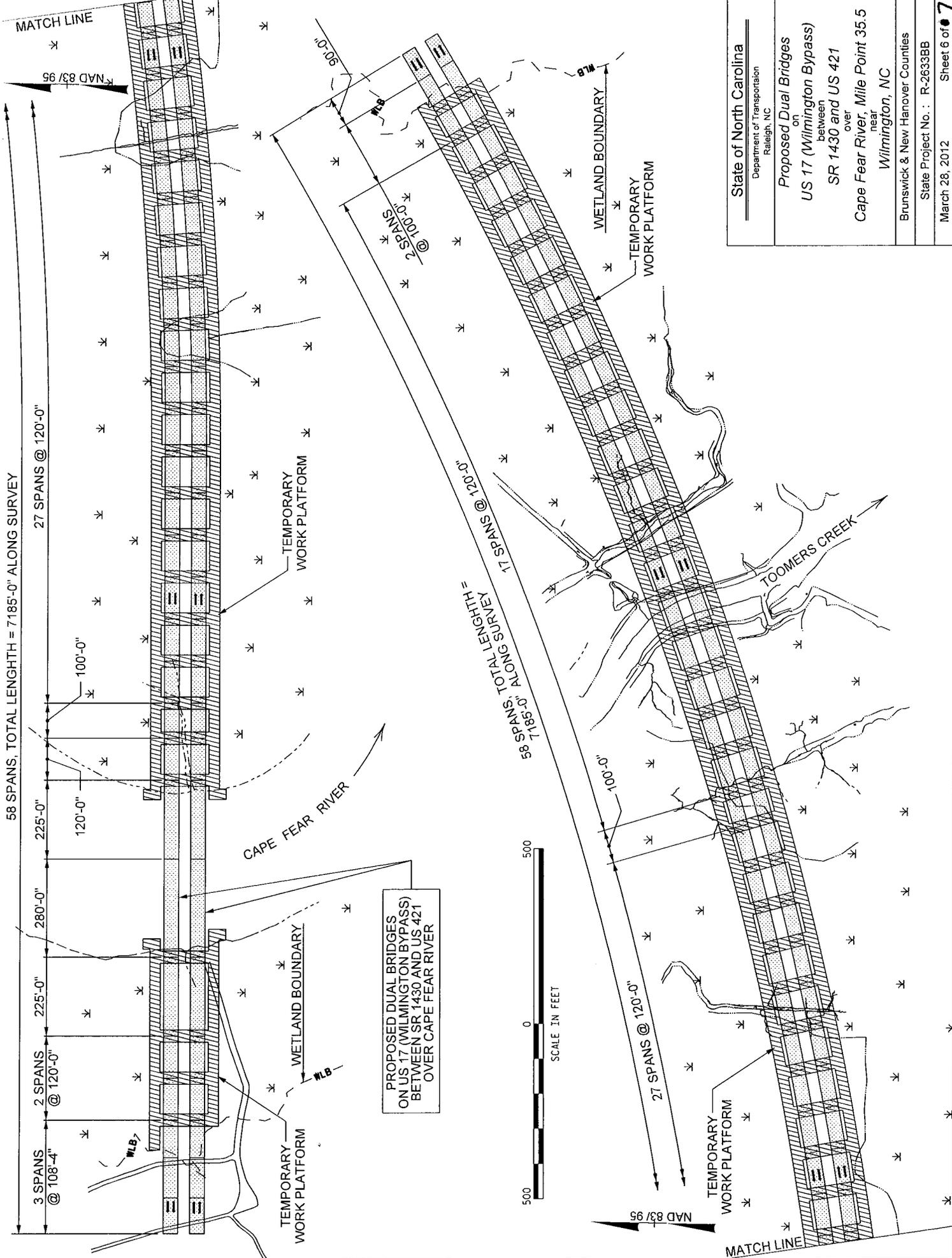


CAPE FEAR RIVER

PLAN



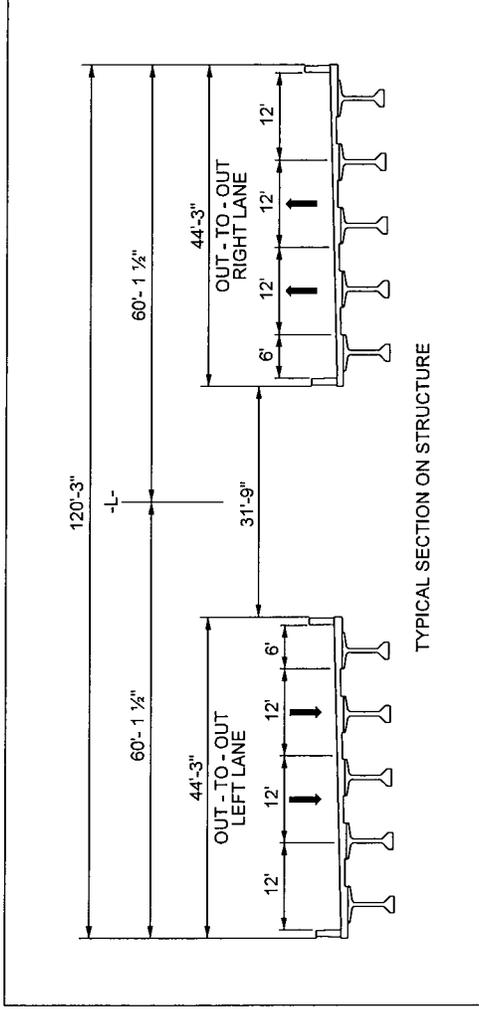
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Department of Transportation Raleigh, NC
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March 28, 2012



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ON US 17 (WILMINGTON BYPASS)
BETWEEN SR 1430 AND US 421
OVER CAPE FEAR RIVER

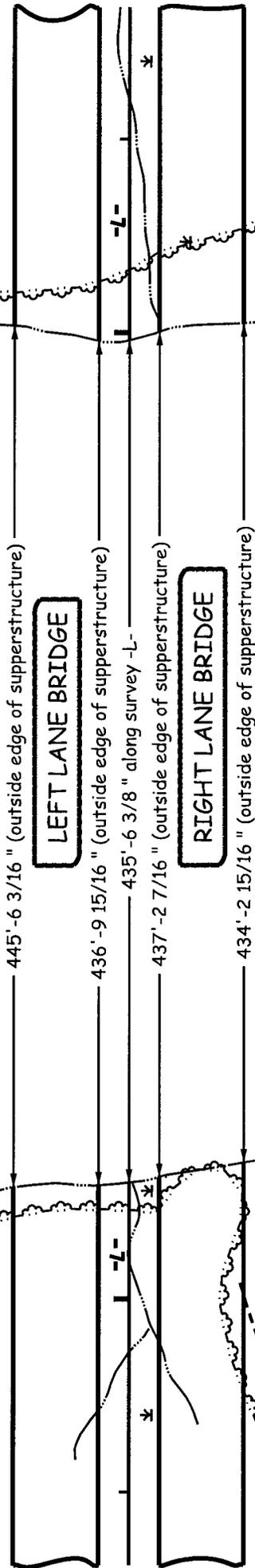
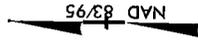
State of North Carolina
Department of Transportation Raleigh, NC
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over Cape Fear River, Mile Point 35.5 near Wilmington, NC
Brunswick & New Hanover Counties
State Project No. : R-2633BB
March 28, 2012
Sheet 6 of 7

330



TYPICAL SECTION ON STRUCTURE

325



CAPE FEAR RIVER

Y

State of North Carolina Department of Transportation Raleigh, NC
Proposed <i>Dual Bridges</i> on US 17 (Wilmington Bypass) between SR 1430 and US 421 over near Cape Fear River, Mile Point 35.5 Wilmington, NC
Brunswick & New Hanover Counties
State Project No. : R-2633BB
May 31, 2012
Sheet 7 of 7