



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 2.07; Released October 2016)

WBS Element: 17BP.2.R.83 TIP No.: SF-530038 County(ies): Lenoir Page 1 of 2

General Project Information

WBS Element:	17BP.2.R.83	TIP Number:	SF-530038	Project Type:	Bridge Replacement	Date:	7/28/2017
NCDOT Contact:	Robert T. Turnbull, Environmental Services, Inc.		Contractor / Designer:	HNTB North Carolina, P.C. / John F. Watson, PE			
Address:	4901 Trademark Dr. Raleigh, NC 27610		Address:	343 E. Six Forks Road Suite 200 Raleigh, NC 27609			
	Phone:	(919) 212-1760		Phone:	(919) 424-0444		
	Email:	rturnbull@esinc.cc		Email:	jfwatson@hntb.com		
City/Town:	Pink Hill		County(ies):	Lenoir			
River Basin(s):	Neuse		CAMA County?	No			
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.08	Surrounding Land Use:	Rural, Residential, and Agriculture					
	Proposed Project		Existing Site					
Project Built-Upon Area (ac.)	0.3	ac.	0.2	ac.				
Typical Cross Section Description:	2 - 11' asphalt paved lanes with 5' paved shoulders, 3' grass shoulders.			2 - 10' asphalt paved lanes with grass shoulders. Wetlands and tributaries to Tuckahoe Swamp are present in the northwest, northeast, and southeast quadrants.				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	2400	Year:	2033	Existing:	1200	Year:	2013
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>State project 17BP.2.R.83 involves the replacement of Bridge #530038 on Ash Davis Rd. (SR 1113) over Tuckahoe Swamp in Lenoir County. The existing bridge consists of a 1 @ 31' - 0" precast prestressed concrete (PPC) floor on PPC caps and timber piles. It is to be replaced with a 1 @ 60' - 0", 24" cored slab bridge (60' total length, 33' total width) at the same location.</p> <p>The proposed bridge does not contain deck drains. All stormwater from the bridge and approaches will be collected by a storm drainage system and discharged into a rip-rap pad in the northwest quadrant at -L- station 13+84 LT. Impacts from the project do not extend into the existing roadside ditch in the SE quadrant.</p>							

Waterbody Information

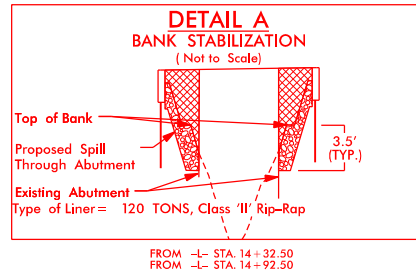
Surface Water Body (1):	Tuckahoe Swamp		NCDWR Stream Index No.:	27-101-5-1				
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C					
	Supplemental Classification:		Swamp Waters (Sw)		(NSW)			
Other Stream Classification:								
Impairments:								
Aquatic T&E Species?	Comments:							
NRTR Stream ID:						Buffer Rules in Effect:	Neuse	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?				N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)								

BUFFER IMPACTS

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO. 17BP.2.R.83	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

B2
ZONE 1 BUFFER IMPACTS = 214 SF
ZONE 2 BUFFER IMPACTS = 195 SF



LEGEND
 ALLOWABLE IMPACTS ZONE 1
 ALLOWABLE IMPACTS ZONE 2

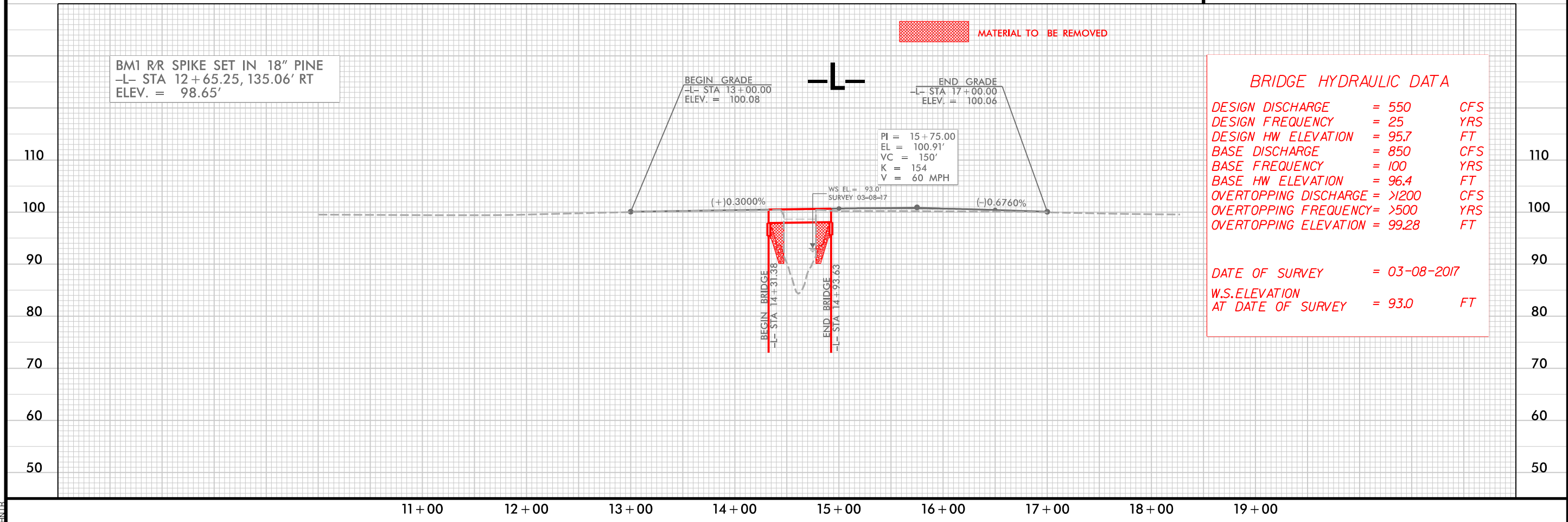
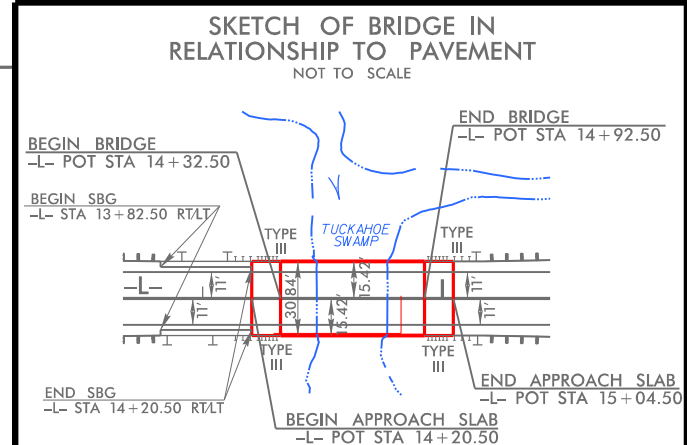
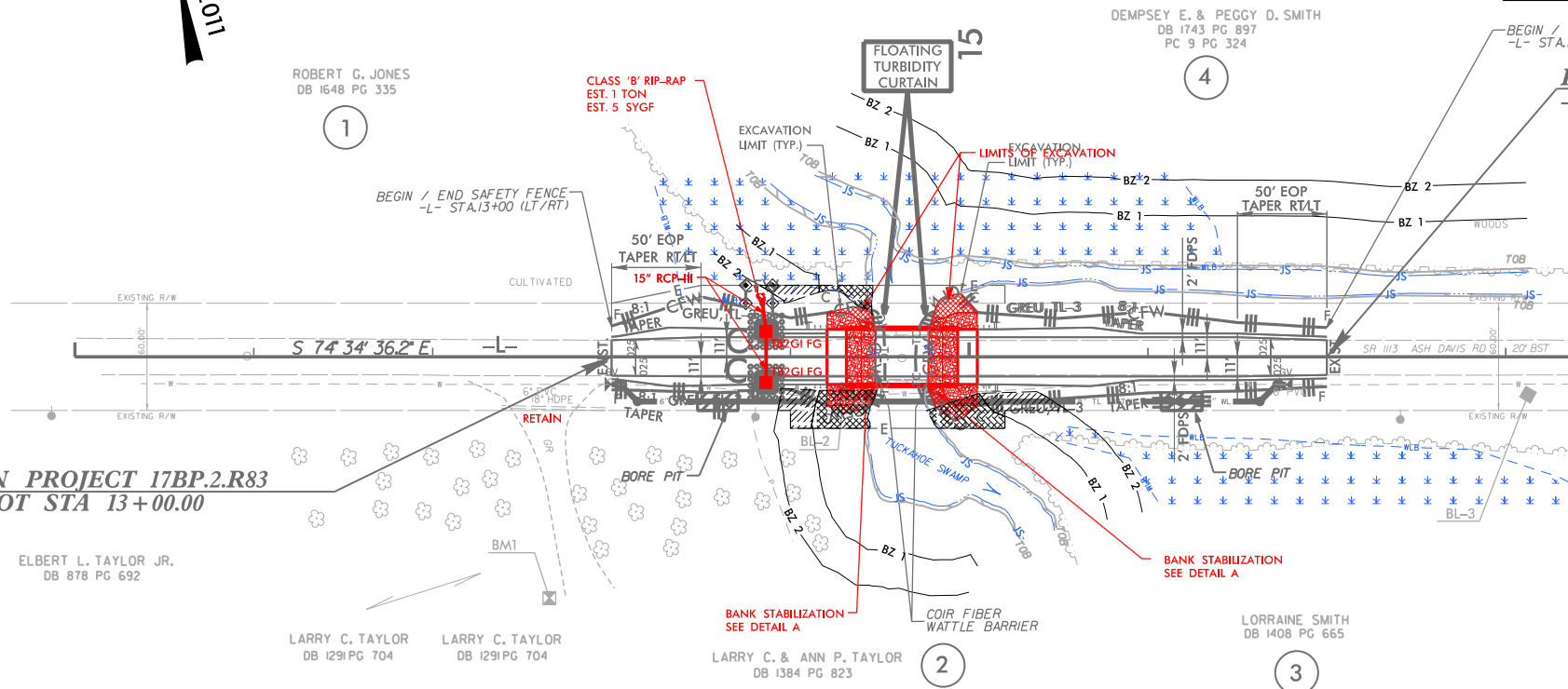
B3
ZONE 1 BUFFER IMPACTS = 672 SF
ZONE 2 BUFFER IMPACTS = 369 SF

B1
ZONE 1 BUFFER IMPACTS = 0 SF
ZONE 2 BUFFER IMPACTS = 0 SF

B4
ZONE 1 BUFFER IMPACTS = 569 SF
ZONE 2 BUFFER IMPACTS = 398 SF

BEGIN PROJECT 17BP.2.R.83
-L- POT STA 13+00.00

END PROJECT 17BP.2.R.83
-L- POT STA 17+00.00



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 550	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 95.7	FT
BASE DISCHARGE	= 850	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 96.4	FT
OVERTOPPING DISCHARGE	= >1200	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 99.28	FT

DATE OF SURVEY = 03-08-2017
W.S.ELEVATION AT DATE OF SURVEY = 93.0 FT

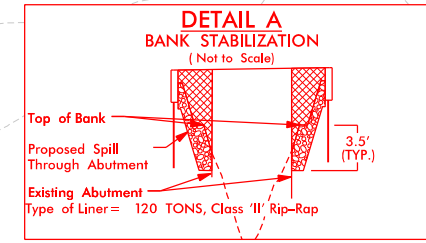
8/17/09
11/20/2017
17BP.2.R.83_hyd_buf.f_psh4.dgn
HNTB

BUFFER IMPACTS

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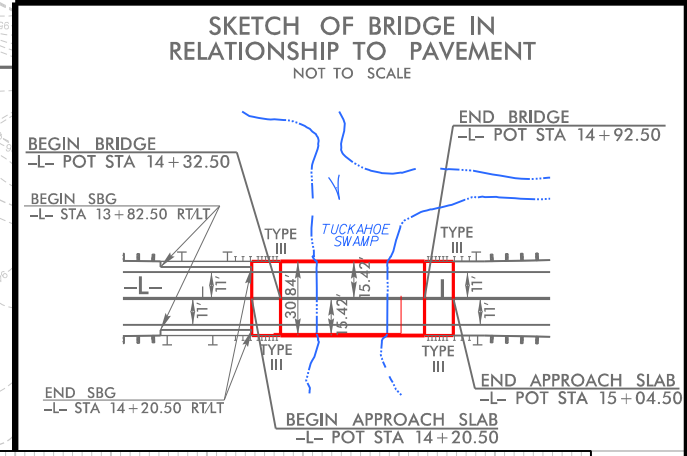
ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

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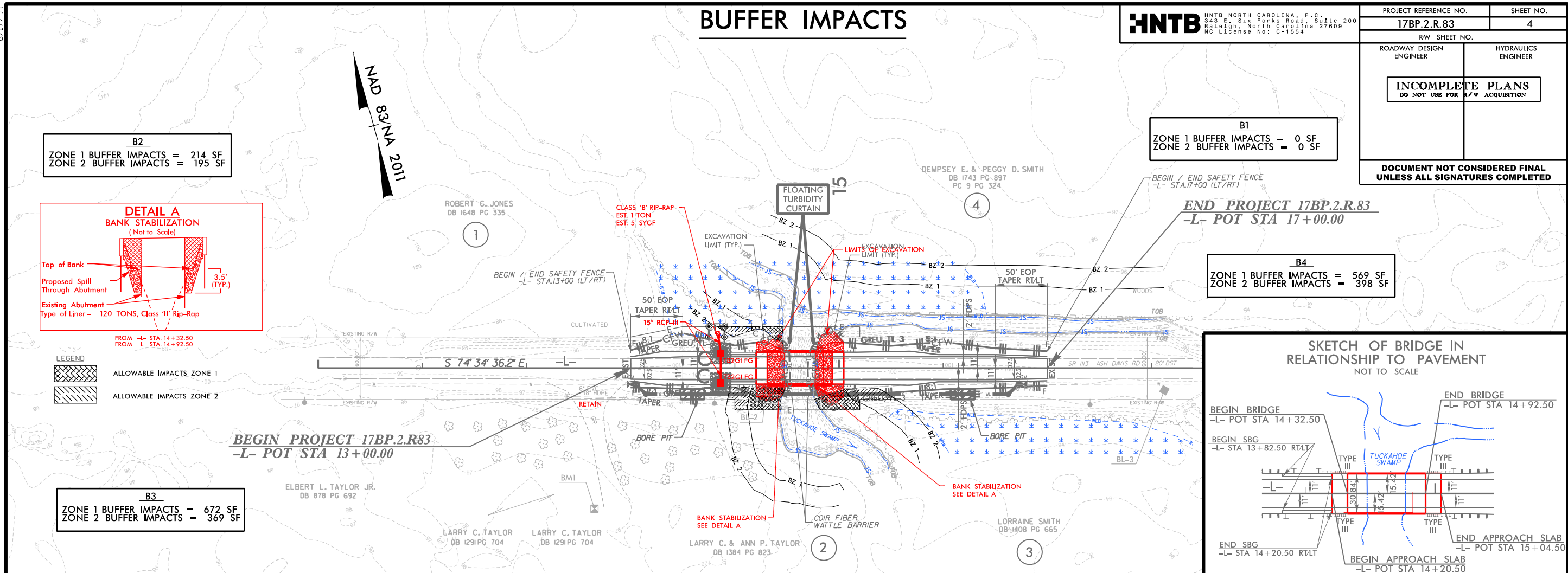
B1
ZONE 1 BUFFER IMPACTS = 0 SF
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-L- POT STA 13+00.00

END PROJECT 17BP.2.R.83
-L- POT STA 17+00.00

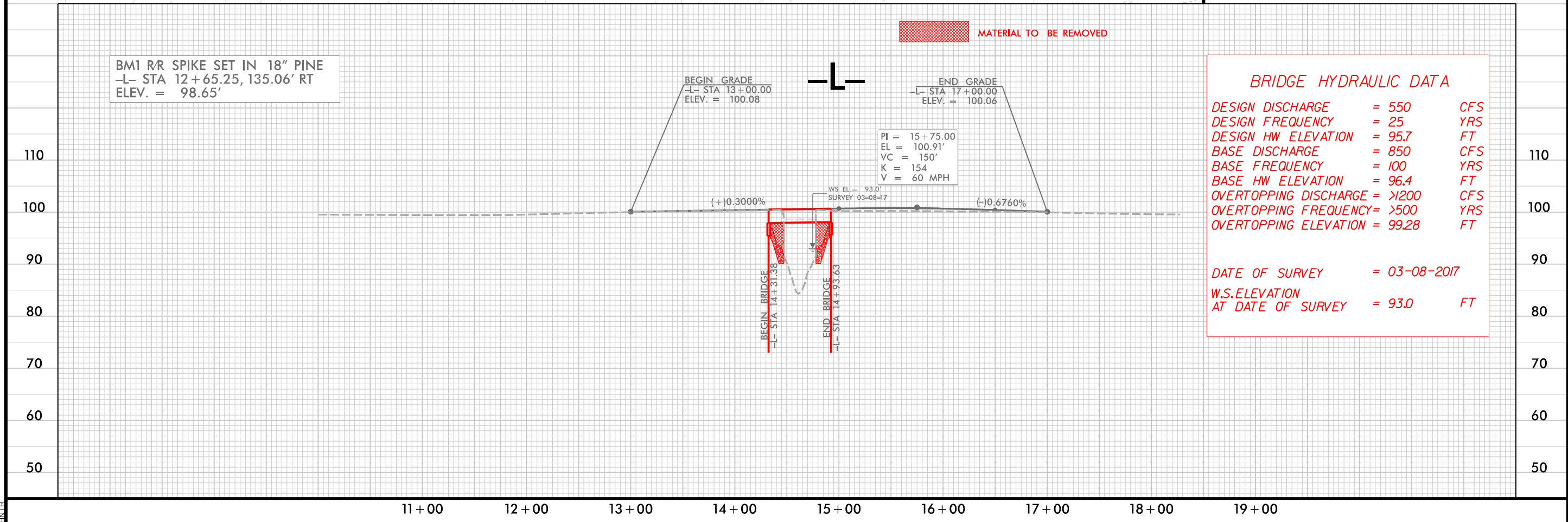


BM1 R/R SPIKE SET IN 18" PINE
-L- STA 12+65.25, 135.06' RT
ELEV. = 98.65'

BEGIN GRADE -L- STA 13+00.00
ELEV. = 100.08

END GRADE -L- STA 17+00.00
ELEV. = 100.06

PI = 15+75.00
EL = 100.91'
VC = 150'
K = 154
V = 60 MPH



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 550	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 95.7	FT
BASE DISCHARGE	= 850	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 96.4	FT
OVERTOPPING DISCHARGE	= >1200	CFS
OVERTOPPING FREQUENCY	= >500	YRS
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11/20/2017 17BP.2.R.83_hyd_buf.f_psh4.dgn

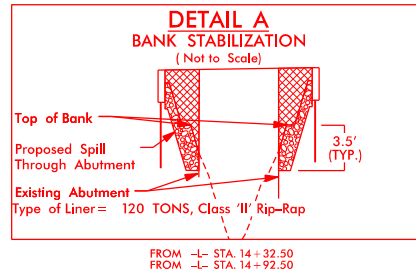
WETLAND & STREAM IMPACTS

HNTB HNTB NORTH CAROLINA, P.C.
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8/17/99

W2
HAND CLEARING IN WETLANDS = <0.01 Ac /117 SF
FILL IN WETLANDS = <0.01 Ac /22 SF



LEGEND
 DENOTES HAND CLEARING
 DENOTES FILL IN WETLAND

W3
HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF

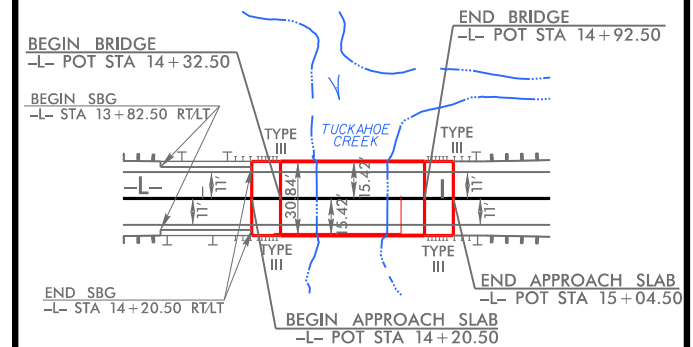
W1
HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF

W4
HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF

BEGIN PROJECT 17BP.2.R.83
-L- POT STA 13+00.00

END PROJECT 17BP.2.R.83
-L- POT STA 17+00.00

SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT
NOT TO SCALE



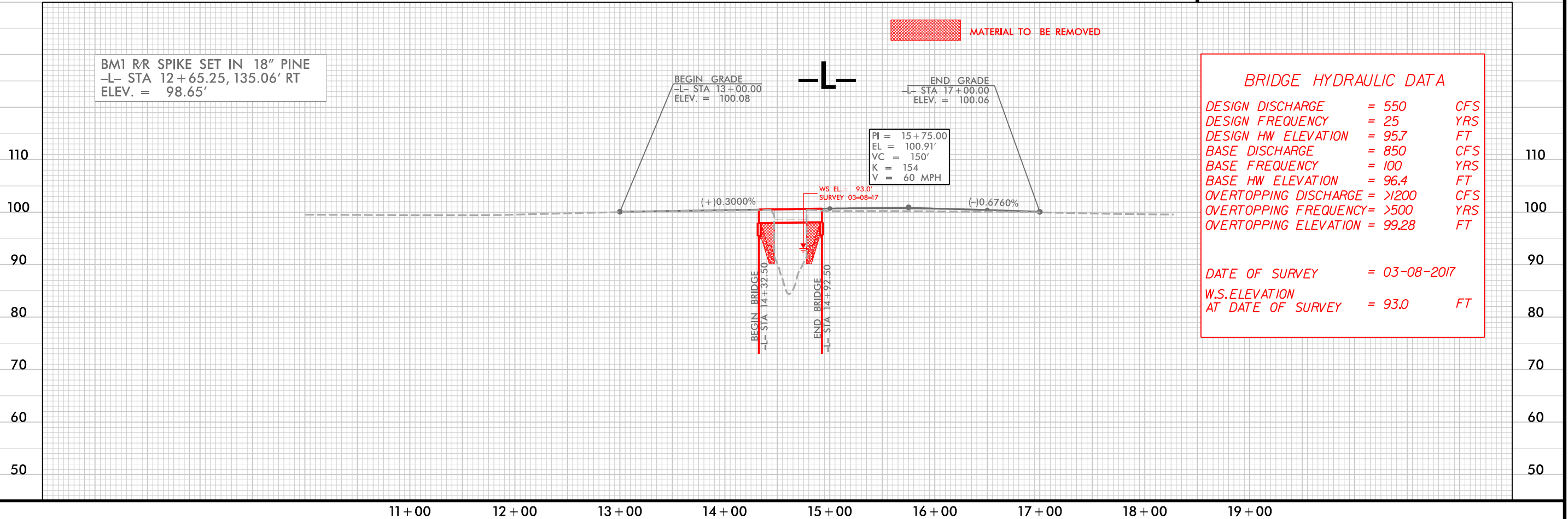
ELBERT L. TAYLOR JR.
DB 878 PG 692

LARRY C. TAYLOR DB 1291 PG 704
LARRY C. TAYLOR DB 1291 PG 704

LARRY C. & ANN P. TAYLOR
DB 1384 PG 823

LORRAINE SMITH
DB 1408 PG 665

BM1 R/R SPIKE SET IN 18" PINE
-L- STA 12+65.25, 135.06' RT
ELEV. = 98.65'



7/28/2017 17BP.2.R.83_hyd_prrm_psh4.dgn

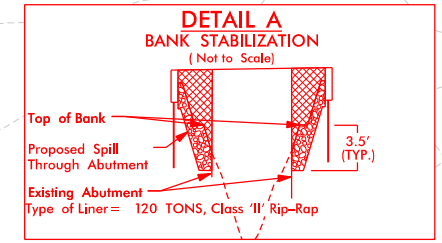
WETLAND & STREAM IMPACTS

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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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SCALE: 1" = 40'

W2
HAND CLEARING IN WETLANDS = <0.01 Ac /117 SF
FILL IN WETLANDS = <0.01 Ac /22 SF



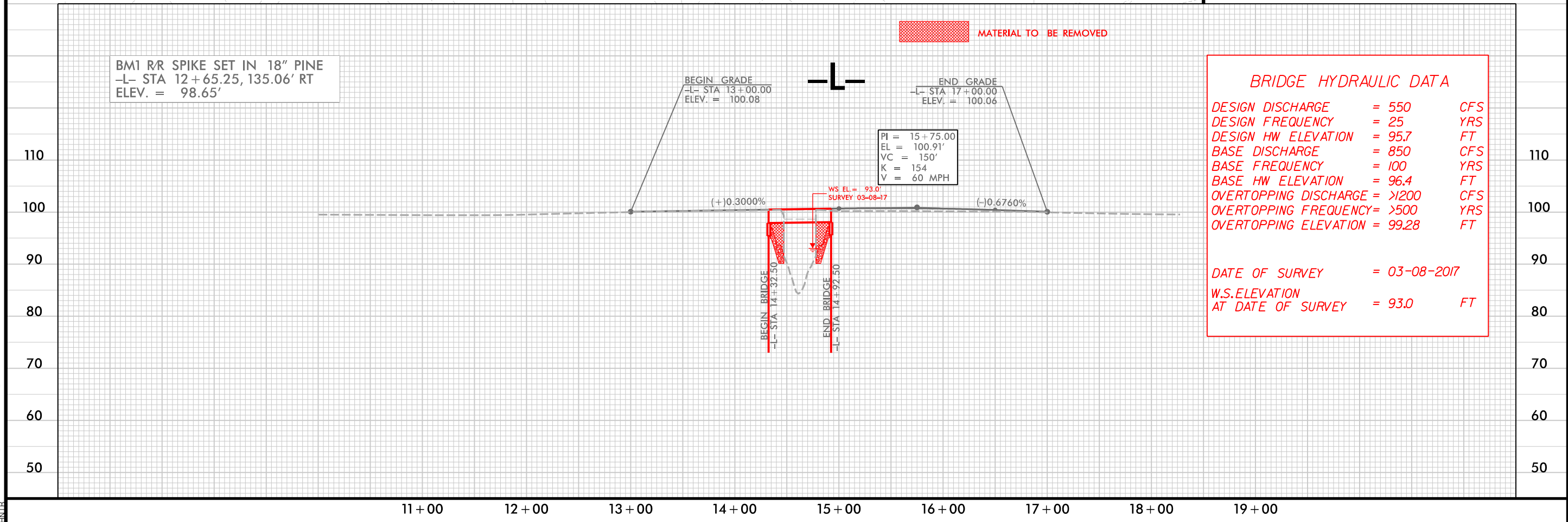
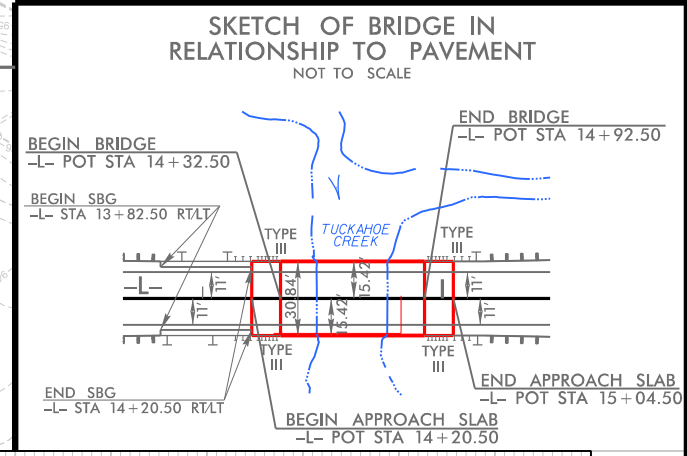
LEGEND

	DENOTES HAND CLEARING
	DENOTES FILL IN WETLAND

W3
HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF

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HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF

W4
HAND CLEARING IN WETLANDS = <0.01 Ac /0.00 SF
FILL IN WETLANDS = 0.00 Ac /0.00 SF



BRIDGE HYDRAULIC DATA

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DATE OF SURVEY = 03-08-2017		
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7/28/2017 17BP.2.R.83_hyd_prrm_psh4.dgn

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
1	13+45 TO 13+90	24" CORED SLAB	< 0.01										
TOTALS*:			< 0.01					< 0.01			0	0	0

*Rounded totals are sum of actual impacts

NOTES:
 Permanent Fill in Wetlands: 117 square feet
 Hand Clearing in Wetlands: 22 square feet

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 07/28/2017
 Lenoir County
 17BP.2.R.83
 SHEET 1 OF 3

RIPARAIN BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	24" CORED SLAB BRIDGE	-L- 13+83 TO 15+55		X		1455.0	962.0	2417.0	0.0	0.0	0.0	0.0	0.0
TOTAL:						1455.0	962.0	2417.0	0.0	0.0	0.0	0.0	0.0

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 LENOIR COUNTY
 17BP.2.R.83

 11/20/2017
 SHEET 2 OF 3

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	WETLANDS IN BUFFERS	
		ZONE 1 (ft ²)	ZONE 2 (ft ²)
1	-L- 13+83 to 14+46	171	104
TOTAL:		171	104

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 LENOIR COUNTY
 17BP.2.R.83

 11/20/2017
 SHEET 3 OF 3